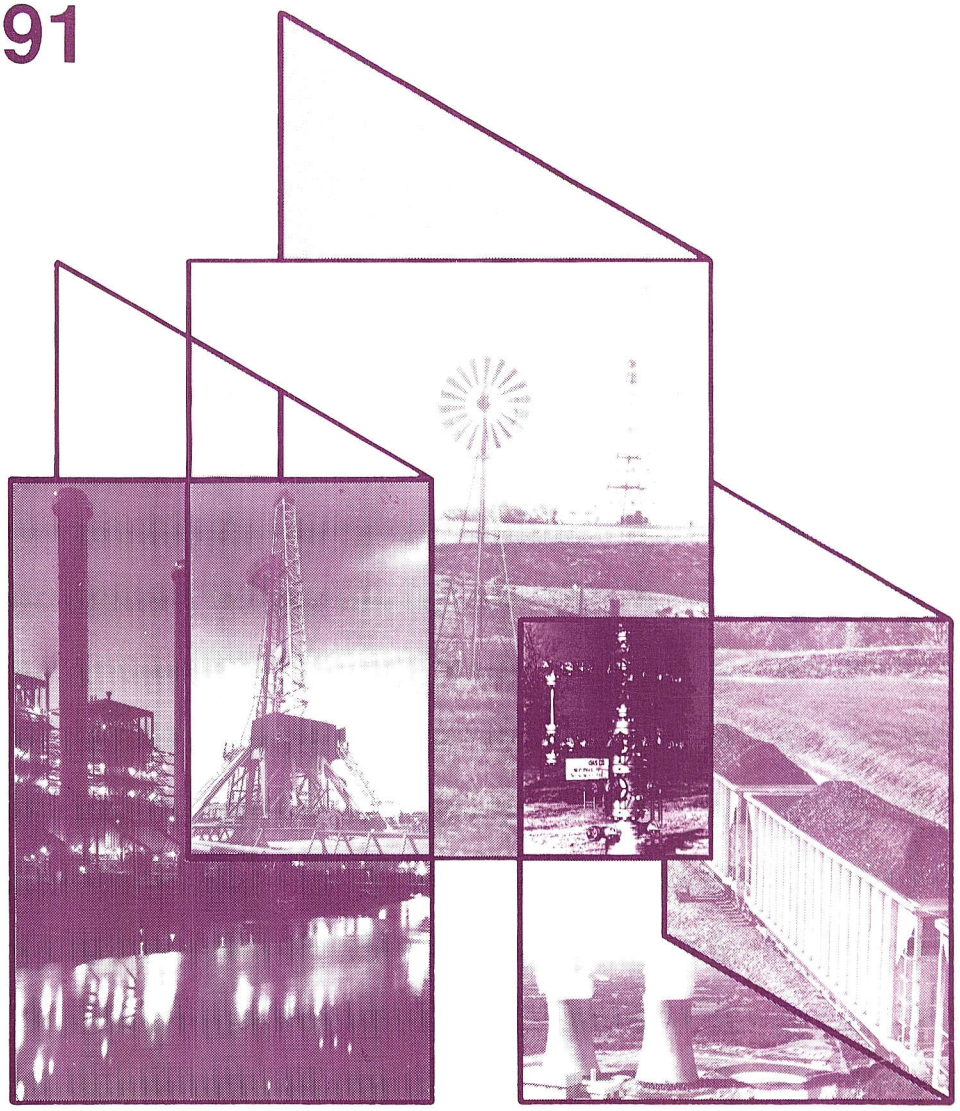
DOE/EIA-0035(91/01)

Cover Date Change
See Notice Inside

# Monthly Energy Review

## January 1991



Energy Information Administration

EIA

# *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)), which 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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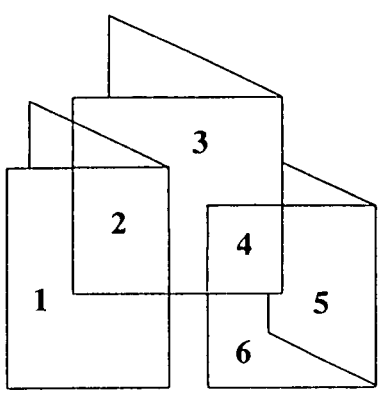


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1. The Haynes Generating Station provides power in the Los Angeles area. Photograph courtesy of the Department of Water and Power, City of Los Angeles, California.
2. This is a drilling rig typical of those used by the oil industry.
3. An innovative wind turbine can be used to generate power more efficiently than the old-fashioned windmill.
4. A gas wellhead is referred to as a Christmas tree by the industry. Photograph courtesy of the Arkansas Louisiana Gas Company.
5. Unit trains are a primary transporter of coal. Photograph courtesy of the National Coal Association.
6. The cooling towers of the Susquehanna steam electric nuclear power plant. Photograph courtesy of Pennsylvania Power and Light Co./Allegheny Electric Cooperative, Inc.

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# NOTICE

## Cover Date Change

Beginning in January 1991, the Energy Information Administration is changing the cover dates on its monthly periodicals. Covers now will display the published date only. The published date will be displayed prominently on covers, title pages, and spines.

As a result of the change, there will be no cover dates of October 1990, November 1990, or December 1990 for the *Monthly Energy Review (MER)*, that is, the *MER* dated January 1991 directly follows the *MER* dated September 1990. Statistical continuity is not affected and the publication of current monthly statistics continues on the established schedule.

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# Monthly Energy Review

## January 1991

**Energy Information Administration**
Office of Energy Markets and
End Use
U.S. Department of Energy
Washington, DC 20585

# Contacts

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| | | | |
|---|---|---|---|
| **Feature Articles, Highlights, and Special Summaries** | | Barbara T. Fichman | 202-586-5737 |
| **Section 1.** | **Energy Summary** | Alethea Jennings | 202-586-9160 |
| **Section 2.** | **Consumption** | Alethea Jennings | 202-586-9160 |
| **Section 3.** | **Petroleum** | Christine D. Gray | 202-586-8995 |
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| | Production | Patricia A. Smith | 202-586-6925 |
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| | Nuclear Electricity Generation | Kenneth C. Wade | 202-254-5514 |

Additional information on all energy statistics available from the Energy Information Administration may be obtained from the National Energy Information Center 202-586-8800.

• Released for printing: January 25, 1991

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| 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 |
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| Trends in the Installation of Energy Using Equipment in New Residential Buildings | March 1980 |
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| An Overview of Natural Gas Markets | December 1981 |
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| Natural Gas Drilling and Production Under the Natural Gas Policy Act | February 1982 |
| Impacts of Financial Constraints on the Electric Utility Industry | October 1982 |
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| A U.S. Perspective on Condensate | June 1988 |
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# 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 |
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| *Solar Collector Manufacturing Activity 1983* | June 1984 |
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| *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 |
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| *Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985* | October 1989 |
| *Household Energy Consumption and Expenditures 1987, Part 1: National Data* | November 1989 |
| *U.S. Oil and Gas Reserves by Year of Field Discovery* | August 1990 |

# Section 1. Energy Summary

The United States produced 2.3 percent more energy during the first 10 months of 1990 than during the same period in 1989, and U.S. consumption was up 0.6 percent. Net imports of all energy were 0.6 percent higher than during the first 10 months of 1989.

Energy production during October 1990 totaled 5.8 quadrillion Btu, a 2.7-percent increase compared with the level of production during October 1989. Coal production increased 6.9 percent, petroleum production rose 1.4 percent, and natural gas production was up 1.0 percent. All other forms of energy production combined were down 2.6 percent from the level of production during October 1989.

Energy consumption during October 1990 totaled 6.6 quadrillion Btu, 0.9 percent above the level of consumption during October 1989. Natural gas consumption increased 4.8 percent, coal consumption was up 4.5 percent, and petroleum consumption decreased 2.6 percent. Consumption of all other forms of energy combined increased 0.1 percent compared with the level 1 year earlier.

Net imports of energy during October 1990 totaled 0.9 quadrillion Btu, 23.0 percent below the level of net imports 1 year earlier. Net imports of petroleum decreased 23.4 percent, and net imports of natural gas were down 0.9 percent. Net exports of coal decreased 7.2 percent compared with the level in October 1989.

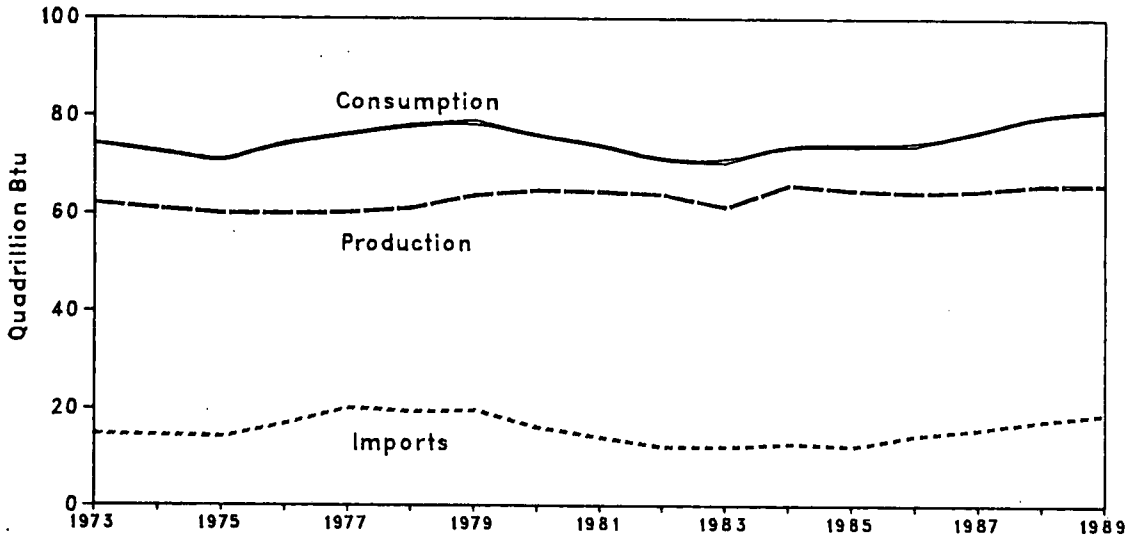
## Table 1.1 Energy Summary for October 1990
(Quadrillion Btu)

| | October | | | Cumulative January Through October | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1990 | 1989 | Percent Change[a] | 1990 | 1990 Daily Rate | 1989 | 1989 Daily Rate | Percent Change[a] |
| **Total Production**[b] | **5.765** | **5.613** | **2.7** | **56.312** | **0.185** | **55.022** | **0.181** | **2.3** |
| Petroleum[c] | 1.536 | 1.515 | 1.4 | 14.657 | .048 | 15.315 | .050 | -4.3 |
| Natural Gas (Dry) | 1.461 | 1.446 | 1.0 | 14.856 | .049 | 14.711 | .048 | 1.0 |
| Coal | 2.092 | 1.957 | 6.9 | 19.030 | .063 | 17.838 | .059 | 6.7 |
| Other[d] | .676 | .694 | -2.6 | 7.769 | .026 | 7.157 | .024 | 8.6 |
| **Total Consumption**[b] | **6.554** | **6.495** | **.9** | **67.188** | **.221** | **66.809** | **.220** | **.6** |
| Petroleum | 2.826 | 2.902 | -2.6 | 27.925 | .092 | 28.239 | .093 | -1.1 |
| Natural Gas[e] | 1.455 | 1.389 | 4.8 | 15.752 | .052 | 15.632 | .051 | .8 |
| Coal | 1.582 | 1.514 | 4.5 | 15.739 | .052 | 15.620 | .051 | .8 |
| Other[f] | .691 | .690 | .1 | 7.772 | .026 | 7.317 | .024 | 6.2 |
| **Net Imports** | **.946** | **1.229** | **-23.0** | **11.997** | **.039** | **11.920** | **.039** | **.6** |
| Petroleum[g] | 1.042 | 1.359 | -23.4 | 13.141 | .043 | 12.865 | .042 | 2.2 |
| Natural Gas | .112 | .113 | -.9 | 1.123 | .004 | 1.026 | .003 | 9.5 |
| Coal[h] | -.223 | -.241 | -7.2 | -2.270 | -.007 | -2.130 | -.007 | 6.6 |
| Other[i] | .015 | -.003 | -551.5 | .002 | .000 | .160 | .001 | -98.5 |

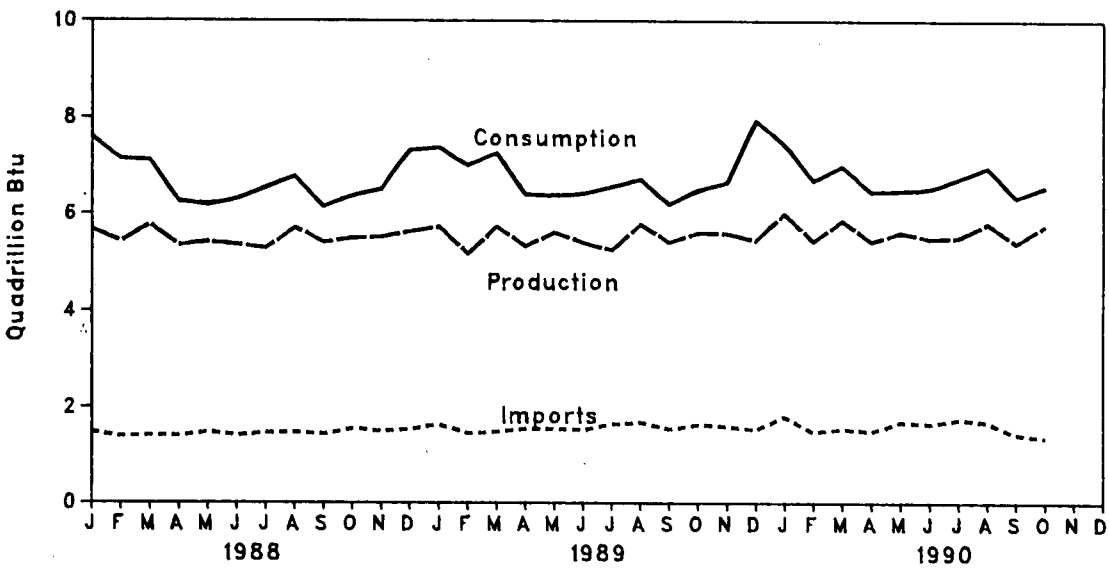
[a]Based on daily rates prior to rounding.
[b]Production and consumption totals exclude wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
[c]Includes crude oil, lease condensate, and natural 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 supplemental gaseous fuels.
[f]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.
[g]Includes crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.
[h]Minus sign indicates exports are greater than imports.
[i]Other is net imports of electricity and coal coke.
Note: Totals may not equal sum of components due to independent rounding.
Sources: Table 1.3, 1.4, and 1.5.

## Figure 1.1 Energy Overview

### Yearly




### Monthly



# Table 1.2 Energy Overview[a]
(Quadrillion Btu)

| | Production[b] | Consumption[b] [c] | Imports | Exports | Net Imports |
|---|---|---|---|---|---|
| **1973 Total** | 62.060 | 74.282 | 14.731 | 2.051 | 12.680 |
| **1974 Total** | 60.835 | 72.543 | 14.413 | 2.223 | 12.190 |
| **1975 Total** | 59.860 | 70.546 | 14.111 | 2.359 | 11.752 |
| **1976 Total** | 59.892 | 74.362 | 16.837 | 2.188 | 14.648 |
| **1977 Total** | 60.219 | 76.288 | 20.090 | 2.071 | 18.019 |
| **1978 Total** | 61.103 | 78.089 | 19.254 | 1.931 | 17.323 |
| **1979 Total** | 63.801 | 78.898 | 19.616 | 2.870 | 16.746 |
| **1980 Total** | 64.761 | 75.955 | 15.971 | 3.723 | 12.247 |
| **1981 Total** | 64.421 | 73.990 | 13.975 | 4.329 | 9.646 |
| **1982 Total** | 63.898 | 70.848 | 12.092 | 4.633 | 7.460 |
| **1983 Total** | 61.215 | 70.524 | 12.028 | 3.717 | 8.311 |
| **1984 Total** | 65.847 | 74.101 | 12.763 | 3.804 | 8.959 |
| **1985 Total** | 64.765 | 73.945 | R 12.098 | R 4.231 | 7.868 |
| **1986 Total** | 64.225 | 74.237 | 14.430 | 4.055 | R 10.376 |
| **1987 Total** | 64.823 | R 76.844 | R 15.755 | 3.852 | R 11.903 |
| **1988** January | 5.674 | 7.618 | 1.478 | .289 | 1.189 |
| February | 5.417 | 7.128 | 1.384 | .276 | 1.107 |
| March | 5.776 | 7.094 | 1.413 | .349 | 1.064 |
| April | 5.338 | 6.241 | 1.402 | .363 | 1.038 |
| May | 5.416 | 6.172 | 1.482 | .373 | 1.109 |
| June | 5.346 | 6.295 | 1.405 | .393 | 1.012 |
| July | 5.278 | 6.534 | 1.471 | .382 | 1.089 |
| August | 5.708 | 6.768 | 1.480 | .407 | 1.073 |
| September | 5.403 | 6.137 | 1.439 | .396 | 1.043 |
| October | 5.495 | 6.376 | 1.559 | .383 | 1.176 |
| November | 5.517 | 6.503 | 1.497 | .362 | 1.136 |
| December | 5.635 | 7.338 | 1.551 | .440 | 1.111 |
| **Total** | 66.006 | 80.202 | 17.561 | 4.415 | 13.146 |
| **1989** January | 5.731 | 7.396 | 1.643 | .320 | 1.322 |
| February | 5.164 | 6.999 | 1.453 | .338 | 1.115 |
| March | 5.732 | 7.270 | 1.495 | .406 | 1.090 |
| April | 5.330 | 6.388 | 1.558 | .407 | 1.152 |
| May | 5.613 | 6.366 | 1.556 | .421 | 1.135 |
| June | 5.395 | 6.416 | 1.536 | .442 | 1.094 |
| July | 5.246 | 6.562 | 1.666 | .329 | 1.337 |
| August | 5.789 | 6.718 | 1.697 | .410 | 1.287 |
| September | 5.410 | 6.199 | 1.550 | .391 | 1.160 |
| October | 5.613 | 6.495 | 1.649 | .421 | 1.229 |
| November | 5.590 | 6.650 | 1.606 | .462 | 1.144 |
| December | 5.448 | 7.950 | 1.544 | .437 | 1.107 |
| **Total** | 66.062 | 81.409 | 18.955 | 4.784 | 14.171 |
| **1990** January | 6.012 | 7.498 | 1.822 | .352 | 1.470 |
| February | 5.438 | 6.683 | 1.492 | .329 | 1.162 |
| March | 5.868 | 6.997 | 1.571 | .424 | 1.147 |
| April | 5.424 | 6.455 | 1.499 | .388 | 1.110 |
| May | 5.621 | 6.478 | 1.708 | .413 | 1.296 |
| June | 5.480 | 6.501 | 1.662 | .417 | 1.245 |
| July | 5.507 | 6.723 | 1.764 | .390 | 1.374 |
| August | 5.808 | 6.966 | 1.695 | .443 | 1.252 |
| September | R 5.388 | R 6.332 | 1.437 | .442 | .995 |
| October | 5.765 | 6.554 | 1.368 | .423 | .946 |
| **10-Month Total** | 56.312 | 67.188 | 16.017 | 4.020 | 11.997 |
| **1989 10-Month Total** | 55.022 | 66.809 | 15.805 | 3.884 | 11.920 |
| **1988 10-Month Total** | 54.852 | 66.362 | 14.513 | 3.613 | 10.900 |

[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.

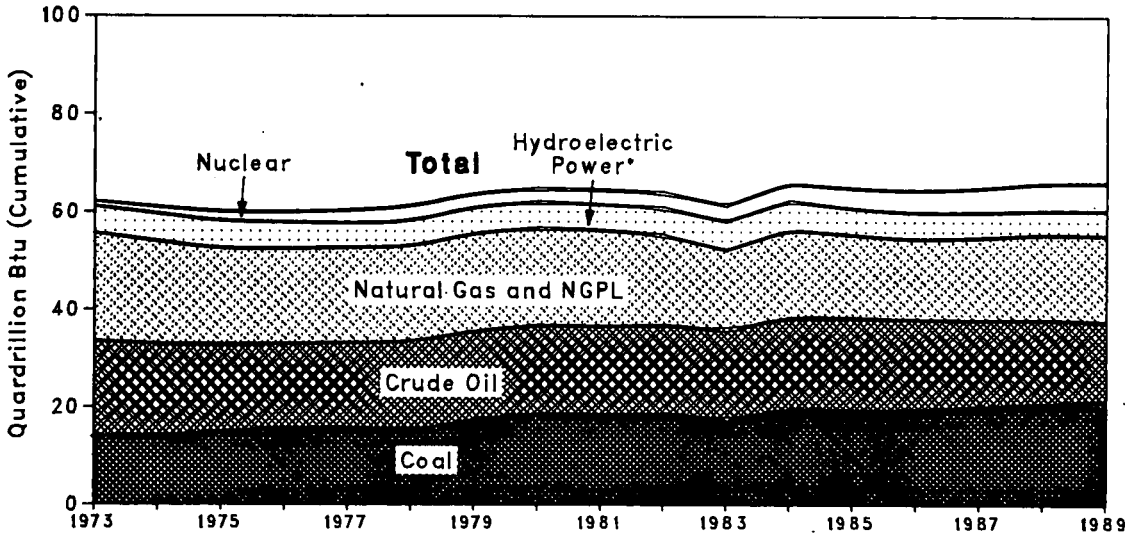
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Source: Tables 1.3, 1.4, and 1.5.

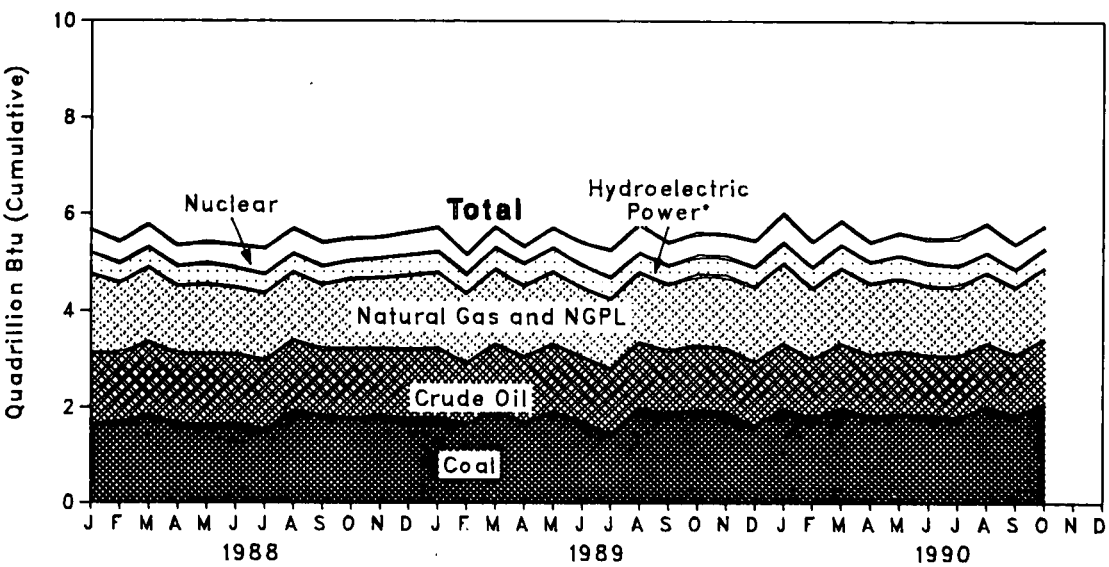
Revisions prior to 1990 reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

## Figure 1.2 Production of Energy by Source

### Yearly




### Monthly




*Includes other.

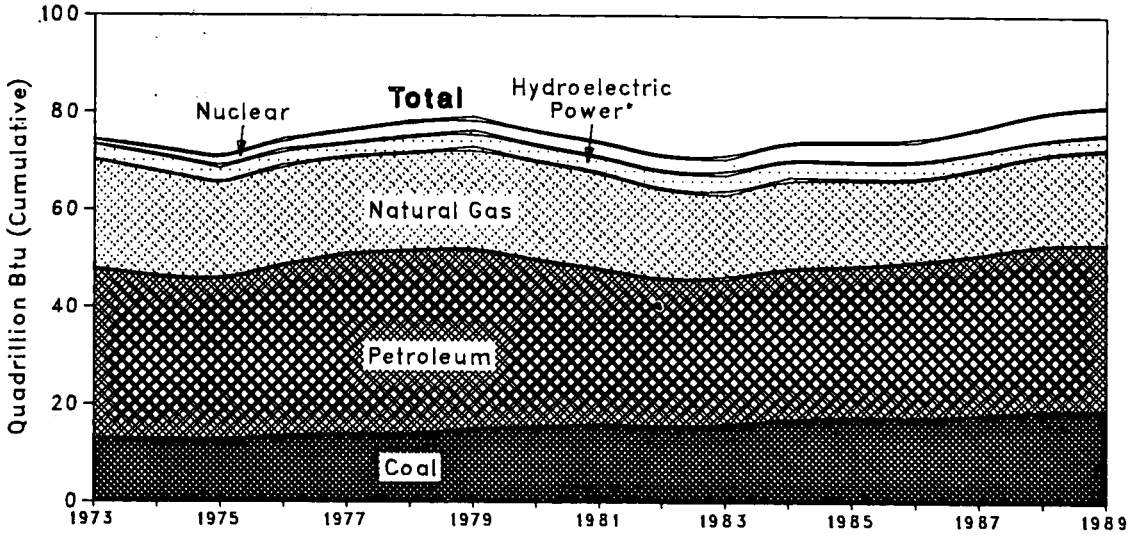
# Table 1.3 Production of Energy by Source
(Quadrillion Btu)

| | 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** | **62.060** | |
| **1974 Total** | **14.074** | **18.575** | **2.471** | **21.210** | **3.177** | **1.272** | **.056** | **60.835** | |
| **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** | **59.892** | |
| **1977 Total** | **15.755** | **17.454** | **2.327** | **19.565** | **2.333** | **2.702** | **.082** | **60.219** | |
| **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** | **18.376** | **18.146** | **2.307** | **19.699** | **2.758** | **3.008** | **.127** | **64.421** | |
| **1982 Total** | **18.639** | **18.309** | **2.191** | **18.255** | **3.266** | **3.131** | **.108** | **63.898** | |
| **1983 Total** | **17.246** | **18.392** | **2.184** | **16.530** | **3.527** | **3.203** | **.133** | **61.215** | |
| **1984 Total** | **19.719** | **18.848** | **2.274** | **17.931** | **3.348** | **3.553** | **.174** | **65.847** | |
| **1985 Total** | **19.325** | **18.992** | **2.241** | **16.906** | **2.939** | **4.149** | **.213** | **64.765** | |
| **1986 Total** | **19.510** | **18.376** | **2.149** | **16.471** | **3.017** | **4.471** | **.231** | **64.225** | |
| **1987 Total** | **20.142** | **17.675** | **2.215** | **17.049** | **2.593** | **4.906** | **.244** | **64.823** | |
| **1988** January | 1.649 | 1.483 | .186 | 1.627 | .228 | .480 | .020 | 5.674 | 5.674 |
| February | 1.681 | 1.409 | .177 | 1.481 | .198 | .454 | .018 | 5.417 | 11.091 |
| March | 1.839 | 1.506 | .193 | 1.545 | .203 | .472 | .020 | 5.776 | 16.867 |
| April | 1.650 | 1.442 | .184 | 1.414 | .199 | .430 | .019 | 5.338 | 22.206 |
| May | 1.621 | 1.480 | .192 | 1.448 | .221 | .437 | .018 | 5.416 | 27.622 |
| June | 1.675 | 1.422 | .184 | 1.377 | .196 | .474 | .020 | 5.346 | 32.968 |
| July | 1.516 | 1.446 | .191 | 1.394 | .176 | .535 | .021 | 5.278 | 38.246 |
| August | 1.933 | 1.453 | .190 | 1.414 | .171 | .527 | .021 | 5.708 | 43.954 |
| September | 1.824 | 1.374 | .185 | 1.335 | .169 | .497 | .019 | 5.403 | 49.357 |
| October | 1.773 | 1.442 | .196 | 1.450 | .157 | .458 | .020 | 5.495 | 54.852 |
| November | 1.817 | 1.396 | .190 | 1.478 | .191 | .425 | .019 | 5.517 | 60.369 |
| December | 1.758 | 1.428 | .193 | 1.557 | .206 | .473 | .019 | 5.635 | 66.003 |
| **Total** | **20.737** | **17.279** | **2.260** | **17.520** | **2.314** | **5.661** | **.235** | **66.006** | |
| **1989** January | 1.793 | 1.427 | .197 | 1.579 | .217 | .498 | .019 | 5.731 | 5.731 |
| February | 1.642 | 1.265 | .172 | 1.459 | .193 | .416 | .017 | 5.164 | 10.895 |
| March | 1.947 | 1.362 | .196 | 1.547 | .235 | .426 | .020 | 5.732 | 16.627 |
| April | 1.687 | 1.352 | .192 | 1.472 | .249 | .360 | .017 | 5.330 | 21.957 |
| May | 1.803 | 1.405 | .192 | 1.492 | .290 | .412 | .018 | 5.613 | 27.569 |
| June | 1.716 | 1.327 | .173 | 1.431 | .268 | .462 | .018 | 5.395 | 32.964 |
| July | 1.450 | 1.338 | .183 | 1.459 | .235 | .562 | .019 | 5.246 | 38.210 |
| August | 1.989 | 1.356 | .178 | 1.448 | .209 | .590 | .018 | 5.789 | 43.999 |
| September | 1.854 | 1.313 | .170 | 1.378 | .196 | .482 | .017 | 5.410 | 49.409 |
| October | 1.957 | 1.340 | .175 | 1.446 | .208 | .468 | .018 | 5.613 | 55.022 |
| November | 1.900 | 1.311 | .170 | 1.506 | .219 | .466 | .017 | 5.590 | 60.612 |
| December | 1.619 | 1.319 | .159 | 1.561 | .226 | .546 | .018 | 5.448 | 66.061 |
| **Total** | **21.357** | **16.117** | **2.158** | **17.780** | **2.745** | **5.687** | **.217** | **66.062** | |
| **1990** January | 1.972 | 1.352 | .181 | 1.655 | .243 | .592 | .018 | 6.012 | 6.012 |
| February | 1.786 | 1.212 | .167 | 1.470 | .250 | .537 | .016 | 5.438 | 11.451 |
| March | 1.995 | 1.330 | .180 | 1.560 | .290 | .495 | .018 | 5.868 | 17.318 |
| April | 1.811 | 1.276 | .170 | 1.476 | .263 | .414 | .014 | 5.424 | 22.742 |
| May | 1.884 | 1.305 | .178 | 1.497 | .280 | .461 | .017 | 5.621 | 28.364 |
| June | 1.842 | 1.231 | .167 | 1.439 | .286 | .498 | .017 | 5.480 | 33.844 |
| July | 1.769 | 1.284 | .176 | 1.440 | .245 | .576 | .017 | 5.507 | 39.351 |
| August | 2.037 | 1.297 | .185 | 1.454 | .218 | .599 | .017 | 5.808 | 45.159 |
| September | 1.843 | 1.247 | .182 | R 1.403 | .176 | .520 | .016 | R 5.388 | R 50.547 |
| October | 2.092 | 1.340 | .196 | 1.461 | .193 | .466 | .017 | 5.765 | 56.312 |
| **10-Month Total** | **19.030** | **12.875** | **1.782** | **14.856** | **2.443** | **5.158** | **.168** | **56.312** | |
| **1989 10-Month Total** | **17.838** | **13.486** | **1.829** | **14.711** | **2.300** | **4.675** | **.181** | **55.022** | |
| **1988 10-Month Total** | **17.161** | **14.455** | **1.877** | **14.483** | **1.917** | **4.763** | **.196** | **54.852** | |

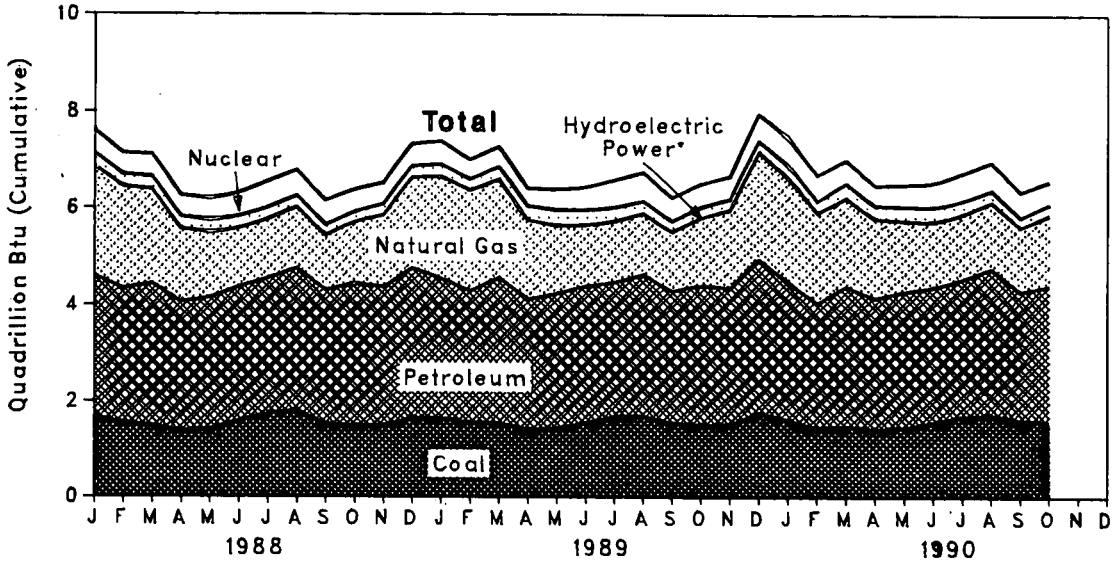
[a]Includes lease condensate.
[b]Natural gas plant liquids.
[c]Includes electric utility and industrial production of hydroelectric power.
[d]Other is electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[e]Excludes wood, waste, geothermal, 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.
Sources: • **Coal:** Tables 6.1 and A6 through A8. • **Crude Oil and NGPL:** Tables 3.1a and A3. • **Natural Gas (Dry):** Tables 4.1 and A5. • **Hydroelectric Power:** Table 7.1; Section 2, "Consumption Notes and Sources," Note 7; and Table A9. • **Nuclear Electric Power:** Tables 7.1 and A9. • **Other:** Section 2, "Consumption Notes and Sources," Note 8, and Table A9.

## Figure 1.3 Consumption of Energy by Source

### Yearly




### Monthly




*Includes other.

# Table 1.4 Consumption of Energy by Source
(Quadrillion Btu)

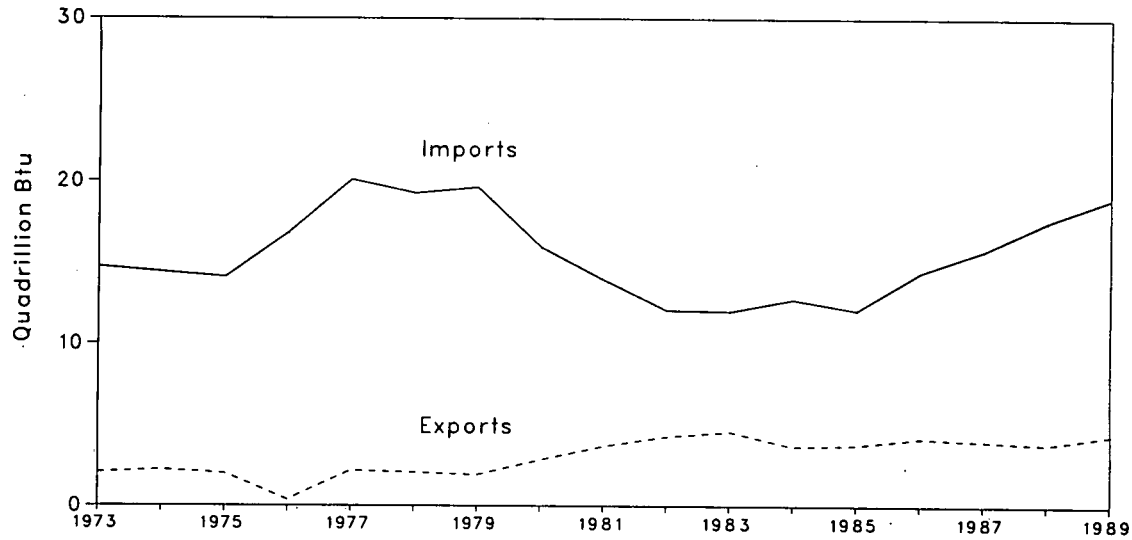
| | Coal | Natural Gas[a] | Petroleum | Hydroelectric Power[b] | Nuclear Electric Power | Other[c] | Total[d] | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **12.971** | **22.512** | **34.840** | **3.010** | **0.910** | **0.039** | **74.282** | |
| **1974 Total** | **12.663** | **21.732** | **33.455** | **3.309** | **1.272** | **.112** | **72.543** | |
| **1975 Total** | **12.663** | **19.948** | **32.731** | **3.219** | **1.900** | **.086** | **70.546** | |
| **1976 Total** | **13.584** | **20.345** | **35.175** | **3.066** | **2.111** | **.081** | **74.362** | |
| **1977 Total** | **13.922** | **19.931** | **37.122** | **2.515** | **2.702** | **.097** | **76.288** | |
| **1978 Total** | **13.765** | **20.000** | **37.965** | **3.141** | **3.024** | **.193** | **78.089** | |
| **1979 Total** | **15.039** | **20.666** | **37.123** | **3.141** | **2.776** | **.152** | **78.898** | |
| **1980 Total** | **15.423** | **20.394** | **34.202** | **3.118** | **2.739** | **.079** | **75.955** | |
| **1981 Total** | **15.907** | **19.928** | **31.931** | **3.105** | **3.008** | **.111** | **73.990** | |
| **1982 Total** | **15.322** | **18.505** | **30.231** | **3.572** | **3.131** | **.086** | **70.848** | |
| **1983 Total** | **15.894** | **17.357** | **30.054** | **3.899** | **3.203** | **.118** | **70.524** | |
| **1984 Total** | **17.070** | **18.507** | **31.051** | **3.757** | **3.553** | **.163** | **74.101** | |
| **1985 Total** | **17.478** | **17.834** | **30.922** | **3.363** | **4.149** | **.199** | **73.945** | |
| **1986 Total** | **17.262** | **16.708** | **32.196** | **3.385** | **4.471** | **.215** | **74.237** | |
| **1987 Total** | **18.008** | **R 17.744** | **32.865** | **3.068** | **4.906** | **.253** | **R 76.844** | |
| **1988** January | 1.684 | 2.250 | 2.919 | .261 | .480 | .024 | 7.618 | 7.618 |
| February | 1.539 | 2.097 | 2.787 | .231 | .454 | .019 | 7.128 | 14.746 |
| March | 1.486 | 1.921 | 2.954 | .235 | .472 | .026 | 7.094 | 21.839 |
| April | 1.368 | 1.506 | 2.688 | .224 | .430 | .023 | 6.241 | 28.080 |
| May | 1.418 | 1.340 | 2.717 | .243 | .437 | .017 | 6.172 | 34.252 |
| June | 1.601 | 1.204 | 2.769 | .223 | .474 | .024 | 6.295 | 40.546 |
| July | 1.749 | 1.211 | 2.800 | .211 | .535 | .028 | 6.534 | 47.081 |
| August | 1.819 | 1.257 | 2.933 | .209 | .527 | .024 | 6.768 | 53.849 |
| September | 1.522 | 1.131 | 2.771 | .194 | .497 | .023 | 6.137 | 59.986 |
| October | 1.498 | 1.268 | 2.949 | .179 | .458 | .024 | 6.376 | 66.362 |
| November | 1.493 | 1.495 | 2.860 | .209 | .425 | .020 | 6.503 | 72.865 |
| December | 1.668 | 1.873 | 3.081 | .221 | .473 | .022 | 7.338 | 80.203 |
| **Total** | **18.846** | **18.553** | **34.228** | **2.639** | **5.661** | **.274** | **80.202** | |
| **1989** January | 1.648 | 2.097 | 2.896 | .231 | .498 | .026 | 7.396 | 7.396 |
| February | 1.557 | 2.081 | 2.714 | .212 | .416 | .019 | 6.999 | 14.395 |
| March | 1.547 | 2.017 | 3.017 | .241 | .426 | .023 | 7.270 | 21.665 |
| April | 1.407 | 1.640 | 2.698 | .259 | .360 | .024 | 6.388 | 28.054 |
| May | 1.452 | 1.401 | 2.775 | .303 | .412 | .024 | 6.366 | 34.420 |
| June | 1.560 | 1.248 | 2.840 | .284 | .462 | .022 | 6.416 | 40.836 |
| July | 1.693 | 1.268 | 2.759 | .257 | .562 | .022 | 6.562 | 47.398 |
| August | 1.704 | 1.264 | 2.912 | .227 | .590 | .021 | 6.718 | 54.115 |
| September | 1.539 | 1.228 | 2.726 | .205 | .482 | .019 | 6.199 | 60.314 |
| October | 1.514 | 1.389 | 2.902 | .208 | .468 | .014 | 6.495 | 66.809 |
| November | 1.521 | 1.627 | 2.810 | .210 | .466 | .016 | 6.650 | 73.459 |
| December | 1.774 | 2.231 | 3.163 | .220 | .546 | .016 | 7.950 | 81.409 |
| **Total** | **18.916** | **19.490** | **34.211** | **2.858** | **5.687** | **.248** | **81.409** | |
| **1990** January | 1.630 | 2.172 | 2.846 | .240 | .592 | .018 | 7.498 | 7.498 |
| February | 1.451 | 1.861 | 2.579 | .238 | .537 | .016 | 6.683 | 14.181 |
| March | 1.511 | 1.832 | 2.865 | .276 | .495 | .018 | 6.997 | 21.178 |
| April | 1.433 | 1.633 | 2.705 | .256 | .414 | .014 | 6.455 | 27.633 |
| May | 1.461 | 1.440 | 2.825 | .274 | .461 | .017 | 6.478 | 34.112 |
| June | 1.589 | 1.338 | 2.777 | .281 | .498 | .018 | 6.501 | 40.613 |
| July | 1.711 | 1.332 | 2.827 | .256 | .576 | .021 | 6.723 | 47.336 |
| August | 1.752 | 1.363 | 3.008 | .227 | .599 | .017 | 6.966 | 54.302 |
| September | 1.617 | R 1.325 | 2.668 | .184 | .520 | .017 | R 6.332 | R 60.634 |
| October | 1.582 | 1.455 | 2.826 | .207 | .466 | .018 | 6.554 | 67.188 |
| **10-Month Total** | **15.739** | **15.752** | **27.925** | **2.440** | **5.158** | **.173** | **67.188** | |
| **1989 10-Month Total** | **15.620** | **15.632** | **28.239** | **2.427** | **4.675** | **.215** | **66.809** | |
| **1988 10-Month Total** | **15.685** | **15.186** | **28.288** | **2.210** | **4.763** | **.231** | **66.362** | |

[a]Includes supplemental gaseous fuels.
[b]Includes electric utility and industrial 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.
Sources: • **Coal:** Tables 6.1 and A6 through A8. • **Natural Gas:** Tables 4.2 and A5. • **Petroleum:** Tables 3.1a and A4. • **Hydroelectric Power:** Table 7.1; Section 2, "Consumption Notes and Sources," Note 7; and Table A9. • **Nuclear Electric Power:** Tables 7.1 and A9. • **Other:** Section 2, "Consumption Notes and Sources," Note 8, and Table A9.

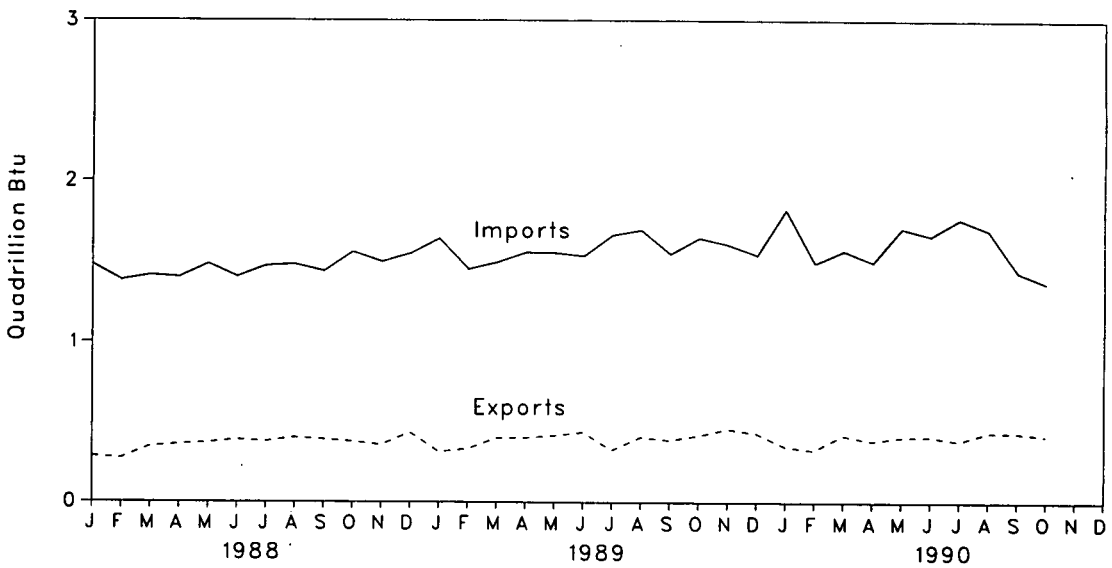
Revisions prior to 1990 reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

## Figure 1.4 Energy Imports and Exports

Yearly




Monthly



# Table 1.5 Net Imports[a] of Energy by Source
(Quadrillion 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** | **.000** | **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** | **7.460** | |
| **1983 Total** | **-2.013** | **6.731** | **2.351** | **.887** | **.372** | **-.016** | **8.311** | |
| **1984 Total** | **-2.119** | **6.918** | **2.970** | **.792** | **.409** | **-.011** | **8.959** | |
| **1985 Total** | **-2.389** | **6.381** | **2.570** | **.896** | **.423** | **-.013** | **7.868** | |
| **1986 Total** | **-2.193** | **8.676** | **2.855** | **.686** | **.368** | **-.017** | **R 10.376** | |
| **1987 Total** | **-2.049** | **9.748** | **2.784** | **.937** | **.475** | **.009** | **R 11.903** | |
| **1988** January | -.113 | .816 | .316 | .134 | .032 | .003 | 1.189 | 1.189 |
| February | -.114 | .771 | .303 | .112 | .033 | .002 | 1.107 | 2.296 |
| March | -.182 | .852 | .249 | .107 | .032 | .006 | 1.064 | 3.360 |
| April | -.233 | .895 | .256 | .090 | .026 | .004 | 1.038 | 4.398 |
| May | -.202 | .952 | .249 | .090 | .022 | -.002 | 1.109 | 5.507 |
| June | -.205 | .918 | .183 | .085 | .027 | .005 | 1.012 | 6.519 |
| July | -.213 | .899 | .267 | .095 | .035 | .007 | 1.089 | 7.608 |
| August | -.240 | .903 | .280 | .088 | .038 | .003 | 1.073 | 8.681 |
| September | -.264 | .902 | .290 | .088 | .025 | .003 | 1.043 | 9.724 |
| October | -.231 | .985 | .294 | .100 | .023 | .004 | 1.176 | 10.900 |
| November | -.214 | .872 | .346 | .114 | .017 | .001 | 1.136 | 12.036 |
| December | -.234 | .933 | .276 | .118 | .015 | .003 | 1.111 | 13.147 |
| **Total** | **-2.446** | **10.698** | **3.308** | **1.221** | **.325** | **.040** | **13.146** | |
| **1989** January | -.164 | 1.011 | .342 | .112 | .014 | .007 | 1.322 | 1.322 |
| February | -.174 | .843 | .323 | .103 | .019 | .002 | 1.115 | 2.438 |
| March | -.212 | .893 | .297 | .102 | .006 | .003 | 1.090 | 3.528 |
| April | -.236 | .994 | .277 | .099 | .010 | .007 | 1.152 | 4.679 |
| May | -.247 | 1.025 | .239 | .100 | .012 | .006 | 1.135 | 5.814 |
| June | -.249 | 1.016 | .211 | .095 | .016 | .004 | 1.094 | 6.908 |
| July | -.154 | 1.124 | .249 | .092 | .022 | .004 | 1.337 | 8.245 |
| August | -.208 | 1.172 | .204 | .099 | .018 | .003 | 1.287 | 9.532 |
| September | -.247 | 1.062 | .226 | .108 | .009 | .002 | 1.160 | 10.692 |
| October | -.241 | 1.121 | .238 | .113 | .000 | -.004 | 1.229 | 11.920 |
| November | -.251 | 1.072 | .218 | .115 | -.009 | -.001 | 1.144 | 13.064 |
| December | -.200 | .955 | .222 | .137 | -.005 | -.002 | 1.107 | 14.171 |
| **Total** | **-2.581** | **12.286** | **3.046** | **1.278** | **.112** | **.030** | **14.171** | |
| **1990** January | -.192 | 1.111 | .411 | .141 | -.003 | .000 | 1.470 | 1.470 |
| February | -.158 | .951 | .270 | .110 | -.011 | .000 | 1.162 | 2.632 |
| March | -.221 | 1.097 | .180 | .105 | -.014 | .001 | 1.147 | 3.779 |
| April | -.221 | .997 | .228 | .114 | -.007 | -.001 | 1.110 | 4.890 |
| May | -.255 | 1.158 | .299 | .100 | -.006 | .000 | 1.296 | 6.185 |
| June | -.236 | 1.120 | .261 | .105 | -.005 | .001 | 1.245 | 7.430 |
| July | -.237 | 1.230 | .255 | .111 | .011 | .003 | 1.374 | 8.804 |
| August | -.262 | 1.165 | .230 | .110 | .009 | -.001 | 1.252 | 10.056 |
| September | -.265 | .989 | .148 | .112 | .009 | .001 | .995 | 11.051 |
| October | -.223 | .920 | .122 | .112 | .015 | .001 | .946 | 11.997 |
| **10-Month Total** | **-2.270** | **10.738** | **2.403** | **1.123** | **-.003** | **.005** | **11.997** | |
| **1989 10-Month Total** | **-2.130** | **10.259** | **2.606** | **1.026** | **.127** | **.034** | **11.920** | |
| **1988 10-Month Total** | **-1.998** | **8.893** | **2.686** | **.990** | **.293** | **.036** | **10.900** | |

[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 and estimated at the average input heat rate for fossil-fuel steam-electric power plant generation, which has ranged from 10.2 thousand Btu to 10.5 thousand Btu per kilowatthour since 1973. Actual rates applied in converting kilowatthours to Btu are listed by year in Table A9.

R=Revised data. E=Estimate.

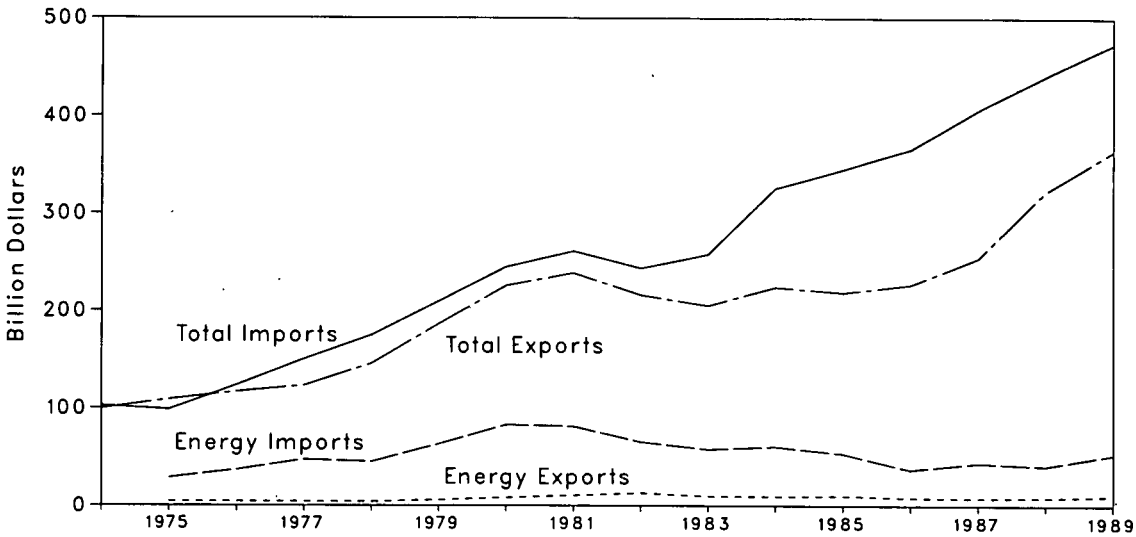
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • **Coal:** Tables 6.1 and A6 through A8. • **Crude Oil and Petroleum Products:** Tables 3.1b and A3. • **Natural Gas:** Tables 4.2 and A5. • **Electricity:** Section 2, "Consumption Notes and Sources," Note 7, and Table A9. • **Coal Coke:** Section 2, "Consumption Notes and Sources," Note 9, and Table A8.

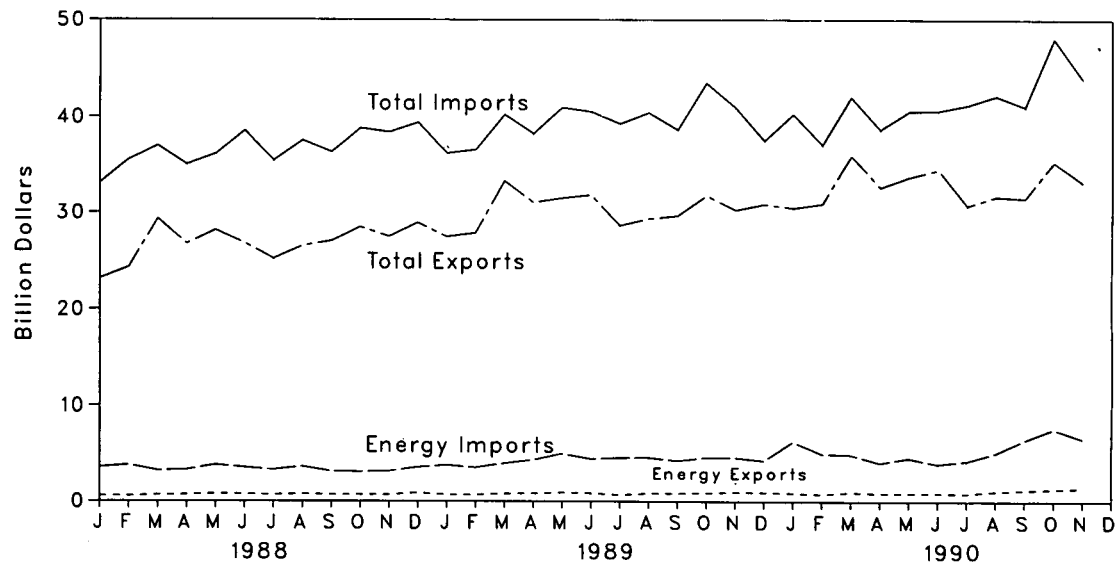
Revisions reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

## Figure 1.5 Merchandise Trade Value

Yearly




Monthly

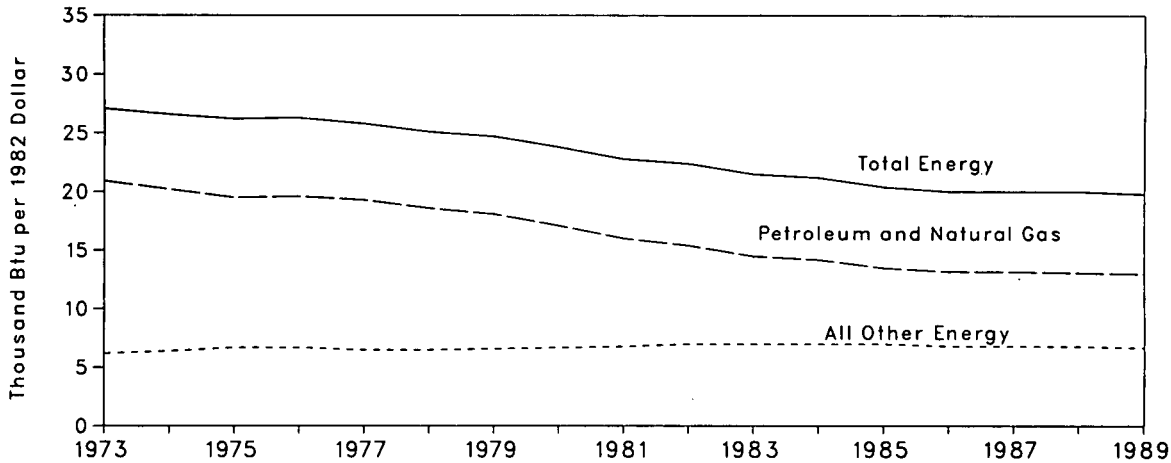


# Table 1.6 Merchandise Trade Value
(Million Dollars)

| | 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 Total** | **9,971** | **208,844** | **218,815** | **53,917** | **291,359** | **345,276** | **-43,946** | **-82,515** | **-126,461** |
| **1986 Total** | **8,115** | **219,044** | **227,159** | **37,310** | **328,128** | **365,438** | **-29,195** | **-109,084** | **-138,279** |
| **1987 Total** | **7,713** | **246,409** | **254,122** | **44,220** | **362,021** | **406,241** | **-36,507** | **-115,612** | **-152,119** |
| **1988** January | 560 | 22,602 | 23,162 | 3,576 | 29,459 | 33,035 | -3,016 | -6,858 | -9,874 |
| February | 548 | 23,768 | 24,316 | 3,795 | 31,699 | 35,494 | -3,247 | -7,932 | -11,179 |
| March | 645 | 28,698 | 29,343 | 3,190 | 33,809 | 36,999 | -2,545 | -5,111 | -7,656 |
| April | 678 | 26,050 | 26,728 | 3,281 | 31,680 | 34,961 | -2,603 | -5,630 | -8,233 |
| May | 763 | 27,430 | 28,193 | 3,800 | 32,308 | 36,108 | -3,037 | -4,878 | -7,915 |
| June | 728 | 26,075 | 26,803 | 3,525 | 35,016 | 38,541 | -2,797 | -8,941 | -11,738 |
| July | 677 | 24,509 | 25,186 | 3,293 | 32,104 | 35,397 | -2,616 | -7,595 | -10,211 |
| August | 731 | 25,808 | 26,539 | 3,636 | 33,909 | 37,545 | -2,905 | -8,101 | -11,006 |
| September | 691 | 26,376 | 27,067 | 3,124 | 33,180 | 36,304 | -2,433 | -6,804 | -9,237 |
| October | 676 | 27,868 | 28,544 | 3,072 | 35,723 | 38,795 | -2,396 | -7,855 | -10,251 |
| November | 674 | 26,891 | 27,565 | 3,162 | 35,227 | 38,389 | -2,488 | -8,336 | -10,824 |
| December | 863 | 28,119 | 28,982 | 3,605 | 35,779 | 39,384 | -2,742 | -7,660 | -10,402 |
| **Total** | **8,235** | **314,191** | **322,426** | **41,042** * | **399,910** | **440,952** | **-32,807** * | **-85,719** | **-118,526** |
| **1989** January | 678 | 26,863 | 27,541 | 3,816 | 32,363 | 36,179 | -3,138 | R -5,501 | R -8,639 |
| February | 673 | 27,254 | 27,927 | 3,567 | 32,982 | 36,549 | -2,894 | -5,728 | -8,622 |
| March | 783 | 32,460 | 33,243 | 4,024 | 36,173 | 40,197 | -3,241 | R -3,712 | -6,954 |
| April | 814 | 30,238 | 31,052 | 4,392 | 33,851 | 38,243 | -3,578 | -3,613 | -7,191 |
| May | 905 | 30,591 | 31,496 | 5,057 | 35,902 | 40,959 | -4,152 | -5,311 | -9,463 |
| June | 854 | 30,966 | 31,820 | 4,523 | 36,021 | 40,544 | R -3,670 | R -5,054 | -8,724 |
| July | 676 | 28,032 | 28,708 | 4,629 | 34,661 | 39,290 | -3,953 | -6,629 | -10,582 |
| August | 865 | 28,541 | 29,406 | 4,925 | 35,515 | 40,440 | -4,060 | R -6,975 | -11,034 |
| September | 852 | 28,858 | 29,710 | 4,074 | 34,606 | 38,680 | -3,222 | -5,749 | -8,971 |
| October | 853 | 30,903 | 31,756 | 4,757 | 38,779 | 43,536 | -3,904 | -7,876 | -11,780 |
| November | R 990 | R 29,289 | 30,279 | R 4,616 | R 36,417 | 41,033 | R -3,626 | R -7,128 | -10,754 |
| December | 946 | 29,928 | 30,874 | 4,326 | 33,235 | 37,561 | -3,380 | R -3,306 | -6,687 |
| **Total** | **R 9,889** | **R 353,923** | **363,812** | **R 52,707** | **R 420,505** | **473,211** | **R -42,818** | **R -66,581** | **-109,399** |
| **1990** January | 886 | 29,610 | 30,496 | 6,286 | 34,024 | 40,310 | -5,400 | R -4,415 | -9,814 |
| February | 766 | 30,155 | 30,921 | 5,042 | 32,088 | 37,130 | -4,276 | -1,933 | -6,209 |
| March | 964 | 34,991 | 35,955 | 4,943 | 37,139 | 42,082 | -3,979 | R -2,148 | -6,126 |
| April | 849 | 31,751 | 32,600 | 4,099 | 34,613 | 38,712 | R -3,251 | R -2,861 | -6,112 |
| May | 866 | 32,812 | 33,678 | 4,593 | 36,010 | 40,603 | -3,727 | -3,198 | -6,925 |
| June | 869 | 33,588 | 34,457 | 3,976 | 36,677 | 40,653 | -3,107 | -3,089 | -6,196 |
| July | 831 | 29,898 | 30,729 | 4,287 | 36,951 | 41,238 | -3,456 | -7,054 | -10,510 |
| August | 1,057 | 30,607 | 31,664 | 5,115 | 37,064 | 42,179 | -4,058 | -6,457 | -10,515 |
| September | 1,176 | 30,311 | 31,487 | 6,469 | 34,590 | 41,059 | -5,293 | R -4,279 | -9,573 |
| October | 1,300 | R 33,996 | R 35,296 | 7,621 | R 40,480 | R 48,101 | R -6,322 | R -6,483 | R -12,805 |
| November | 1,394 | 31,718 | 33,112 | 6,616 | 37,288 | 43,904 | -5,222 | -5,570 | -10,793 |
| **11-Month Total** | **10,959** | **349,434** | **360,393** | **59,048** | **396,922** | **455,970** | **-48,089** | **-47,488** | **-95,577** |

* Annual value is not equal to the sum of the months because some monthly revisions are not available for publication.
R=Revised data. NA=Not available.
Notes: • 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 Energy Consumption per Dollar of Gross National Product




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

| | Energy Consumption | | | Gross National Product (GNP) | Energy Consumption per Dollar of GNP | | |
|---|---|---|---|---|---|---|---|
| | Petroleum and Natural Gas | Other Energy | Total[a] | | Petroleum and Natural Gas | Other Energy | Total |
| | OGTCRUS | XPTCRUS | TETCRUS | GNPRXUS | OGTGRUS | XPTGRUS | TETGRUS |
| | Quadrillion Btu | | | Trillion 1982 Dollars | Thousand Btu per 1982 Dollar | | |
| 1973 Year | 57.352 | 16.930 | 74.282 | 2.744 | 20.9 | 6.2 | 27.1 |
| 1974 Year | 55.187 | 17.356 | 72.543 | 2.729 | 20.2 | 6.4 | 26.6 |
| 1975 Year | 52.678 | 17.868 | 70.546 | 2.695 | 19.5 | 6.6 | 26.2 |
| 1976 Year | 55.520 | 18.842 | 74.362 | 2.827 | 19.6 | 6.7 | 26.3 |
| 1977 Year | 57.053 | 19.235 | 76.288 | 2.959 | 19.3 | 6.5 | 25.8 |
| 1978 Year | 57.966 | 20.123 | 78.089 | 3.115 | 18.6 | 6.5 | 25.1 |
| 1979 Year | 57.789 | 21.109 | 78.898 | 3.192 | 18.1 | 6.6 | 24.7 |
| 1980 Year | 54.596 | 21.359 | 75.955 | 3.187 | 17.1 | 6.7 | 23.8 |
| 1981 Year | 51.859 | 22.131 | 73.990 | 3.249 | 16.0 | 6.8 | 22.8 |
| 1982 Year | 48.736 | 22.112 | 70.848 | 3.166 | 15.4 | 7.0 | 22.4 |
| 1983 Year | 47.411 | 23.113 | 70.524 | 3.279 | 14.5 | 7.0 | 21.5 |
| 1984 Year | 49.558 | 24.543 | 74.101 | 3.501 | 14.2 | 7.0 | 21.2 |
| 1985 Year | 48.756 | 25.189 | 73.945 | 3.619 | 13.5 | 7.0 | 20.4 |
| 1986 Year | 48.904 | 25.333 | 74.237 | 3.718 | 13.2 | 6.8 | 20.0 |
| 1987 Year | 50.610 50.509 | R 26.234 26.235 | R 76.844 | 3.845 | 13.2 | 6.8 | 20.0 |
| 1988 1st Quarter[b] | 53.693 | 27.487 | 81.180 | 3.970 | 13.5 | 6.9 | 20.4 |
| 2nd Quarter[b] | 52.237 | 27.241 | 79.478 | 4.006 | 13.0 | 6.8 | 19.8 |
| 3rd Quarter[b] | 52.561 | 27.824 | 80.385 | 4.032 | 13.0 | 6.9 | 19.9 |
| 4th Quarter[b] | 52.640 | 27.128 | 79.768 | 4.059 | 13.0 | 6.7 | 19.7 |
| Year | 52.781 | 27.421 | 80.202 | 4.017 | 13.1 | 6.8 | 20.0 |
| 1989 1st Quarter[b] | 53.915 | 27.431 | 81.346 | 4.096 | 13.2 | 6.7 | 19.9 |
| 2nd Quarter[b] | 53.667 | 27.568 | 81.235 | 4.112 | 13.1 | 6.7 | 19.8 |
| 3rd Quarter[b] | 52.532 | 27.586 | 80.118 | 4.130 | 12.7 | 6.7 | 19.4 |
| 4th Quarter[b] | 54.694 | 28.236 | 82.930 | 4.133 | 13.2 | 6.8 | 20.1 |
| Year | 53.701 | 27.708 | 81.409 | 4.118 | 13.0 | 6.7 | 19.8 |
| 1990 1st Quarter[b] | 51.392 | 28.024 | 79.416 | 4.151 | 12.4 | 6.8 | 19.1 |
| 2nd Quarter[b] | 54.124 | 28.234 | 82.358 | 4.155 | 13.0 | 6.8 | 19.8 |
| 3rd Quarter[b] | R 54.080 | R 28.239 | R 82.319 | 4.170 | 13.0 | 6.8 | 19.7 |

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

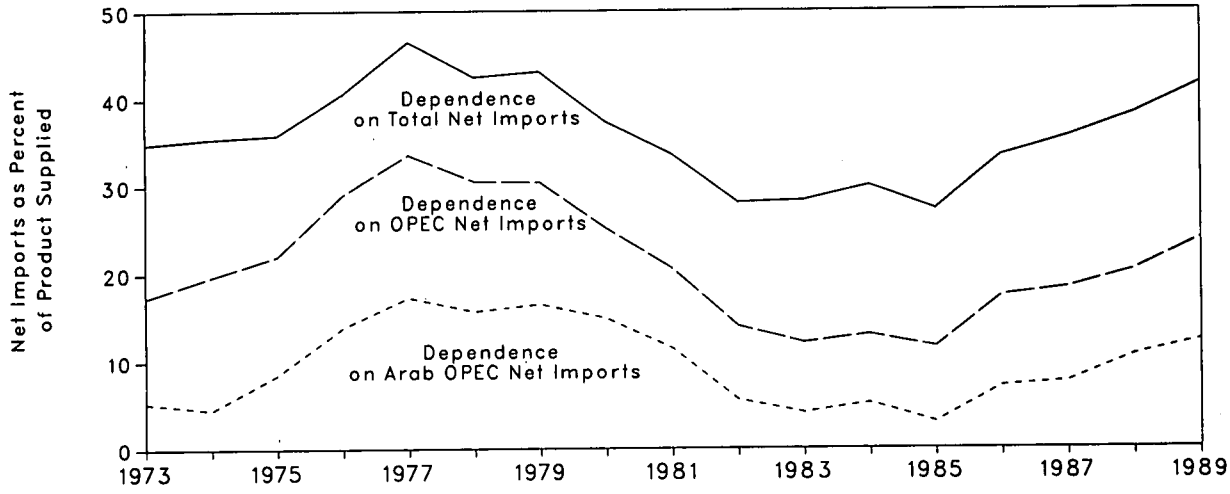
[b]Quarterly data are seasonally adjusted and shown at annual rates.

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 Average** | **470** | **1,821** | **4,286** | **15,726** | **3.0** | **11.6** | **27.3** |
| **1986 Average** | **1,160** | **2,828** | **5,439** | **16,281** | **7.1** | **17.4** | **33.4** |
| **1987 Average** | **1,272** | **3,053** | **5,914** | **16,665** | **7.6** | **18.3** | **35.5** |
| **1988** 1st Quarter | 1,676 | 3,210 | 6,263 | 17,588 | 9.5 | 18.3 | 35.6 |
| 2nd Quarter | 1,655 | 3,507 | 6,518 | 16,601 | 10.0 | 21.1 | 39.3 |
| 3rd Quarter | 1,995 | 3,655 | 6,623 | 17,083 | 11.7 | 21.4 | 38.8 |
| 4th Quarter | 2,020 | 3,675 | 6,937 | 17,857 | 11.3 | 20.6 | 38.8 |
| **Average** | **1,837** | **3,513** | **6,587** | **17,283** | **10.6** | **20.3** | **38.1** |
| **1989** 1st Quarter | 2,046 | 3,911 | 7,080 | 17,719 | 11.5 | 22.1 | 40.0 |
| 2nd Quarter | 2,055 | 4,015 | 7,084 | 16,885 | 12.2 | 23.8 | 42.0 |
| 3rd Quarter | 2,318 | 4,383 | 7,512 | 16,870 | 13.7 | 26.0 | 44.5 |
| 4th Quarter | 2,091 | 4,180 | 7,127 | 17,830 | 11.7 | 23.4 | 40.0 |
| **Average** | **2,128** | **4,124** | **7,202** | **17,325** | **12.3** | **23.8** | **41.6** |
| **1990** 1st Quarter | 2,399 | 4,578 | 7,661 | 17,025 | 14.1 | 26.9 | 45.0 |
| 2nd Quarter | 2,233 | 4,382 | 7,648 | 16,873 | 13.2 | 26.0 | 45.3 |
| 3rd Quarter | 2,501 | 4,597 | 7,475 | 17,083 | 14.6 | 26.9 | 43.8 |

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

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

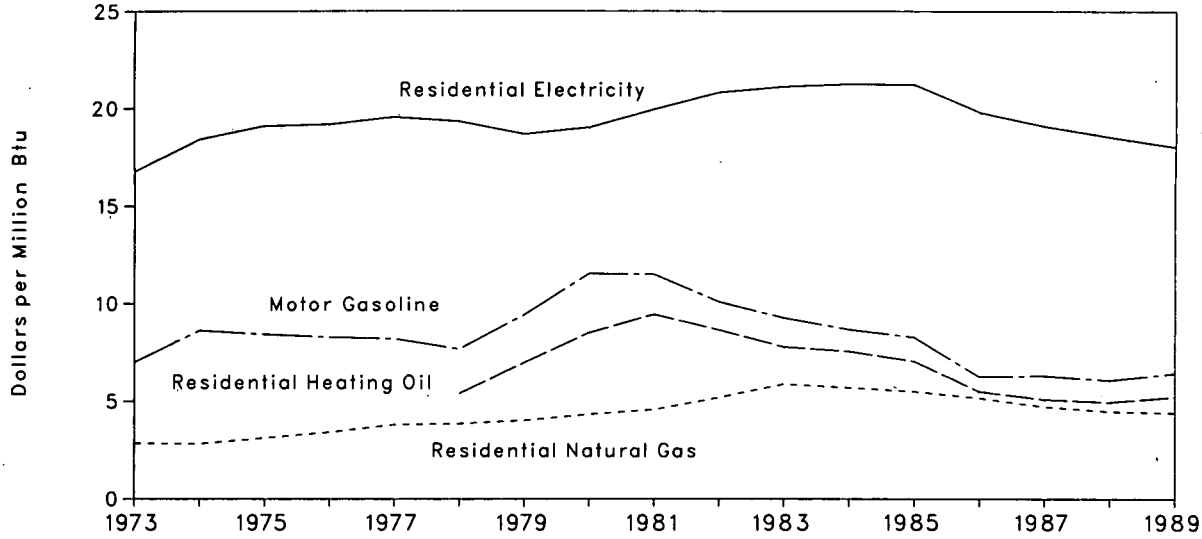
[c]The Arab members of OPEC are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Net imports from the Neutral Zone between Kuwait and Saudi Arabia are included in net imports from "Arab OPEC."

[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 (1982-84) Dollars




## Table 1.9 Cost of Fuels to End Users in Constant (1982-84) Dollars[a]

| | Leaded Regular Motor Gasoline | | Residential Heating Oil | | Residential Natural Gas | | Residential Electricity | |
|---|---|---|---|---|---|---|---|---|
| | Cents/Gal | $/MMBtu | Cents/Gal | $/MMBtu | Cents/Mcf | $/MMBtu | Cents/kWh | $/MMBtu |
| **1973 Average** | **87.4** | **6.99** | **NA** | **NA** | **290.5** | **2.85** | **5.72** | **16.77** |
| **1974 Average** | **107.9** | **8.63** | **NA** | **NA** | **290.1** | **2.83** | **6.29** | **18.43** |
| **1975 Average** | **105.4** | **8.43** | **NA** | **NA** | **317.8** | **3.12** | **6.52** | **19.12** |
| **1976 Average** | **103.7** | **8.29** | **NA** | **NA** | **348.0** | **3.41** | **6.56** | **19.21** |
| **1977 Average** | **102.6** | **8.21** | **NA** | **NA** | **387.8** | **3.81** | **6.68** | **19.59** |
| **1978 Average** | **96.0** | **7.68** | **75.2** | **5.42** | **392.6** | **3.86** | **6.61** | **19.37** |
| **1979 Average** | **118.0** | **9.44** | **97.0** | **6.99** | **410.5** | **4.03** | **6.39** | **18.73** |
| **1980 Average** | **144.5** | **11.56** | **118.2** | **8.52** | **446.6** | **4.36** | **6.50** | **19.06** |
| **1981 Average** | **144.2** | **11.53** | **131.4** | **9.47** | **471.9** | **4.60** | **6.82** | **19.99** |
| **1982 Average** | **126.6** | **10.12** | **120.2** | **8.67** | **535.8** | **5.22** | **7.11** | **20.83** |
| **1983 Average** | **116.2** | **9.29** | **108.2** | **7.80** | **608.4** | **5.90** | **7.21** | **21.13** |
| **1984 Average** | **108.7** | **8.69** | **105.0** | **7.57** | **589.0** | **5.72** | **7.26** | **21.27** |
| **1985 Average** | **103.6** | **8.29** | **97.9** | **7.06** | **568.8** | **5.52** | **7.24** | **21.22** |
| **1986 Average** | **78.2** | **6.25** | **76.3** | **5.50** | **531.9** | **5.17** | **6.76** | **19.82** |
| **1987 Average** | **79.0** | **6.31** | **70.7** | **5.10** | **487.7** | **4.73** | **6.52** | **19.12** |
| **1988** 1st Quarter | 74.3 | 5.94 | 72.3 | 5.21 | 441.0 | 4.29 | 6.05 | 17.72 |
| 2nd Quarter | 76.7 | 6.13 | 69.3 | 5.00 | 503.0 | 4.89 | 6.44 | 18.88 |
| 3rd Quarter | 78.4 | 6.27 | 63.3 | 4.56 | 572.6 | 5.56 | 6.62 | 19.42 |
| 4th Quarter | 74.8 | 5.98 | 64.8 | 4.68 | 468.0 | 4.55 | 6.22 | 18.22 |
| **Average** | **76.0** | **6.08** | **68.7** | **4.96** | **462.4** | **4.49** | **6.33** | **18.56** |
| **1989** 1st Quarter | 73.1 | 5.85 | R 70.5 | R 5.08 | 444.5 | 4.32 | 5.92 | 17.34 |
| 2nd Quarter | 87.2 | 6.97 | 69.7 | 5.02 | 486.7 | 4.72 | 6.27 | 18.36 |
| 3rd Quarter | 83.3 | 6.66 | 65.5 | 4.72 | 555.7 | 5.40 | 6.48 | 18.99 |
| 4th Quarter | 77.8 | 6.22 | 74.5 | 5.37 | 448.0 | 4.35 | 6.00 | 17.58 |
| **Average** | **80.4** | **6.43** | **72.6** | **5.23** | **454.8** | **4.42** | **6.16** | **18.06** |
| **1990** 1st Quarter | 78.5 | 6.28 | 79.5 | 5.73 | 432.8 | 4.20 | 5.80 | 16.99 |
| 2nd Quarter | 81.1 | 6.49 | 69.7 | 5.02 | 467.9 | 4.55 | 6.14 | 18.00 |
| 3rd Quarter | 90.8 | 7.26 | 75.1 | 5.41 | 528.1 | 5.13 | 6.25 | 18.31 |

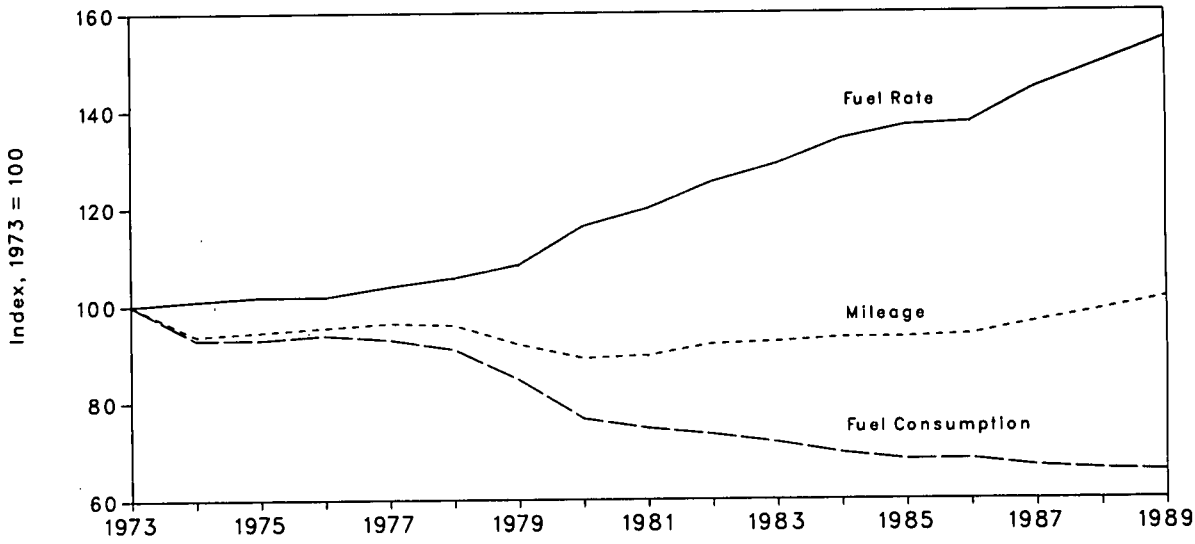
[a]Fuel costs are calculated using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. See Note 6 at end of section.

R=Revised data. 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. • Quarterly values are simple averages of the monthly data in Tables 9.4, 9.8c, 9.11, and 9.9 (Monthly Series), adjusted by the CPI. The annual values are from the four source tables, adjusted by the CPI.

Sources: See end of section.

## Figure 1.9 Passenger Car Efficiency




## Table 1.10 Passenger Car Efficiency

| | Mileage | | Fuel Consumption | | Fuel Rate | |
|---|---|---|---|---|---|---|
| | Miles per Car | Index 1973=100.0 | Gallons per Car | Index 1973=100.0 | Miles per Gallon | Index 1973=100.0 |
| 1973 | 10,256 | 100.0 | 771 | 100.0 | 13.30 | 100.0 |
| 1974 | 9,606 | 93.7 | 716 | 92.9 | 13.42 | 100.9 |
| 1975 | 9,690 | 94.5 | 716 | 92.9 | 13.52 | 101.7 |
| 1976 | 9,785 | 95.4 | 723 | 93.8 | 13.53 | 101.7 |
| 1977 | 9,879 | 96.3 | 716 | 92.9 | 13.80 | 103.8 |
| 1978 | 9,835 | 95.9 | 701 | 90.9 | 14.04 | 105.6 |
| 1979 | 9,403 | 91.7 | 653 | 84.7 | 14.41 | 108.3 |
| 1980 | 9,141 | 89.1 | 591 | 76.7 | 15.46 | 116.2 |
| 1981 | 9,186 | 89.6 | 576 | 74.7 | 15.94 | 119.8 |
| 1982 | 9,428 | 91.9 | 566 | 73.4 | 16.65 | 125.2 |
| 1983 | 9,475 | 92.4 | 553 | 71.7 | 17.14 | 128.9 |
| 1984 | 9,558 | 93.2 | 536 | 69.5 | 17.83 | 134.1 |
| 1985 | 9,560 | 93.2 | 525 | 68.1 | 18.20 | 136.8 |
| 1986 | 9,608 | 93.7 | 526 | 68.2 | 18.27 | 137.4 |
| 1987 | 9,878 | 96.3 | 514 | 66.7 | 19.20 | 144.4 |
| 1988 | 10,121 | 98.7 | 509 | 66.0 | 19.87 | 149.4 |
| 1989[a] | 10,382 | 101.2 | 506 | 65.6 | 20.54 | 154.4 |

[a]Preliminary data.

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

Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division. 1973 through 1985: *Highway Statistics Summary to 1985*, Table VM-201A; 1986 forward: *Highway Statistics*, Table VM-1.

# Table 1.11 Population-Weighted Heating Degree-Days

| Census Division | December 1 through December 31 | | | | | Cumulative July 1 through December 31 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[a] | 1989 | 1990 | Normal to 1990 | 1989 to 1990 | Normal[a] | 1989 | 1990 | Normal to 1990 | 1989 to 1990 |
| **New England** CT, ME, MA, NH, RI, VT | 1,098 | 1,441 | 895 | -18.5 | -37.9 | 2,419 | 2,798 | 2,039 | -15.7 | -27.1 |
| **Middle Atlantic** NJ, NY, PA | 1,013 | 1,340 | 827 | -18.4 | -38.3 | 2,138 | 2,442 | 1,779 | -16.8 | -27.1 |
| **East North Central** IL, IN, MI, OH, WI | 1,126 | 1,454 | 1,057 | -6.1 | -27.3 | 2,361 | 2,803 | 2,225 | -5.8 | -20.6 |
| **West North Central** IA, KS, MN, MO, NE, ND, SD | 1,208 | 1,483 | 1,288 | 6.6 | -13.1 | 2,543 | 2,916 | 2,525 | -.7 | -13.4 |
| **South Atlantic** DE, FL, GA, MD and DC, NC, SC, VA, WV | 593 | 810 | 444 | -25.1 | -45.2 | 1,146 | 1,345 | 891 | -22.3 | -33.8 |
| **East South Central** AL, KY, MS, TN | 700 | 990 | 592 | -15.4 | -40.2 | 1,384 | 1,616 | 1,136 | -17.9 | -29.7 |
| **West South Central** AR, LA, OK, TX | 506 | 754 | 538 | 6.3 | -28.6 | 893 | 1,117 | 852 | -4.6 | -23.7 |
| **Mountain** AZ, CO, ID, MT, NV, NM, UT, WY | 944 | 965 | 1,108 | 17.4 | 14.8 | 2,194 | 2,141 | 2,221 | 1.2 | 3.7 |
| **Pacific** CA, OR, WA | 557 | 523 | 648 | 16.3 | 23.9 | 1,189 | 1,102 | 1,176 | -1.1 | 6.7 |
| **U.S. Average[b]** | **846** | **1,077** | **790** | **-6.6** | **-26.6** | **1,757** | **1,995** | **1,588** | **-9.6** | **-20.4** |

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

# Energy Summary Notes and Additional Sources

## *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 Appendix.

**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 Appendix.

**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 Appendix. 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 Appendix. 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" consist of government and nongovernment shipments of merchandise into the 50 States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the U.S. Foreign Trade Zones. They reflect the total arrival from foreign countries of merchandise that immediately entered consumption channels, warehouses, the Foreign Trade Zones, or the Strategic Petroleum Reserve. They exclude shipments between the United States, Puerto Rico, and U.S. possessions, shipments to U.S. Armed Forces and diplomatic missions abroad for their own use, U.S. goods returned to the United States by its Armed Forces, and in-transit shipments.

**6. The Consumer Price Index:** The values for the Consumer Price Index, All Urban Consumers, All Items, 1982-84=100, are as follows:

| | | | | |
|---|---|---|---|---|
| 1973 | 44.4 | 1988: | 1st Quarter | 116.1 |
| 1974 | 49.3 | | 2nd Quarter | 117.5 |
| 1975 | 53.8 | | 3rd Quarter | 119.1 |
| 1976 | 56.9 | | 4th Quarter | 120.3 |
| 1977 | 60.6 | | Year | 118.3 |
| 1978 | 65.2 | 1989: | 1st Quarter | 121.7 |
| 1979 | 72.6 | | 2nd Quarter | 123.7 |
| 1980 | 82.4 | | 3rd Quarter | 124.7 |
| 1981 | 90.9 | | 4th Quarter | 125.9 |
| 1982 | 96.5 | | Year | 124.0 |
| 1983 | 99.6 | 1990: | 1st Quarter | 128.0 |
| 1984 | 103.9 | | 2nd Quarter | 129.3 |
| 1985 | 107.6 | | 3rd Quarter | 131.6 |
| 1986 | 109.6 | | | |
| 1987 | 113.6 | | | |

**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.

## Additional Sources

**Merchandise Trade Value:** 1974 through 1980: U.S. Department of Commerce (DOC), 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 DOC, 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: DOC, Bureau of the Census, "Summary of U.S. Export and Import Merchandise Trade," most recent monthly issue.

**Gross National Product:** 1973 through 1988: *Economic Report of the President,* February 1990, Table C-2; 1989 forward: DOC, Bureau of Economic Analysis, *United States Department of Commerce News,* December 19, 1990, Table 2.

**U.S. Dependence on Petroleum Net Imports:** Imports and Products Supplied--Section 3 of this publication. Exports--1973 through 1976: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys.* 1977 through 1980: Energy Information Administration (EIA), *Energy Data Reports* , "Petroleum Statement, Annual." 1981-1989: EIA, *Petroleum Supply Annual.* 1990 forward: EIA, *Petroleum Supply Monthly.*

**Cost of Fuels to End Users in Constant (1982-84) Dollars:**

- Leaded Regular Motor Gasoline--U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), *Consumer Prices: Energy,* monthly.
- Residential Heating Oil--1983 forward: EIA, Form EIA-782-A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report" and Form EIA-782B, "Resellers/Retailers' Monthly Petroleum Product Sales Report." Prices prior to 1983 are EIA estimates using data from Form FEA-P112-M1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and Form EIA-9A, "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--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."
- Residential Electricity--1973 through February 1980: Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 forward: FERC, Form FERC-5, "Electric Utility Company Monthly Statement."
- Deflator--1973 through 1988: *Economic Report of the President,* February 1990, Table C-58; 1989 forward: Council of Economic Advisers, *Economic Indicators,* February 1990, table titled, "Consumer Prices - All Urban Consumers."

# Section 2. Consumption

U.S. total energy consumption in October 1990 was 6.6 quadrillion Btu. Petroleum products accounted for 43 percent[1] of the energy consumed in October 1990, while coal accounted for 24 percent and natural gas accounted for 22 percent.

Residential and commercial sector consumption was 2.1 quadrillion Btu in October 1990, up 2 percent from the October 1989 level. The sector accounted for 32 percent of October 1990 total consumption, about the same share as in October 1989.

Industrial sector consumption was 2.6 quadrillion Btu in October 1990, up 2 percent from the October 1989 level. The industrial sector accounted for 40 percent of October 1990 total consumption, up 1 percentage point from its 39 percent share in October 1989.

Transportation sector consumption of energy was 1.9 quadrillion Btu in October 1990, down 2 percent from the October 1989 level. The sector consumed 28 percent of October 1990 total consumption, down 1 percentage point from its 29 percent share in October 1989.

Electric utility consumption of energy totaled 2.4 quadrillion Btu in October 1990, up 3 percent from the October 1989 level. Coal contributed 56 percent of the energy consumed by electric utilities in October 1990, while nuclear electric power contributed 20 percent; natural gas, 11 percent; hydroelectric power, 9 percent; petroleum, 3 percent; and wood, waste, geothermal, wind, photovoltaic, and solar thermal energy, about 1 percent.

## Table 2.1 Energy Consumption Summary for October 1990
(Quadrillion Btu)

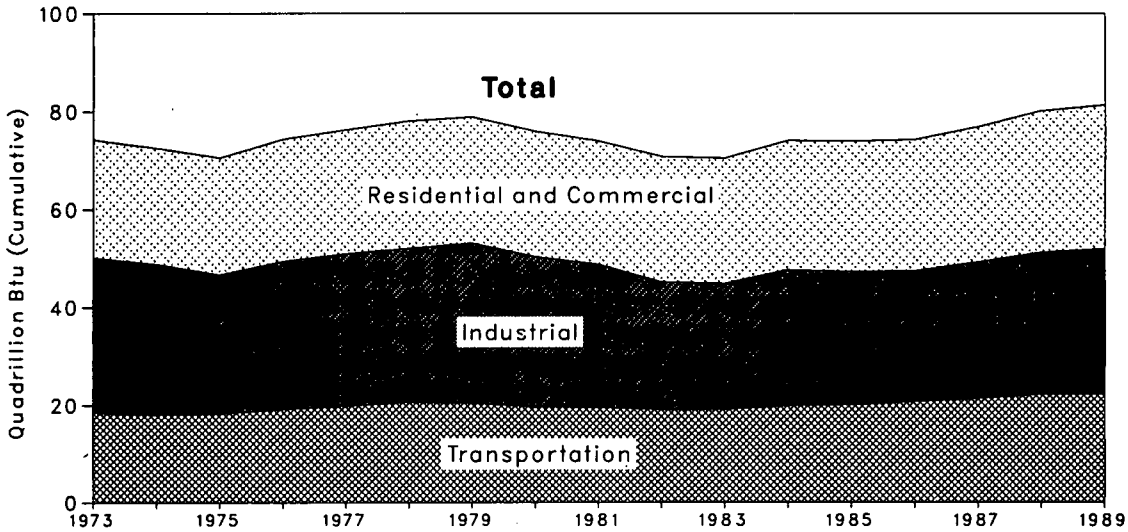
| Energy Source | Sector | | | | Total |
|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Electric Utilities | |
| Coal | 0.012 | 0.231 | [a] | 1.339 | 1.582 |
| Natural Gas[b] | .382 | .758 | 0.049 | .265 | 1.455 |
| Petroleum Products | .205 | .745 | 1.799 | .077 | 2.826 |
| Hydroelectric Power | - | .002 | - | .205 | .207 |
| Nuclear Electric Power | - | - | - | .466 | .466 |
| Net Imports of Coal Coke | - | .001 | - | - | .001 |
| Other[c] | - | - | - | .017 | .017 |
| **Primary Consumption** | **.599** | **1.737** | **1.848** | **2.370** | **6.554** |
| Electricity | .479 | .278 | .001 | | |
| **Net Consumption** | **1.077** | **2.015** | **1.849** | | **4.942** |
| Electrical System Energy Losses | 1.018 | .591 | .003 | | 1.612 |
| **Total Consumption[d]** | **2.096** | **2.606** | **1.852** | | **6.554** |

[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, photovoltaic, 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 for natural gas and coal.
Additional Notes and Sources: See end of section.

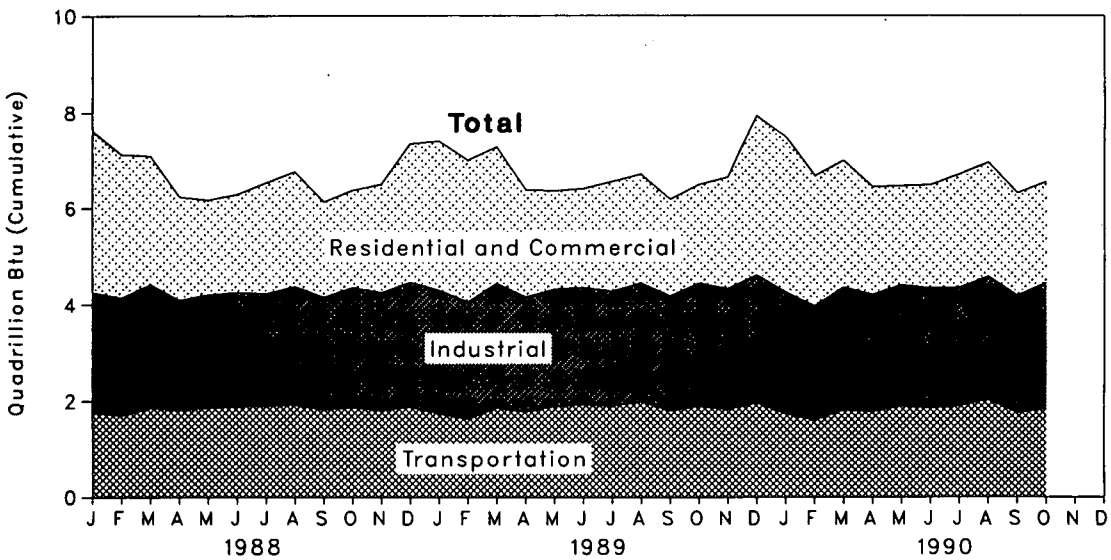
[1]Percentage changes are based on numbers in the following tables.

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

Yearly




Monthly



# Table 2.2 Consumption of Energy by End-Use Sector
(Quadrillion Btu)

| | Residential and Commercial | | Industrial | | Transportation | | Total Net | Total Gross |
|---|---|---|---|---|---|---|---|---|
| | Net | Gross | Net | Gross | Net | Gross | | |
| **1973 Total** | 15.766 | 24.143 | 25.917 | R 31.528 | 18.584 | 18.605 | 60.274 | 74.282 |
| **1974 Total** | 15.246 | 23.724 | 24.994 | R 30.696 | 18.095 | 18.117 | 58.341 | 72.543 |
| **1975 Total** | 15.200 | 23.900 | R 22.737 | 28.401 | 18.219 | 18.244 | 56.157 | 70.546 |
| **1976 Total** | 15.997 | 25.020 | 24.038 | 30.234 | 19.076 | 19.101 | 59.119 | 74.362 |
| **1977 Total** | 15.828 | 25.387 | R 24.593 | 31.075 | 19.794 | 19.819 | 60.223 | 76.288 |
| **1978 Total** | 16.023 | 26.088 | R 24.637 | 31.388 | 20.589 | 20.611 | 61.251 | 78.089 |
| **1979 Total** | 15.709 | 25.809 | 25.679 | 32.615 | 20.447 | 20.472 | 61.836 | 78.898 |
| **1980 Total** | 15.075 | 25.653 | R 23.854 | R 30.609 | 19.669 | 19.695 | 58.597 | 75.955 |
| **1981 Total** | R 14.541 | 25.243 | R 22.533 | 29.238 | 19.480 | 19.507 | 56.556 | 73.990 |
| **1982 Total** | R 14.629 | R 25.630 | R 20.020 | R 26.144 | 19.043 | 19.069 | 53.697 | 70.848 |
| **1983 Total** | R 14.395 | R 25.630 | R 19.401 | R 25.756 | 19.109 | 19.135 | 52.907 | 70.524 |
| **1984 Total** | 15.014 | 26.501 | R 21.064 | R 27.727 | 19.843 | 19.871 | 55.923 | 74.101 |
| **1985 Total** | R 14.889 | R 26.732 | 20.439 | 27.120 | 20.066 | 20.097 | 55.391 | 73.945 |
| **1986 Total** | 14.812 | 26.834 | R 20.135 | R 26.642 | 20.728 | 20.758 | 55.678 | 74.237 |
| **1987 Total** | 15.177 | 27.621 | R 21.175 | R 27.870 | 21.328 | 21.357 | 57.678 | R 76.844 |
| **1988** January | R 2.168 | 3.363 | 1.931 | 2.481 | 1.770 | 1.773 | 5.870 | 7.618 |
| February | R 1.959 | R 2.987 | R 1.919 | R 2.436 | 1.702 | 1.705 | 5.580 | 7.128 |
| March | 1.670 | 2.678 | 2.003 | 2.556 | 1.859 | 1.862 | 5.530 | 7.094 |
| April | R 1.259 | 2.152 | 1.739 | 2.272 | 1.818 | 1.820 | 4.812 | 6.241 |
| May | 1.021 | 1.968 | 1.743 | 2.339 | 1.865 | 1.867 | 4.626 | 6.172 |
| June | .920 | 2.037 | R 1.729 | R 2.354 | 1.899 | 1.901 | 4.550 | 6.295 |
| July | .989 | 2.302 | 1.693 | 2.317 | 1.909 | 1.912 | 4.595 | 6.534 |
| August | 1.025 | R 2.384 | R 1.812 | R 2.447 | 1.928 | 1.931 | 4.772 | 6.768 |
| September | R .956 | R 1.982 | R 1.787 | 2.324 | 1.828 | 1.831 | 4.572 | 6.137 |
| October | 1.068 | 2.021 | 1.910 | 2.478 | 1.876 | 1.879 | 4.853 | 6.376 |
| November | 1.304 | R 2.255 | 1.864 | 2.430 | 1.817 | 1.820 | 4.983 | 6.503 |
| December | 1.758 | 2.873 | 1.989 | R 2.578 | 1.884 | 1.886 | 5.631 | 7.338 |
| **Total** | **16.096** | **28.999** | **22.119** | **29.014** | **22.155** | **22.186** | **60.373** | **80.202** |
| **1989** January | 1.978 | 3.096 | 1.998 | 2.551 | 1.746 | 1.748 | 5.722 | 7.396 |
| February | 1.906 | 2.943 | R 1.884 | 2.421 | 1.633 | 1.635 | 5.424 | 6.999 |
| March | 1.763 | 2.827 | 2.020 | R 2.579 | 1.863 | 1.866 | 5.645 | 7.270 |
| April | R 1.310 | R 2.233 | 1.835 | 2.381 | 1.776 | 1.778 | 4.917 | 6.388 |
| May | 1.051 | 2.050 | 1.803 | R 2.421 | 1.894 | 1.897 | 4.746 | 6.366 |
| June | .953 | 2.062 | 1.805 | R 2.424 | 1.926 | 1.928 | 4.684 | 6.416 |
| July | .993 | 2.284 | 1.742 | 2.376 | 1.897 | 1.900 | 4.634 | 6.562 |
| August | .999 | 2.267 | R 1.823 | 2.459 | 1.984 | 1.987 | 4.811 | 6.718 |
| September | R .972 | R 2.022 | R 1.816 | 2.369 | 1.804 | 1.807 | 4.594 | 6.199 |
| October | 1.069 | 2.054 | R 1.956 | 2.550 | 1.890 | 1.893 | 4.913 | 6.495 |
| November | R 1.338 | 2.321 | 1.910 | R 2.497 | 1.830 | 1.832 | 5.077 | 6.650 |
| December | 2.058 | 3.331 | 2.019 | 2.651 | 1.961 | 1.964 | 6.041 | 7.950 |
| **Total** | **16.390** | **29.489** | R **22.610** | R **29.680** | **22.203** | **22.234** | **61.209** | **81.409** |
| **1990** January | R 2.084 | 3.237 | 1.999 | 2.518 | 1.738 | 1.741 | 5.823 | 7.498 |
| February | R 1.729 | 2.710 | 1.833 | 2.356 | 1.614 | 1.616 | 5.176 | 6.683 |
| March | R 1.599 | 2.638 | 1.964 | 2.541 | 1.816 | 1.819 | 5.379 | 6.997 |
| April | 1.306 | 2.247 | R 1.871 | R 2.424 | 1.781 | 1.784 | 4.958 | 6.455 |
| May | 1.062 | R 2.069 | 1.889 | 2.498 | 1.909 | 1.912 | 4.860 | 6.478 |
| June | .975 | 2.155 | R 1.831 | 2.475 | 1.865 | 1.868 | 4.675 | 6.501 |
| July | 1.044 | R 2.361 | 1.816 | 2.440 | 1.914 | 1.917 | 4.779 | 6.723 |
| August | 1.047 | 2.369 | 1.882 | 2.539 | 2.047 | 2.050 | 4.983 | 6.966 |
| September | R 1.019 | 2.139 | R 1.870 | R 2.427 | 1.759 | 1.761 | R 4.652 | R 6.332 |
| October | 1.077 | 2.096 | 2.015 | 2.606 | 1.849 | 1.852 | 4.942 | 6.554 |
| **10-Month Total** | **12.943** | **24.021** | **18.970** | **24.825** | **18.293** | **18.319** | **50.227** | **67.188** |
| **1989 10-Month Total** | **12.995** | **23.839** | **18.681** | **24.530** | **18.412** | **18.438** | **50.090** | **66.809** |
| **1988 10-Month Total** | **13.035** | **23.875** | **18.266** | **24.004** | **18.454** | **18.480** | **49.759** | **66.362** |

R=Revised data.

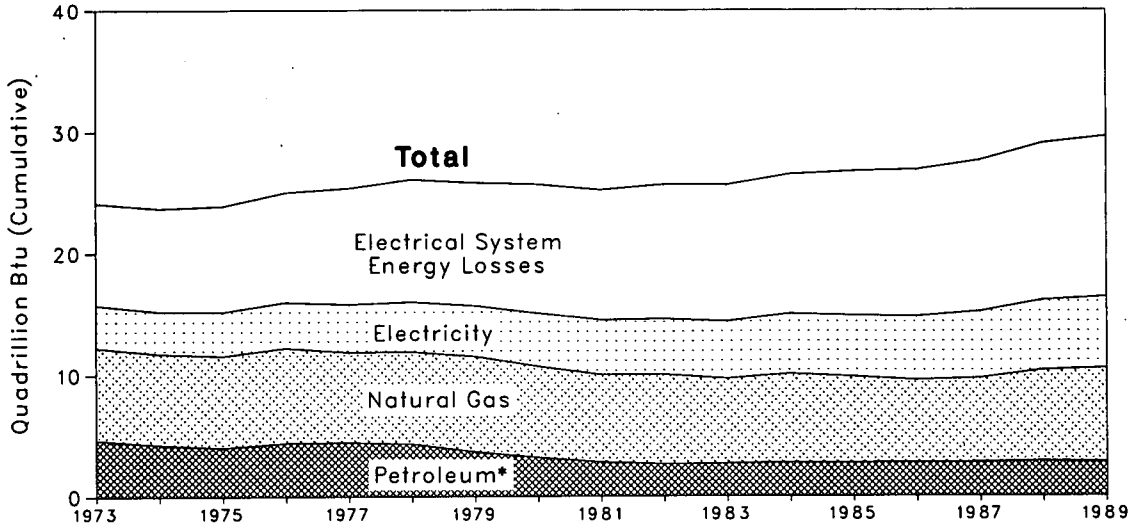
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal.

Additional Notes and Sources: See end of section.

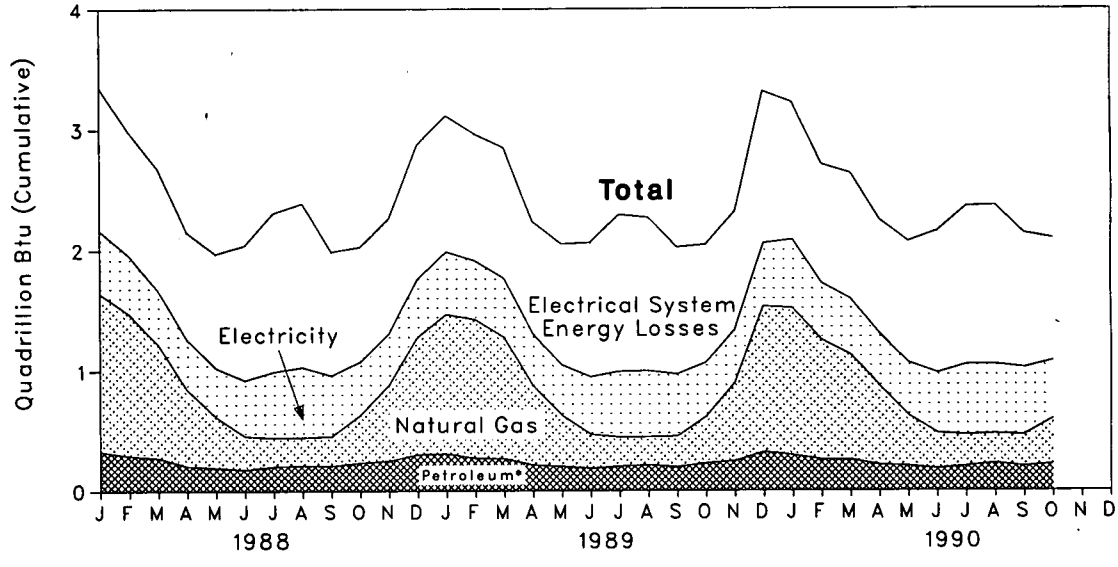
Most revisions reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

## 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 Btu)

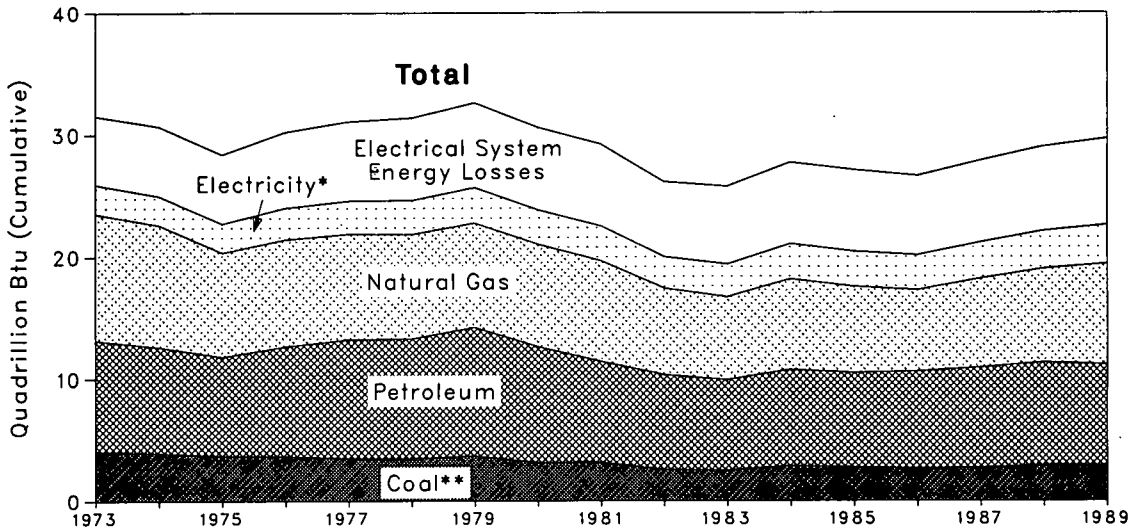
| | Coal | Natural Gas[a] | Petroleum | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption[b] | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **0.254** | **7.626** | **4.391** | **3.495** | **15.766** | **8.377** | **24.143** | |
| **1974 Total** | **.257** | **7.518** | **3.996** | **3.475** | **15.246** | **8.478** | **23.724** | |
| **1975 Total** | **.209** | **7.581** | **3.805** | **3.604** | **15.200** | **8.700** | **23.900** | |
| **1976 Total** | **.203** | **7.866** | **4.181** | **3.747** | **15.997** | **9.023** | **25.020** | |
| **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** | **10.101** | **25.809** | |
| **1980 Total** | **.145** | **7.540** | **3.035** | **4.355** | **15.075** | **10.578** | **25.653** | |
| **1981 Total** | **.167** | **7.243** | **2.634** | **4.497** | **R 14.541** | **10.703** | **25.243** | |
| **1982 Total** | **.187** | **7.427** | **2.449** | **4.566** | **R 14.629** | **11.001** | **R 25.630** | |
| **1983 Total** | **.192** | **R 7.024** | **2.498** | **4.680** | **R 14.395** | **11.235** | **R 25.630** | |
| **1984 Total** | **.209** | **R 7.292** | **2.585** | **4.928** | **15.014** | **11.487** | **26.501** | |
| **1985 Total** | **.176** | **R 7.079** | **2.573** | **5.061** | **R 14.889** | **11.843** | **R 26.732** | |
| **1986 Total** | **.176** | **R 6.825** | **2.576** | **5.235** | **14.812** | **12.022** | **26.834** | |
| **1987 Total** | **.162** | **6.954** | **2.618** | **5.443** | **15.177** | **12.443** | **27.621** | |
| **1988** January | .019 | 1.313 | .308 | .527 | R 2.168 | 1.195 | 3.363 | 3.363 |
| February | .016 | 1.180 | .276 | .488 | R 1.959 | 1.028 | R 2.987 | R 6.350 |
| March | .012 | .944 | .263 | .451 | 1.670 | 1.008 | 2.678 | 9.029 |
| April | .014 | .641 | .192 | .411 | R 1.259 | .893 | 2.152 | 11.181 |
| May | .008 | .428 | .185 | .400 | 1.021 | .947 | 1.968 | R 13.148 |
| June | .010 | .278 | .167 | .465 | .920 | 1.117 | 2.037 | 15.186 |
| July | .016 | .239 | .186 | .549 | .989 | 1.313 | 2.302 | 17.488 |
| August | .015 | .234 | .194 | .582 | 1.025 | 1.359 | R 2.384 | 19.872 |
| September | .009 | R .244 | .197 | .506 | R .956 | 1.026 | R 1.982 | R 21.854 |
| October | .011 | .399 | .220 | .439 | 1.068 | .953 | 2.021 | R 23.875 |
| November | .014 | .634 | .231 | .425 | 1.304 | .951 | R 2.255 | 26.130 |
| December | .023 | .979 | .275 | .481 | 1.758 | 1.115 | 2.873 | 29.003 |
| **Total** | **.168** | **7.512** | **2.693** | **5.724** | **16.096** | **12.903** | **28.999** | |
| **1989** January | .015 | R 1.160 | .288 | .514 | 1.978 | 1.118 | 3.096 | 3.096 |
| February | .016 | 1.156 | .251 | .483 | 1.906 | 1.037 | 2.943 | 6.039 |
| March | .012 | 1.017 | .251 | .484 | 1.763 | 1.064 | 2.827 | 8.866 |
| April | .012 | R .667 | .198 | .432 | R 1.310 | .923 | R 2.233 | R 11.099 |
| May | .008 | R .428 | .191 | .425 | 1.051 | .999 | 2.050 | R 13.149 |
| June | .007 | R .285 | .177 | .485 | .953 | 1.109 | 2.062 | R 15.211 |
| July | .012 | .246 | .186 | .549 | .993 | 1.291 | 2.284 | R 17.495 |
| August | .011 | .238 | .198 | .553 | .999 | 1.268 | 2.267 | R 19.762 |
| September | .007 | .260 | .187 | .518 | R .972 | 1.050 | R 2.022 | R 21.784 |
| October | .005 | R .392 | .223 | .450 | 1.069 | .985 | 2.054 | R 23.839 |
| November | .013 | .655 | .231 | .439 | R 1.338 | .984 | 2.321 | R 26.160 |
| December | .028 | 1.216 | .288 | .526 | 2.058 | 1.274 | 3.331 | R 29.491 |
| **Total** | **.145** | **7.721** | **2.668** | **5.856** | **16.390** | **13.099** | **29.489** | |
| **1990** January | .017 | 1.229 | .273 | .565 | R 2.084 | 1.154 | 3.237 | 3.237 |
| February | .015 | 1.001 | .239 | .473 | R 1.729 | .981 | 2.710 | 5.947 |
| March | .013 | R .880 | .239 | .467 | R 1.599 | 1.038 | 2.638 | 8.585 |
| April | .013 | R .657 | .198 | .439 | 1.306 | .941 | 2.247 | R 10.832 |
| May | .009 | R .420 | .193 | .441 | 1.062 | 1.007 | R 2.069 | R 12.901 |
| June | .009 | .299 | .170 | .497 | .975 | 1.180 | 2.155 | R 15.056 |
| July | .010 | .265 | .190 | .580 | 1.044 | 1.317 | R 2.361 | R 17.417 |
| August | .010 | .250 | .214 | .573 | 1.047 | 1.323 | 2.369 | R 19.787 |
| September | .010 | R .267 | .188 | .553 | R 1.019 | 1.120 | 2.139 | R 21.925 |
| October | .012 | .382 | .205 | .479 | 1.077 | 1.018 | 2.096 | 24.021 |
| **10-Month Total** | **.116** | **5.650** | **2.110** | **5.067** | **12.943** | **11.078** | **24.021** | |
| **1989 10-Month Total** | **.105** | **5.849** | **2.150** | **4.891** | **12.995** | **10.844** | **23.839** | |
| **1988 10-Month Total** | **.131** | **5.900** | **2.187** | **4.817** | **13.035** | **10.840** | **23.875** | |

[a]Includes supplemental gaseous fuels.
[b]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.

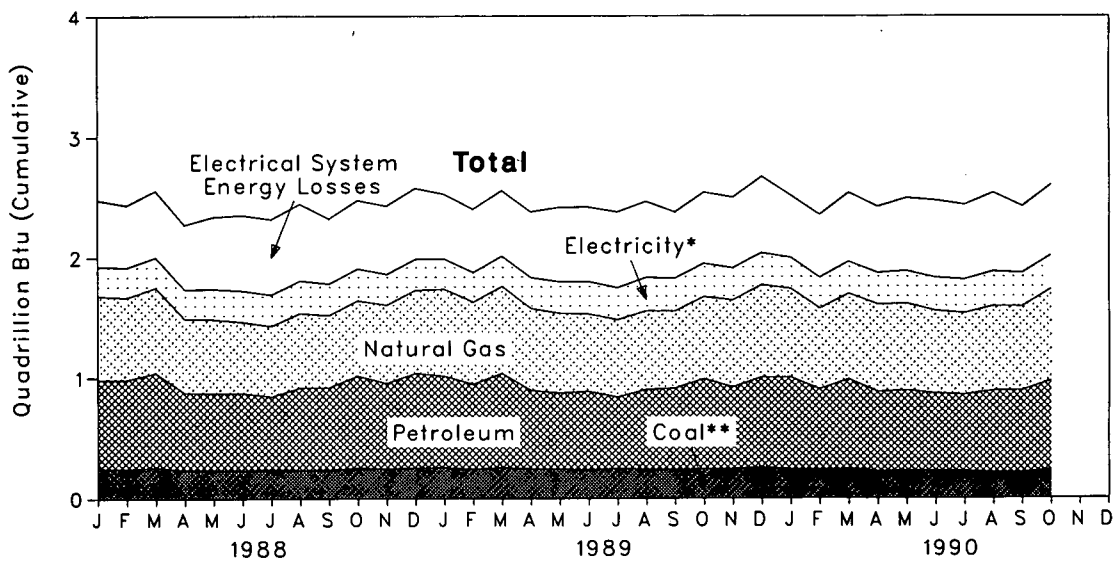
Most revisions reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

## 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 Btu)

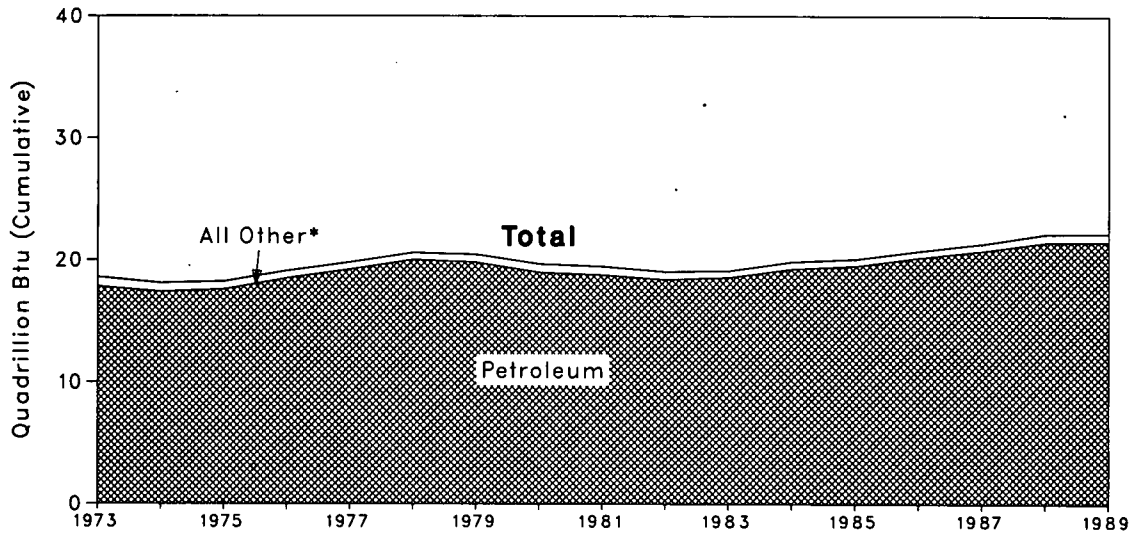
| | Coal | Natural Gas[a] | Petroleum | Hydroelectric Power | Net Imports of Coal Coke | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption[b] | Year to Date |
|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 4.057 | 10.388 | 9.104 | 0.035 | -0.007 | 2.341 | 25.917 | 5.611 | R 31.528 | |
| **1974 Total** | 3.870 | R 10.004 | 8.694 | .033 | .056 | 2.337 | 24.994 | 5.701 | R 30.696 | |
| **1975 Total** | 3.667 | 8.532 | 8.146 | .032 | .014 | 2.346 | R 22.737 | 5.664 | 28.401 | |
| **1976 Total** | 3.661 | R 8.762 | 9.010 | .033 | .000 | 2.573 | 24.038 | 6.196 | 30.234 | |
| **1977 Total** | 3.454 | R 8.635 | 9.774 | .033 | .015 | 2.682 | R 24.593 | 6.481 | 31.075 | |
| **1978 Total** | 3.314 | 8.539 | 9.867 | .032 | .125 | 2.761 | R 24.637 | 6.751 | 31.388 | |
| **1979 Total** | 3.593 | 8.549 | 10.568 | .034 | .063 | 2.873 | 25.679 | 6.935 | 32.615 | |
| **1980 Total** | 3.155 | R 8.395 | 9.525 | .033 | -.035 | 2.781 | R 23.854 | 6.755 | R 30.609 | |
| **1981 Total** | 3.157 | 8.257 | 8.285 | .033 | -.016 | 2.817 | R 22.533 | 6.705 | 29.238 | |
| **1982 Total** | 2.552 | R 7.121 | 7.794 | .033 | -.022 | 2.542 | R 20.020 | 6.124 | R 26.144 | |
| **1983 Total** | 2.490 | R 6.826 | 7.420 | .033 | -.016 | 2.648 | R 19.401 | 6.356 | R 25.756 | |
| **1984 Total** | 2.842 | R 7.448 | 7.894 | .033 | -.011 | 2.859 | R 21.064 | 6.663 | R 27.727 | |
| **1985 Total** | 2.760 | 7.080 | 7.725 | .033 | -.013 | 2.855 | 20.439 | 6.681 | 27.120 | |
| **1986 Total** | 2.643 | R 6.690 | 7.953 | .032 | -.017 | 2.834 | R 20.135 | 6.507 | R 26.642 | |
| **1987 Total** | 2.673 | R 7.323 | 8.210 | .032 | .009 | 2.928 | R 21.175 | 6.694 | R 27.870 | |
| **1988** January | .245 | .700 | .737 | .003 | .003 | .242 | 1.931 | .550 | 2.481 | 2.481 |
| February | .240 | .686 | .743 | .003 | .002 | .245 | R 1.919 | .517 | R 2.436 | 4.916 |
| March | .248 | .713 | .786 | .003 | .006 | .248 | 2.003 | .553 | 2.556 | R 7.473 |
| April | .226 | .613 | .648 | .003 | .004 | .245 | 1.739 | .533 | 2.272 | 9.745 |
| May | .232 | R .615 | .643 | .003 | -.002 | .252 | 1.743 • | .596 | 2.339 | R 12.084 |
| June | .223 | .589 | .648 | .003 | .005 | .260 | R 1.729 | .625 | R 2.354 | 14.437 |
| July | .230 | .584 | .609 | .003 | .007 | .261 | 1.693 | .624 | 2.317 | 16.754 |
| August | .225 | .619 | .691 | .002 | .003 | .272 | R 1.812 | .635 | R 2.447 | R 19.201 |
| September | .227 | R .599 | .691 | .002 | .003 | .265 | R 1.787 | .537 | 2.324 | R 21.526 |
| October | .245 | .631 | .766 | .002 | .004 | .261 | 1.910 | .568 | 2.478 | R 24.004 |
| November | .241 | .654 | .712 | .002 | .001 | .253 | 1.864 | .566 | 2.430 | R 26.434 |
| December | .246 | .695 | .788 | .002 | .003 | .254 | 1.989 | .589 | R 2.578 | 29.012 |
| **Total** | **2.828** | **7.697** | **8.463** | **.032** | **.040** | **3.059** | **22.119** | **6.895** | **29.014** | |
| **1989** January | .245 | .726 | .762 | .003 | .007 | .255 | 1.998 | .553 | 2.551 | 2.551 |
| February | .237 | .688 | .706 | .003 | .002 | .250 | R 1.884 | .536 | 2.421 | 4.972 |
| March | .248 | .727 | .785 | .003 | .003 | .254 | 2.020 | .559 | R 2.579 | R 7.551 |
| April | .233 | R .681 | .655 | .003 | .007 | .256 | 1.835 | .546 | 2.381 | R 9.931 |
| May | .230 | .663 | .637 | .003 | .006 | .263 | 1.803 | .619 | R 2.421 | R 12.353 |
| June | .226 | .644 | .656 | .003 | .004 | .271 | 1.805 | .620 | R 2.424 | R 14.777 |
| July | .226 | .642 | .598 | .003 | .004 | .270 | 1.742 | .634 | 2.376 | R 17.153 |
| August | .221 | .656 | .664 | .002 | .003 | .277 | R 1.823 | .636 | 2.459 | R 19.612 |
| September | .220 | R .643 | .677 | .002 | .002 | .272 | R 1.816 | .553 | 2.369 | R 21.981 |
| October | .250 | .685 | .752 | .002 | -.004 | .271 | R 1.956 | .594 | 2.550 | R 24.530 |
| November | .241 | R .725 | .680 | .002 | -.001 | .262 | 1.910 | .587 | R 2.497 | R 27.028 |
| December | .237 | .770 | .750 | .002 | -.002 | .261 | 2.019 | .632 | 2.651 | R 29.678 |
| **Total** | **2.815** | **R 8.250** | **8.321** | **.032** | **.030** | **3.161** | **R 22.610** | **7.071** | **R 29.680** | |
| **1990** January | .236 | .739 | .767 | .003 | .000 | .254 | 1.999 | .519 | 2.518 | 2.518 |
| February | .228 | .673 | .677 | .003 | .000 | .252 | 1.833 | .523 | 2.356 | 4.874 |
| March | .236 | .712 | .752 | .003 | .001 | .260 | 1.964 | .577 | 2.541 | 7.415 |
| April | .220 | .727 | .664 | .003 | -.001 | .258 | R 1.871 | .553 | R 2.424 | R 9.839 |
| May | .223 | R .724 | .671 | .003 | .000 | .266 | 1.889 | .609 | 2.498 | R 12.337 |
| June | .220 | .689 | .648 | .003 | .001 | .271 | R 1.831 | .644 | 2.475 | R 14.812 |
| July | .217 | .681 | .637 | .003 | .003 | .275 | 1.816 | .624 | 2.440 | R 17.253 |
| August | .210 | .704 | .682 | .002 | -.001 | .285 | 1.882 | .657 | 2.539 | R 19.792 |
| September | .207 | R .699 | .685 | .002 | .001 | .275 | R 1.870 | .557 | R 2.427 | R 22.219 |
| October | .231 | .758 | .745 | .002 | .001 | .278 | 2.015 | .591 | 2.606 | 24.826 |
| **10-Month Total** | **2.229** | **7.106** | **6.927** | **.028** | **.005** | **2.675** | **18.970** | **5.856** | **24.825** | |
| **1989 10-Month Total** | **2.336** | **6.755** | **6.891** | **.028** | **.034** | **2.638** | **18.681** | **5.849** | **24.530** | |
| **1988 10-Month Total** | **2.341** | **6.349** | **6.962** | **.028** | **.036** | **2.551** | **18.266** | **5.737** | **24.004** | |

[a]Includes supplemental gaseous fuels.
[b]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.

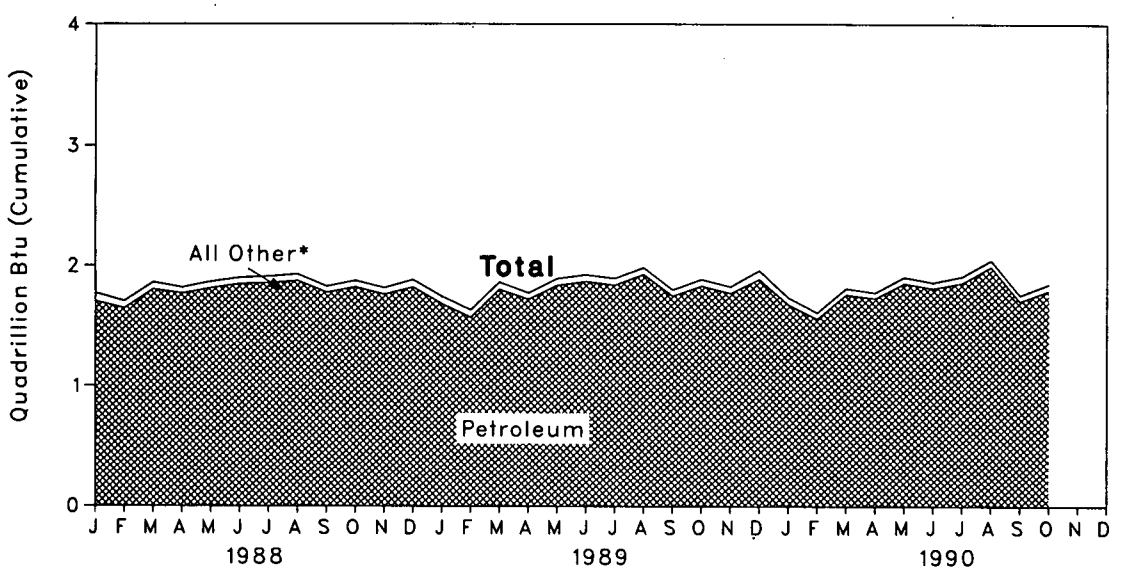
Most revisions reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

## Figure 2.4 Consumption of Energy by the Transportation Sector

Yearly




Monthly




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

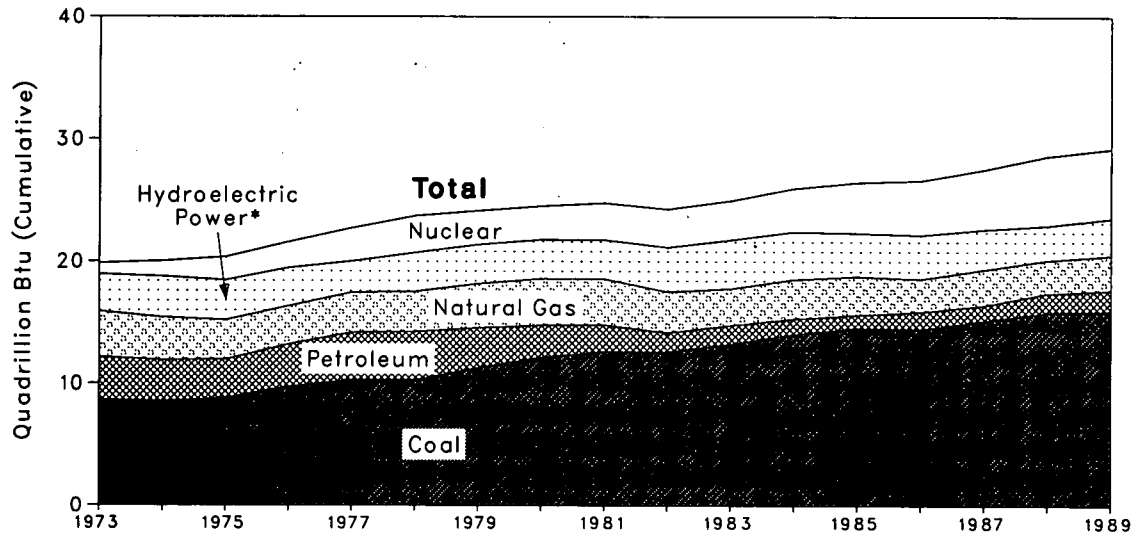
# Table 2.5 Consumption of Energy by the Transportation Sector
(Quadrillion Btu)

| | Coal | Natural Gas[a] | Petroleum | Electricity | Net Consumption | Electrical System Energy Losses | Total Consumption[b] | Year to Date |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 0.003 | 0.743 | 17.831 | 0.008 | 18.584 | 0.020 | 18.605 | |
| **1974 Total** | .002 | .685 | 17.399 | .009 | 18.095 | .022 | 18.117 | |
| **1975 Total** | .001 | .595 | 17.614 | .010 | 18.219 | .025 | 18.244 | |
| **1976 Total** | [c] | .559 | 18.506 | .010 | 19.076 | .025 | 19.101 | |
| **1977 Total** | [c] | .543 | 19.241 | .010 | 19.794 | .025 | 19.819 | |
| **1978 Total** | [d] | .539 | 20.041 | .009 | 20.589 | .022 | 20.611 | |
| **1979 Total** | [d] | .612 | 19.825 | .010 | 20.447 | .025 | 20.472 | |
| **1980 Total** | [d] | .650 | 19.008 | .011 | 19.669 | .026 | 19.695 | |
| **1981 Total** | [d] | .658 | 18.811 | .011 | 19.480 | .026 | 19.507 | |
| **1982 Total** | [d] | .612 | 18.420 | .011 | 19.043 | .026 | 19.069 | |
| **1983 Total** | [d] | .505 | 18.593 | .011 | 19.109 | .026 | 19.135 | |
| **1984 Total** | [d] | .545 | 19.286 | .012 | 19.843 | .028 | 19.871 | |
| **1985 Total** | [d] | .519 | 19.534 | .013 | 20.066 | .030 | 20.097 | |
| **1986 Total** | [d] | .499 | 20.215 | .013 | 20.728 | .030 | 20.758 | |
| **1987 Total** | [d] | .535 | 20.780 | .013 | 21.328 | .029 | 21.357 | |
| **1988** January | [d] | .065 | 1.704 | .001 | 1.770 | .003 | 1.773 | 1.773 |
| February | [d] | .057 | 1.645 | .001 | 1.702 | .002 | 1.705 | 3.478 |
| March | [d] | .055 | 1.804 | .001 | 1.859 | .002 | 1.862 | 5.339 |
| April | [d] | .047 | 1.769 | .001 | 1.818 | .002 | 1.820 | 7.159 |
| May | [d] | .050 | 1.813 | .001 | 1.865 | .003 | 1.867 | 9.027 |
| June | [d] | .048 | 1.849 | .001 | 1.899 | .003 | 1.901 | 10.928 |
| July | [d] | .050 | 1.857 | .001 | 1.909 | .003 | 1.912 | 12.840 |
| August | [d] | .050 | 1.876 | .001 | 1.928 | .003 | 1.931 | 14.770 |
| September | [d] | .048 | 1.779 | .001 | 1.828 | .002 | 1.831 | 16.601 |
| October | [d] | .050 | 1.825 | .001 | 1.876 | .003 | 1.879 | 18.480 |
| November | [d] | .052 | 1.764 | .001 | 1.817 | .002 | 1.820 | 20.300 |
| December | [d] | .058 | 1.825 | .001 | 1.884 | .003 | 1.886 | 22.186 |
| **Total** | [d] | **.632** | **21.510** | **.014** | **22.155** | **.031** | **22.186** | |
| **1989** January | [d] | .059 | 1.686 | .001 | 1.746 | .003 | 1.748 | 1.748 |
| February | [d] | .059 | 1.573 | .001 | 1.633 | .002 | 1.635 | 3.383 |
| March | [d] | .056 | 1.807 | .001 | 1.863 | .003 | 1.866 | 5.249 |
| April | [d] | .050 | 1.724 | .001 | 1.776 | .002 | 1.778 | 7.027 |
| May | [d] | .053 | 1.841 | .001 | 1.894 | .003 | 1.897 | 8.924 |
| June | [d] | .052 | 1.873 | .001 | 1.926 | .003 | 1.928 | 10.852 |
| July | [d] | .052 | 1.844 | .001 | 1.897 | .003 | 1.900 | 12.752 |
| August | [d] | .052 | 1.932 | .001 | 1.984 | .003 | 1.987 | 14.739 |
| September | [d] | .049 | 1.754 | .001 | 1.804 | .002 | 1.807 | 16.545 |
| October | [d] | .050 | 1.838 | .001 | 1.890 | .003 | 1.893 | 18.438 |
| November | [d] | .052 | 1.777 | .001 | 1.830 | .003 | 1.832 | 20.270 |
| December | [d] | .067 | 1.893 | .001 | 1.961 | .003 | 1.964 | 22.234 |
| **Total** | [d] | **.649** | **21.541** | **.014** | **22.203** | **.031** | **22.234** | |
| **1990** January | [d] | .055 | 1.683 | .001 | 1.738 | .002 | 1.741 | 1.741 |
| February | [d] | .049 | 1.563 | .001 | 1.614 | .002 | 1.616 | 3.357 |
| March | [d] | .049 | 1.766 | .001 | 1.816 | .003 | 1.819 | 5.176 |
| April | [d] | .045 | 1.735 | .001 | 1.781 | .002 | 1.784 | 6.960 |
| May | [d] | .048 | 1.860 | .001 | 1.909 | .003 | 1.912 | 8.872 |
| June | [d] | .045 | 1.819 | .001 | 1.865 | .003 | 1.868 | 10.740 |
| July | [d] | .050 | 1.862 | .001 | 1.914 | .003 | 1.917 | 12.657 |
| August | [d] | .050 | 1.995 | .001 | 2.047 | .003 | 2.050 | 14.707 |
| September | [d] | .048 | 1.709 | .001 | 1.759 | .002 | 1.761 | 16.468 |
| October | [d] | .049 | 1.799 | .001 | 1.849 | .003 | 1.852 | 18.319 |
| **10-Month Total** | [d] | **.491** | **17.790** | **.012** | **18.293** | **.026** | **18.319** | |
| **1989 10-Month Total** | [d] | **.530** | **17.870** | **.012** | **18.412** | **.026** | **18.438** | |
| **1988 10-Month Total** | [d] | **.522** | **17.921** | **.011** | **18.454** | **.026** | **18.480** | |

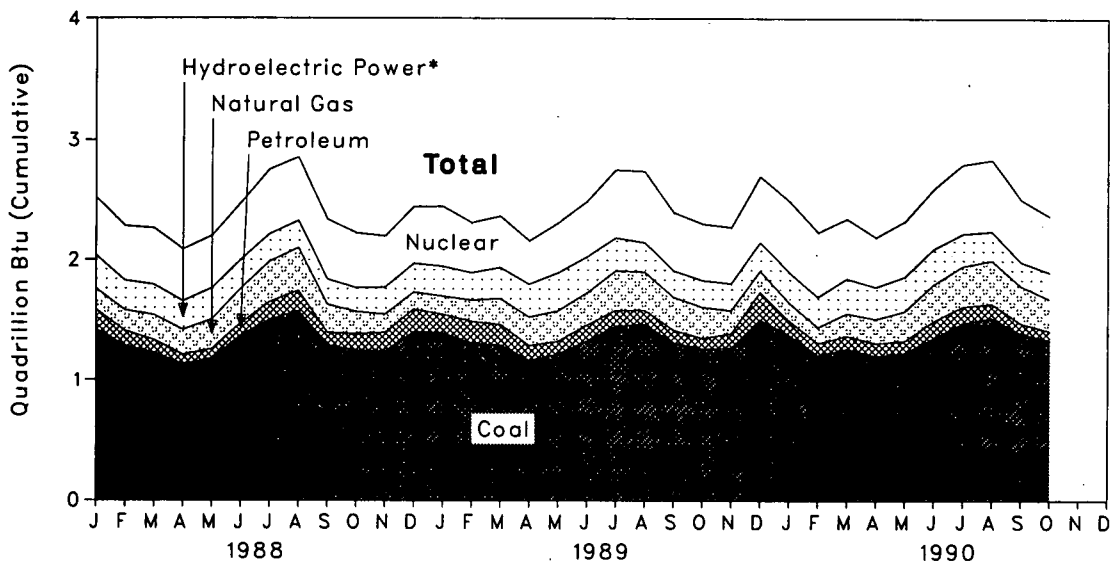
[a]Pipeline fuel only, including supplemental gaseous fuels.
[b]Excludes wood, waste, geothermal, wind, photovoltaic, and solar thermal energy except for small amounts used by electric utilities to generate electricity for distribution.
[c]Less than 0.5 trillion Btu.
[d]Since 1978, the small amounts of coal consumed for transportation have been reported as industrial sector consumption.
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 Btu)

| | Coal | Natural Gas[a] | Petro-leum[b] | Hydro-electric 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** | **19.852** | |
| **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** | **21.574** | |
| **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** | **3.539** | **3.131** | **.108** | **24.270** | |
| **1983 Total** | **13.213** | **2.998** | **1.544** | **3.866** | **3.203** | **.133** | **24.956** | |
| **1984 Total** | **14.020** | **3.220** | **1.286** | **3.725** | **3.553** | **.174** | **25.977** | |
| **1985 Total** | **14.542** | **3.160** | **1.090** | **3.330** | **4.149** | **.213** | **26.484** | |
| **1986 Total** | **14.444** | **2.691** | **1.452** | **3.353** | **4.471** | **.231** | **26.642** | |
| **1987 Total** | **15.173** | **2.935** | **1.257** | **3.035** | **4.906** | **.244** | **27.551** | |
| **1988** January | 1.418 | .172 | .170 | .258 | .480 | .020 | 2.519 | 2.519 |
| February | 1.283 | .174 | .123 | .229 | .454 | .018 | 2.281 | 4.800 |
| March | 1.228 | .210 | .102 | .232 | .472 | .020 | 2.263 | 7.063 |
| April | 1.131 | .205 | .079 | .221 | .430 | .019 | 2.086 | 9.149 |
| May | 1.181 | .247 | .076 | .240 | .437 | .018 | 2.199 | 11.348 |
| June | 1.366 | .288 | .105 | .219 | .474 | .020 | 2.472 | 13.819 |
| July | 1.500 | .337 | .149 | .208 | .535 | .021 | 2.750 | 16.569 |
| August | 1.573 | .354 | .171 | .206 | .527 | .021 | 2.851 | 19.420 |
| September | 1.286 | .239 | .105 | .191 | .497 | .019 | 2.338 | 21.759 |
| October | 1.245 | .187 | .138 | .177 | .458 | .020 | 2.224 | 23.983 |
| November | 1.239 | .155 | .154 | .206 | .425 | .019 | 2.199 | 26.182 |
| December | 1.399 | .141 | .192 | .219 | .473 | .019 | 2.444 | 28.626 |
| **Total** | **15.850** | **2.709** | **1.563** | **2.607** | **5.661** | **.235** | **28.626** | |
| **1989** January | 1.388 | .151 | .160 | .228 | .498 | .019 | 2.444 | 2.444 |
| February | 1.305 | .177 | .185 | .209 | .416 | .017 | 2.309 | 4.752 |
| March | 1.290 | .216 | .174 | .238 | .426 | .020 | 2.364 | 7.116 |
| April | 1.165 | .241 | .121 | .256 | .360 | .017 | 2.161 | 9.277 |
| May | 1.216 | .257 | .106 | .299 | .412 | .018 | 2.309 | 11.586 |
| June | 1.326 | .267 | .134 | .281 | .462 | .018 | 2.488 | 14.074 |
| July | 1.452 | .329 | .132 | .254 | .562 | .019 | 2.748 | 16.822 |
| August | 1.468 | .318 | .118 | .224 | .590 | .018 | 2.738 | 19.560 |
| September | 1.311 | .275 | .109 | .203 | .482 | .017 | 2.396 | 21.956 |
| October | 1.262 | .261 | .089 | .206 | .468 | .018 | 2.303 | 24.259 |
| November | 1.269 | .194 | .121 | .208 | .466 | .017 | 2.275 | 26.535 |
| December | 1.506 | .176 | .232 | .218 | .546 | .018 | 2.696 | 29.231 |
| **Total** | **15.958** | **2.862** | **1.681** | **2.825** | **5.687** | **.217** | **29.231** | |
| **1990** January | 1.377 | .149 | .123 | .237 | .592 | .018 | 2.495 | 2.495 |
| February | 1.209 | .136 | .100 | .236 | .537 | .016 | 2.234 | 4.729 |
| March | 1.263 | .189 | .108 | .273 | .495 | .018 | 2.346 | 7.075 |
| April | 1.202 | .204 | .108 | .253 | .414 | .014 | 2.194 | 9.269 |
| May | 1.230 | .248 | .101 | .270 | .461 | .017 | 2.327 | 11.596 |
| June | 1.358 | .305 | .141 | .278 | .498 | .017 | 2.597 | 14.192 |
| July | 1.480 | .336 | .138 | .253 | .576 | .017 | 2.800 | 16.993 |
| August | 1.525 | .358 | .117 | .225 | .599 | .017 | 2.842 | 19.835 |
| September | 1.395 | .310 | .086 | .182 | .520 | .016 | 2.509 | 22.344 |
| October | 1.339 | .265 | .077 | .205 | .466 | .017 | 2.370 | 24.714 |
| **10-Month Total** | **13.377** | **2.499** | **1.099** | **2.412** | **5.158** | **.168** | **24.714** | |
| **1989 10-Month Total** | **13.183** | **2.493** | **1.328** | **2.400** | **4.675** | **.181** | **24.259** | |
| **1988 10-Month Total** | **13.211** | **2.413** | **1.217** | **2.182** | **4.763** | **.196** | **23.983** | |

[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.
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.

# Consumption Notes and Sources

**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, lighting, 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 services 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 listed in the Appendix.

**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), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."
- Other Industrial--October 1977 through December 1979: EIA, Form EIA-3, "Monthly Coal Consumption Report - Manufacturing Plants"; January 1980 forward: EIA, Form EIA-3, "Quarterly Coal Consumption Report - Manufacturing Plants" and Form EIA-6, "Coal Distribution Report."
- Coke Plants--October 1977 through December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals - Monthly/Annual"; January 1981 through December 1984: EIA, Form EIA-5/5A, "Coke Plant Report - Quarterly/Annual Supplement"; January 1985 forward: EIA, Form EIA-5/5A, "Coke Plant Report," quarterly.
- Residential and Commercial--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."

**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 Appendix. 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 1988: EIA, *Natural Gas Annual.*
- 1989 forward: EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers," and EIA computations.
- Electric utilities consumption--1973 through 1976: Form FPC-4, "Monthly Power Plant Report." 1977 through 1981: Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report." 1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."
- American Gas Association, "Monthly Gas Utility Statistical Report," residential sector and commercial sector monthly sales data for 1973 through 1979 used to estimate monthly consumption values from EIA annual consumption values.

**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 1988: EIA, *Petroleum Supply Annual.*
- 1989 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 electric utilities.
Sources: 1973 through September 1977--FPC, Form FPC-4, "Monthly Power Plant Report;" October 1977 through 1981--FERC, Form FPC-4, "Monthly Power Plant Report;" 1982 forward--EIA, Form EIA-759, "Monthly Power Plant Report."

*Non-Electric Utility Sectors, Annual Estimates Through 1988.*

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 1988. 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 1988. 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 1988 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, and on-highway diesel, and military uses for all years.

*Non-Electric Utility Sectors, Monthly Estimates Through 1988.*

- 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 EIA, Form EIA-782A, "Refiners/ Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, for 1983 through 1988.

- 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, 1989 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 1988.

- **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 Form FERC-423 (formerly Form 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 propor-

tion to annual deliveries grouped into end-use sectors from EIA's "Deliveries of Fuel Oil and Kerosene" ("Deliveries") reports Form EIA-172) as follows:

- Residential sector deliveries are directly from the "Deliveries" reports for 1979 through 1988. Deliveries for 1988 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;
- Commercial sector deliveries are directly from the "Deliveries" reports for 1979 through 1988. Deliveries for 1988 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 1988. Deliveries for 1988 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 for consumption in internal combustion engines is allocated between the transportation and industrial sectors based on data for special fuels used on highways published by the U.S. Department of Transportation, Federal Highway Administration, in *Highway Statistics.* The allocations of LPG sold for internal combustion engine use to the transportation sector range from a high of 67 percent in 1981 to a low of 33 percent in 1987.
  - 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 1988: 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.
- 1989 forward: The 1988 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 and miscellaneous and unclassified uses;
  - 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 Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-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 electric utilities.
Sources: 1973 through September 1977--Form FPC-4, "Monthly Power Plant Report;" October 1977 through 1981--FERC, Form FPC-4, "Monthly Power Plant Report;" 1982 forward--EIA, Form EIA-759, "Monthly Power Plant Report."

*Non-Electric Utility Sectors, Annual Estimates Through 1988.*

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 1988. 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 1988 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 1988.*

- 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 EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale, 1983 through 1988.

- 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, 1989 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 1988.

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

Sources for industrial sector:

- 1973 through 1978: FPC, Form FPC-4, *Monthly Power Plant Report* for plants with generating capacity exceeding 10 megawatts and FPC, Form FPC-12C, *Industrial Electric Generating Capacity*, for all other plants.
- 1979: FPC, Form FPC-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 converting 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 and 1983: DOE, Economic Regulatory Administration, *Electricity Exchanges Across International Borders.*
- 1984 through 1987: DOE, Economic Regulatory Administration, *Electricity Transactions Across International Borders.*
- 1988: DOE, Assistant Secretary for Fossil Energy, Office of Fuels Programs, *Electricity Transactions Across International Borders.*
- 1989 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 FPC-4, "Monthly Power Plant Report."
- 1977 through 1981: FERC, Form FPC-4, "Monthly Power Plant Report."
- 1982 forward: EIA, Form EIA-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:** End-use consumption of electricity is based on Table 7.2 sales data. "Other," which is primarily for use in government buildings, is added to the commercial sector except for approximately 4 percent used by railroads and railways and attributed to the transportation sector. For 1973 through 1983 and 1989, "Monthly Series" data are used directly. For 1984 through 1988, monthly estimates are created by dividing each month's "Monthly Series" value by the "Monthly Series" total for the year and multiplying by the "Annual Series" value for the year. Kilowatthours are converted to Btu at the rate of 3,412 Btu per kilowatthour. See Table 7.2 for sources of the electricity sales data.

**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

Total petroleum imports[2] averaged 6.9 million barrels per day in December 1990, slightly lower than the November 1990 rate and 9 percent[3] lower than the December 1989 rate.

In December 1990, 17.1 million barrels per day of petroleum products were supplied for domestic use, 2 percent higher than the previous month but 10 percent lower than the December 1989 rate. Motor gasoline accounted for 41 percent of the total; distillate fuel oil, 18 percent; and residual fuel oil, 7 percent.

Motor gasoline supplied during December 1990 averaged 6.9 million barrels per day, 5 percent lower than the previous month and 7 percent lower than the December 1989 rate. Stocks of total motor gasoline totaled 221 million barrels at the end of December 1990, 2 million barrels above the stock level in the previous month and 8 million barrels above the level 1 year earlier.

In December 1990, 3.1 million barrels of distillate fuel oil were supplied per day, 1 percent above the November 1990 rate but 20 percent below the December 1989 rate. Distillate fuel oil ending stocks for December 1990 were 130 million barrels, 3 million barrels below the stock level in the previous month but 24 million barrels above the stock level 1 year earlier.

Residual fuel oil supplied in December 1990 averaged 1.2 million barrels per day, 29 percent higher than the previous month but 34 percent lower than the December 1989 rate. Residual fuel oil stocks measured 49 million barrels at the end of December 1990, 1 million barrels below the previous month but 5 million barrels above the level 1 year earlier.

Estimates (except of crude production) for the most current month are based on Energy Information Administration (EIA) weekly data 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 September 1990.

[2]Total import data include imports into the Strategic Petroleum Reserve.
[3]Percentage changes are based on numbers shown in the following tables.

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

| | Field Production | | | Stock Change[b] | | Petroleum Products Supplied | Ending Stocks[c] |
|---|---|---|---|---|---|---|---|
| | Total Domestic[d] | Crude Oil | Natural Gas Plant Production | Crude Oil[e] | Petroleum Products | | 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** | **98** | **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 Average** | **10,636** | **8,971** | **1,609** | **50** | **-153** | **15,726** | **1,519** |
| **1986 Average** | **10,289** | **8,680** | **1,551** | **78** | **124** | **16,281** | **1,593** |
| **1987 Average** | **10,008** | **8,349** | **1,595** | **128** | **-87** | **16,665** | **1,607** |
| **1988** January | 9,876 | 8,250 | 1,579 | -43 | -294 | 17,403 | 1,597 |
| February | 10,018 | 8,374 | 1,605 | 133 | -868 | 17,760 | 1,576 |
| March | 10,071 | 8,374 | 1,636 | 219 | -748 | 17,612 | 1,559 |
| April | 9,946 | 8,288 | 1,618 | 190 | 445 | 16,561 | 1,578 |
| May | 9,899 | 8,229 | 1,627 | 96 | 1,048 | 16,197 | 1,614 |
| June | 9,833 | 8,170 | 1,616 | 43 | -109 | 17,059 | 1,612 |
| July | 9,713 | 8,040 | 1,618 | -261 | 819 | 16,695 | 1,629 |
| August | 9,762 | 8,079 | 1,616 | -488 | 307 | 17,482 | 1,624 |
| September | 9,575 | 7,895 | 1,621 | -83 | 245 | 17,072 | 1,628 |
| October | 9,737 | 8,023 | 1,661 | 399 | -333 | 17,580 | 1,630 |
| November | 9,751 | 8,023 | 1,666 | 3 | 25 | 17,620 | 1,631 |
| December | 9,641 | 7,942 | 1,634 | -188 | -911 | 18,365 | 1,597 |
| **Average** | **9,818** | **8,140** | **1,625** | **1** | **-29** | **17,283** | |
| **1989** January | 9,678 | 7,937 | 1,664 | 179 | 563 | 17,269 | 1,620 |
| February | 9,441 | 7,788 | 1,607 | 47 | -733 | 17,920 | 1,601 |
| March | 9,284 | 7,575 | 1,650 | -127 | -924 | 17,989 | 1,568 |
| April | 9,501 | 7,772 | 1,674 | 494 | 413 | 16,624 | 1,596 |
| May | 9,498 | 7,816 | 1,620 | 271 | 598 | 16,546 | 1,623 |
| June | 9,188 | 7,624 | 1,507 | -434 | -64 | 17,497 | 1,608 |
| July | 9,055 | 7,444 | 1,541 | 148 | 1,182 | 16,453 | 1,649 |
| August | 9,106 | 7,544 | 1,504 | 283 | -104 | 17,360 | 1,654 |
| September | 9,096 | 7,548 | 1,480 | -144 | 577 | 16,795 | 1,667 |
| October | 8,983 | 7,453 | 1,478 | 73 | -378 | 17,304 | 1,658 |
| November | 9,084 | 7,536 | 1,483 | 541 | -367 | 17,311 | 1,663 |
| December | 8,734 | 7,337 | 1,343 | -302 | -2,335 | 18,858 | 1,581 |
| **Average** | **9,219** | **7,613** | **1,546** | **86** | **-129** | **17,325** | |
| **1990** January | E 9,113 | E 7,522 | 1,525 | 377 | 1,189 | 16,968 | 1,632 |
| February | E 9,093 | E 7,465 | 1,558 | -316 | 577 | 17,024 | 1,639 |
| March | E 8,986 | E 7,394 | 1,519 | 1,030 | -883 | 17,083 | 1,643 |
| April | E 8,883 | E 7,331 | 1,481 | -94 | -25 | 16,666 | 1,640 |
| May | E 8,838 | E 7,259 | 1,499 | 501 | 505 | 16,843 | 1,671 |
| June | E 8,602 | E 7,076 | 1,453 | 75 | 348 | 17,112 | 1,684 |
| July | E 8,694 | E 7,144 | 1,480 | -152 | 1,019 | 16,856 | 1,711 |
| August | E 8,842 | E 7,215 | 1,562 | -227 | -92 | 17,936 | 1,701 |
| September | E 8,819 | E 7,167 | 1,587 | -884 | 901 | 16,437 | 1,701 |
| October | E 9,192 | E 7,454 | 1,654 | 101 | -829 | 16,851 | 1,679 |
| November | RE 9,080 | RE 7,308 | R 1,692 | R -364 | R -323 | R 16,681 | R 1,658 |
| December | PE 9,081 | PE 7,375 | E 1,626 | E -504 | E -903 | E 17,061 | E 1,625 |
| **Average** | **PE 8,935** | **PE 7,309** | **E 1,553** | **E -33** | **E 119** | **E 16,962** | |

[a]Includes lease condensate.
[b]A negative number indicates a decrease in stocks and a positive number indicates an increase.
[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 stock change 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 Average** | **5,067** | **3,201** | **1,866** | **781** | **204** | **577** | **4,286** |
| **1986 Average** | **6,224** | **4,178** | **2,045** | **785** | **154** | **631** | **5,439** |
| **1987 Average** | **6,678** | **4,674** | **2,004** | **764** | **151** | **613** | **5,914** |
| **1988** January | 7,181 | 4,662 | 2,519 | 885 | 206 | 679 | 6,296 |
| February | 7,256 | 4,650 | 2,605 | 864 | 146 | 718 | 6,392 |
| March | 6,944 | 4,868 | 2,076 | 834 | 213 | 622 | 6,110 |
| April | 7,270 | 5,167 | 2,103 | 676 | 114 | 562 | 6,594 |
| May | 7,469 | 5,339 | 2,130 | 814 | 138 | 676 | 6,655 |
| June | 7,239 | 5,322 | 1,917 | 938 | 138 | 800 | 6,301 |
| July | 7,297 | 5,100 | 2,197 | 826 | 186 | 640 | 6,471 |
| August | 7,386 | 5,089 | 2,296 | 814 | 152 | 661 | 6,572 |
| September | 7,506 | 5,212 | 2,294 | 673 | 119 | 554 | 6,833 |
| October | 7,830 | 5,551 | 2,279 | 732 | 166 | 566 | 7,098 |
| November | 7,714 | 5,070 | 2,644 | 717 | 148 | 569 | 6,997 |
| December | 7,727 | 5,230 | 2,497 | 1,008 | 129 | 879 | 6,719 |
| **Average** | **7,402** | **5,107** | **2,295** | **815** | **155** | **661** | **6,587** |
| **1989** January | 8,255 | 5,661 | 2,594 | 761 | 137 | 624 | 7,494 |
| February | 8,032 | 5,305 | 2,727 | 875 | 208 | 666 | 7,157 |
| March | 7,456 | 5,035 | 2,421 | 860 | 156 | 704 | 6,596 |
| April | 8,078 | 5,750 | 2,328 | 810 | 139 | 670 | 7,268 |
| May | 7,778 | 5,729 | 2,049 | 791 | 131 | 661 | 6,986 |
| June | 7,977 | 5,976 | 2,002 | 975 | 243 | 732 | 7,002 |
| July | 8,369 | 6,214 | 2,155 | 780 | 69 | 711 | 7,589 |
| August | 8,560 | 6,565 | 1,995 | 967 | 162 | 805 | 7,593 |
| September | 8,002 | 6,028 | 1,975 | 655 | 32 | 623 | 7,347 |
| October | 8,301 | 6,187 | 2,115 | 791 | 61 | 730 | 7,511 |
| November | 8,341 | 6,171 | 2,170 | 975 | 120 | 855 | 7,366 |
| December | 7,579 | 5,463 | 2,116 | 1,067 | 247 | 821 | 6,512 |
| **Average** | **8,061** | **5,843** | **2,217** | **859** | **142** | **717** | **7,202** |
| **1990** January | 9,147 | 6,206 | 2,941 | 710 | 132 | 578 | 8,437 |
| February | 8,306 | 5,858 | 2,447 | 822 | 102 | 720 | 7,483 |
| March | 7,925 | 6,125 | 1,800 | 881 | 133 | 748 | 7,045 |
| April | 7,758 | 5,740 | 2,018 | 761 | 112 | 649 | 6,997 |
| May | 8,738 | 6,438 | 2,300 | 690 | 112 | 578 | 8,048 |
| June | 8,690 | 6,413 | 2,276 | 804 | 88 | 715 | 7,886 |
| July | 8,893 | 6,812 | 2,081 | 696 | 89 | 606 | 8,197 |
| August | 8,558 | 6,432 | 2,127 | 850 | 64 | 785 | 7,709 |
| September | 7,336 | 5,656 | 1,680 | 847 | 68 | 779 | 6,489 |
| October | 6,701 | 5,132 | 1,569 | 949 | 104 | 844 | 5,752 |
| November | R 6,968 | R 5,062 | R 1,906 | R 1,085 | R 138 | R 948 | R 5,882 |
| December | E 6,930 | E 5,104 | E 1,825 | E 906 | E 89 | E 817 | E 6,024 |
| **Average** | **E 7,996** | **E 5,917** | **E 2,079** | **E 833** | **E 103** | **E 730** | **E 7,164** |

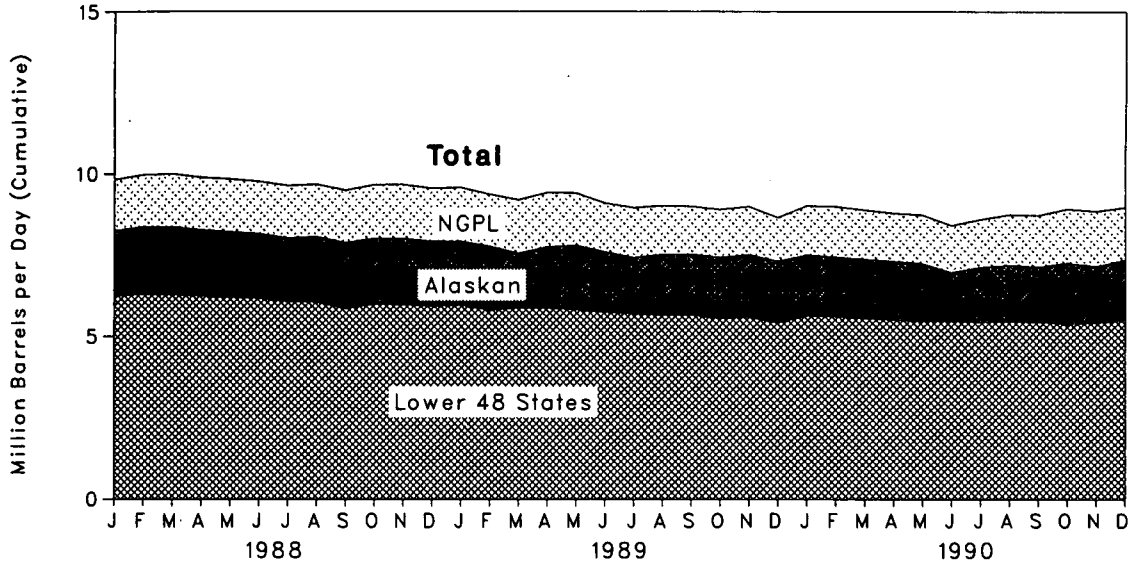
Footnotes continued.

PE=Preliminary estimate. R=Revised data. E=Estimate.

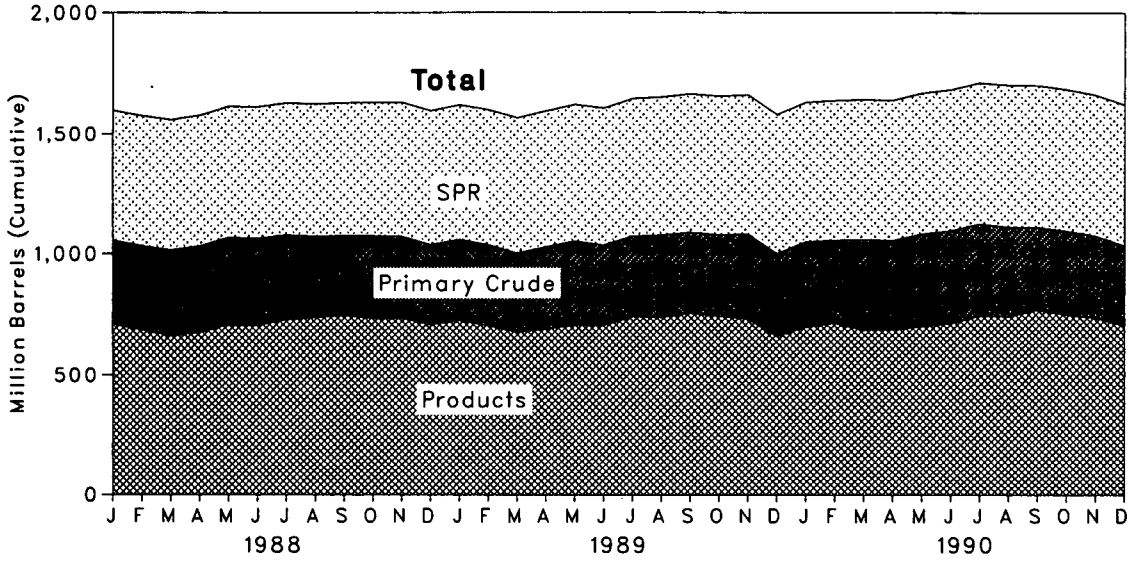
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: See end of section.

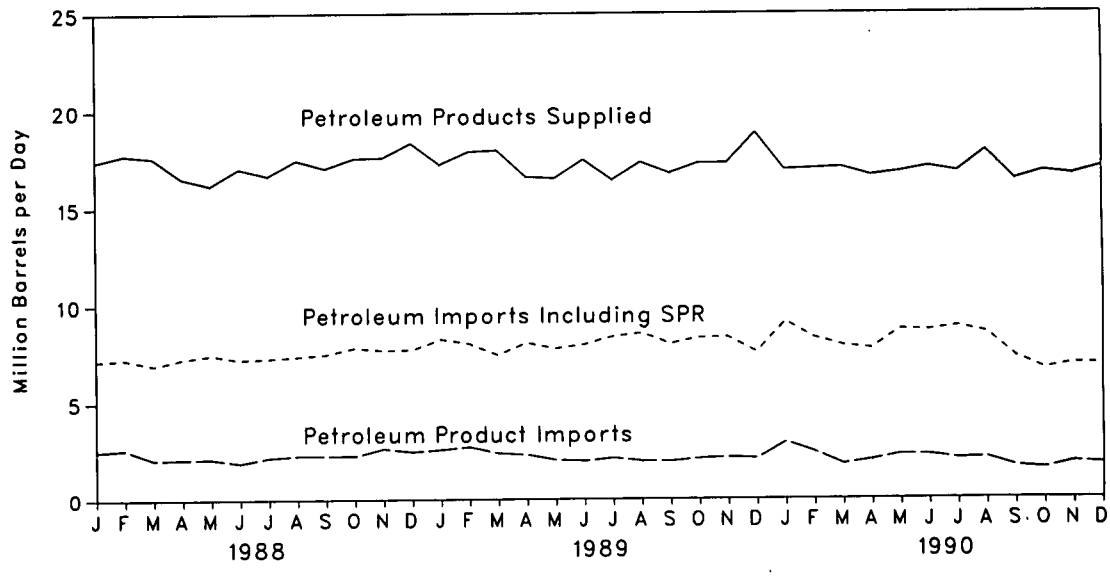
## Figure 3.1 Crude Oil and Natural Gas Liquids Production



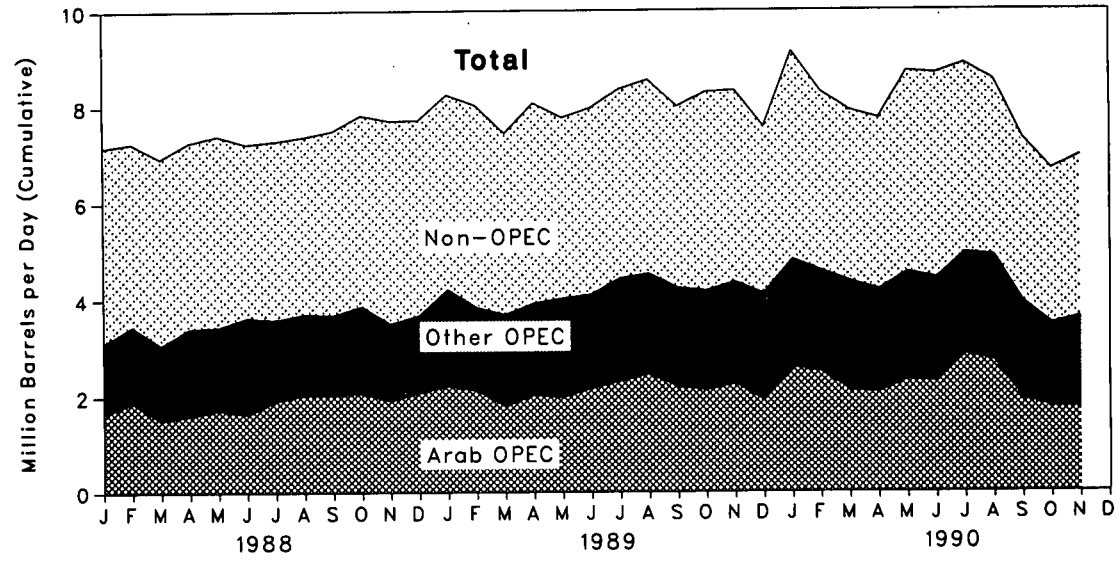

## Figure 3.2 Petroleum Stocks



## 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 | | | Unaccounted for Crude Oil[e] | Crude Used Directly[f] |
| | Total Domestic | Alaskan | Total | SPR[d] | Other | | |
| **1973 Average** | **9,208** | **198** | **3,244** | | **3,244** | **3** | **-19** |
| **1974 Average** | **8,774** | **193** | **3,477** | | **3,477** | **-25** | **-15** |
| **1975 Average** | **8,375** | **191** | **4,105** | | **4,105** | **17** | **-17** |
| **1976 Average** | **8,132** | **173** | **5,287** | | **5,287** | **77** | **-18** |
| **1977 Average** | **8,245** | **464** | **6,615** | **21** | **6,594** | **-6** | **-14** |
| **1978 Average** | **8,707** | **1,229** | **6,356** | **162** | **6,195** | **-57** | **-14** |
| **1979 Average** | **8,552** | **1,401** | **6,519** | **67** | **6,452** | **-11** | **-13** |
| **1980 Average** | **8,597** | **1,617** | **5,263** | **44** | **5,219** | **34** | **-13** |
| **1981 Average** | **8,572** | **1,609** | **4,396** | **256** | **4,141** | **83** | **-58** |
| **1982 Average** | **8,649** | **1,696** | **3,488** | **165** | **3,323** | **71** | **-59** |
| **1983 Average** | **8,688** | **1,714** | **3,329** | **234** | **3,096** | **114** | **NA** |
| **1984 Average** | **8,879** | **1,722** | **3,426** | **197** | **3,229** | **185** | **NA** |
| **1985 Average** | **8,971** | **1,825** | **3,201** | **118** | **3,083** | **145** | **NA** |
| **1986 Average** | **8,680** | **1,867** | **4,178** | **48** | **4,130** | **139** | **NA** |
| **1987 Average** | **8,349** | **1,962** | **4,674** | **73** | **4,601** | **145** | **NA** |
| **1988** January | 8,250 | 1,999 | 4,662 | 67 | 4,595 | 216 | NA |
| February | 8,374 | 2,070 | 4,650 | 49 | 4,601 | -50 | NA |
| March | 8,374 | 2,086 | 4,868 | 23 | 4,845 | 258 | NA |
| April | 8,288 | 2,029 | 5,167 | 78 | 5,090 | 27 | NA |
| May | 8,229 | 2,016 | 5,339 | 22 | 5,317 | 125 | NA |
| June | 8,170 | 1,984 | 5,322 | 70 | 5,252 | 208 | NA |
| July | 8,040 | 1,960 | 5,100 | 42 | 5,058 | 432 | NA |
| August | 8,079 | 2,009 | 5,089 | 26 | 5,064 | 278 | NA |
| September | 7,895 | 2,019 | 5,212 | 84 | 5,128 | 228 | NA |
| October | 8,023 | 2,010 | 5,551 | 43 | 5,508 | 160 | NA |
| November | 8,023 | 2,027 | 5,070 | 89 | 4,981 | 258 | NA |
| December | 7,942 | 1,996 | 5,230 | 27 | 5,203 | 196 | NA |
| **Average** | **8,140** | **2,017** | **5,107** | **51** | **5,055** | **196** | **NA** |
| **1989** January | 7,937 | 1,958 | 5,661 | 65 | 5,596 | 94 | NA |
| February | 7,788 | 1,962 | 5,305 | 84 | 5,221 | -26 | NA |
| March | 7,575 | 1,686 | 5,035 | 75 | 4,960 | 426 | NA |
| April | 7,772 | 1,890 | 5,750 | 59 | 5,690 | 91 | NA |
| May | 7,816 | 1,973 | 5,729 | 77 | 5,652 | 280 | NA |
| June | 7,624 | 1,861 | 5,976 | 55 | 5,920 | 135 | NA |
| July | 7,444 | 1,725 | 6,214 | 75 | 6,139 | 426 | NA |
| August | 7,544 | 1,870 | 6,565 | 32 | 6,533 | 213 | NA |
| September | 7,548 | 1,875 | 6,028 | 59 | 5,969 | 121 | NA |
| October | 7,453 | 1,877 | 6,187 | 37 | 6,149 | -125 | NA |
| November | 7,536 | 1,915 | 6,171 | 41 | 6,131 | 397 | NA |
| December | 7,337 | 1,904 | 5,463 | 12 | 5,452 | 343 | NA |
| **Average** | **7,613** | **1,874** | **5,843** | **56** | **5,787** | **200** | **NA** |
| **1990** January | E 7,522 | E 1,864 | 6,206 | 24 | 6,182 | 321 | NA |
| February | E 7,465 | E 1,834 | 5,858 | 12 | 5,847 | -9 | NA |
| March | E 7,394 | E 1,819 | 6,125 | 44 | 6,081 | 544 | NA |
| April | E 7,331 | E 1,803 | 5,740 | 38 | 5,702 | 22 | NA |
| May | E 7,259 | E 1,766 | 6,438 | 89 | 6,349 | 335 | NA |
| June | E 7,076 | E 1,613 | 6,413 | 17 | 6,397 | 394 | NA |
| July | E 7,144 | E 1,687 | 6,812 | 0 | 6,812 | 220 | NA |
| August | E 7,215 | E 1,736 | 6,432 | 95 | 6,337 | 348 | NA |
| September | E 7,167 | E 1,702 | 5,656 | 0 | 5,656 | 480 | NA |
| October | E 7,454 | E 1,885 | 5,132 | 0 | 5,132 | 460 | NA |
| November | RE 7,308 | RE 1,746 | R 5,062 | 0 | R 5,062 | R 372 | NA |
| December | PE 7,375 | PE 1,831 | E 5,104 | E 0 | E 5,104 | E -272 | NA |
| **Average** | **PE 7,309** | **PE 1,774** | **E 5,917** | **E 27** | **E 5,891** | **E 270** | **NA** |

[a]Includes lease condensate.
[b]Stocks are totals as of end of period.
[c]A negative number indicates a decrease in stocks and a positive number indicates an increase.
[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 are included beginning in January 1981. See Note 5 at end of section.
[h]Stock change is calculated using new basis stock levels. See Note 4 at end of section.
Footnotes continued on following page.

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

| | Disposition | | | | | | Ending Stocks[b] | | |
|---|---|---|---|---|---|---|---|---|---|
| | Crude Losses | Stock Change[c] SPR[d] | Stock Change[c] Other | Refinery Input | Exports | Product Supplied[f] | Total | SPR[d] | Other Primary |
| | Thousand Barrels per Day | | | | | | Million Barrels | | |
| **1973 Average** | 13 | | -11 | 12,431 | 2 | | 242 | | 242 |
| **1974 Average** | 13 | | 62 | 12,133 | 3 | | 265 | | 265 |
| **1975 Average** | 13 | | 17 | 12,442 | 6 | | 271 | | 271 |
| **1976 Average** | 15 | | 39 | 13,416 | 8 | | 285 | | 285 |
| **1977 Average** | 16 | 20 | 150 | 14,602 | 50 | | 348 | 7 | 340 |
| **1978 Average** | 16 | 163 | -84 | 14,739 | 158 | | 376 | 67 | 309 |
| **1979 Average** | 16 | 67 | 81 | 14,648 | 235 | | 430 | 91 | 339 |
| **1980 Average** | 15 | 45 | 52 | 13,481 | 287 | | [g] 466 | 108 | [g] 358 |
| **1981 Average** | 5 | 336 | [g] -46 | 12,470 | 228 | | 594 | 230 | 363 |
| **1982 Average** | 3 | 174 | -38 | 11,774 | 236 | | [h] 644 | 294 | [h] 350 |
| **1983 Average** | 2 | 234 | [h] -20 | 11,685 | 164 | 66 | 723 | 379 | 344 |
| **1984 Average** | 2 | 195 | 4 | 12,044 | 181 | 64 | 796 | 451 | 345 |
| **1985 Average** | 1 | 117 | -67 | 12,002 | 204 | 60 | 814 | 493 | 321 |
| **1986 Average** | (s) | 50 | 28 | 12,716 | 154 | 49 | 843 | 512 | 331 |
| **1987 Average** | (s) | 80 | 49 | 12,854 | 151 | 34 | 890 | 541 | 349 |
| **1988** January | (s) | 67 | -110 | 12,920 | 206 | 45 | 888 | 543 | 346 |
| February | (s) | 49 | 84 | 12,644 | 146 | 52 | 892 | 544 | 348 |
| March | (s) | 26 | 193 | 13,016 | 213 | 52 | 899 | 545 | 354 |
| April | (s) | 77 | 112 | 13,135 | 114 | 42 | 905 | 547 | 357 |
| May | (s) | 22 | 74 | 13,425 | 138 | 34 | 908 | 548 | 360 |
| June | (s) | 70 | -27 | 13,487 | 138 | 32 | 909 | 550 | 359 |
| July | 1 | 42 | -302 | 13,617 | 186 | 29 | 901 | 551 | 349 |
| August | (s) | 26 | -514 | 13,752 | 152 | 30 | 886 | 552 | 334 |
| September | (s) | 84 | -167 | 13,261 | 119 | 37 | 883 | 555 | 329 |
| October | (s) | 43 | 356 | 13,126 | 166 | 42 | 896 | 556 | 340 |
| November | (s) | 89 | -86 | 13,156 | 148 | 44 | 896 | 559 | 337 |
| December | (s) | 27 | -215 | 13,381 | 129 | 44 | 890 | 560 | 330 |
| **Average** | (s) | 52 | -51 | 13,246 | 155 | 40 | | | |
| **1989** January | (s) | 65 | 115 | 13,330 | 137 | 47 | 895 | 562 | 334 |
| February | (s) | 85 | -38 | 12,765 | 208 | 48 | 897 | 564 | 333 |
| March | (s) | 75 | -202 | 12,963 | 156 | 45 | 893 | 566 | 327 |
| April | (s) | 60 | 434 | 12,956 | 139 | 23 | 908 | 568 | 340 |
| May | (s) | 77 | 194 | 13,405 | 131 | 19 | 916 | 570 | 346 |
| June | (s) | 44 | -478 | 13,905 | 243 | 20 | 903 | 572 | 331 |
| July | (s) | 86 | 62 | 13,848 | 69 | 19 | 908 | 574 | 333 |
| August | (s) | 32 | 251 | 13,861 | 162 | 17 | 916 | 575 | 341 |
| September | 1 | 59 | -203 | 13,791 | 32 | 18 | 912 | 577 | 335 |
| October | (s) | 37 | 36 | 13,360 | 61 | 21 | 914 | 578 | 336 |
| November | (s) | 41 | 500 | 13,420 | 120 | 25 | 930 | 579 | 351 |
| December | (s) | 12 | -313 | 13,165 | 247 | 33 | 921 | 580 | 341 |
| **Average** | (s) | 56 | 30 | 13,401 | 142 | 28 | | | |
| **1990** January | (s) | 24 | 353 | 13,499 | 132 | 40 | 933 | 581 | 352 |
| February | 0 | 12 | -328 | 13,494 | 102 | 36 | 924 | 581 | 343 |
| March | 0 | 44 | 986 | 12,876 | 133 | 24 | 956 | 582 | 374 |
| April | (s) | 38 | -132 | 13,051 | 112 | 24 | 953 | 583 | 370 |
| May | 0 | 89 | 412 | 13,389 | 112 | 30 | 969 | 586 | 382 |
| June | (s) | 16 | 59 | 13,690 | 88 | 29 | 971 | 587 | 384 |
| July | 0 | 0 | -152 | 14,208 | 89 | 31 | 966 | 587 | 380 |
| August | (s) | 94 | -321 | 14,140 | 64 | 18 | 959 | 590 | 370 |
| September | (s) | (s) | -884 | 14,105 | 68 | 14 | 933 | 590 | 343 |
| October | (s) | -8 | 109 | 12,825 | 104 | 15 | 936 | 589 | 346 |
| November | (s) | [R] -111 | [R] -252 | [R] 12,955 | [R] 138 | [R] 13 | [R] 925 | [R] 586 | [R] 339 |
| December | [E] (s) | [E] -35 | [E] -470 | [E] 12,792 | [E] 89 | [E] 15 | [E] 916 | [E] 586 | [E] 331 |
| **Average** | [E] (s) | [E] 14 | [E] -47 | [E] 13,418 | [E] 103 | [E] 24 | | | |

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[b] | 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 Average** | **187** | **4** | **168** | **45** | **314** | **27** | **293** | **605** | **187** | **1,830** | **472** |
| **1986 Average** | **271** | **0** | **685** | **44** | **318** | **19** | **440** | **793** | **265** | **2,837** | **1,162** |
| **1987 Average** | **295** | **0** | **751** | **61** | **285** | **98** | **535** | **804** | **231** | **3,060** | **1,274** |
| **1988** January | 333 | 0 | 849 | 61 | 179 | • 1 | 406 | 766 | 540 | 3,134 | 1,652 |
| February | 358 | 0 | 1,265 | 79 | 194 | 0 | 506 | 846 | 214 | 3,461 | 1,883 |
| March | 259 | 0 | 937 | 6 | 127 | 0 | 589 | 803 | 352 | 3,073 | 1,509 |
| April | 342 | 0 | 929 | 48 | 166 | 0 | 711 | 833 | 385 | 3,413 | 1,610 |
| May | 320 | 0 | 1,041 | 41 | 298 | 0 | 601 | 841 | 360 | 3,501 | 1,724 |
| June | 262 | 0 | 923 | 11 | 184 | 0 | 875 | 850 | 527 | 3,632 | 1,635 |
| July | 225 | 0 | 1,076 | 43 | 216 | 0 | 715 | 724 | 590 | 3,589 | 1,911 |
| August | 257 | 0 | 1,169 | 0 | 153 | 0 | 623 | 830 | 669 | 3,703 | 2,036 |
| September | 289 | 0 | 1,066 | 22 | 242 | 0 | 546 | 824 | 697 | 3,685 | 2,042 |
| October | 326 | 0 | 1,244 | 16 | 265 | 0 | 686 | 772 | 552 | 3,861 | 2,069 |
| November | 322 | 0 | 986 | 0 | 240 | 0 | 489 | 779 | 694 | 3,510 | 1,914 |
| December | 312 | 0 | 1,289 | 19 | 194 | 0 | 667 | 669 | 524 | 3,674 | 2,080 |
| **Average** | **300** | **0** | **1,064** | **29** | **205** | **(s)** | **618** | **794** | **510** | **3,520** | **1,839** |
| **1989** January | 335 | 0 | 1,449 | 59 | 218 | 0 | 782 | 941 | 429 | 4,212 | 2,219 |
| February | 310 | 0 | 1,290 | 17 | 292 | 0 | 567 | 775 | 593 | 3,845 | 2,126 |
| March | 272 | 0 | 1,108 | 64 | 167 | 0 | 702 | 909 | 471 | 3,693 | 1,805 |
| April | 235 | 0 | 1,226 | 14 | 128 | 0 | 750 | 831 | 743 | 3,927 | 2,030 |
| May | 272 | 0 | 1,155 | 61 | 264 | 0 | 789 | 853 | 630 | 4,025 | 1,977 |
| June | 205 | 0 | 1,249 | 17 | 138 | 0 | 864 | 778 | 856 | 4,106 | 2,164 |
| July | 263 | 0 | 1,182 | 0 | 113 | 0 | 1,094 | 794 | 992 | 4,437 | 2,308 |
| August | 216 | 0 | 1,316 | 44 | 115 | 0 | 946 | 834 | 1,060 | 4,531 | 2,453 |
| September | 256 | 0 | 1,109 | 20 | 113 | 0 | 867 | 914 | 957 | 4,236 | 2,195 |
| October | 250 | 0 | 1,158 | 14 | 167 | 0 | 713 | 1,004 | 872 | 4,177 | 2,122 |
| November | 323 | 0 | 1,342 | 0 | 231 | 0 | 770 | 924 | 762 | 4,353 | 2,257 |
| December | 288 | 0 | 1,115 | 26 | 263 | 0 | 915 | 903 | 602 | 4,111 | 1,905 |
| **Average** | **269** | **0** | **1,224** | **28** | **183** | **0** | **815** | **873** | **748** | **4,140** | **2,130** |
| **1990** January | 418 | 0 | 1,212 | 37 | 137 | 0 | 830 | 1,138 | 1,047 | 4,819 | 2,592 |
| February | 280 | 0 | 1,557 | 18 | 260 | 0 | 833 | 890 | 753 | 4,590 | 2,504 |
| March | 301 | 0 | 1,157 | 17 | 138 | 0 | 1,054 | 878 | 824 | 4,368 | 2,115 |
| April | 234 | 0 | 1,149 | 9 | 88 | 0 | 969 | 1,005 | 742 | 4,196 | 2,073 |
| May | 247 | 0 | 1,225 | 73 | 77 | 0 | 1,008 | 1,087 | 836 | 4,554 | 2,337 |
| June | 333 | 0 | 1,137 | 20 | 138 | 0 | 778 | 1,070 | 960 | 4,435 | 2,293 |
| July | 308 | 0 | 1,369 | 13 | 143 | 0 | 830 | 999 | 1,291 | 4,954 | 2,853 |
| August | 349 | 0 | 1,189 | 0 | 83 | 0 | 881 | 1,013 | 1,378 | 4,894 | 2,716 |
| September | 279 | 0 | 1,286 | 0 | 111 | 0 | 755 | 1,054 | 452 | 3,936 | 1,915 |
| October | 173 | 0 | 1,613 | 0 | 88 | 0 | 557 | 979 | 99 | 3,509 | 1,786 |
| November | 177 | 0 | 1,576 | 0 | 72 | 0 | 574 | 1,142 | 83 | 3,624 | 1,753 |
| **11-Month Average** | **282** | **0** | **1,314** | **17** | **120** | **0** | **825** | **1,024** | **772** | **4,354** | **2,268** |
| **1989 11-Month Average** | **267** | **0** | **1,234** | **28** | **176** | **0** | **806** | **870** | **761** | **4,143** | **2,151** |
| **1988 11-Month Average** | **299** | **0** | **1,044** | **29** | **206** | **(s)** | **613** | **806** | **508** | **3,505** | **1,817** |

[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]"Other OPEC" consists of Ecuador, Gabon, Iraq, Kuwait, and Qatar. Prior to January 1988, imports from the Neutral Zone between Kuwait and Saudi Arabia are included in imports from Saudi Arabia. From January 1988 forward, those imports are included in imports from "Other OPEC."

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

[d]"Total Arab OPEC" consists of Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Imports from the Neutral Zone are included in imports from "Total Arab OPEC."

•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[1] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bahamas | Canada | Mexico | Netherlands Antilles | Trinidad and Tobago | United Kingdom | Puerto Rico | Virgin Islands | Other Non-OPEC | Total Non-OPEC | Total Imports |
| **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 Average** | 40 | 770 | 816 | 40 | 113 | 310 | 28 | 247 | 873 | 3,237 | 5,067 |
| **1986 Average** | 37 | 807 | 699 | 25 | 125 | 350 | 21 | 244 | 1,080 | 3,387 | 6,224 |
| **1987 Average** | 37 | 848 | 655 | 29 | 106 | 352 | 21 | 272 | 1,296 | 3,617 | 6,678 |
| **1988** January | 51 | 959 | 808 | 40 | 97 | 313 | 29 | 341 | 1,410 | 4,047 | 7,181 |
| February | 79 | 1,033 | 710 | 21 | 93 | 334 | 16 | 200 | 1,308 | 3,794 | 7,256 |
| March | 47 | 1,002 | 745 | 46 | 89 | 461 | 22 | 180 | 1,280 | 3,871 | 6,944 |
| April | 26 | 985 | 678 | 43 | 82 | 594 | 29 | 193 | 1,227 | 3,857 | 7,270 |
| May | 24 | 1,001 | 722 | 27 | 102 | 389 | 20 | 257 | 1,426 | 3,968 | 7,469 |
| June | 15 | 1,032 | 766 | 31 | 112 | 232 | 13 | 212 | 1,194 | 3,607 | 7,239 |
| July | 15 | 972 | 723 | 35 | 96 | 214 | 22 | 215 | 1,416 | 3,708 | 7,297 |
| August | 12 | 1,009 | 704 | 32 | 97 | 111 | 23 | 172 | 1,523 | 3,683 | 7,386 |
| September | 37 | 936 | 843 | 25 | 96 | 149 | 29 | 236 | 1,469 | 3,820 | 7,506 |
| October | 13 | 996 | 743 | 17 | 98 | 447 | 21 | 234 | 1,398 | 3,969 | 7,830 |
| November | 27 | 1,080 | 811 | 72 | 80 | 246 | 15 | 286 | 1,587 | 4,204 | 7,714 |
| December | 40 | 990 | 711 | 40 | 125 | 294 | 28 | 372 | 1,453 | 4,053 | 7,727 |
| **Average** | 32 | 999 | 747 | 36 | 97 | 315 | 22 | 242 | 1,392 | 3,882 | 7,402 |
| **1989** January | 53 | 1,065 | 809 | 59 | 105 | 215 | 30 | 415 | 1,293 | 4,043 | 8,255 |
| February | 24 | 1,007 | 756 | 44 | 92 | 221 | 24 | 369 | 1,649 | 4,186 | 8,032 |
| March | 41 | 961 | 667 | 52 | 82 | 174 | 38 | 324 | 1,424 | 3,763 | 7,456 |
| April | 55 | 877 | 1,002 | 14 | 117 | 148 | 24 | 407 | 1,507 | 4,151 | 8,078 |
| May | 29 | 901 | 808 | 32 | 68 | 202 | 46 | 379 | 1,288 | 3,753 | 7,778 |
| June | 28 | 921 | 688 | 34 | 143 | 181 | 32 | 363 | 1,481 | 3,871 | 7,977 |
| July | 32 | 849 | 758 | 49 | 89 | 328 | 39 | 331 | 1,458 | 3,932 | 8,369 |
| August | 19 | 911 | 806 | 43 | 101 | 370 | 21 | 239 | 1,519 | 4,029 | 8,560 |
| September | 8 | 949 | 721 | 35 | 95 | 191 | 33 | 190 | 1,545 | 3,766 | 8,002 |
| October | 44 | 857 | 837 | 38 | 71 | 309 | 32 | 180 | 1,756 | 4,124 | 8,301 |
| November | 41 | 911 | 743 | 72 | 91 | 165 | 42 | 279 | 1,645 | 3,988 | 8,341 |
| December | 29 | 973 | 610 | 29 | 81 | 78 | 24 | 377 | 1,266 | 3,468 | 7,579 |
| **Average** | 34 | 931 | 767 | 42 | 94 | 215 | 32 | 321 | 1,484 | 3,921 | 8,061 |
| **1990** January | 74 | 952 | 789 | 9 | 109 | 219 | 35 | 409 | 1,732 | 4,328 | 9,147 |
| February | 74 | 919 | 722 | 27 | 89 | 74 | 32 | 323 | 1,456 | 3,716 | 8,306 |
| March | 35 | 823 | 812 | 10 | 103 | 273 | 32 | 264 | 1,205 | 3,557 | 7,925 |
| April | 51 | 908 | 466 | 29 | 114 | 274 | 33 | 283 | 1,404 | 3,562 | 7,758 |
| May | 29 | 994 | 778 | 20 | 88 | 347 | 38 | 285 | 1,604 | 4,184 | 8,738 |
| June | 36 | 927 | 912 | 21 | 118 | 249 | 27 | 299 | 1,666 | 4,255 | 8,690 |
| July | 25 | 882 | 695 | 30 | 107 | 211 | 35 | 252 | 1,701 | 3,939 | 8,893 |
| August | 40 | 941 | 773 | 41 | 108 | 170 | 29 | 230 | 1,331 | 3,665 | 8,558 |
| September | 45 | 916 | 871 | 33 | 89 | 155 | 20 | 240 | 1,031 | 3,399 | 7,336 |
| October | 9 | 910 | 828 | 43 | 83 | 81 | 29 | 204 | 1,006 | 3,192 | 6,701 |
| November | 0 | 894 | 746 | 46 | 81 | 112 | 50 | 312 | 1,103 | 3,343 | R 6,968 |
| **11-Month Average** | 38 | 915 | 763 | 28 | 99 | 198 | 33 | 281 | 1,386 | 3,741 | 8,095 |
| **1989 11-Month Average** | 34 | 928 | 782 | 43 | 96 | 228 | 33 | 316 | 1,504 | 3,962 | 8,105 |
| **1988 11-Month Average** | 31 | 1,000 | 750 | 35 | 95 | 317 | 22 | 230 | 1,386 | 3,867 | 7,372 |

Footnotes continued.

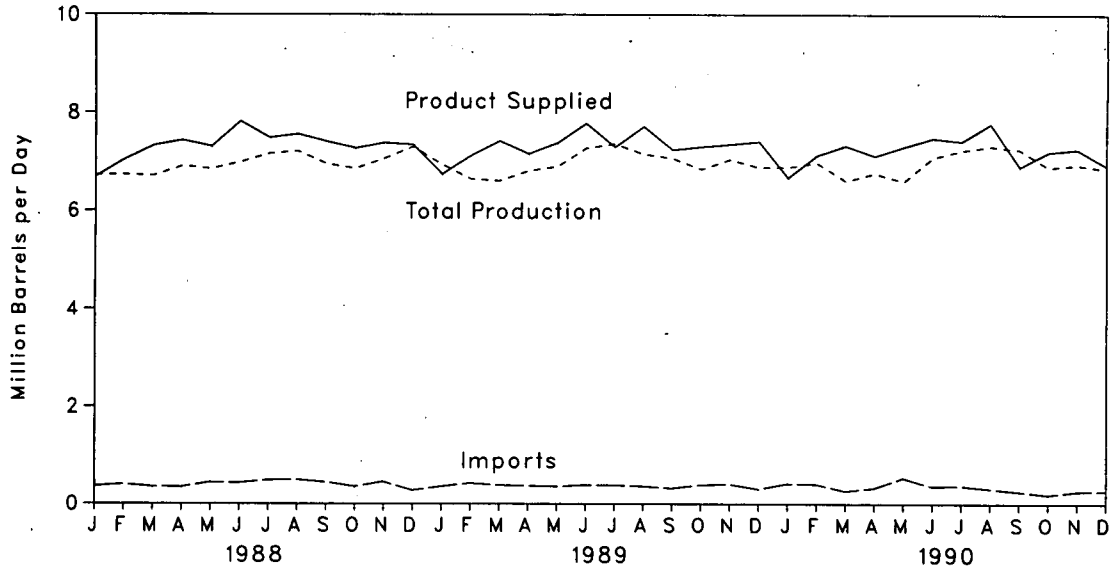
[1]Includes petroleum imported into the United States indirectly from members of OPEC, primarily from Caribbean and West European areas, as petroleum products that were refined from crude oil produced by OPEC.

R=Revised data. (s)=Less than 500 barrels per day.

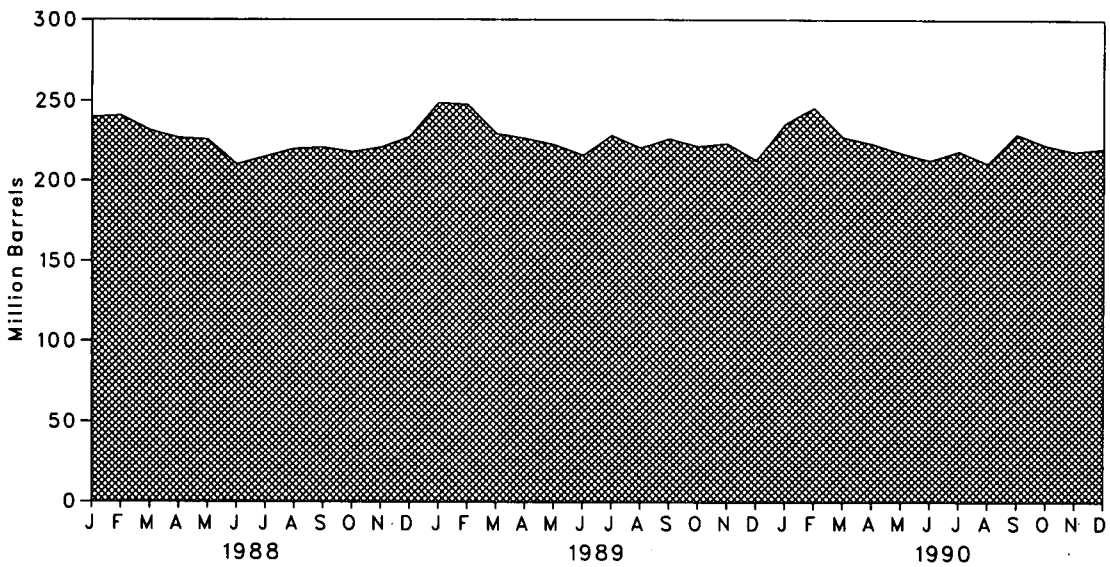
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: See end of section.

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




## Figure 3.6 Motor Gasoline Ending Stocks

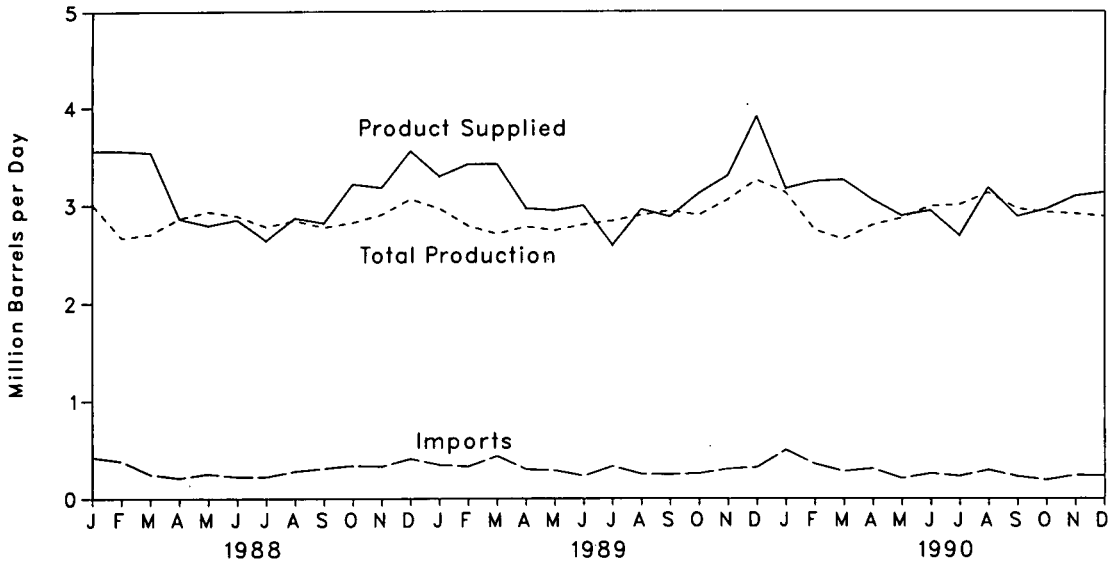


# Table 3.4 Finished Motor Gasoline Supply and Disposition

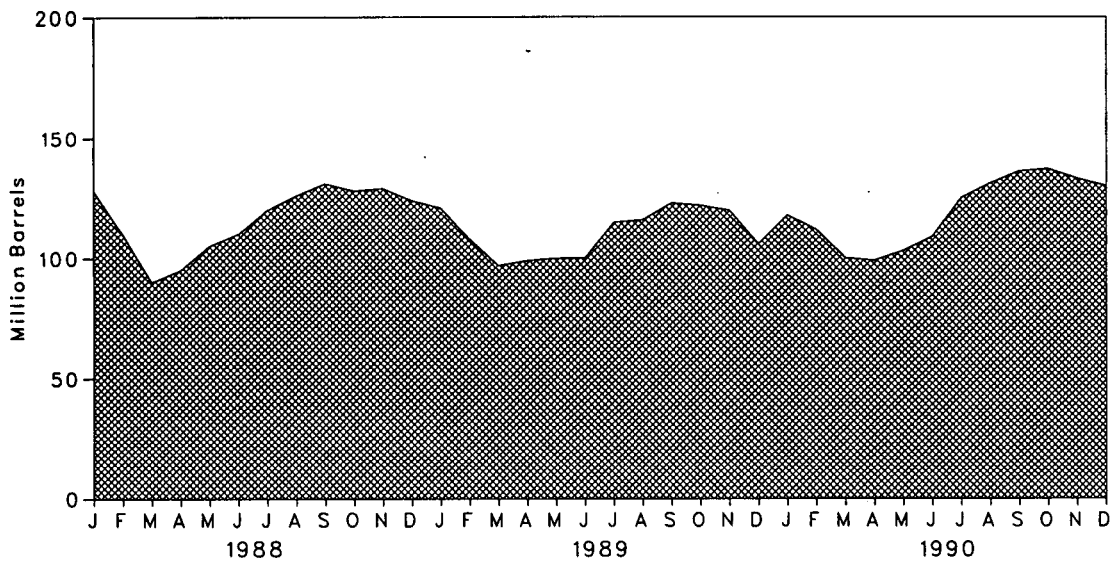
| | Supply | | Disposition | | | | | Ending Stocks[a] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Product Supplied | | | | |
| | Total Production | Imports[b] | Stock Change[b,c] | Exports | Total | Unleaded[d] | Unleaded | Total Motor Gasoline[e] | Finished Motor Gasoline |
| | Thousand 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 Average | 6,419 | 381 | -41 | 10 | 6,831 | 4,406 | 64.5 | 223 | 190 |
| 1986 Average | 6,752 | 326 | 11 | 33 | 7,034 | 4,854 | 69.0 | 233 | 194 |
| 1987 Average | 6,841 | 384 | -15 | 35 | 7,206 | 5,470 | 75.9 | 226 | 189 |
| 1988 January | 6,730 | 357 | 387 | 8 | 6,693 | 5,395 | 80.6 | 240 | 201 |
| February | 6,736 | 397 | 75 | 18 | 7,039 | 5,607 | 79.7 | 241 | 203 |
| March | 6,715 | 349 | -277 | 18 | 7,323 | 5,894 | 80.5 | 232 | 194 |
| April | 6,907 | 399 | -142 | 18 | 7,430 | 5,991 | 80.6 | 227 | 190 |
| May | 6,851 | 437 | -43 | 28 | 7,303 | 5,861 | 80.3 | 226 | 189 |
| June | 6,983 | 428 | -465 | 59 | 7,817 | 6,336 | 81.1 | 210 | 175 |
| July | 7,159 | 482 | 148 | 12 | 7,482 | 6,144 | 82.1 | 215 | 179 |
| August | 7,209 | 494 | 131 | 15 | 7,556 | 6,232 | 82.5 | 220 | 184 |
| September | 6,948 | 443 | -28 | 16 | 7,404 | 6,115 | 82.6 | 221 | 183 |
| October | 6,858 | 352 | -75 | 13 | 7,271 | 5,988 | 82.4 | 218 | 180 |
| November | 7,060 | 451 | 118 | 15 | 7,379 | 6,157 | 83.4 | 221 | 184 |
| December | 7,303 | 277 | 192 | 45 | 7,344 | 6,220 | 84.7 | 228 | 190 |
| Average | 6,956 | 405 | 3 | 22 | 7,336 | 5,995 | 81.7 | | |
| 1989 January | 6,937 | 353 | 512 | 33 | 6,745 | 5,754 | 85.3 | 249 | 206 |
| February | 6,650 | 423 | -70 | 24 | 7,119 | 6,141 | 86.3 | 248 | 204 |
| March | 6,612 | 381 | -471 | 43 | 7,421 | 6,380 | 86.0 | 230 | 189 |
| April | 6,811 | 370 | -22 | 46 | 7,157 | 6,248 | 87.3 | 227 | 188 |
| May | 6,894 | 355 | -163 | 31 | 7,381 | 6,454 | 87.5 | 223 | 183 |
| June | 7,275 | 386 | -180 | 60 | 7,780 | 6,864 | 88.2 | 216 | 178 |
| July | 7,360 | 383 | 390 | 57 | 7,296 | 6,509 | 89.2 | 229 | 190 |
| August | 7,155 | 360 | -260 | 58 | 7,717 | 6,934 | 89.8 | 221 | 182 |
| September | 7,069 | 320 | 118 | 31 | 7,240 | 6,443 | 89.0 | 227 | 186 |
| October | 6,845 | 389 | -97 | 29 | 7,302 | 6,642 | 91.0 | 222 | 183 |
| November | 7,046 | 406 | 81 | 18 | 7,353 | 6,756 | 91.9 | 224 | 185 |
| December | 6,884 | 306 | -257 | 37 | 7,410 | 6,927 | 93.5 | 213 | 177 |
| Average | 6,963 | 369 | -35 | 39 | 7,328 | 6,507 | 88.8 | | |
| 1990 January | 6,889 | 417 | 599 | 31 | 6,675 | 6,272 | 94.0 | 236 | 196 |
| February | 6,978 | 407 | 204 | 53 | 7,129 | 6,657 | 93.4 | 246 | 201 |
| March | 6,612 | 265 | -493 | 45 | 7,325 | 6,881 | 93.9 | 228 | 186 |
| April | 6,764 | 327 | -52 | 28 | 7,116 | 6,696 | 94.1 | 224 | 184 |
| May | 6,599 | 535 | -196 | 25 | 7,304 | 6,884 | 94.2 | 218 | 178 |
| June | 7,084 | 361 | -86 | 52 | 7,478 | 7,059 | 94.4 | 213 | 176 |
| July | 7,230 | 372 | 146 | 41 | 7,415 | 7,012 | 94.6 | 219 | 180 |
| August | 7,315 | 313 | -220 | 77 | 7,771 | 7,360 | 94.7 | 211 | 174 |
| September | 7,251 | 254 | 505 | 103 | 6,897 | 6,574 | 95.3 | 230 | 189 |
| October | 6,890 | 192 | -210 | 90 | 7,201 | 6,854 | 95.2 | 223 | 182 |
| November | R 6,941 | R 259 | R -123 | R 66 | R 7,257 | R 6,956 | R 95.9 | 219 | R 178 |
| December | E 6,857 | E 267 | E 108 | E 96 | E 6,920 | E 6,669 | E 96.4 | E 221 | E 182 |
| Average | E 6,950 | E 330 | E 13 | E 59 | E 7,208 | E 6,824 | E 94.7 | | |

[a]Stocks are totals as of end of period.
[b]Beginning in 1981, excludes blending components.
[c]A negative number indicates a decrease in stocks and a positive number indicates an increase.
[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 change calculations. See Note 4 at end of section.
[g]Beginning in January 1981, survey forms were modified. See Notes 1 and 2 at end of section.
R=Revised data. 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

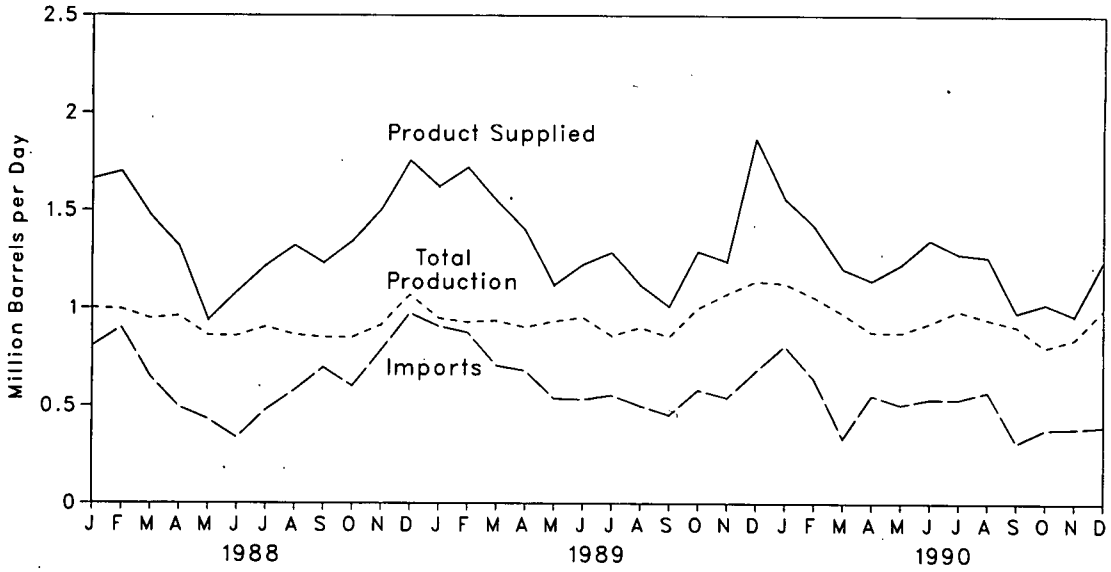


# Table 3.5 Distillate Fuel Oil Supply and Disposition

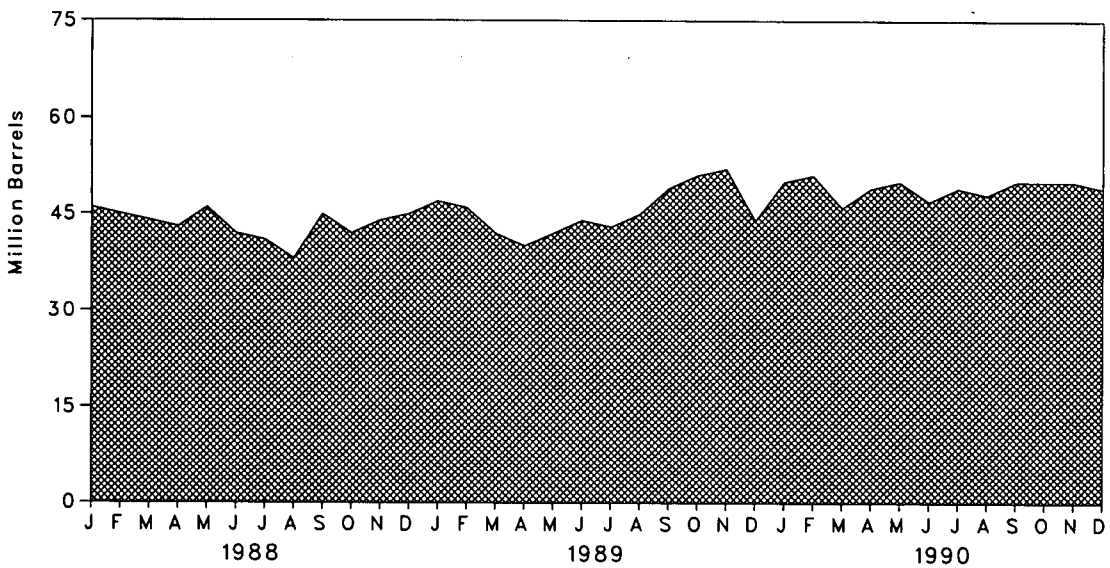
| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Crude Used Directly[a] | Stock Change[b] | Exports | Product Supplied[a] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **2,822** | **392** | **2** | **115** | **9** | **3,092** | **196** |
| **1974 Average** | **2,669** | **289** | **2** | **9** | **2** | **2,948** | **[d] 200** |
| **1975 Average** | **2,654** | **155** | **2** | **[d] -41** | **1** | **2,851** | **209** |
| **1976 Average** | **2,924** | **146** | **1** | **-62** | **1** | **3,133** | **186** |
| **1977 Average** | **3,278** | **250** | **1** | **176** | **1** | **3,352** | **250** |
| **1978 Average** | **3,167** | **173** | **1** | **-93** | **3** | **3,432** | **216** |
| **1979 Average** | **3,153** | **193** | **1** | **34** | **3** | **3,311** | **229** |
| **1980 Average** | **2,662** | **142** | **1** | **-64** | **3** | **2,866** | **[d] 205** |
| **1981 Average[e]** | **2,613** | **173** | **10** | **[d] -38** | **5** | **2,829** | **192** |
| **1982 Average** | **2,606** | **93** | **10** | **-35** | **74** | **2,671** | **[d] 179** |
| **1983 Average** | **2,456** | **174** | **NA** | **[d] -124** | **64** | **2,690** | **140** |
| **1984 Average** | **2,681** | **272** | **NA** | **57** | **51** | **2,845** | **161** |
| **1985 Average** | **2,687** | **200** | **NA** | **-48** | **67** | **2,868** | **144** |
| **1986 Average** | **2,798** | **247** | **NA** | **31** | **100** | **2,914** | **155** |
| **1987 Average** | **2,731** | **255** | **NA** | **-56** | **66** | **2,976** | **134** |
| **1988** January | 3,010 | 424 | NA | -206 | 82 | 3,558 | 128 |
| February | 2,667 | 383 | NA | -614 | 107 | 3,557 | 110 |
| March | 2,706 | 247 | NA | -660 | 74 | 3,539 | 90 |
| April | 2,867 | 210 | NA | 171 | 42 | 2,864 | 95 |
| May | 2,936 | 253 | NA | 320 | 74 | 2,795 | 105 |
| June | 2,893 | 222 | NA | 185 | 76 | 2,854 | 110 |
| July | 2,784 | 222 | NA | 308 | 58 | 2,640 | 120 |
| August | 2,848 | 279 | NA | 185 | 70 | 2,873 | 126 |
| September | 2,778 | 307 | NA | 192 | 72 | 2,821 | 131 |
| October | 2,827 | 336 | NA | -103 | 48 | 3,218 | 128 |
| November | 2,909 | 327 | NA | 19 | 34 | 3,183 | 129 |
| December | 3,068 | 409 | NA | -171 | 87 | 3,560 | 124 |
| **Average** | **2,859** | **302** | **NA** | **-30** | **69** | **3,122** | |
| **1989** January | 2,974 | 346 | NA | -93 | 110 | 3,303 | 121 |
| February | 2,797 | 331 | NA | -463 | 164 | 3,427 | 108 |
| March | 2,713 | 439 | NA | -352 | 76 | 3,428 | 97 |
| April | 2,789 | 301 | NA | 60 | 56 | 2,975 | 99 |
| May | 2,750 | 290 | NA | 35 | 51 | 2,954 | 100 |
| June | 2,809 | 233 | NA | (s) | 39 | 3,002 | 100 |
| July | 2,848 | 334 | NA | 498 | 89 | 2,596 | 115 |
| August | 2,907 | 254 | NA | 41 | 154 | 2,966 | 116 |
| September | 2,952 | 249 | NA | 231 | 81 | 2,889 | 123 |
| October | 2,906 | 261 | NA | -50 | 90 | 3,127 | 122 |
| November | 3,063 | 307 | NA | -64 | 123 | 3,311 | 120 |
| December | 3,266 | 324 | NA | -454 | 130 | 3,914 | 106 |
| **Average** | **2,899** | **306** | **NA** | **-49** | **97** | **3,157** | |
| **1990** January | 3,136 | 501 | NA | 398 | 62 | 3,177 | 118 |
| February | 2,753 | 357 | NA | -204 | 65 | 3,250 | 112 |
| March | 2,655 | 280 | NA | -405 | 75 | 3,265 | 100 |
| April | 2,802 | 308 | NA | -8 | 59 | 3,059 | 99 |
| May | 2,873 | 207 | NA | 109 | 75 | 2,897 | 103 |
| June | 2,995 | 257 | NA | 219 | 84 | 2,949 | 109 |
| July | 3,006 | 229 | NA | 512 | 30 | 2,693 | 125 |
| August | 3,131 | 292 | NA | 188 | 51 | 3,184 | 131 |
| September | 2,967 | 226 | NA | 180 | 123 | 2,890 | 136 |
| October | 2,933 | 190 | NA | 10 | 150 | 2,963 | 137 |
| November | [R] 2,916 | [R] 238 | NA | [R] -132 | [R] 188 | [R] 3,098 | [R] 133 |
| December | [E] 2,892 | [E] 231 | NA | [E] -150 | [E] 139 | [E] 3,135 | [E] 130 |
| **Average** | **[E] 2,923** | **[E] 276** | **NA** | **[E] 62** | **[E] 92** | **[E] 3,045** | |

[a]Beginning in January 1983, product supplied for distillate fuel oil does not include crude oil used directly. See Note 3 at end of section.
[b]A negative number indicates a decrease in stocks and a positive number indicates an increase.
[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 change calculations. See Note 4 at end of section. Due to a rounding difference, the 1975 stock change value is -40 in the *Petroleum Supply Annual* and the *Petroleum Supply Monthly*.
[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

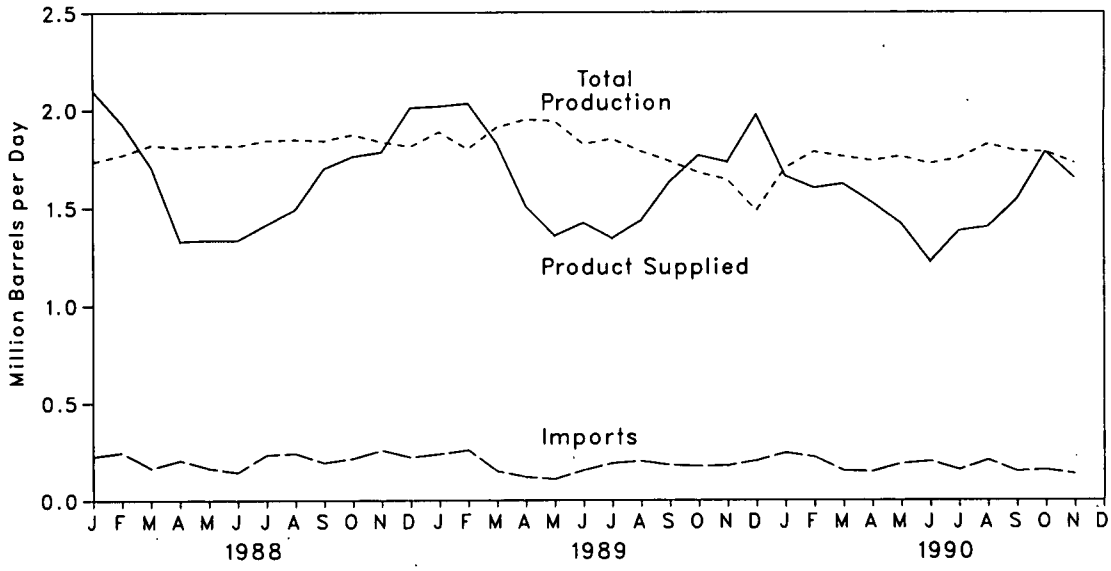


# Table 3.6 Residual Fuel Oil Supply and Disposition

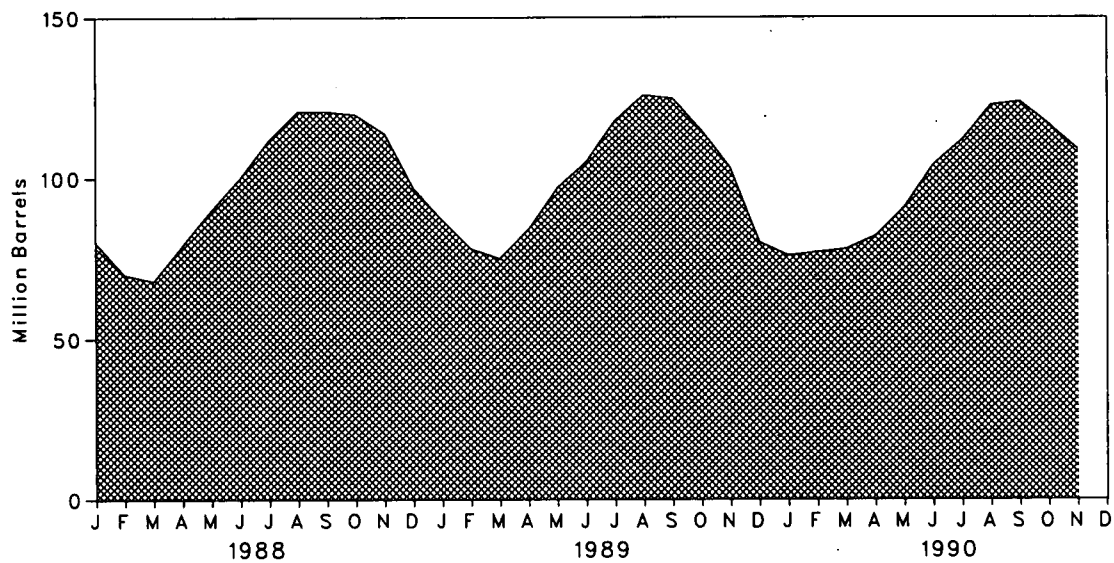
| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Crude Used Directly[a] | Stock Change[b] | Exports | Product Supplied[a] | Ending Stocks[c] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **971** | **1,853** | **17** | **-5** | **23** | **2,822** | **53** |
| **1974 Average** | **1,070** | **1,587** | **13** | **17** | **14** | **2,639** | **[d] 60** |
| **1975 Average** | **1,235** | **1,223** | **15** | **[d] -2** | **15** | **2,462** | **74** |
| **1976 Average** | **1,377** | **1,413** | **17** | **-5** | **12** | **2,801** | **72** |
| **1977 Average** | **1,754** | **1,359** | **13** | **48** | **6** | **3,071** | **90** |
| **1978 Average** | **1,667** | **1,355** | **13** | **1** | **13** | **3,023** | **90** |
| **1979 Average** | **1,687** | **1,151** | **12** | **15** | **9** | **2,826** | **96** |
| **1980 Average** | **1,580** | **939** | **12** | **-10** | **33** | **2,508** | **[d] 92** |
| **1981 Average[e]** | **1,321** | **800** | **48** | **[d] -37** | **118** | **2,088** | **78** |
| **1982 Average** | **1,070** | **776** | **48** | **-32** | **209** | **1,716** | **[d] 66** |
| **1983 Average** | **852** | **699** | **NA** | **[d] -55** | **185** | **1,421** | **49** |
| **1984 Average** | **891** | **681** | **NA** | **12** | **190** | **1,369** | **53** |
| **1985 Average** | **882** | **510** | **NA** | **-7** | **197** | **1,202** | **50** |
| **1986 Average** | **889** | **669** | **NA** | **-8** | **147** | **1,418** | **47** |
| **1987 Average** | **885** | **565** | **NA** | **(s)** | **186** | **1,264** | **47** |
| **1988** January | 1,002 | 805 | NA | -44 | 190 | 1,661 | 46 |
| February | 994 | 901 | NA | -33 | 229 | 1,698 | 45 |
| March | 948 | 650 | NA | -43 | 165 | 1,476 | 44 |
| April | 960 | 495 | NA | -33 | 170 | 1,318 | 43 |
| May | 862 | 432 | NA | 94 | 263 | 938 | 46 |
| June | 880 | 336 | NA | -117 | 249 | 1,083 | 42 |
| July | 906 | 479 | NA | -37 | 206 | 1,217 | 41 |
| August | 866 | 581 | NA | -97 | 225 | 1,320 | 38 |
| September | 852 | 698 | NA | 220 | 100 | 1,230 | 45 |
| October | 852 | 603 | NA | -68 | 181 | 1,343 | 42 |
| November | 916 | 785 | NA | 51 | 146 | 1,504 | 44 |
| December | 1,069 | 975 | NA | 20 | 271 | 1,754 | 45 |
| **Average** | **926** | **644** | **NA** | **-8** | **200** | **1,378** | |
| **1989** January | 949 | 909 | NA | 84 | 151 | 1,623 | 47 |
| February | 930 | 877 | NA | -58 | 146 | 1,719 | 46 |
| March | 937 | 706 | NA | -128 | 220 | 1,551 | 42 |
| April | 904 | 681 | NA | -52 | 236 | 1,401 | 40 |
| May | 934 | 538 | NA | 77 | 276 | 1,119 | 42 |
| June | 953 | 533 | NA | 54 | 208 | 1,223 | 44 |
| July | 862 | 556 | NA | -44 | 176 | 1,286 | 43 |
| August | 903 | 501 | NA | 58 | 225 | 1,121 | 45 |
| September | 856 | 454 | NA | 162 | 137 | 1,010 | 49 |
| October | 1,001 | 583 | NA | 50 | 243 | 1,292 | 51 |
| November | 1,075 | 543 | NA | 48 | 330 | 1,240 | 52 |
| December | 1,140 | 680 | NA | -275 | 226 | 1,870 | 44 |
| **Average** | **954** | **629** | **NA** | **-2** | **215** | **1,370** | |
| **1990** January | 1,129 | 809 | NA | 191 | 186 | 1,561 | 50 |
| February | 1,060 | 640 | NA | 63 | 214 | 1,424 | 51 |
| March | 974 | 334 | NA | -171 | 277 | 1,202 | 46 |
| April | 880 | 555 | NA | 93 | 200 | 1,142 | 49 |
| May | 877 | 507 | NA | 21 | 141 | 1,222 | 50 |
| June | 926 | 536 | NA | -96 | 207 | 1,350 | 47 |
| July | 987 | 535 | NA | 72 | 171 | 1,279 | 49 |
| August | 945 | 574 | NA | -25 | 280 | 1,263 | 48 |
| September | 909 | 311 | NA | 43 | 200 | 977 | 50 |
| October | 802 | 381 | NA | (s) | 160 | 1,023 | 50 |
| November | [R] 845 | [R] 386 | NA | [R] 25 | [R] 243 | [R] 963 | 50 |
| December | [E] 994 | [E] 396 | NA | [E] -28 | [E] 177 | [E] 1,240 | [E] 49 |
| **Average** | [E] 944 | [E] 496 | NA | [E] 15 | [E] 204 | [E] 1,220 | |

[a]Beginning in January 1983, product supplied for residual fuel oil does not include crude oil used directly. See Note 3 at end of section.
[b]A negative number indicates a decrease in stocks and a positive number indicates an increase.
[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 change 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. (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 3.11 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 Change[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** | **[d] -4** | **253** | **73** | **1,509** | **[d] 101** |
| **1984 Average** | **1,697** | **195** | **[d] -19** | **291** | **48** | **1,572** | **101** |
| **1985 Average** | **1,704** | **187** | **-75** | **304** | **62** | **1,599** | **74** |
| **1986 Average** | **1,695** | **242** | **80** | **302** | **42** | **1,512** | **103** |
| **1987 Average** | **1,748** | **190** | **-15** | **304** | **38** | **1,612** | **97** |
| **1988** January | 1,734 | 226 | -566 | 383 | 44 | 2,099 | 80 |
| February | 1,770 | 245 | -328 | 366 | 47 | 1,929 | 70 |
| March | 1,819 | 165 | -50 | 292 | 36 | 1,707 | 68 |
| April | 1,806 | 205 | 361 | 277 | 43 | 1,329 | 79 |
| May | 1,817 | 165 | 343 | 277 | 37 | 1,324 | 90 |
| June | 1,814 | 144 | 331 | 256 | 38 | 1,333 | 100 |
| July | 1,842 | 233 | 380 | 248 | 35 | 1,412 | 112 |
| August | 1,847 | 241 | 287 | 262 | 50 | 1,490 | 121 |
| September | 1,841 | 194 | 20 | 274 | 43 | 1,698 | 121 |
| October | 1,872 | 216 | -47 | 318 | 56 | 1,761 | 120 |
| November | 1,835 | 258 | -206 | 445 | 71 | 1,782 | 114 |
| December | 1,811 | 222 | -522 | 461 | 85 | 2,010 | 97 |
| **Average** | **1,817** | **209** | **1** | **321** | **49** | **1,656** | |
| **1989** January | 1,885 | 239 | -335 | 422 | 19 | 2,018 | 87 |
| February | 1,798 | 260 | -333 | 328 | 31 | 2,032 | 78 |
| March | 1,909 | 150 | -85 | 274 | 43 | 1,827 | 75 |
| April | 1,950 | 121 | 294 | 242 | 27 | 1,507 | 84 |
| May | 1,943 | 110 | 428 | 226 | 43 | 1,357 | 97 |
| June | 1,824 | 155 | 269 | 254 | 35 | 1,422 | 105 |
| July | 1,850 | 192 | 407 | 247 | 45 | 1,343 | 118 |
| August | 1,787 | 202 | 272 | 245 | 40 | 1,433 | 126 |
| September | 1,737 | 182 | -46 | 303 | 31 | 1,631 | 125 |
| October | 1,679 | 176 | -313 | 371 | 31 | 1,766 | 115 |
| November | 1,643 | 179 | -389 | 446 | 33 | 1,732 | 103 |
| December | 1,483 | 205 | -749 | 424 | 37 | 1,975 | 80 |
| **Average** | **1,791** | **181** | **-47** | **315** | **35** | **1,668** | |
| **1990** January | 1,700 | 245 | -174 | 416 | 44 | 1,660 | 76 |
| February | 1,784 | 223 | 20 | 346 | 42 | 1,599 | 77 |
| March | 1,760 | 152 | 42 | 205 | 44 | 1,620 | 78 |
| April | 1,738 | 148 | 136 | 200 | 25 | 1,525 | 82 |
| May | 1,760 | 189 | 279 | 216 | 36 | 1,417 | 91 |
| June | 1,722 | 201 | 451 | 220 | 28 | 1,223 | 104 |
| July | 1,750 | 156 | 259 | 230 | 36 | 1,379 | 112 |
| August | 1,823 | 206 | 334 | 253 | 43 | 1,400 | 123 |
| September | 1,788 | 147 | 55 | 298 | 41 | 1,540 | 124 |
| October | 1,784 | 155 | -234 | 352 | 38 | 1,784 | 117 |
| November | 1,726 | 135 | -252 | 425 | 39 | 1,650 | 109 |
| **11-Month Average** | **1,758** | **178** | **84** | **287** | **38** | **1,527** | |
| **1989 11-Month Average** | **1,819** | **178** | **18** | **305** | **34** | **1,640** | |
| **1988 11-Month Average** | **1,818** | **208** | **49** | **309** | **45** | **1,623** | |

[a]Includes ethane, propane, normal butane, and isobutane.
[b]A negative number indicates a decrease in stocks and a positive number indicates an increase.
[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 change 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 | | | | Ending Stocks[c] |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[b] | Refinery Inputs | Exports | Products Supplied | |
| | 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** | **• 2,870** | **[d] 253** |
| **1983 Average** | **3,460** | **411** | **[d] -6** | **712** | **242** | **2,923** | **[d] 256** |
| **1984 Average** | **3,632** | **565** | **[d] -23** | **791** | **245** | **3,183** | **240** |
| **1985 Average** | **3,721** | **588** | **17** | **886** | **240** | **3,166** | **246** |
| **1986 Average** | **3,997** | **561** | **10** | **888** | **308** | **3,353** | **250** |
| **1987 Average** | **4,080** | **610** | **-1** | **829** | **289** | **3,572** | **250** |
| **1988** January | 3,942 | 706 | 136 | 812 | 354 | 3,347 | 254 |
| February | 3,905 | 680 | 31 | 753 | 318 | 3,484 | 255 |
| March | 4,147 | 666 | 282 | 687 | 328 | 3,515 | 264 |
| April | 4,010 | 794 | 87 | 851 | 288 | 3,577 | 266 |
| May | 4,071 | 843 | 335 | 501 | 274 | 3,803 | 277 |
| June | 4,265 | 787 | -43 | 777 | 379 | 3,939 | 276 |
| July | 4,315 | 781 | 21 | 831 | 329 | 3,915 | 276 |
| August | 4,413 | 701 | -199 | 796 | 302 | 4,215 | 270 |
| September | 4,245 | 651 | -159 | 850 | 323 | 3,882 | 265 |
| October | 4,163 | 771 | -40 | 762 | 268 | 3,944 | 264 |
| November | 4,068 | 823 | 43 | 818 | 303 | 3,728 | 265 |
| December | 4,155 | 613 | -429 | 1,153 | 392 | 3,653 | 252 |
| **Average** | **4,143** | **735** | **6** | **799** | **321** | **3,751** | |
| **1989** January | 4,198 | 746 | 396 | 706 | 311 | 3,532 | 264 |
| February | 3,957 | 837 | 191 | 726 | 302 | 3,574 | 270 |
| March | 4,067 | 745 | 112 | 660 | 321 | 3,718 | 273 |
| April | 3,953 | 854 | 133 | 808 | 306 | 3,561 | 277 |
| May | 4,131 | 755 | 221 | 688 | 260 | 3,718 | 284 |
| June | 4,375 | 695 | -206 | 838 | 389 | 4,049 | 278 |
| July | 4,454 | 690 | -69 | 955 | 344 | 3,913 | 276 |
| August | 4,436 | 677 | -215 | 893 | 328 | 4,107 | 269 |
| September | 4,428 | 770 | 112 | 737 | 343 | 4,005 | 272 |
| October | 4,191 | 705 | 32 | 730 | 337 | 3,796 | 273 |
| November | 4,122 | 736 | -43 | 900 | 351 | 3,650 | 272 |
| December | 3,763 | 600 | -601 | 918 | 391 | 3,655 | 253 |
| **Average** | **4,174** | **733** | **4** | **797** | **332** | **3,774** | |
| **1990** January | 4,014 | 970 | 176 | 699 | 255 | 3,854 | 259 |
| February | 4,255 | 819 | 495 | 645 | 347 | 3,587 | 273 |
| March | 4,115 | 769 | 144 | 787 | 306 | 3,646 | 278 |
| April | 4,125 | 679 | -195 | 861 | 337 | 3,800 | 272 |
| May | 4,235 | 861 | 292 | 531 | 300 | 3,973 | 281 |
| June | 4,267 | 922 | -141 | 904 | 345 | 4,082 | 277 |
| July | 4,581 | 789 | 30 | 954 | 327 | 4,059 | 278 |
| August | 4,519 | 741 | -370 | 997 | 334 | 4,299 | 266 |
| September | 4,560 | 743 | 117 | 753 | 312 | 4,120 | 270 |
| October | 4,441 | 651 | -395 | 1,216 | 407 | 3,865 | 257 |
| November | 4,391 | 887 | 159 | 1,008 | 411 | 3,700 | 262 |
| **11-Month Average** | **4,319** | **803** | **25** | **852** | **334** | **3,910** | |
| **1989 11-Month Average** | **4,212** | **745** | **60** | **786** | **326** | **3,786** | |
| **1988 11-Month Average** | **4,142** | **746** | **46** | **767** | **315** | **3,760** | |

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

[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 change 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.

# Petroleum Notes and Sources

## 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 change 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 change 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 now appear in the "Liquefied Petroleum Gases Supply and Disposition" table. This change affects stocks reported and stock change calculations 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 change 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 1989: EIA, *Petroleum Supply Annual.*

- January 1990 through November 1990: Detailed Statistics in appropriate issues of the *Petroleum Supply Monthly.*

- December 1990: Estimates based on EIA weekly data (except domestic crude oil production).

- January 1990 through December 1990: Domestic crude oil production estimate based on historical statistics from State conservation agencies and the Minerals Management Service of the U.S. Department of the Interior.

# Section 4. Natural Gas

Total dry natural gas production in the United States during November 1990 was an estimated 1.5 trillion cubic feet, slightly higher than the previous November.

Consumption of natural and supplemental gas in November 1990 was 1.6 trillion cubic feet, 1 percent[4] above the level in November 1989.

Deliveries to residential consumers in October 1990 (latest data available) were 217 billion cubic feet, 5 percent lower than the previous October. Total deliveries to industrial consumers during October 1990 were 638 billion cubic feet, 12 percent higher than the previous October.

Imports of natural gas in November 1990 were 124 billion cubic feet, 1 percent above the previous November.

Stocks of working gas[5] in underground natural gas storage reservoirs at the end of November 1990 totaled 3.4 trillion cubic feet, 7 percent above the level of stocks available 1 year earlier. Net withdrawals from storage during November 1990 were 8 billion cubic feet, 93 percent below the amount withdrawn during the previous November.

[4]Percentage changes are calculated using unrounded data.
[5]Gas available for withdrawal.

# Table 4.1 Natural Gas Production
(Billion Cubic Feet)

| | Gross Withdrawals[a] | Repressuring[b] | Nonhydrocarbon Gases Removed[c] | Vented and Flared[d] | Marketed Production (Wet)[e] | Extraction Loss | Total Dry Gas Production[f] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **24,067** | **1,171** | **NA** | **248** | **[g] 22,648** | **917** | **[g] 21,731** |
| **1974 Total** | **22,850** | **1,080** | **NA** | **169** | **[g] 21,601** | **887** | **[g] 20,713** |
| **1975 Total** | **21,104** | **861** | **NA** | **134** | **[g] 20,109** | **872** | **[g] 19,236** |
| **1976 Total** | **20,944** | **859** | **NA** | **132** | **[g] 19,952** | **854** | **[g] 19,098** |
| **1977 Total** | **21,097** | **935** | **NA** | **137** | **[g] 20,025** | **863** | **[g] 19,163** |
| **1978 Total** | **21,309** | **1,181** | **NA** | **153** | **[g] 19,974** | **852** | **[g] 19,122** |
| **1979 Total** | **21,883** | **1,245** | **NA** | **167** | **[g] 20,471** | **808** | **[g] 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 Total** | **19,534** | **1,915** | **326** | **95** | **17,198** | **816** | **16,382** |
| **1986 Total** | **19,063** | **1,838** | **337** | **98** | **16,791** | **800** | **15,991** |
| **1987 Total** | **20,056** | **2,208** | **376** | **124** | **17,349** | **812** | **16,536** |
| **1988** January | 1,925 | 216 | 40 | 12 | 1,657 | 76 | 1,581 |
| February | 1,752 | 196 | 36 | 12 | 1,508 | 69 | 1,439 |
| March | 1,826 | 201 | 40 | 12 | 1,573 | 72 | 1,501 |
| April | 1,684 | 193 | 39 | 12 | 1,440 | 66 | 1,374 |
| May | 1,724 | 204 | 33 | 12 | 1,475 | 68 | 1,407 |
| June | 1,655 | 202 | 39 | 12 | 1,402 | 64 | 1,338 |
| July | 1,674 | 204 | 37 | 13 | 1,420 | 65 | 1,355 |
| August | 1,691 | 203 | 36 | 12 | 1,440 | 66 | 1,374 |
| September | 1,609 | 200 | 38 | 12 | 1,359 | 62 | 1,297 |
| October | 1,747 | 217 | 42 | 12 | 1,476 | 67 | 1,409 |
| November | 1,772 | 217 | 38 | 12 | 1,505 | 69 | 1,436 |
| December | 1,864 | 225 | 42 | 11 | 1,586 | 73 | 1,513 |
| **Total** | **20,922** | **2,478** | **460** | **143** | **17,841** | **817** | **17,026** |
| **1989** January | 1,866 | 219 | 34 | 11 | 1,602 | 70 | 1,532 |
| February | 1,712 | 193 | 29 | 11 | 1,479 | 64 | 1,415 |
| March | 1,809 | 197 | 31 | 13 | 1,568 | 68 | 1,500 |
| April | 1,737 | 203 | 29 | 12 | 1,493 | 65 | 1,428 |
| May | 1,770 | 214 | 31 | 12 | 1,513 | 66 | 1,447 |
| June | 1,683 | 192 | 28 | 12 | 1,451 | 63 | 1,388 |
| July | 1,720 | 199 | 30 | 12 | 1,479 | 64 | 1,415 |
| August | 1,715 | 207 | 28 | 12 | 1,468 | 63 | 1,404 |
| September | 1,644 | 207 | 28 | 12 | 1,397 | 60 | 1,337 |
| October | 1,719 | 211 | 29 | 12 | 1,467 | 64 | 1,403 |
| November | 1,784 | 214 | 31 | 12 | 1,527 | 66 | 1,461 |
| December | 1,850 | 219 | 33 | 12 | 1,586 | 72 | 1,514 |
| **Total** | **21,009** | **2,475** | **362** | **142** | **18,029** | **785** | **17,245** |
| **1990** January | 1,936 | 205 | 32 | 15 | 1,684 | 79 | 1,605 |
| February | 1,712 | 180 | 27 | 9 | 1,496 | 70 | 1,426 |
| March | 1,834 | 207 | 30 | 10 | 1,587 | 74 | 1,513 |
| April | 1,742 | 201 | 29 | 10 | 1,502 | 70 | 1,432 |
| May | 1,772 | 203 | 35 | 11 | 1,523 | 71 | 1,452 |
| June | 1,695 | 191 | 29 | 10 | 1,465 | 69 | 1,396 |
| July | 1,700 | 194 | 30 | 10 | 1,466 | 69 | 1,397 |
| August | 1,716 | 196 | 31 | 10 | 1,479 | 69 | 1,410 |
| September | [R] 1,657 | [R] 189 | [R] 30 | 10 | [R] 1,428 | [R] 67 | [R] 1,361 |
| October | [R] 1,724 | [R] 196 | 31 | 10 | [R] 1,487 | [R] 70 | [R] 1,417 |
| November | [E] 1,782 | [E] 203 | [E] 32 | [E] 11 | [E] 1,536 | [E] 72 | [E] 1,464 |
| **11-Month Total** | **[E] 19,270** | **[E] 2,165** | **[E] 336** | **[E] 116** | **[E] 16,653** | **[E] 780** | **[E] 15,873** |
| **1989 11-Month Total** | **19,159** | **2,256** | **328** | **131** | **16,443** | **713** | **15,730** |
| **1988 11-Month Total** | **19,059** | **2,253** | **418** | **133** | **16,255** | **744** | **15,511** |

[a]Gas withdrawn from gas and oil wells.
[b]The injection of natural gas into oil and gas formations for pressure maintenance and cycling purposes.
[c]See Note 1 at end of section.
[d]Vented: Natural gas released into the air on the base site or at processing plants. Flared: Natural gas burned in flares on the base site or at gas processing plants.
[e]Gross Withdrawals minus Repressuring, Nonhydrocarbon Gases Removed, and Vented and Flared. See Note 2 at end of section.
[f]Marketed Production (Wet) minus Extraction Loss.
[g]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.
Sources: • 1973 through 1987: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Table 1. • 1988 forward: EIA, *Natural Gas Monthly*, January 1991, Table 1.

# 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 | [R] 500 |
| **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 | [Re] 641 |
| **1984 Total** | 17,392 | 2,098 | 110 | 843 | 20,443 | 2,295 | 55 | 17,951 | • 143 |
| **1985 Total** | 16,382 | 2,397 | 126 | 950 | 19,855 | 2,163 | 55 | 17,281 | 356 |
| **1986 Total** | 15,991 | 1,837 | 113 | 750 | 18,692 | 1,984 | 61 | 16,221 | 427 |
| **1987 Total** | 16,536 | 1,905 | 101 | 993 | 19,534 | 1,911 | 54 | 17,211 | 359 |
| **1988** January | 1,581 | 586 | 12 | 139 | 2,318 | 47 | 5 | 2,187 | 79 |
| February | 1,439 | 462 | 11 | 117 | 2,029 | 50 | 5 | 2,038 | -64 |
| March | 1,501 | 259 | 10 | 113 | 1,883 | 99 | 6 | 1,867 | -89 |
| April | 1,374 | 92 | 8 | 96 | 1,570 | 165 | 6 | 1,464 | -65 |
| May | 1,407 | 46 | 7 | 94 | 1,554 | 288 | 4 | 1,302 | -40 |
| June | 1,338 | 36 | 7 | 93 | 1,474 | 280 | 8 | 1,170 | 16 |
| July | 1,355 | 42 | 7 | 100 | 1,504 | 300 | 5 | 1,177 | 22 |
| August | 1,374 | 52 | 7 | 94 | 1,527 | 288 | 6 | 1,222 | 11 |
| September | 1,297 | 46 | 6 | 95 | 1,444 | 314 | 7 | 1,099 | 24 |
| October | 1,409 | 92 | 8 | 106 | 1,615 | 202 | 6 | 1,232 | 175 |
| November | 1,436 | 159 | 9 | 121 | 1,725 | 117 | 7 | 1,453 | 148 |
| December | 1,513 | 397 | 11 | 127 | 2,048 | 62 | 9 | 1,820 | 157 |
| **Total** | **17,026** | **2,270** | **101** | **1,294** | **20,691** | **2,211** | **74** | **18,030** | **376** |
| **1989** January | 1,532 | 426 | 11 | 119 | 2,088 | 53 | 7 | 2,034 | -6 |
| February | 1,415 | 614 | 10 | 110 | 2,149 | 32 | 7 | 2,018 | 92 |
| March | 1,500 | 369 | 10 | 113 | 1,992 | 106 | 11 | 1,956 | -81 |
| April | 1,428 | 138 | 8 | 110 | 1,684 | 184 | 11 | 1,591 | -102 |
| May | 1,447 | 44 | 8 | 108 | 1,607 | 326 | 8 | 1,359 | -86 |
| June | 1,388 | 20 | 7 | 104 | 1,519 | 381 | 9 | 1,210 | -81 |
| July | 1,415 | 29 | 8 | 101 | 1,553 | 377 | 9 | 1,230 | -63 |
| August | 1,404 | 29 | 8 | 108 | 1,549 | 362 | 9 | 1,226 | -48 |
| September | 1,337 | 39 | 7 | 117 | 1,500 | 325 | 9 | 1,191 | -25 |
| October | 1,403 | 96 | 9 | 123 | 1,631 | 225 | 10 | 1,347 | 49 |
| November | 1,461 | 227 | 9 | 123 | 1,820 | 105 | 8 | 1,578 | 129 |
| December | 1,514 | 821 | 12 | 145 | 2,492 | 52 | 8 | 2,164 | 268 |
| **Total** | **17,245** | **2,852** | **107** | **1,382** | **21,586** | **2,529** | **107** | **18,904** | **46** |
| **1990** January | 1,605 | 339 | 16 | 149 | 2,109 | 91 | 8 | 2,107 | -97 |
| February | 1,426 | 324 | 14 | 118 | 1,882 | 70 | 8 | 1,805 | -1 |
| March | 1,513 | 256 | 14 | 115 | 1,898 | 124 | 10 | 1,777 | -13 |
| April | 1,432 | 140 | 13 | 122 | 1,707 | 183 | 8 | 1,584 | -68 |
| May | 1,452 | 45 | 11 | 108 | 1,616 | 289 | 8 | 1,397 | -78 |
| June | 1,396 | 42 | 11 | 114 | 1,563 | 327 | 9 | 1,298 | -71 |
| July | 1,397 | 27 | 12 | 119 | 1,555 | 325 | 8 | 1,292 | -70 |
| August | 1,410 | 37 | 11 | 118 | 1,576 | 321 | 8 | 1,322 | -75 |
| September | [R] 1,361 | 36 | 11 | 120 | [R] 1,528 | 284 | 8 | [R] 1,285 | [R] -49 |
| October | [R] 1,417 | 61 | 11 | 120 | [R] 1,610 | 214 | 8 | [R] 1,411 | [R] -23 |
| November | [E] 1,464 | 144 | 13 | 124 | 1,745 | 136 | 8 | 1,595 | 6 |
| **11-Month Total** | [E] 15,873 | 1,451 | 137 | 1,327 | 18,789 | 2,364 | 91 | 16,873 | -539 |
| **1989 11-Month Total** | 15,730 | 2,031 | 95 | 1,236 | 19,092 | 2,476 | 98 | 16,740 | -222 |
| **1988 11-Month Total** | 15,511 | 1,872 | 92 | 1,168 | 18,643 | 2,150 | 65 | 16,211 | 217 |

[a]Data for 1980 through 1989 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]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.
Sources: • 1973 through 1987: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II,* Tables 2 and 12. • 1988 forward: EIA, *Natural Gas Monthly,* January 1991, Table 2.

Revisions prior to 1990 reflect the incorporation of greater precision in the natural gas data that are used in the *Monthly Energy Review* database.

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

| | Lease and Plant Fuel | Pipeline Fuel[b] | Delivered to Consumers | | | | | Total Consumption |
|---|---|---|---|---|---|---|---|---|
| | | | Residential | Commercial | 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 Total** | **966** | **504** | **4,433** | **2,432** | **5,901** | **3,044** | **15,811** | **17,281** |
| **1986 Total** | **923** | **485** | **4,314** | **2,318** | **5,579** | **2,602** | **14,814** | **16,221** |
| **1987 Total** | **1,149** | **519** | **4,315** | **2,430** | **5,953** | **2,844** | **15,542** | **17,211** |
| **1988** January | 102 | 63 | 852 | 424 | 578 | 168 | 2,022 | 2,187 |
| February | 93 | 55 | 755 | 392 | 574 | 170 | 1,890 | 2,038 |
| March | 97 | 53 | 597 | 320 | 596 | 204 | 1,717 | 1,867 |
| April | 88 | 46 | 400 | 223 | 507 | 199 | 1,330 | 1,464 |
| May | 91 | 49 | 258 | 158 | 507 | 240 | 1,162 | 1,302 |
| June | 86 | 47 | 152 | 118 | 487 | 280 | 1,037 | 1,170 |
| July | 87 | 49 | 123 | 109 | 480 | 328 | 1,041 | 1,177 |
| August | 88 | 49 | 114 | 113 | 514 | 344 | 1,085 | 1,222 |
| September | 83 | 47 | 125 | 113 | 499 | 233 | 969 | 1,099 |
| October | 91 | 49 | 232 | 156 | 522 | 182 | 1,092 | 1,232 |
| November | 92 | 51 | 391 | 225 | 543 | 150 | 1,310 | 1,453 |
| December | 98 | 56 | 631 | 320 | 577 | 137 | 1,666 | 1,820 |
| **Total** | **1,096** | **614** | **4,630** | **2,670** | **6,383** | **2,636** | **16,320** | **18,030** |
| **1989** January | 106 | 57 | 751 | 376 | 598 | 146 | 1,871 | 2,034 |
| February | 98 | 57 | 742 | 380 | 570 | 171 | 1,863 | 2,018 |
| March | 104 | 54 | 645 | 342 | 602 | 209 | 1,798 | 1,956 |
| April | 99 | 49 | 414 | 233 | 563 | 233 | 1,443 | 1,591 |
| May | 100 | 51 | 256 | 159 | 544 | 249 | 1,208 | 1,359 |
| June | 96 | 50 | 155 | 121 | 529 | 258 | 1,064 | 1,210 |
| July | 98 | 50 | 129 | 110 | 525 | 318 | 1,082 | 1,230 |
| August | 97 | 50 | 121 | 110 | 539 | 308 | 1,079 | 1,226 |
| September | 92 | 48 | 139 | 113 | 532 | 266 | 1,051 | 1,191 |
| October | 97 | 49 | 228 | 152 | 568 | 252 | 1,201 | 1,347 |
| November | 101 | 50 | 405 | 231 | 603 | 187 | 1,427 | 1,578 |
| December | 105 | 65 | 790 | 391 | 643 | 170 | 1,994 | 2,164 |
| **Total** | **1,194** | **630** | **4,777** | **2,719** | **6,816** | **2,768** | **17,080** | **18,904** |
| **1990** January | 111 | 53 | 789 | 404 | 606 | 144 | 1,943 | 2,107 |
| February | 99 | 48 | 634 | 338 | 554 | 131 | 1,658 | 1,805 |
| March | 105 | 48 | 550 | 305 | 586 | 182 | 1,624 | 1,777 |
| April | 99 | 44 | 398 | 239 | 606 | 197 | 1,441 | 1,584 |
| May | 101 | 47 | 247 | 160 | 602 | 239 | 1,249 | 1,397 |
| June | 97 | 44 | 162 | 128 | 571 | 295 | 1,157 | 1,298 |
| July | 97 | 49 | 129 | 128 | 564 | 325 | 1,146 | 1,292 |
| August | 98 | 49 | 124 | 119 | 586 | 346 | 1,175 | 1,322 |
| September | R 95 | 47 | 136 | 124 | 584 | 300 | 1,143 | R 1,285 |
| October | 98 | 48 | 217 | 153 | 638 | 256 | 1,265 | R 1,411 |
| **10-Month Total** | **1,000** | **477** | **3,387** | **2,098** | **5,898** | **2,416** | **13,800** | **15,278** |
| **1989 10-Month Total** | **987** | **515** | **3,582** | **2,097** | **5,570** | **2,411** | **13,659** | **15,162** |
| **1988 10-Month Total** | **906** | **507** | **3,608** | **2,126** | **5,263** | **2,348** | **13,344** | **14,758** |

[a]Includes supplemental gaseous fuels.
[b]Natural gas consumed in the operation of pipelines, primarily in compressors.
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.
Sources: • 1973 through 1987: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II,* Table 3. • 1988 forward: EIA, *Natural Gas Monthly,* January 1991, Table 3.

# 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[b] | Withdrawals[b] | Net[c] |
| **1973 Total** | **2,864** | **2,034** | **4,898** | **305** | **17.6** | **1,974** | **1,533** | **442** |
| **1974 Total** | **2,912** | **2,050** | **4,962** | **16** | **.8** | **1,784** | **1,701** | **84** |
| **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 Total** | **3,842** | **2,607** | **6,448** | **-270** | **-9.4** | **2,128** | **2,359** | **-231** |
| **1986 Total** | **3,819** | **2,749** | **6,567** | **142** | **5.5** | **1,952** | **1,812** | **140** |
| **1987 Total** | **3,792** | **2,756** | **6,548** | **7** | **.3** | **1,887** | **1,881** | **6** |
| **1988** January | 3,792 | 2,228 | 6,020 | -52 | -2.3 | 47 | 578 | -531 |
| February | 3,791 | 1,827 | 5,618 | -161 | -8.1 | 50 | 456 | -406 |
| March | 3,790 | 1,682 | 5,473 | -197 | -10.5 | 99 | 255 | -156 |
| April | 3,790 | 1,769 | 5,559 | -169 | -8.7 | 162 | 92 | 71 |
| May | 3,790 | 2,027 | 5,818 | -179 | -8.1 | 282 | 46 | 236 |
| June | 3,792 | 2,293 | 6,085 | -144 | -5.9 | 274 | 36 | 238 |
| July | 3,793 | 2,567 | 6,359 | -69 | -2.6 | 294 | 42 | 252 |
| August | 3,791 | 2,835 | 6,626 | -1 | .0 | 282 | 52 | 230 |
| September | 3,791 | 3,120 | 6,911 | 71 | 2.3 | 308 | 46 | 262 |
| October | 3,792 | 3,243 | 7,035 | 137 | 4.4 | 198 | 92 | 105 |
| November | 3,803 | 3,171 | 6,974 | 112 | 3.7 | 117 | 157 | -40 |
| December | 3,800 | 2,850 | 6,650 | 94 | 3.4 | 62 | 391 | -329 |
| **Total** | | | | | | **2,174** | **2,244** | **-69** |
| **1989** January | 3,798 | 2,509 | 6,307 | 281 | 12.6 | 53 | 418 | -365 |
| February | 3,801 | 1,994 | 5,796 | 168 | 9.2 | 32 | 602 | -570 |
| March | 3,801 | 1,776 | 5,578 | 94 | 5.6 | 106 | 362 | -256 |
| April | 3,801 | 1,823 | 5,624 | 54 | 3.0 | 181 | 138 | 43 |
| May | 3,802 | 2,062 | 5,863 | 34 | 1.7 | 321 | 44 | 277 |
| June | 3,802 | 2,374 | 6,176 | 82 | 3.6 | 375 | 20 | 355 |
| July | 3,802 | 2,644 | 6,446 | 77 | 3.0 | 371 | 29 | 341 |
| August | 3,802 | 2,938 | 6,740 | 103 | 3.6 | 356 | 29 | 328 |
| September | 3,802 | 3,187 | 6,990 | 67 | 2.2 | 320 | 39 | 281 |
| October | 3,792 | 3,268 | 7,061 | 25 | .8 | 221 | 96 | 124 |
| November | 3,809 | 3,199 | 7,008 | 28 | .9 | 105 | 223 | -118 |
| December | 3,812 | 2,513 | 6,325 | -337 | -11.8 | 52 | 805 | -752 |
| **Total** | | | | | | **2,493** | **2,804** | **-311** |
| **1990** January | 3,818 | 2,265 | 6,083 | -243 | -9.7 | 91 | 339 | -248 |
| February | 3,814 | 2,013 | 5,827 | 19 | .9 | 70 | 324 | -253 |
| March | 3,818 | 1,878 | 5,695 | 101 | 5.7 | 124 | 256 | -131 |
| April | 3,839 | 1,932 | 5,771 | 109 | 6.0 | 183 | 140 | 43 |
| May | 3,823 | 2,159 | 5,982 | 97 | 4.7 | 289 | 45 | 245 |
| June | 3,844 | 2,454 | 6,297 | 79 | 3.3 | 327 | 42 | 285 |
| July | 3,850 | 2,747 | 6,597 | 103 | 3.9 | 325 | 27 | 298 |
| August | 3,851 | 2,995 | 6,846 | 57 | 1.9 | 321 | 37 | 283 |
| September | 3,852 | 3,267 | 7,119 | 80 | 2.5 | 284 | 36 | 248 |
| October | 3,852 | 3,426 | 7,277 | 158 | 4.8 | 214 | 61 | 153 |
| November | 3,868 | 3,417 | 7,285 | 218 | 6.8 | 136 | 144 | -8 |

[a]Total underground storage capacity at the end of each calendar year (in billion cubic feet): 1975--6,280 (first data available); 1976--6,544; 1977--6,678; 1978--6,890; 1979--6,929; 1980--7,434; 1981--7,605; 1982--7,915; 1983--7,985; 1984--8,043; 1985--8,087; 1986--8,145; 1987 and 1988--8,124; and 1989--8,124. Current capacity is 8,125.

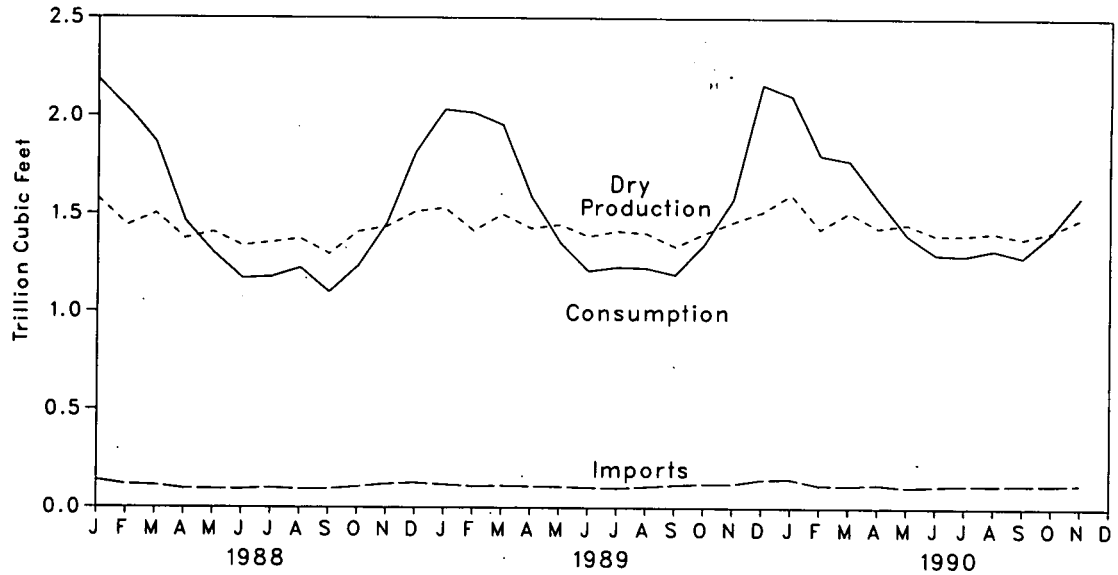
[b]For 1980 through 1989, data differ from those shown on Table 4.2, which includes liquefied natural gas storage for that period.

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

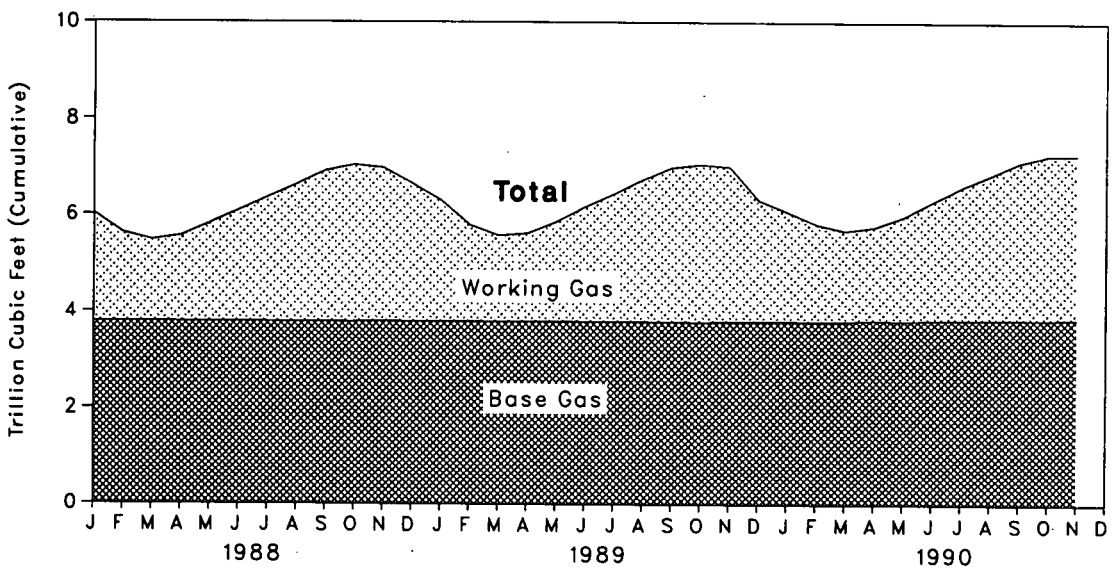
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components independent rounding.

Sources: • **Storage Activity**—1973 through 1975: Energy Information Administration (EIA), *Natural Gas Annual 1988, Volume II*, Table 9. 1976 through 1979: EIA, *Natural Gas Production and Consumption 1979*, Table 1. 1980 through 1988: EIA, *Natural Gas Annual 1988, Volume II*, Table 11. 1989 forward: EIA, *Natural Gas Monthly*, January 1991, Table 17. • **Other Data**—1973: American Gas Association (AGA), *Gas Facts, 1973 Data*, Table 57. 1974: AGA, *Gas Facts, 1974 Data*, Table 40. 1975 and 1976: Federal Energy Administration, Form FEA-G318-M-O, and Federal Power Commission (FPC), Form FPC-8. 1977 and 1978: EIA, Form FEA-G318-M-O, and Federal Energy Regulatory Commission (FERC), Form FERC-8. 1979 through 1987: EIA, Form EIA-191, and FERC, Form FERC-8. 1988 forward: EIA, *Natural Gas Monthly*, January 1991, Table 17.

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




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



# Natural Gas 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) 1988.* Data are not available for periods prior to 1980. Monthly data are reported by three States and computed for six States. Monthly data are preliminary until after publication of the EIA *NGA.* Differences between annual data published in the EIA *NGA* and the sum of the preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data. For further information on methods of estimating preliminary monthly data, see the EIA *NGM.*

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

Estimated monthly data. 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. Monthly data are considered preliminary until after publication of the EIA *NGA.* 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. Differences between annual data in the EIA *NGA* and the sum of preliminary monthly data (January-December) are allocated proportionally to the months to create final monthly data.

**3. Extraction Loss:** Extraction loss is the reduction in volume of natural gas resulting from the removal of natural gas liquids 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 the months based on total natural gas disposition data from the EIA *NGA.*

**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.* Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years.

Monthly data are considered preliminary until after the publication of the EIA *NGA.* 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. The ratio is applied to the monthly sum of the 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) (except in 1986) 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 LNG via tanker to Japan.

Annual and final monthly data are 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.*

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

Final data are from the EIA *NGA.* 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:** Unaccounted for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base;

the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

**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. The 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.

Monthly underground storage data are collected from the Forms FERC-8 (interstate data) and EIA-191 (intrastate data). 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 FERC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA *NGA*.

The final monthly and annual storage and withdrawal data for 1980 through 1988 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are 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 the ratio to the annual LNG data.

# Section 5. Oil and Gas Resource Development

In December 1990, the number of crews engaged in seismic exploration decreased by 2 from the previous month. The December 1990 total of 121 crews was 11 less than the previous December. Of the total, 98 were land crews and 23 were marine vessels. The number of land crews was down by 14, but the number of marine vessels increased by 3 from December 1989.

The December 1990 rotary rig count of 1,136 was essentially the same as in the previous month and 7 percent higher than in December 1989. Of the total number of rigs in operation, 1,035 were onshore and 101 were offshore. The number of onshore rigs was up 9 percent from the number in December 1989, and the number of offshore rigs was down 14 percent.

Exploratory and development well completions during November 1990 totaled an estimated 2,340, 13 percent lower than the previous month and 9 percent lower than the November 1989 total. Oil well completions were 820, down 15 percent from the level in November 1989, and gas well completions totaled 930, up 8 percent from the November 1989 total. Total footage drilled in November 1990 was 11.26 million feet, down 10 percent from the total in October 1990 and down 7 percent from the total in November 1989.

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

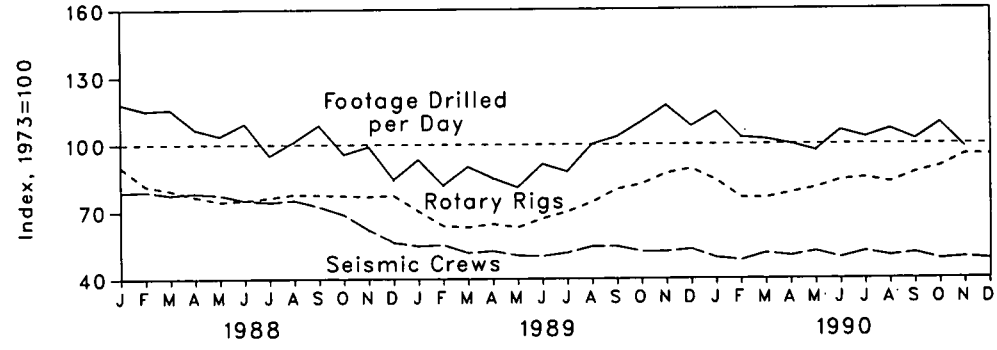
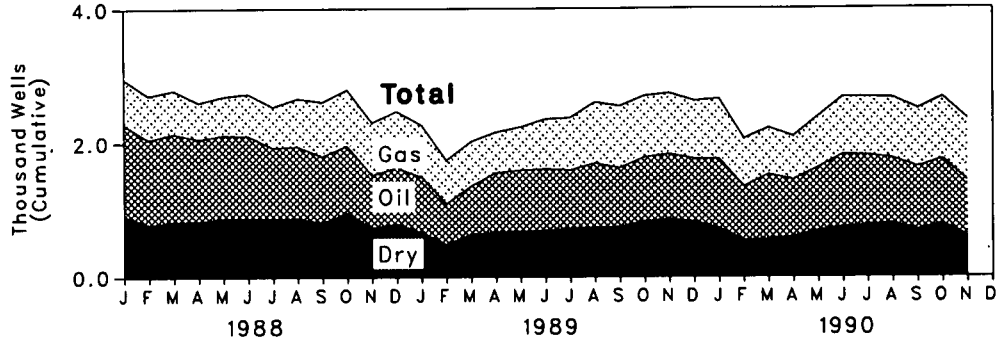



**Figure 5.2 Total Oil and Gas Wells Completed**



# 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 Average** | **45** | **333** | **378** | **206** | **1,774** | **1,980** |
| **1986 Average** | **24** | **176** | **201** | **99** | **865** | **964** |
| **1987 Average** | **24** | **153** | **176** | **95** | **841** | **936** |
| **1988** January | 30 | 167 | 197 | 127 | 949 | 1,076 |
| February | 30 | 168 | 198 | 123 | 853 | 976 |
| March | 29 | 165 | 194 | 119 | 832 | 951 |
| April | 29 | 167 | 196 | 117 | 800 | 917 |
| May | 30 | 164 | 194 | 123 | 768 | 891 |
| June | 30 | 158 | 188 | 124 | 773 | 897 |
| July | 28 | 158 | 186 | 126 | 786 | 912 |
| August | 32 | 156 | 188 | 123 | 807 | 930 |
| September | 30 | 151 | 181 | 122 | 805 | 927 |
| October | 30 | 142 | 172 | 122 | 801 | 923 |
| November | 28 | 127 | 155 | 129 | 789 | 918 |
| December | 27 | 114 | 141 | 127 | 797 | 924 |
| **Average** | **29** | **153** | **182** | **123** | **813** | **936** |
| **1989** January | 25 | 112 | 137 | 110 | 731 | 841 |
| February | 23 | 115 | 138 | 95 | 667 | 762 |
| March | 21 | 108 | 129 | 93 | 660 | 753 |
| April | 22 | 109 | 131 | 92 | 679 | 771 |
| May | 22 | 104 | 126 | 92 | 662 | 754 |
| June | 22 | 102 | 124 | 103 | 692 | 795 |
| July | 22 | 107 | 129 | 114 | 718 | 832 |
| August | 26 | 110 | 136 | 114 | 772 | 886 |
| September | 24 | 114 | 138 | 107 | 848 | 955 |
| October | 21 | 109 | 130 | 106 | 878 | 984 |
| November | 20 | 109 | 129 | 119 | 922 | 1,041 |
| December | 20 | 112 | 132 | 117 | 948 | 1,065 |
| **Average** | **23** | **109** | **132** | **105** | **764** | **869** |
| **1990** January | 20 | 103 | 123 | 113 | 885 | 998 |
| February | 20 | 100 | 120 | 105 | 806 | 911 |
| March | 21 | 107 | 128 | 108 | 797 | 905 |
| April | 24 | 101 | 125 | 111 | 824 | 935 |
| May | 25 | 104 | 129 | 120 | 841 | 961 |
| June | 23 | 100 | 123 | 113 | 886 | 999 |
| July | 24 | 105 | 129 | 108 | 902 | 1,010 |
| August | 23 | 102 | 125 | 108 | 879 | 987 |
| September | 25 | 101 | 126 | 107 | 935 | 1,042 |
| October | 23 | 98 | 121 | 99 | 974 | 1,073 |
| November | 23 | 100 | 123 | 106 | 1,031 | 1,137 |
| December | 23 | 98 | 121 | 101 | 1,035 | 1,136 |
| **Average** | **23** | **102** | **125** | **108** | **902** | **1,010** |

[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 • Crews Engaged: Society of Geophysicists, "Monthly Seismic Crew Count" and annual reports in *Geophysics: The Leading Edge of Exploration.* • Rotary Rigs: Hughes Tool Company, "Rotary Rigs Running--by State."

# Table 5.2 Total Oil and Gas Wells Completed and Footage Drilled

| | Wells Completed | | | | Footage Drilled |
|---|---|---|---|---|---|
| | Oil | Gas | Dry | Total | |
| | Thousand Wells | | | | Million Feet |
| **1973 Total** | **10.25** | **6.98** | **10.47** | **27.69** | **139.42** |
| **1974 Total** | **13.66** | **7.17** | **12.21** | **33.04** | **153.79** |
| **1975 Total** | **16.98** | **8.17** | **13.74** | **38.89** | **181.05** |
| **1976 Total** | **17.70** | **9.44** | **13.81** | **40.94** | **187.29** |
| **1977 Total** | **18.70** | **12.12** | **15.04** | **45.86** | **215.70** |
| **1978 Total** | **19.07** | **14.41** | **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** | **38.94** | **18.85** | **26.15** | **83.93** | **376.75** |
| **1983 Total** | **36.93** | **14.39** | **23.97** | **75.29** | **316.26** |
| **1984 Total** | **42.32** | **16.89** | **25.42** | **84.63** | **368.61** |
| **1985 Total** | **34.81** | **14.18** | **20.94** | **69.93** | **311.06** |
| **1986 Total** | **18.62** | **8.11** | **12.76** | **39.49** | **177.16** |
| **1987 Total** | **16.22** | **7.76** | **R 11.60** | **R 35.58** | **R 161.65** |
| **1988** January | 1.36 | .66 | .92 | 2.94 | 14.53 |
| February | 1.27 | .66 | .78 | 2.70 | 13.43 |
| March | 1.32 | .65 | .82 | 2.78 | 13.71 |
| April | 1.23 | .55 | .83 | 2.61 | 12.77 |
| May | 1.25 | .58 | .87 | 2.69 | 12.40 |
| June | 1.24 | .63 | .88 | 2.75 | 12.63 |
| July | 1.07 | .62 | .86 | 2.54 | 12.17 |
| August | 1.06 | .71 | .88 | 2.65 | 11.98 |
| September | .99 | .81 | .81 | 2.62 | 12.75 |
| October | 1.00 | .83 | .95 | 2.78 | 13.25 |
| November | R .82 | .79 | R .74 | R 2.35 | R 11.50 |
| December | .84 | .85 | .79 | 2.47 | 12.22 |
| **Total** | **R 13.45** | **8.33** | **R 10.11** | **R 31.89** | **R 153.32** |
| **1989** January | .83 | .78 | .66 | 2.28 | 11.05 |
| February | .61 | .65 | .48 | 1.74 | 8.88 |
| March | R .71 | .67 | .63 | R 2.00 | R 9.64 |
| April | .89 | .61 | .66 | 2.16 | 10.00 |
| May | .92 | .65 | .67 | 2.24 | 10.02 |
| June | .87 | .75 | .72 | 2.34 | 10.64 |
| July | .88 | .79 | .71 | 2.37 | 10.57 |
| August | .99 | .86 | .73 | 2.59 | 11.39 |
| September | .85 | .86 | .74 | 2.46 | 11.37 |
| October | .96 | .88 | .82 | 2.66 | 12.14 |
| November | R .96 | R .86 | R .75 | R 2.57 | R 12.06 |
| December | .99 | .89 | .77 | 2.65 | 12.63 |
| **Total** | **R 10.46** | **R 9.25** | **R 8.35** | **R 28.06** | **R 130.39** |
| **1990** January | 1.04 | .90 | .72 | 2.66 | 13.06 |
| February | .80 | .72 | .54 | 2.06 | 10.36 |
| March | .87 | .70 | .55 | 2.12 | 10.38 |
| April | .85 | .65 | .59 | 2.09 | 10.13 |
| May | R .89 | R .78 | R .60 | R 2.27 | R 10.70 |
| June | 1.08 | .86 | .74 | 2.67 | 12.14 |
| July | 1.05 | .87 | .76 | 2.67 | 12.15 |
| August | .97 | .91 | .79 | 2.68 | 11.93 |
| September | .94 | .88 | .69 | 2.52 | 11.68 |
| October | .97 | .93 | .78 | 2.68 | 12.52 |
| November | .82 | .93 | .60 | 2.34 | 11.26 |
| **11-Month Total** | **10.28** | **9.12** | **7.36** | **26.76** | **126.30** |
| **1989 11-Month Total** | **9.47** | **8.36** | **7.58** | **25.41** | **117.76** |
| **1988 11-Month Total** | **12.62** | **7.48** | **9.33** | **29.43** | **141.10** |

R=Revised data.

Notes: • Includes exploratory and development wells; excludes service wells, stratigraphic tests, 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.

Sources: Energy Information Administration computations based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation.

# Oil and Gas Resource Development 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 15 percent during the first 5 months, more than 10 percent during the next 6 months, more than 5 percent during the following 6 months, or more than 2 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*.

# Section 6. Coal

Coal production in November 1990 totaled 89 million short tons, 2 percent[6] higher than the 87 million short tons produced in November 1989.

Electric utility coal consumption in October 1990 totaled 64 million short tons, 6 percent higher than in October 1989.

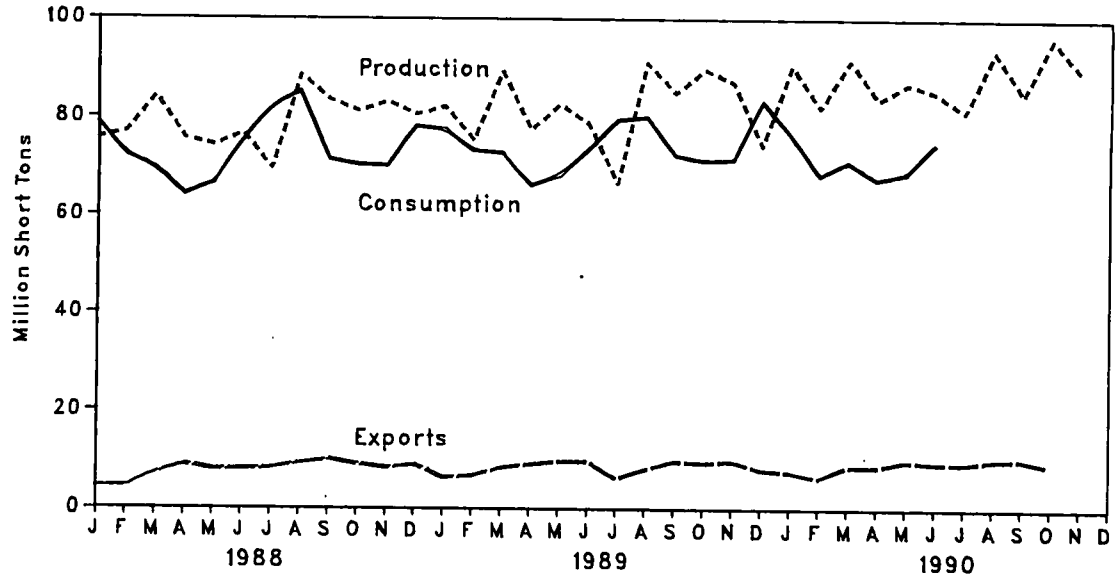
Electric utility coal stocks were 155 million short tons at the end of October 1990, 9 percent higher than at the end of October 1989.

Exports of coal in October 1990 totaled 9 million short tons, 6 percent lower than exports in October 1989.

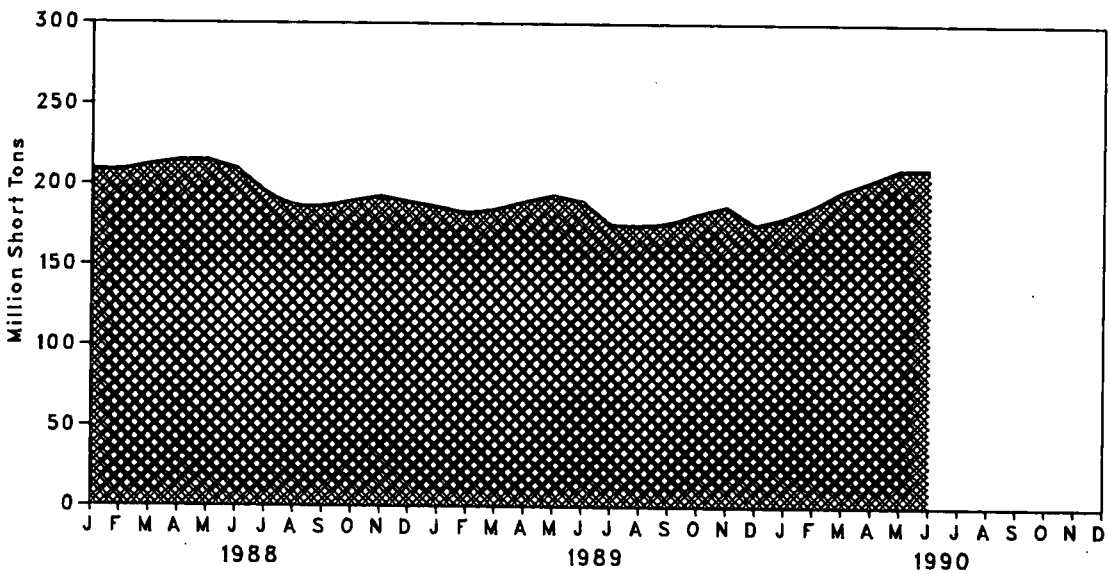
Coal imports totaled 284 thousand short tons in October 1990, 78 percent higher than imports in October 1989.

[6]Percentage changes are calculated using unrounded data.

## Figure 6.1 Coal Production, Consumption, and Exports




## Figure 6.2 Coal Stocks, End of Period



# Table 6.1 Coal Overview
(Thousand Short Tons)

| | Production | Consumption | Imports[a] | Exports | Stocks[b] |
|---|---|---|---|---|---|
| **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** | **226,407** |
| **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 Total** | **883,638** | **818,049** | **1,952** | **92,680** | **203,367** |
| **1986 Total** | **890,315** | **804,312** | **2,212** | **85,518** | **207,319** |
| **1987 Total** | **918,762** | **836,941** | **1,747** | **79,607** | **213,780** |
| **1988** January | 75,585 | 78,967 | 159 | 4,434 | 208,697 |
| February | 77,054 | 72,166 | 162 | 4,482 | 207,712 |
| March | 84,251 | 69,654 | 221 | 7,145 | 212,044 |
| April | 75,623 | 64,156 | 107 | 8,943 | 214,768 |
| May | 74,284 | 66,511 | 224 | 7,905 | 214,923 |
| June | 76,738 | 75,080 | 257 | 8,053 | 209,386 |
| July | 69,451 | 81,994 | 203 | 8,303 | 194,636 |
| August | 88,576 | 85,302 | 205 | 9,322 | 186,020 |
| September | 83,596 | 71,378 | 29 | 10,066 | 185,691 |
| October | 81,241 | 70,252 | 229 | 9,010 | 189,812 |
| November | 83,284 | 70,011 | 207 | 8,338 | 192,518 |
| December | 80,584 | 78,194 | 131 | 9,023 | 188,831 |
| **Total** | **950,265** | **883,664** | **2,134** | **95,023** | |
| **1989** January | 82,331 | 77,491 | 66 | 6,306 | 185,816 |
| February | 75,414 | 73,220 | 131 | 6,748 | 181,858 |
| March | 89,421 | 72,735 | 334 | 8,375 | 184,542 |
| April | 77,456 | 66,140 | 158 | 9,104 | 188,500 |
| May | 82,776 | 68,270 | 312 | 9,685 | 193,185 |
| June | 78,795 | 73,361 | 218 | 9,657 | 189,495 |
| July | 66,601 | 79,603 | 375 | 6,209 | 175,335 |
| August | 91,349 | 80,148 | 247 | 8,122 | 174,356 |
| September | 85,115 | 72,393 | 303 | 9,661 | 176,002 |
| October | 89,873 | 71,180 | 160 | 9,293 | 182,261 |
| November | 87,236 | 71,543 | 245 | 9,768 | 186,739 |
| December | 74,363 | 83,410 | 303 | 7,888 | 175,120 |
| **Total** | **980,729** | **889,491** | **2,851** | **100,815** | |
| **1990** January | 90,541 | 76,650 | 175 | 7,447 | 179,663 |
| February | 82,017 | 68,249 | 268 | 6,243 | 186,796 |
| March | 91,616 | 71,030 | 292 | 8,693 | 196,270 |
| April | 83,150 | 67,398 | 182 | 8,590 | 202,480 |
| May | 86,497 | 68,725 | 144 | 9,827 | 210,096 |
| June | 84,581 | 74,733 | 348 | 9,316 | 210,308 |
| July | 81,210 | NA | 200 | 9,194 | NA |
| August | 93,558 | NA | 120 | 10,065 | NA |
| September | 84,645 | NA | 194 | 10,238 | NA |
| October | 96,058 | NA | 284 | 8,756 | NA |
| November | 89,192 | NA | NA | NA | NA |
| **11-Month Total** | **963,064** | **NA** | **NA** | **NA** | |
| **1989 11-Month Total** | **906,366** | **806,082** | **2,548** | **92,926** | |
| **1988 11-Month Total** | **869,681** | **805,470** | **2,003** | **86,000** | |

[a]Includes Puerto Rico.

[b]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 1988 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding. • See Notes 1, 2, and 3 at end of section for methodology used to calculate production, consumption, and stocks.

Sources: • **Production: 1973 through September 1977**—U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook* and *Minerals Industry Surveys.* **October 1977 forward**—Energy Information Administration, *Weekly Coal Production.* • **Consumption**—See Table 6.2. • **Imports and Exports**—U.S. Department of Commerce, Bureau of the Census, Monthly Reports IM-145 (Imports) and EM-522 (Exports). • **Stocks**—See Table 6.3.

## 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 Total** | **693,841** | **41,056** | **75,372** | **7,779** | **818,049** |
| **1986 Total** | **685,056** | **36,006** | **75,583** | **7,667** | **804,312** |
| **1987 Total** | **717,894** | **36,957** | **75,175** | **6,914** | **836,941** |
| **1988** January | 67,850 | 3,465 | 6,826 | 826 | 78,967 |
| February | 61,401 | 3,297 | 6,789 | 678 | 72,166 |
| March | 58,758 | 3,595 | 6,801 | 500 | 69,654 |
| April | 54,135 | 3,508 | 5,904 | 608 | 64,156 |
| May | 56,529 | 3,686 | 5,937 | 358 | 66,511 |
| June | 65,343 | 3,353 | 5,944 | 440 | 75,080 |
| July | 71,749 | 3,605 | 5,962 | 679 | 81,994 |
| August | 75,253 | 3,418 | 5,972 | 658 | 85,302 |
| September | 61,540 | 3,461 | 5,989 | 388 | 71,378 |
| October | 59,561 | 3,550 | 6,694 | 446 | 70,252 |
| November | 59,305 | 3,403 | 6,710 | 594 | 70,011 |
| December | 66,948 | 3,568 | 6,724 | 955 | 78,194 |
| **Total** | **758,372** | **41,910** | **78,252** | **7,130** | **883,664** |
| **1989** January | 66,619 | 3,568 | 6,671 | 632 | 77,491 |
| February | 62,613 | 3,295 | 6,619 | 693 | 73,220 |
| March | 61,906 | 3,722 | 6,595 | 512 | 72,735 |
| April | 55,929 | 3,613 | 6,088 | 511 | 66,140 |
| May | 58,359 | 3,525 | 6,050 | 336 | 68,270 |
| June | 63,623 | 3,368 | 6,073 | 296 | 73,361 |
| July | 69,705 | 3,527 | 5,875 | 496 | 79,603 |
| August | 70,471 | 3,336 | 5,891 | 449 | 80,148 |
| September | 62,889 | 3,320 | 5,865 | 318 | 72,393 |
| October | 60,541 | 3,599 | 6,829 | 210 | 71,180 |
| November | 60,896 | 3,301 | 6,815 | 530 | 71,543 |
| December | 72,267 | 3,195 | 6,764 | 1,184 | 83,410 |
| **Total** | **765,820** | **41,369** | **76,134** | **6,167** | **889,491** |
| **1990** January | 66,060 | 3,354 | 6,524 | 712 | 76,650 |
| February | 58,003 | 3,025 | 6,567 | 655 | 68,249 |
| March | 60,616 | 3,369 | 6,495 | 550 | 71,030 |
| April | 57,661 | 3,181 | 6,024 | 532 | 67,398 |
| May | 59,042 | 3,317 | 6,005 | 361 | 68,725 |
| June | 65,167 | 3,157 | 6,036 | 373 | 74,733 |
| July | 71,020 | NA | NA | NA | NA |
| August | 73,200 | NA | NA | NA | NA |
| September | 66,948 | NA | NA | NA | NA |
| October | 64,264 | NA | NA | NA | NA |
| **10-Month Total** | **641,981** | **NA** | **NA** | **NA** | **NA** |
| **1989 10-Month Total** | **632,657** | **34,873** | **62,556** | **4,453** | **734,539** |
| **1988 10-Month Total** | **632,119** | **34,939** | **62,819** | **5,582** | **735,459** |

[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 1988 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: • **Electric Utilities, 1973 through September 1977**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 forward**— Energy Information Administration (EIA), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report." • **Coke Plants, 1973 through September 1977**— DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 through 1980**— EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." **1981 through 1984**— EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement." **1985 forward**— EIA, Form EIA-5, "Coke Plant Report," quarterly. • **Other Industrial, 1973 through September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*. **October 1977 through 1979**— EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants." **1980 forward**—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report." • **Residential and Commercial, 1973 through 1976**— DOI, BOM, *Minerals Yearbook*. **January through September 1977**— DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **October 1977 through 1979**— EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **1980 forward**— EIA, Form EIA-6, "Coal Distribution Report."

# 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 Year** | **156,376** | **3,420** | **10,438** | **170,234** | **33,133** | **203,367** |
| **1986 Year** | **161,806** | **2,992** | **10,429** | **175,226** | **32,093** | **207,319** |
| **1987 Year** | **170,797** | **3,884** | **10,777** | **185,459** | **28,321** | **213,780** |
| **1988** January | 163,561 | 3,942 | 10,058 | 177,561 | 31,135 | 208,697 |
| February | 160,424 | 4,000 | 9,339 | 173,762 | 33,950 | 207,712 |
| March | 162,603 | 4,057 | 8,619 | 175,279 | 36,764 | 212,044 |
| April | 165,750 | 3,959 | 8,523 | 178,232 | 36,536 | 214,768 |
| May | 166,328 | 3,861 | 8,427 | 178,616 | 36,307 | 214,923 |
| June | 161,215 | 3,763 | 8,331 | 173,308 | 36,079 | 209,386 |
| July | 148,234 | 3,467 | 8,428 | 160,130 | 34,506 | 194,636 |
| August | 141,389 | 3,172 | 8,526 | 153,087 | 32,933 | 186,020 |
| September | 142,830 | 2,877 | 8,624 | 154,331 | 31,360 | 185,691 |
| October | 147,130 | 2,964 | 8,672 | 158,766 | 31,046 | 189,812 |
| November | 150,016 | 3,051 | 8,720 | 161,786 | 30,732 | 192,518 |
| December | 146,507 | 3,137 | 8,768 | 158,413 | 30,418 | 188,831 |
| **1989** January | 142,403 | 3,264 | 8,073 | 153,741 | 32,076 | 185,816 |
| February | 137,354 | 3,391 | 7,378 | 148,124 | 33,734 | 181,858 |
| March | 138,949 | 3,518 | 6,683 | 149,150 | 35,392 | 184,542 |
| April | 144,596 | 3,466 | 6,679 | 154,741 | 33,759 | 188,500 |
| May | 150,970 | 3,413 | 6,675 | 161,059 | 32,127 | 193,185 |
| June | 148,968 | 3,361 | 6,671 | 159,001 | 30,494 | 189,495 |
| July | 134,859 | 3,476 | 7,054 | 145,389 | 29,946 | 175,335 |
| August | 133,932 | 3,591 | 7,436 | 144,959 | 29,397 | 174,356 |
| September | 135,629 | 3,707 | 7,818 | 147,154 | 28,848 | 176,002 |
| October | 142,270 | 3,426 | 7,666 | 153,362 | 28,899 | 182,261 |
| November | 147,131 | 3,145 | 7,515 | 157,790 | 28,949 | 186,739 |
| December | 135,894 | 2,864 | 7,363 | 146,120 | 29,000 | 175,120 |
| **1990** January | 138,358 | 3,123 | 7,237 | 148,718 | 30,945 | 179,663 |
| February | 143,413 | 3,382 | 7,110 | 153,905 | 32,891 | 186,796 |
| March | 150,808 | 3,641 | 6,984 | 161,433 | 34,836 | 196,270 |
| April | 156,318 | 3,600 | 7,126 | 167,044 | 35,436 | 202,480 |
| May | 163,233 | 3,559 | 7,268 | 174,060 | 36,035 | 210,096 |
| June | 162,745 | 3,518 | 7,410 | 173,673 | 36,635 | 210,308 |
| July | 154,979 | NA | NA | NA | NA | NA |
| August | 151,996 | NA | NA | NA | NA | NA |
| September | 149,120 | NA | NA | NA | NA | NA |
| October | 154,857 | NA | NA | NA | NA | NA |

[a]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 1988 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding.

Sources: • **Electric Utilities, 1973 through September 1977**—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys.* **October 1977 forward**—Energy Information Administration (EIA), Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report." • **Coke Plants, 1973 through September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.* **October 1977 through 1980**—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual." **1981 through 1984**—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement." **1985 forward**—EIA, Form EIA-5, "Coke Plant Report," quarterly. • **Other Industrial, 1973 through September 1977**—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.* **October 1977 through 1979**—EIA, Form EIA-3, "Monthly Coal Consumption Report-Manufacturing Plants." **1980 forward**—EIA, Form EIA-3, "Quarterly Coal Consumption Report-Manufacturing Plants," and Form EIA-6, "Coal Distribution Report." • **Residential and Commercial, 1973 through 1976**—DOI, BOM, *Minerals Yearbook.* **January through September 1977**—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **October 1977 through 1979**—EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks." **1980 forward**—EIA, Form EIA-6, "Coal Distribution Report." • **Producers and Distributors**—EIA, Form EIA-6, "Coal Distribution Report."

# Coal 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 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. 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 EIA's *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:** Coal consumption data are reported by major end-use sector.

- Electric Utilities--Both monthly and quarterly consumption data for electric utility plants are directly from reported data.
- Coke Plants--Prior to 1980, monthly coke plant consumption data were directly from reported data. From 1980 forward, coke plant consumption estimates were derived by proportioning reported quarterly data using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in January 1988, monthly coke plant consumption estimates are derived from the reported quarterly data using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.
- Other Industrial--Prior to 1978, monthly consumption data for the other industrial sector (i.e., all industrial users minus coke plants) were 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 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. From 1980 forward, monthly figures were estimated by proportioning quarterly data using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption data were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts were 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 were included where appropriate. Starting in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data using ratios derived from industrial production indices published by the Board of Governors of the Federal Reserve System. Indices for six major industry groups are used as the basis for calculating the ratios: foods (SIC 20); paper and products (SIC 26); chemicals and products (SIC 28); petroleum products (SIC 29); clay, glass, and stone products (SIC 32); and primary metals (SIC 33). The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices, using the 1977 proportion as the weights.
- Residential and Commercial--Prior to 1980, monthly consumption estimates for the residential and commercial sector were derived by using reported data to modify baseline figures developed by the Bureau of Mines. From 1980 forward, monthly estimates were derived by proportioning reported quarterly data using the ratios of monthly-to-quarterly consumption data 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 data were directly from reported data and were defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6. Beginning in January 1988, monthly residential and commercial consumption estimates are derived from reported quarterly data using monthly national average population

weighted heating/cooling degree-days obtained from the National Oceanic and Atmospheric Administration. The monthly ratios are the monthly national sum of heating and cooling degree-days as a proportion of the quarterly national sum. Quarterly consumption data are directly from reported data.

**3. Stocks:** Coal stocks data are reported by major end-use sector.

- Electric Utilities--Both monthly and quarterly stocks at electric utility plants are directly from reported data.
- Coke Plants--Prior to 1980, monthly stocks at coke plants were directly from reported data. From 1980 forward, coke plant stocks are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are directly from data reported on Form EIA-5.
- Other Industrial--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. For 1978 through 1982, monthly estimates were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. From 1983 forward, other industrial coal stocks are estimated as indicated above for coke plants. Quarterly stocks are 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.
- Residential and Commercial--Prior to 1980, monthly and quarterly stock data for the residential and commercial sector were directly from reported data. Monthly and quarterly stock data are not available for the residential and commercial sector after December 1979.
- Producers and Distributors--Quarterly stocks at producers and distributors are 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 directly from data reported monthly by the Bureau of the Census.

**5. Additional Information:** More information concerning coal production, consumption, and stocks data and estimation procedures may be obtained in EIA's *Quarterly Coal Report.*

# Section 7. Electric Utilities

During October 1990, electric utilities generated 225 billion kilowatthours of electricity, 2 percent[7] above the October 1989 generation level. Coal-fired generation totaled 130 billion kilowatthours, 7 percent higher than the October 1989 level. Nuclear generation totaled 43 billion kilowatthours, slightly below the level 1 year earlier. Natural gas-fired generation was 24 billion kilowatthours, 1 percent lower than the October 1989 level. Hydroelectric generation totaled 19 billion kilowatthours, 7 percent below the October 1989 level. Petroleum-fired generation totaled 7 billion kilowatthours, 13 percent below the level 1 year earlier.

Sales of electricity to all ultimate consumers in the United States in October 1990 were 222 billion kilowatthours, 5 percent above October 1989 sales. Sales to residential consumers during October 1990 were 70 billion kilowatthours, 7 percent above the level of sales during the previous year. Sales to industrial consumers totaled 81 billion kilowatthours in October 1990, 3 percent above the level in October 1989. Commercial sales were 63 billion kilowatthours, 7 percent above the amount sold to commercial consumers 1 year earlier. In October 1990, other sales totaled 8 billion kilowatthours, 3 percent above the October 1989 level.

Electric utility consumption of petroleum (excluding petroleum coke) during October 1990 was 12 million barrels, 15 percent below the October 1989 level. Coal consumption during October 1990 was 64 million short tons, 6 percent higher than consumption in October 1989. During October 1990, electric utilities consumed 256 billion cubic feet of natural gas, 2 percent above the October 1989 consumption level.

On October 31, 1990, electric utility stocks of all types of coal totaled 155 million short tons, 9 percent higher than the level on October 31, 1989. Stocks of petroleum (excluding petroleum coke) on October 31, 1990, totaled 78 million barrels, 9 percent above the level on October 31, 1989.

[7]Percentage changes are based on numbers shown in the following tables.

# 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 Total** | **1,402,128** | **100,202** | **291,946** | **383,691** | **281,149** | **10,724** | **2,469,841** |
| **1986 Total** | **1,385,831** | **136,585** | **248,508** | **414,038** | **290,844** | **11,503** | **2,487,310** |
| **1987 Total** | **1,463,781** | **118,493** | **272,621** | **455,270** | **249,695** | **12,267** | **2,572,127** |
| **1988** January | 137,845 | 16,090 | 16,237 | 44,658 | 22,033 | 1,033 | 237,897 |
| February | 126,267 | 11,890 | 16,530 | 42,246 | 19,105 | 898 | 216,937 |
| March | 120,034 | 9,769 | 19,744 | 43,912 | 19,514 | 1,041 | 214,013 |
| April | 109,135 | 7,494 | 19,241 | 40,067 | 19,104 | 959 | 196,000 |
| May | 115,195 | 7,211 | 23,155 | 40,650 | 21,238 | 922 | 208,371 |
| June | 132,268 | 9,754 | 26,808 | 44,079 | 18,833 | 1,004 | 232,747 |
| July | 144,301 | 14,059 | 31,284 | 49,828 | 16,904 | 1,084 | 257,461 |
| August | 152,377 | 16,068 | 32,702 | 49,035 | 16,447 | 1,064 | 267,693 |
| September | 124,410 | 10,014 | 22,213 | 46,270 | 16,270 | 1,001 | 220,179 |
| October | 121,339 | 13,236 | 17,316 | 42,591 | 15,112 | 1,014 | 210,608 |
| November | 121,054 | 14,962 | 14,543 | 39,583 | 18,466 | 985 | 209,593 |
| December | 136,427 | 18,352 | 13,027 | 44,052 | 19,913 | 980 | 232,752 |
| **Total** | **1,540,653** | **148,900** | **252,801** | **526,973** | **222,940** | **11,984** | **2,704,250** |
| **1989** January | 134,968 | 15,333 | 13,876 | 46,328 | 20,930 | 961 | 232,396 |
| February | 127,194 | 17,748 | 16,550 | 38,725 | 18,620 | 874 | 219,711 |
| March | 126,706 | 16,668 | 19,928 | 39,636 | 22,642 | 1,000 | 226,580 |
| April | 115,271 | 11,569 | 22,451 | 33,495 | 24,077 | 886 | 207,749 |
| May | 118,956 | 9,940 | 23,595 | 38,339 | 28,049 | 942 | 219,820 |
| June | 128,454 | 12,591 | 24,546 | 42,976 | 25,881 | 945 | 235,394 |
| July | 138,467 | 12,081 | 30,211 | 52,331 | 22,670 | 977 | 256,737 |
| August | 141,710 | 10,983 | 29,548 | 54,948 | 20,187 | 959 | 258,336 |
| September | 126,730 | 10,072 | 25,381 | 44,837 | 18,919 | 909 | 226,848 |
| October | 122,212 | 8,262 | 24,524 | 43,558 | 20,076 | 956 | 219,587 |
| November | 124,154 | 11,343 | 17,971 | 43,399 | 21,186 | 927 | 218,980 |
| December | 147,030 | 21,652 | 16,377 | 50,784 | 21,823 | 972 | 258,637 |
| **Total** | **1,551,852** | **158,241** | **264,957** | **529,355** | **265,061** | **11,309** | **2,780,775** |
| **1990** January | 132,496 | 11,515 | 13,548 | 55,119 | 23,436 | 933 | 237,047 |
| February | 115,898 | 9,385 | 12,449 | 49,963 | 24,162 | 861 | 212,717 |
| March | 122,958 | 10,167 | 17,509 | 46,087 | 28,048 | 947 | 225,716 |
| April | 117,111 | 10,142 | 18,862 | 38,516 | 25,393 | 773 | 210,796 |
| May | 119,644 | 9,351 | 22,752 | 42,945 | 27,002 | 868 | 222,563 |
| June | 132,459 | 13,348 | 28,238 | 46,332 | 27,634 | 882 | 248,895 |
| July | 144,232 | 12,815 | 30,965 | 53,645 | 23,656 | 907 | 266,220 |
| August | 146,858 | 11,021 | 32,584 | 55,761 | 21,046 | 915 | 268,186 |
| September | 135,248 | 7,981 | 28,190 | 48,405 | 16,969 | 875 | 237,668 |
| October | 130,176 | 7,224 | 24,381 | 43,395 | 18,603 | 905 | 224,686 |
| **10-Month Total** | **1,297,081** | **102,951** | **229,480** | **480,168** | **235,949** | **8,866** | **2,354,495** |
| **1989 10-Month Total** | **1,280,668** | **125,246** | **230,609** | **435,172** | **222,052** | **9,410** | **2,303,158** |
| **1988 10-Month Total** | **1,283,172** | **115,585** | **225,231** | **443,338** | **184,561** | **10,019** | **2,261,905** |

[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 FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-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)

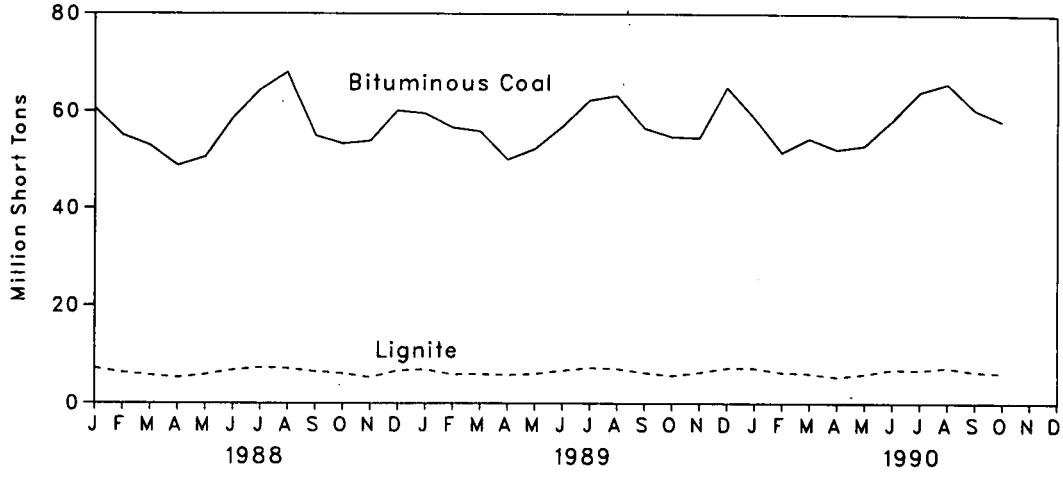
| | Residential | | Commercial | | Industrial | | Other[b] | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series |
| **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** | **582,621** | **840,588** | **837,836** | **81,849** | **85,248** | **2,278,372** | **2,285,796** |
| **1985 Total** | **790,977** | **793,934** | **608,968** | **605,989** | **824,523** | **836,772** | **85,075** | **87,279** | **2,309,543** | **2,323,974** |
| **1986 Total** | **817,663** | **819,088** | **641,469** | **630,520** | **808,292** | **830,531** | **83,409** | **88,615** | **2,350,835** | **2,368,753** |
| **1987 Total** | **849,613** | **850,410** | **673,707** | **660,433** | **845,266** | **858,233** | **86,854** | **88,196** | **2,455,440** | **2,457,272** |
| **1988** January | 89,508 | | 57,543 | | 70,989 | | 6,881 | | 224,921 | |
| February | 80,232 | | 55,468 | | 71,750 | | 6,797 | | 214,247 | |
| March | 71,406 | | 53,886 | | 72,487 | | 6,577 | | 204,356 | |
| April | 61,390 | | 52,272 | | 71,794 | | 6,385 | | 191,840 | |
| May | 57,569 | | 52,911 | | 73,782 | | 6,438 | | 190,700 | |
| June | 68,775 | | 60,177 | | 76,255 | | 6,941 | | 212,148 | |
| July | 87,007 | | 66,067 | | 76,304 | | 7,246 | | 236,625 | |
| August | 94,207 | | 68,374 | | 79,611 | | 7,370 | | 249,561 | |
| September | 77,531 | | 63,159 | | 77,573 | | 7,159 | | 225,421 | |
| October | 63,761 | | 57,358 | | 76,560 | | 6,982 | | 204,661 | |
| November | 63,629 | | 53,889 | | 74,147 | | 6,654 | | 198,319 | |
| December | 77,111 | | 56,607 | | 74,500 | | 6,933 | | 215,151 | |
| **Total** | **892,125** | **892,866** | **697,711** | **699,100** | **895,751** | **896,498** | **82,362** | **89,598** | **2,567,949** | **2,578,062** |
| **1989** January | 85,075 | | 58,324 | | 74,590 | | 7,597 | | 225,587 | |
| February | 78,158 | | 56,433 | | 73,175 | | 7,190 | | 214,956 | |
| March | 77,215 | | 57,453 | | 74,448 | | 7,484 | | 216,600 | |
| April | 64,698 | | 55,210 | | 74,923 | | 7,094 | | 201,926 | |
| May | 61,108 | | 56,428 | | 77,119 | | 7,278 | | 201,933 | |
| June | 71,675 | | 62,969 | | 79,379 | | 7,758 | | 221,781 | |
| July | 85,596 | | 67,624 | | 79,011 | | 8,033 | | 240,263 | |
| August | 86,143 | | 68,187 | | 81,240 | | 8,046 | | 243,615 | |
| September | 78,725 | | 65,532 | | 79,845 | | 7,824 | | 231,926 | |
| October | 65,136 | | 59,352 | | 79,421 | | 7,592 | | 211,500 | |
| November | 64,844 | | 56,716 | | 76,788 | | 7,394 | | 205,742 | |
| December | 85,605 | | 61,001 | | 76,437 | | 7,777 | | 230,820 | |
| **Total** | **903,979** | **NA** | **725,229** | **NA** | **926,376** | **NA** | **91,066** | **NA** | **2,646,651** | **NA** |
| **1990** January | 95,225 | | 62,582 | | 74,454 | | 8,012 | | 240,273 | |
| February | 74,348 | | 57,159 | | 73,976 | | 7,542 | | 213,026 | |
| March | 71,633 | | 58,148 | | 76,157 | | 7,506 | | 213,444 | |
| April | 65,032 | | 56,552 | | 75,597 | | 7,305 | | 204,486 | |
| May | 62,715 | | 59,049 | | 78,103 | | 7,697 | | 207,564 | |
| June | 73,574 | | 64,701 | | 79,567 | | 7,885 | | 225,727 | |
| July | 90,611 | | 71,064 | | 80,536 | | 8,616 | | 250,826 | |
| August | 88,553 | | 71,357 | | 83,465 | | 8,460 | | 251,834 | |
| September | 85,329 | | 69,210 | | 80,723 | | 8,005 | | 243,268 | |
| October | 69,516 | | 63,279 | | 81,427 | | 7,795 | | 222,016 | |
| **10-Month Total** | **776,535** | | **633,101** | | **784,005** | | **78,823** | | **2,272,465** | |
| **1989 10-Month Total** | **753,530** | | **607,512** | | **773,151** | | **75,895** | | **2,210,089** | |
| **1988 10-Month Total** | **751,385** | | **587,214** | | **747,105** | | **68,775** | | **2,154,479** | |

[a]Electricity sales to all ultimate consumers.
[b]Includes sales of electricity to Government, railways, street lighting authorities, and sales not included elsewhere.
[c]Annual totals are the sums of the monthly values.
R=Revised data. NA=Not available.

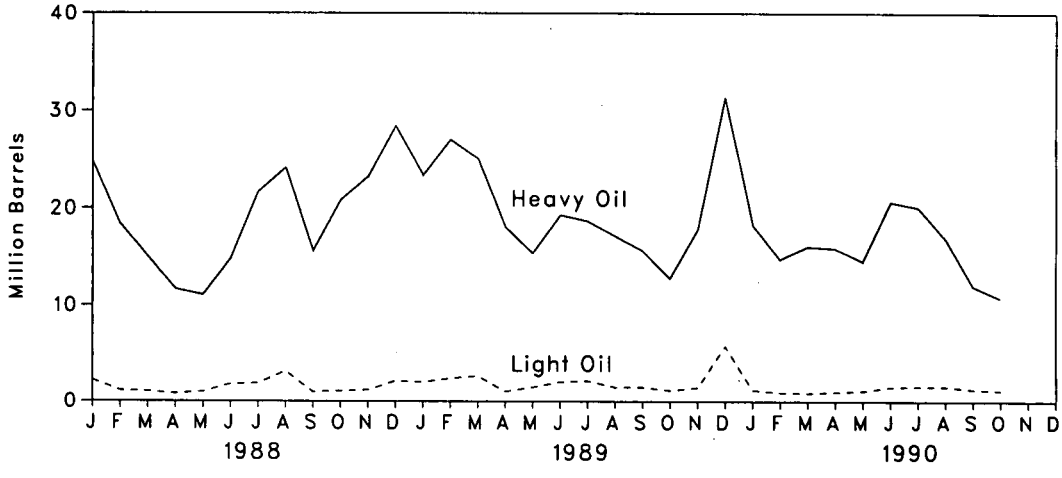
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: **Monthly Series:** • 1973 through September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • October 1977 through February 1980: Energy Information Administration (EIA), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • March 1980 through 1982: Federal Energy Regulatory Commission, Form FERC-5, "Electric Utility Company Monthly Statement." • 1983 through 1986: EIA, Form EIA-826, "Electric Utility Company Monthly Statement." • 1987 forward: EIA, Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." • Data through 1988 reflect revisions received on subsequent form submissions. **Annual Series:** EIA, Form EIA-861, "Annual Electric Utility Report."

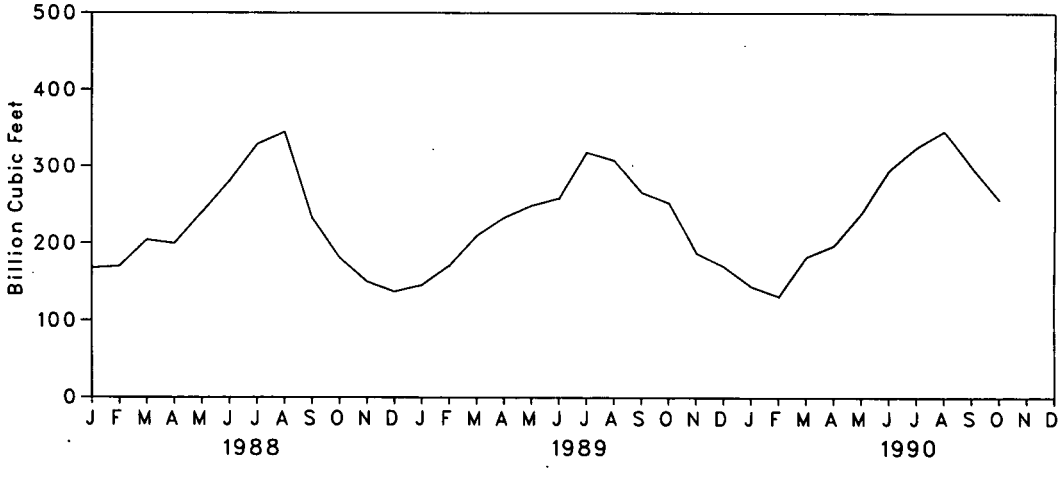
## Figure 7.1 Coal Consumed to Produce Electricity




## 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

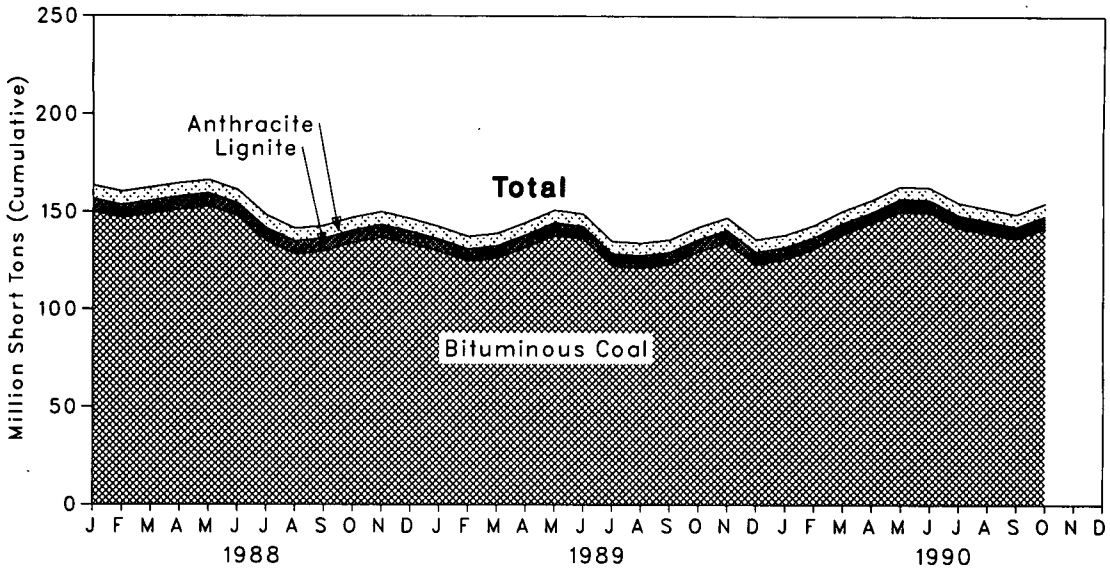
| | Coal | | | | Petroleum | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Anthracite | Bituminous Coal | Lignite | Total | Heavy Oil[a] | Light Oil[b] | Total Liquids | Petroleum Coke | Natural Gas[c] |
| | Thousand Short Tons | | | | Thousand Barrels | | | Thousand Short Tons | Million Cubic 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 Total** | **1,033** | **631,885** | **60,923** | **693,841** | **158,779** | **14,635** | **173,414** | **231** | **3,044,083** |
| **1986 Total** | **829** | **616,134** | **68,093** | **685,056** | **216,156** | **14,326** | **230,482** | **313** | **2,602,370** |
| **1987 Total** | **972** | **647,824** | **69,098** | **717,894** | **184,011** | **15,367** | **199,378** | **348** | **2,844,051** |
| **1988** January | 77 | 60,602 | 7,171 | 67,850 | 24,801 | 2,299 | 27,101 | 24 | 167,607 |
| February | 85 | 55,053 | 6,263 | 61,401 | 18,382 | 1,137 | 19,518 | 27 | 169,688 |
| March | 92 | 52,891 | 5,775 | 58,758 | 15,014 | 1,045 | 16,058 | 36 | 204,042 |
| April | 87 | 48,791 | 5,258 | 54,135 | 11,632 | 805 | 12,438 | 33 | 199,394 |
| May | 88 | 50,595 | 5,847 | 56,529 | 11,024 | 998 | 12,022 | 33 | 239,871 |
| June | 74 | 58,495 | 6,774 | 65,343 | 14,783 | 1,857 | 16,640 | 42 | 280,490 |
| July | 99 | 64,340 | 7,309 | 71,749 | 21,638 | 1,943 | 23,581 | 47 | 328,088 |
| August | 106 | 67,991 | 7,156 | 75,253 | 24,097 | 3,207 | 27,304 | 41 | 344,214 |
| September | 86 | 54,936 | 6,519 | 61,540 | 15,594 | 1,004 | 16,598 | 31 | 232,665 |
| October | 83 | 53,316 | 6,162 | 59,561 | 20,780 | 1,100 | 21,880 | 30 | 181,673 |
| November | 80 | 53,879 | 5,346 | 59,305 | 23,198 | 1,202 | 24,400 | 31 | 150,432 |
| December | 108 | 60,159 | 6,681 | 66,948 | 28,383 | 2,173 | 30,556 | 36 | 137,449 |
| **Total** | **1,063** | **681,048** | **76,260** | **758,372** | **229,327** | **18,769** | **248,096** | **409** | **2,635,613** |
| **1989** January | 98 | 59,559 | 6,962 | 66,619 | 23,325 | 2,053 | 25,379 | 47 | 145,552 |
| February | 75 | 56,593 | 5,945 | 62,613 | 26,977 | 2,426 | 29,403 | 33 | 170,969 |
| March | 82 | 55,838 | 5,986 | 61,906 | 25,019 | 2,690 | 27,709 | 35 | 209,343 |
| April | 96 | 50,045 | 5,789 | 55,929 | 18,058 | 1,044 | 19,102 | 38 | 233,116 |
| May | 98 | 52,252 | 6,009 | 58,359 | 15,358 | 1,520 | 16,879 | 36 | 248,869 |
| June | 75 | 56,829 | 6,719 | 63,623 | 19,253 | 2,070 | 21,322 | 38 | 258,343 |
| July | 97 | 62,306 | 7,302 | 69,705 | 18,643 | 2,180 | 20,822 | 58 | 318,005 |
| August | 95 | 63,256 | 7,121 | 70,471 | 17,133 | 1,530 | 18,663 | 58 | 307,804 |
| September | 81 | 56,513 | 6,295 | 62,889 | 15,642 | 1,526 | 17,168 | 54 | 266,052 |
| October | 87 | 54,755 | 5,699 | 60,541 | 12,807 | 1,180 | 13,987 | 39 | 252,494 |
| November | 85 | 54,518 | 6,294 | 60,896 | 17,762 | 1,484 | 19,247 | 33 | 187,381 |
| December | 81 | 64,971 | 7,215 | 72,267 | 31,374 | 5,781 | 37,156 | 50 | 169,975 |
| **Total** | **1,049** | **687,436** | **77,335** | **765,820** | **241,351** | **25,485** | **266,836** | **517** | **2,767,903** |
| **1990** January | 92 | 58,748 | 7,220 | 66,060 | 18,294 | 1,234 | 19,528 | 40 | 143,634 |
| February | 85 | 51,605 | 6,313 | 58,003 | 14,769 | 974 | 15,743 | 62 | 131,273 |
| March | 91 | 54,425 | 6,101 | 60,616 | 16,068 | 912 | 16,979 | 62 | 182,435 |
| April | 81 | 52,203 | 5,376 | 57,661 | 15,882 | 1,035 | 16,917 | 61 | 196,830 |
| May | 90 | 52,964 | 5,988 | 59,042 | 14,573 | 1,146 | 15,720 | 77 | 239,415 |
| June | 90 | 58,184 | 6,892 | 65,167 | 20,601 | 1,555 | 22,156 | 66 | 295,305 |
| July | 96 | 64,103 | 6,821 | 71,020 | 20,035 | 1,614 | 21,649 | 74 | 324,965 |
| August | 93 | 65,790 | 7,317 | 73,200 | 16,835 | 1,618 | 18,453 | 72 | 346,438 |
| September | 84 | 60,409 | 6,455 | 66,948 | 12,037 | 1,318 | 13,354 | 79 | 299,595 |
| October | 82 | 58,002 | 6,181 | 64,264 | 10,771 | 1,186 | 11,957 | 86 | 256,481 |
| **10-Month Total** | **884** | **576,431** | **64,665** | **641,981** | **159,864** | **12,592** | **172,456** | **680** | **2,416,371** |
| **1989 10-Month Total** | **884** | **567,947** | **63,826** | **632,657** | **192,214** | **18,220** | **210,434** | **435** | **2,410,546** |
| **1988 10-Month Total** | **876** | **567,010** | **64,233** | **632,119** | **177,746** | **15,394** | **193,140** | **342** | **2,347,732** |

[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.

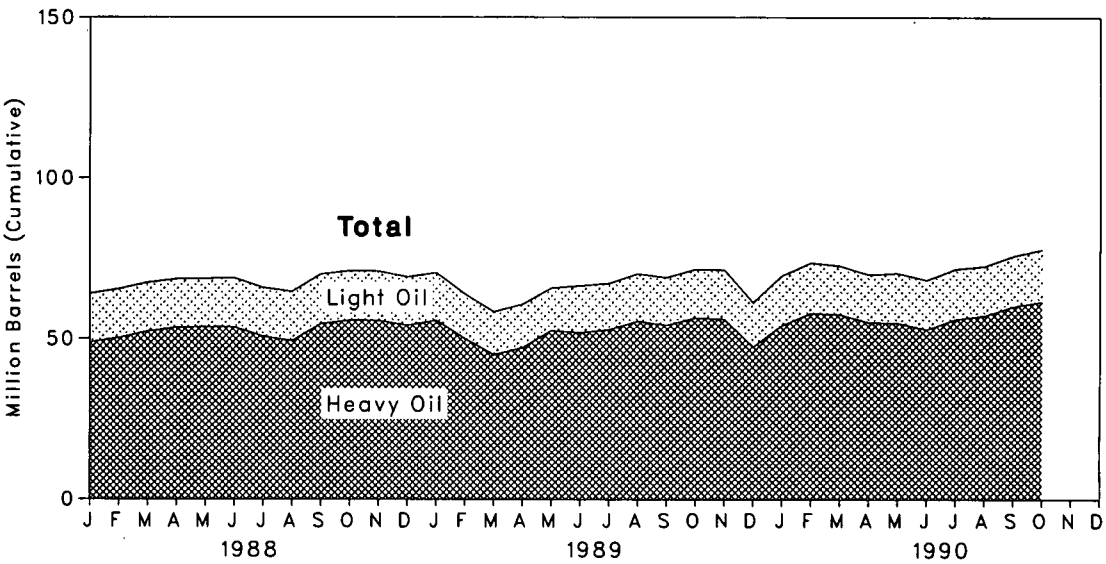
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding.

Sources: • 1973 through September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-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 Oil[a] | Light Oil[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 Year** | **7,189** | **142,144** | **7,043** | **156,376** | **57,304** | **16,386** | **73,689** | **49** |
| **1986 Year** | **7,099** | **148,665** | **6,042** | **161,806** | **56,841** | **16,269** | **73,111** | **40** |
| **1987 Year** | **6,940** | **156,670** | **7,187** | **170,797** | **55,069** | **15,759** | **70,827** | **51** |
| **1988** January | 6,905 | 149,999 | 6,657 | 163,561 | 48,872 | 15,142 | 64,014 | 56 |
| February | 6,864 | 146,977 | 6,583 | 160,424 | 50,168 | 15,311 | 65,479 | 55 |
| March | 6,821 | 148,955 | 6,826 | 162,603 | 52,197 | 15,256 | 67,453 | 58 |
| April | 6,780 | 152,121 | 6,848 | 165,750 | 53,375 | 15,182 | 68,557 | 54 |
| May | 6,732 | 152,743 | 6,853 | 166,328 | 53,579 | 15,131 | 68,709 | 56 |
| June | 6,785 | 147,752 | 6,677 | 161,215 | 53,533 | 15,370 | 68,902 | 77 |
| July | 6,659 | 134,933 | 6,641 | 148,234 | 50,681 | 15,228 | 65,910 | 73 |
| August | 6,614 | 128,139 | 6,635 | 141,389 | 49,308 | 15,410 | 64,718 | 63 |
| September | 6,601 | 129,707 | 6,522 | 142,830 | 54,636 | 15,526 | 70,162 | 82 |
| October | 6,611 | 134,148 | 6,371 | 147,130 | 55,830 | 15,344 | 71,174 | 83 |
| November | 6,595 | 136,882 | 6,539 | 150,016 | 55,752 | 15,332 | 71,085 | 90 |
| December | 6,561 | 133,434 | 6,512 | 146,507 | 54,187 | 15,099 | 69,285 | 86 |
| **1989** January | 6,513 | 129,802 | 6,088 | 142,403 | 55,845 | 14,809 | 70,654 | 58 |
| February | 6,494 | 124,643 | 6,217 | 137,354 | 50,063 | 13,980 | 64,043 | 56 |
| March | 6,475 | 126,107 | 6,367 | 138,949 | 45,142 | 13,370 | 58,512 | 62 |
| April | 6,447 | 131,672 | 6,477 | 144,596 | 47,237 | 13,607 | 60,844 | 102 |
| May | 6,416 | 137,787 | 6,767 | 150,970 | 52,595 | 13,279 | 65,873 | 64 |
| June | 6,427 | 136,113 | 6,428 | 148,968 | 51,922 | 14,621 | 66,544 | 77 |
| July | 6,413 | 122,221 | 6,226 | 134,859 | 52,883 | 14,405 | 67,289 | 81 |
| August | 6,440 | 121,266 | 6,227 | 133,932 | 55,608 | 14,724 | 70,332 | 69 |
| September | 6,437 | 122,901 | 6,291 | 135,629 | 54,346 | 14,825 | 69,171 | 92 |
| October | 6,437 | 129,668 | 6,164 | 142,270 | 56,660 | 15,090 | 71,750 | 107 |
| November | 6,423 | 134,233 | 6,475 | 147,131 | 56,258 | 15,332 | 71,590 | 115 |
| December | 6,403 | 123,001 | 6,490 | 135,894 | 47,586 | 13,824 | 61,410 | 105 |
| **1990** January | 6,360 | 125,829 | 6,169 | 138,358 | 54,332 | 15,458 | 69,790 | 114 |
| February | 6,315 | 131,176 | 5,922 | 143,413 | 58,136 | 15,622 | 73,758 | 108 |
| March | 6,294 | 138,636 | 5,879 | 150,808 | 57,706 | 15,117 | 72,823 | 104 |
| April | 6,298 | 144,537 | 5,482 | 156,318 | 55,331 | 14,811 | 70,142 | 93 |
| May | 6,315 | 150,362 | 6,557 | 163,233 | 55,149 | 15,459 | 70,608 | 102 |
| June | 6,376 | 149,945 | 6,424 | 162,745 | 53,106 | 15,338 | 68,444 | 110 |
| July | 6,420 | 142,208 | 6,352 | 154,979 | 56,280 | 15,606 | 71,886 | 109 |
| August | 6,441 | 139,349 | 6,206 | 151,996 | 57,336 | 15,356 | 72,692 | 113 |
| September | 6,486 | 136,607 | 6,027 | 149,120 | 60,196 | 15,677 | 75,873 | 95 |
| October | 6,513 | 141,961 | 6,383 | 154,857 | 61,740 | 16,170 | 77,910 | 83 |

[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 FPC-4, "Monthly Power Plant Report." • October 1977 through 1981: Federal Energy Regulatory Commission, Form FPC-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 Total** | **166,842** | **6,572** | **173,414** | **64,704** | **8,985** | **73,689** |
| **1986 Total** | **222,500** | **7,983** | **230,482** | **64,258** | **8,853** | **73,111** |
| **1987 Total** | **190,818** | **8,560** | **199,378** | **61,705** | **9,123** | **70,827** |
| **1988** January | 25,545 | 1,556 | 27,101 | 55,254 | 8,760 | 64,014 |
| February | 18,951 | 567 | 19,518 | 56,470 | 9,008 | 65,479 |
| March | 15,586 | 473 | 16,058 | 58,708 | 8,745 | 67,453 |
| April | 12,113 | 325 | 12,438 | 59,765 | 8,792 | 68,557 |
| May | 11,615 | 407 | 12,022 | 59,904 | 8,806 | 68,709 |
| June | 15,332 | 1,308 | 16,640 | 60,048 | 8,855 | 68,902 |
| July | 22,168 | 1,413 | 23,581 | 57,133 | 8,777 | 65,910 |
| August | 24,592 | 2,712 | 27,304 | 55,896 | 8,822 | 64,718 |
| September | 16,057 | 542 | 16,598 | 60,991 | 9,170 | 70,162 |
| October | 21,278 | 602 | 21,880 | 62,002 | 9,172 | 71,174 |
| November | 23,686 | 714 | 24,400 | 61,990 | 9,094 | 71,085 |
| December | 28,894 | 1,661 | 30,556 | 60,311 | 8,974 | 69,285 |
| **Total** | **235,817** | **12,279** | **248,096** | | | |
| **1989** January | 24,172 | 1,206 | 25,379 | 61,627 | 9,027 | 70,654 |
| February | 27,900 | 1,502 | 29,403 | 55,683 | 8,360 | 64,043 |
| March | 25,785 | 1,924 | 27,709 | 50,500 | 8,013 | 58,512 |
| April | 18,564 | 538 | 19,102 | 52,789 | 8,055 | 60,844 |
| May | 15,922 | 956 | 16,879 | 57,994 | 7,879 | 65,873 |
| June | 19,832 | 1,490 | 21,322 | 57,610 | 8,934 | 66,544 |
| July | 19,233 | 1,590 | 20,822 | 58,368 | 8,921 | 67,289 |
| August | 17,623 | 1,040 | 18,663 | 61,248 | 9,085 | 70,332 |
| September | 16,126 | 1,041 | 17,168 | 60,233 | 8,938 | 69,171 |
| October | 13,334 | 653 | 13,987 | 62,708 | 9,042 | 71,750 |
| November | 18,371 | 875 | 19,247 | 62,610 | 8,980 | 71,590 |
| December | 32,835 | 4,320 | 37,156 | 53,448 | 7,961 | 61,410 |
| **Total** | **249,701** | **17,136** | **266,836** | | | |
| **1990** January | 18,900 | 628 | 19,528 | 60,288 | 9,501 | 69,790 |
| February | 15,194 | 549 | 15,743 | 64,420 | 9,338 | 73,758 |
| March | 16,541 | 438 | 16,979 | 63,723 | 9,100 | 72,823 |
| April | 16,364 | 554 | 16,917 | 61,225 | 8,917 | 70,142 |
| May | 15,101 | 619 | 15,720 | 61,217 | 9,391 | 70,608 |
| June | 21,128 | 1,028 | 22,156 | 59,160 | 9,283 | 68,444 |
| July | 20,508 | 1,141 | 21,649 | 62,372 | 9,513 | 71,886 |
| August | 17,333 | 1,120 | 18,453 | 63,358 | 9,333 | 72,692 |
| September | 12,491 | 863 | 13,354 | 66,258 | 9,616 | 75,873 |
| October | 11,270 | 686 | 11,957 | 67,987 | 9,923 | 77,910 |
| **10-Month Total** | **164,830** | **7,626** | **172,456** | | | |
| **1989 10-Month Total** | **198,494** | **11,940** | **210,434** | | | |
| **1988 10-Month Total** | **183,237** | **9,904** | **193,140** | | | |

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

# Section 8. Nuclear

In October 1990, U.S. nuclear generating units produced a total of 43 net terawatthours (billion kilowatthours) of electricity, slightly less than in October 1989. Nuclear units generated at an average capacity factor of 58.5 percent, 1 percentage[8] point less than the level in October 1989. Nuclear power supplied 19.3 percent of the total utility-generated electricity in October 1990 compared with 19.8 percent in October 1989.

No low or full power licenses were issued by the Nuclear Regulatory Commission (NRC) during October 1990.

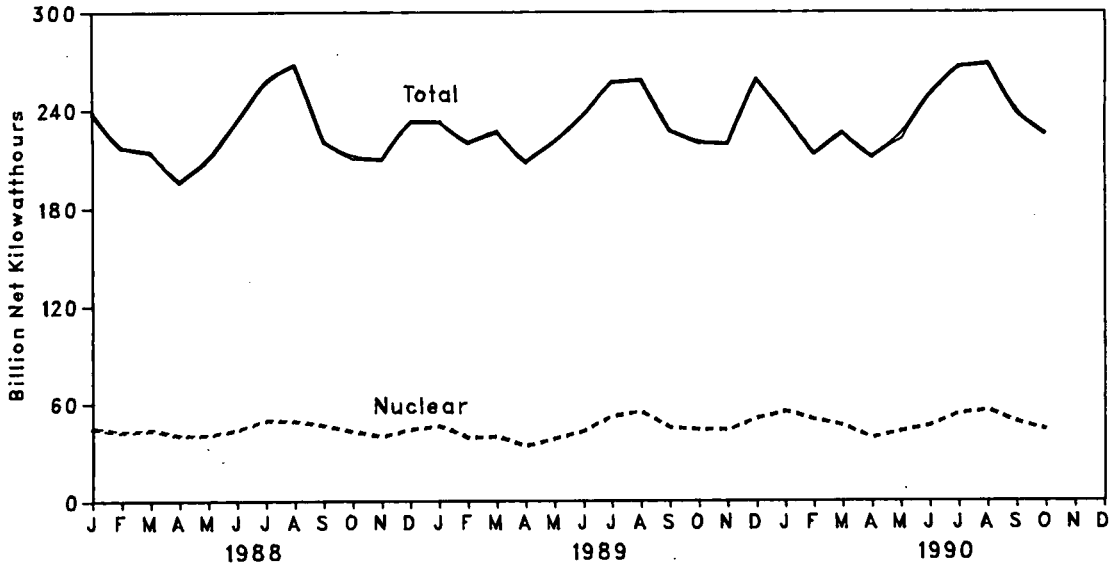
On October 31, 1990, there were 111 operable nuclear generating units in the United States, with a collective net summer generating capability of 100 million kilowatts of electricity. Of the 111 operable units, 34 units generated at less than 25 percent of capacity due to maintenance, refueling, or repair outage. Thirty of those units generated no electricity during the month.

Five units with full-power licenses have been shut down by the NRC for an extended period (1 year or more). The unit names, capacities, and dates of shutdown are as follow: Rancho Seco, (873 MWe), June 1989; Calvert Cliffs 2, (825 MWe), March 1989; Browns Ferry 1 and 3, (1,065 MWe each), March 1985; and Browns Ferry 2, (1,065 MWe), October 1984.

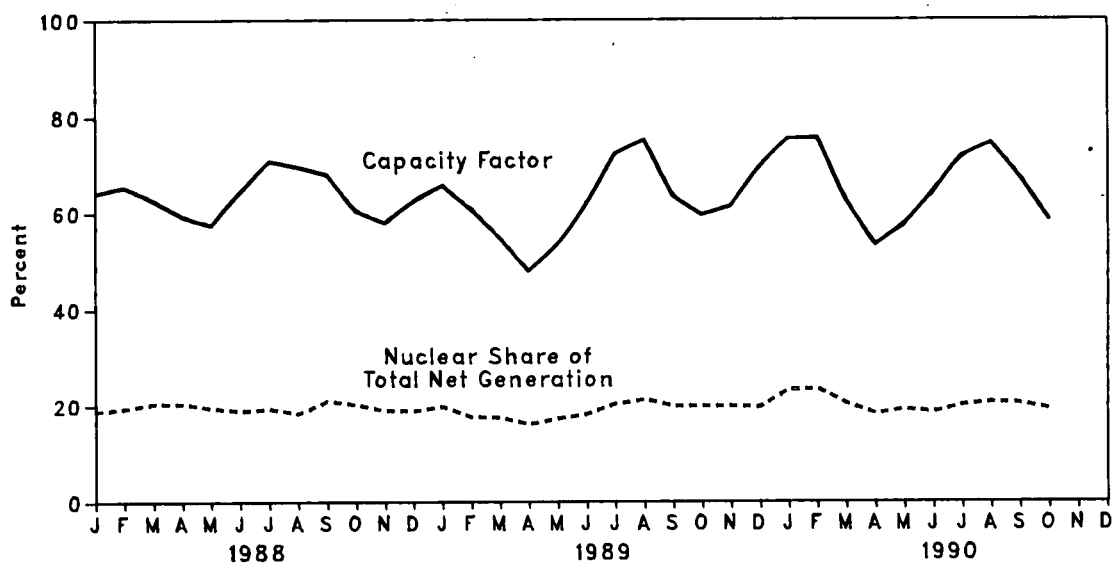
As of October 31, there were 120 domestic nuclear generating units in all stages of construction and operation, with an aggregate design capacity of 113 million net kilowatts.

[8]Percentage changes are based on numbers shown in the following tables.

## Figure 8.1 Nuclear and Total Net Generation of Electricity




## Figure 8.2 Nuclear Power Plants' Capacity Factor and Share of Total Net Generation



# Table 8.1 Nuclear Power Plant Operations

| | Operable Units[a] [b] | Nuclear Electricity Generation | Nuclear Portion of Domestic Electricity Generation | Net Summer Capability of Operable Units[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 Year** | **95** | **383,691** | **15.5** | **79.397** | **58.0** |
| **1986 Year** | **100** | **414,038** | **16.6** | **85.241** | **56.9** |
| **1987 Year** | **107** | **455,270** | **17.7** | **93.583** | **57.4** |
| **1988** January | 107 | 44,658 | 18.8 | 93.583 | 64.1 |
| February | 106 | 42,246 | 19.5 | 92.743 | 65.4 |
| March | 107 | 43,912 | 20.5 | 93.982 | 62.8 |
| April | 107 | 40,067 | 20.4 | 93.982 | 59.3 |
| May | 108 | 40,650 | 19.5 | 95.089 | 57.5 |
| June | 108 | 44,079 | 18.9 | 95.089 | 64.4 |
| July | 108 | 49,828 | 19.4 | 94.695 | 70.7 |
| August | 108 | 49,035 | 18.3 | 94.695 | 69.5 |
| September | 108 | 46,270 | 21.0 | 94.695 | 67.9 |
| October | 108 | 42,591 | 20.2 | 94.695 | 60.4 |
| November | 108 | 39,583 | 18.9 | 94.695 | 58.0 |
| December | 108 | 44,052 | 18.9 | 94.695 | 62.5 |
| **Year** | **108** | **526,973** | **19.5** | **94.695** | **63.5** |
| **1989** January | 108 | 46,328 | 19.9 | 94.695 | 65.8 |
| February | 108 | 38,725 | 17.6 | 94.695 | 60.9 |
| March | 110 | 39,636 | 17.5 | 97.031 | 54.9 |
| April | 110 | 33,495 | 16.1 | 97.031 | 48.0 |
| May | 110 | 38,339 | 17.4 | 97.031 | 53.1 |
| June | 110 | 42,976 | 18.3 | 97.031 | 61.5 |
| July | 110 | 52,331 | 20.4 | 97.323 | 72.3 |
| August | 110 | 54,948 | 21.3 | 98.161 | 75.2 |
| September | 110 | 44,837 | 19.8 | 98.161 | 63.4 |
| October | 110 | 43,558 | 19.8 | 98.161 | 59.6 |
| November | 110 | 43,399 | 19.8 | 98.161 | 61.4 |
| December | 110 | 50,784 | 19.6 | 98.161 | 69.5 |
| **Year** | **110** | **529,355** | **19.0** | **98.161** | **62.2** |
| **1990** January | 110 | 55,119 | 23.3 | 98.161 | 75.5 |
| February | 110 | 49,963 | 23.5 | 98.161 | 75.7 |
| March | 111 | 46,087 | 20.4 | 99.311 | 62.4 |
| April | 112 | 38,516 | 18.3 | 100.461 | 53.3 |
| May | 112 | 42,945 | 19.3 | 100.461 | 57.5 |
| June | 112 | 46,332 | 18.6 | 100.461 | 64.1 |
| July | 112 | 53,645 | 20.2 | 100.461 | 71.8 |
| August | 112 | 55,761 | 20.8 | 100.461 | 74.6 |
| September | 111 | 48,405 | 20.4 | 99.588 | 67.5 |
| October | 111 | 43,395 | 19.3 | 99.588 | 58.5 |
| **10-Month Total** | **111** | **480,168** | **20.4** | **99.588** | **66.0** |
| **1989 10-Month Total** | **110** | **435,172** | **18.9** | **98.161** | **61.5** |
| **1988 10-Month Total** | **108** | **443,338** | **19.6** | **94.695** | **64.2** |

[a]At end of period.
[b]See Note 1 at end of section.
[c]For the definition of net summer capability, 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. Totals may not equal sum of components due to independent rounding.
Sources: See end of section.

# Table 8.2 Status of Nuclear Generating Units[a]

| | Licensed for Operation | | Construction Permits | | On Order | Announced | Total | Total Design Capacity[d] |
|---|---|---|---|---|---|---|---|---|
| | Operable[b] | In Startup[c] | Granted | Pending | | | | |
| | Number of 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 Year** | **95** | **3** | **30** | **0** | **2** | **0** | **130** | **121** |
| **1986 Year** | **100** | **7** | **19** | **0** | **2** | **0** | **128** | **119** |
| **1987 Year** | **107** | **4** | **14** | **0** | **2** | **0** | **127** | **119** |
| **1988** January | 107 | 4 | 14 | 0 | 2 | 0 | 127 | 119 |
| February | 106 | 4 | 14 | 0 | 2 | 0 | 126 | 118 |
| March | 107 | 3 | 14 | 0 | 2 | 0 | 126 | 118 |
| April | 107 | 3 | 14 | 0 | 2 | 0 | 126 | 118 |
| May | 108 | 2 | 14 | 0 | 2 | 0 | 126 | 118 |
| June | 108 | 2 | 14 | 0 | 2 | 0 | 126 | 118 |
| July | 108 | 2 | 14 | 0 | 2 | 0 | 126 | 118 |
| August | 108 | 2 | 14 | 0 | 2 | 0 | 126 | 118 |
| September | 108 | 2 | 14 | 0 | [e] 0 | 0 | 124 | 116 |
| October | 108 | 2 | [f] 13 | 0 | 0 | 0 | 123 | 115 |
| November | 108 | 2 | 13 | 0 | 0 | 0 | 123 | 115 |
| December | 108 | 3 | 12 | 0 | 0 | 0 | 123 | 115 |
| **1989** January | 108 | 3 | 12 | 0 | 0 | 0 | 123 | 115 |
| February | 108 | 3 | 12 | 0 | 0 | 0 | 123 | 115 |
| March | 110 | 2 | 11 | 0 | 0 | 0 | 123 | 115 |
| April | [g] 110 | 1 | 11 | 0 | 0 | 0 | [g] 122 | 114 |
| May | 110 | 1 | 11 | 0 | 0 | 0 | 122 | 114 |
| June | 110 | 1 | 11 | 0 | 0 | 0 | 122 | 114 |
| July | 110 | 2 | 10 | 0 | 0 | 0 | 122 | 114 |
| August | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| September | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| October | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| November | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| December | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| **1990** January | 110 | 1 | 10 | 0 | 0 | 0 | 121 | 113 |
| February | 110 | 2 | 9 | 0 | 0 | 0 | 121 | 113 |
| March | 111 | 1 | 9 | 0 | 0 | 0 | 121 | 113 |
| April | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| May | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| June | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| July | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| August | 112 | 0 | 9 | 0 | 0 | 0 | 121 | 113 |
| September | [h] 111 | 0 | 9 | 0 | 0 | 0 | [h] 120 | 113 |
| October | 111 | 0 | 9 | 0 | 0 | 0 | 120 | 113 |

[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.
[e]On the December 31, 1988, Form EIA-254 "Semiannual Report on Status of Reactor Construction," the two planned units were reported canceled as of September 1988.
[f]Seabrook 2 has been deleted from this category because its construction permit expired in October 1988.
[g]Shoreham received a full-power license in April 1989. Since the unit is not currently scheduled to operate, it is deleted from the total.
[h]As of September 1990, Rancho Seco has been deleted from this category. Since the unit is not currently scheduled to operate, it also has been deleted from the total.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Nuclear Notes and Sources

## Notes

**1. Operable Units:** Nuclear generating units that have been issued a full-power license by the Nuclear Regulatory Commission (NRC).

**Exceptions:** The Shippingport (60 MWe) and the Hanford-N (840 MWe) nuclear units were included in the operable units until 1982 and 1988, respectively. The Shippingport unit was excluded from the operable category during March 1974 through August 1977, due to a major core modification outage. Hanford-N, an unlicensed unit used for defense material production, was included in the operable category because power was produced as by-product and sold commercially. Three Mile Island 2 (880 MWe) experienced a major accident in 1979 and, although that unit still retains its operating license and site cleanup continues, there is no plan to restart it. Therefore, it has not been included in the operable category since March 1979. Although Shoreham received a full-power license in April 1989, the unit is not currently scheduled to operate and, therefore, has not been included in the operable category. Rancho Seco, an 873 MWe unit, was shut down by the Sacramento Municipal Utility District (SMUD) in June 1989 following a referendum on its continued operation. Since there are currently no plans to operate it as a nuclear unit, it is no longer included as an operable unit but is identified as a unit shut down for an extended period. As soon as SMUD and the NRC formalize the plant's official retirement, it will be noted as such in this report. The Department of Energy-operated Experimental Breeder Reactor 2 (EBR-2) unit is not a commercial reactor and is therefore not included in the operable category.

In addition, six units have been retired and therefore removed from the operable category. Those units are: Peach Bottom 1 (40 MWe) and Indian Point 1 (265 MWe), both retired in 1974; Humboldt Bay (65 MWe), officially retired in 1976; Dresden 1 (200 MWe), retired in August 1979; LaCrosse (51 MWe), retired in May 1987; and Fort Saint Vrain (217 MWe), retired in August 1989.

**2. Low-Power Testing:** The period of time between a plant's initial fuel loading date and the issuance of its full-power license. The maximum level of operation during this period is 5 percent of the unit's design thermal rating.

**3. Capacity:** Nuclear generating units may have more than one type of net capacity rating, including the following:

(a) Net Summer Capability--The steady hourly output that 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. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.

## Sources

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

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

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

**Capacity Factor:** Calculated by EIA, Office of Coal, Nuclear, Electric and Alternate Fuels.

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

**Total Design Capacity:** Nuclear Regulatory Commission, "Licensed Operating Reactors" (NUREG-0020); Nuclear Regulatory Commission, "Summary Information Report" (NUREG-0871); and EIA, Form EIA-860, "Annual Electric Generator Report."

# Section 9. Price

**Crude Oil.** The average price of domestic crude oil purchased at the wellhead was $30.86 per barrel in October 1990, 90 percent above the level in October 1989. The refiner acquisition cost of imported crude oil in October 1990 was $32.68 per barrel, 79 percent above the October 1989 level. The cost of domestic crude oil in October 1990 was $33.33, an increase of 83 percent over the October 1989 average.

**Motor Gasoline.** The national city average retail price of leaded regular gasoline at all types of stations was $1.35 per gallon in November 1990, 39 percent higher than the price in November 1989. The price of unleaded regular gasoline at all types of stations was $1.38 per gallon in November 1990, 38 percent higher than the price in November 1989. The price of unleaded premium gasoline averaged $1.56 per gallon in November 1990, 31 percent higher than the price in November 1989.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users in October 1990 was 61 cents per gallon, 19 percent higher than the previous month's price and 56 percent above the October 1989 average. The average resale price, excluding taxes, of residual fuel oil in October 1990 was 57 cents per gallon, 13 percent higher than the September 1990 average and 55 percent higher than the price 1 year earlier.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in October 1990 was $1.34 per gallon, 7 percent higher than the price in the previous month and 34 percent higher than the price in October 1989. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in October 1990 was $1.15 per gallon, 27 percent higher than the previous month's price and 81 percent above the October 1989 average.

**No. 2 Distillate Fuel Oil.** The October 1990 national average price, excluding taxes, of heating oil sold to residential customers was $1.25 per gallon, 10 percent above the October 1990 price and 46 percent higher than the October 1989 price. The average price of No. 2 fuel oil sold to all end users was $1.00 per gallon in October 1990, 14 percent above the October 1990 price and 61 percent higher than the October 1989 price.

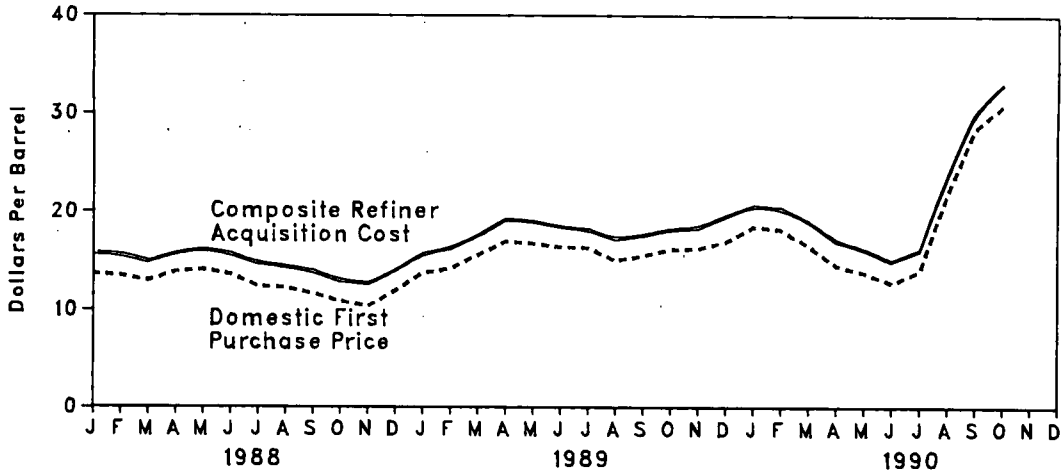
**Electricity.** Beginning with January 1986, there were new series of national average price estimates based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and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

The mean price of electricity sold to all ultimate consumers in the United States in October 1990 was 6.67 cents per kilowatthour, 2 percent above the October 1989 mean price. The price of electricity sold to residential consumers in October 1990 averaged 8.06 cents per kilowatthour, 2 percent higher than the price 1 year earlier. The price of electricity sold to commercial consumers averaged 7.58 cents per kilowatthour in October 1990, 1 percent above the October 1989 price. The price of electricity sold to other consumers in October 1990 averaged 6.28 cents per kilowatthour, 4 percent below the October 1989 price. The price of electricity sold to industrial users in October 1990 averaged 4.80 cents per kilowatthour, 2 percent above the price 1 year earlier.

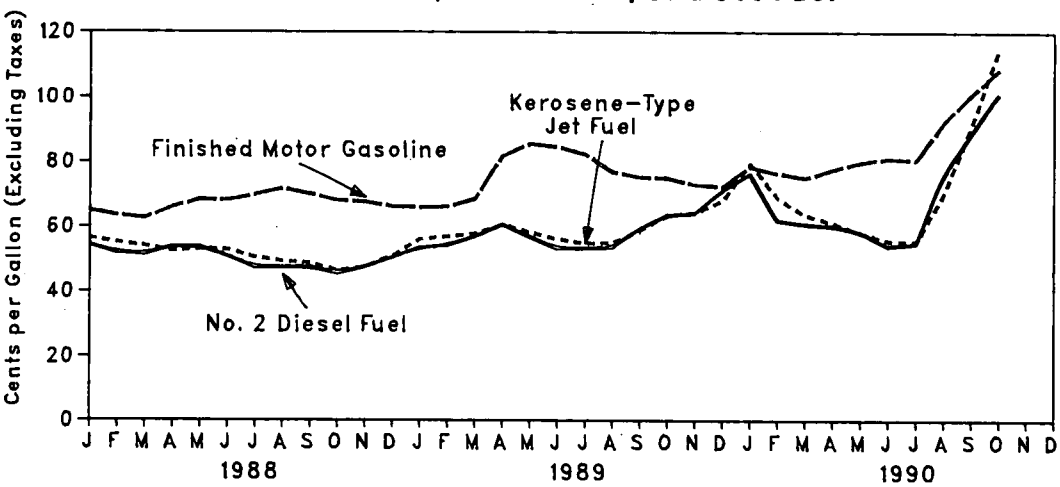
**Natural Gas.** In September 1990 (latest data available) the average wellhead price of natural gas was $1.59 per thousand cubic feet, 3 percent above the September 1989 price.

The average price of natural gas delivered to electric utility plants was $2.21 per thousand cubic feet in September 1990, 5 percent below the September 1989 price. The average price of natural gas used by residential consumers in October 1990 was $6.09 per thousand cubic feet, slightly higher than the October 1989 price. The average price of natural gas used by commercial consumers in October 1990 was $4.66 per thousand cubic feet, 1 percent above the October 1989 price. The average price of natural gas used by industrial consumers in October 1990 was $2.68 per thousand cubic feet, 3 percent below the October 1989 price.

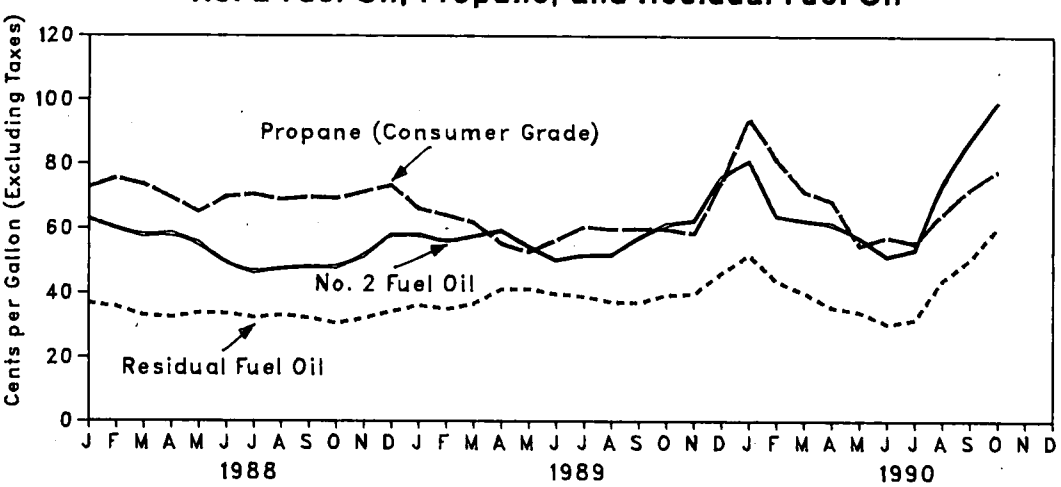
## Figure 9.1 Crude Oil Prices




## 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] | F.O.B. Cost of Imports[b] | Landed Cost of Imports[c] | Refiner Acquisition Cost[d] | | |
|---|---|---|---|---|---|---|
| | | | | Domestic | Imported | Composite |
| **1973 Average** | **3.89** | **• 5.21** | **• 6.41** | **4.17** | **4.08** | **4.15** |
| **1974 Average** | **6.87** | **10.91** | **12.32** | **7.18** | **12.52** | **9.07** |
| **1975 Average** | **7.67** | **11.18** | **12.70** | **8.39** | **13.93** | **10.38** |
| **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 Average** | **24.09** | **25.83** | **26.66** | **26.66** | **26.99** | **26.75** |
| **1986 Average** | **12.51** | **12.52** | **13.49** | **14.82** | **14.00** | **14.55** |
| **1987 Average** | **15.40** | **16.69** | **17.65** | **17.76** | **18.13** | **17.90** |
| **1988** January | 13.64 | 13.66 | 14.92 | 15.80 | 15.45 | 15.68 |
| February | 13.43 | 13.79 | 14.72 | 15.58 | 15.43 | 15.53 |
| March | 12.96 | 13.43 | 14.47 | 14.91 | 14.73 | 14.84 |
| April | 13.92 | 14.28 | 15.17 | 15.87 | 15.62 | 15.77 |
| May | 14.12 | 14.49 | 15.52 | 16.35 | 15.93 | 16.18 |
| June | 13.59 | 13.97 | 14.87 | 15.74 | 15.50 | 15.65 |
| July | 12.38 | 13.25 | 14.07 | 14.64 | 14.81 | 14.71 |
| August | 12.22 | 12.84 | 13.64 | 14.36 | 14.32 | 14.34 |
| September | 11.63 | 12.24 | 13.03 | 13.96 | 13.84 | 13.91 |
| October | 10.62 | 11.69 | 12.42 | 12.90 | 13.05 | 12.96 |
| November | 10.31 | 11.94 | 12.49 | 12.61 | 12.66 | 12.63 |
| December | 11.99 | 13.21 | 14.10 | 13.88 | 14.11 | 13.98 |
| **Average** | **12.58** | **13.25** | **14.08** | **14.74** | **14.56** | **14.67** |
| **1989** January | R 13.80 | 14.67 | R 15.68 | R 15.50 | R 16.04 | R 15.73 |
| February | R 14.24 | 15.49 | R 16.41 | 16.11 | R 16.61 | R 16.32 |
| March | R 15.65 | R 16.73 | R 17.47 | R 17.34 | 17.77 | R 17.52 |
| April | R 17.04 | 18.23 | 18.97 | R 18.91 | 19.59 | 19.22 |
| May | R 16.76 | R 17.51 | 18.33 | R 19.01 | R 19.05 | 19.03 |
| June | R 16.42 | 16.80 | 17.61 | 18.56 | 18.27 | 18.43 |
| July | 16.32 | 16.47 | 17.39 | R 18.32 | R 17.99 | R 18.18 |
| August | 15.01 | 16.12 | 16.83 | 17.23 | 17.23 | 17.23 |
| September | 15.58 | 16.49 | 17.28 | 17.70 | 17.62 | 17.66 |
| October | R 16.25 | 17.10 | R 17.93 | 18.20 | 18.29 | 18.24 |
| November | 16.30 | 17.34 | 18.16 | R 18.45 | 18.32 | 18.39 |
| December | R 17.01 | R 18.80 | R 19.54 | 19.16 | R 20.05 | 19.54 |
| **Average** | **R 15.86** | **16.89** | **17.68** | **R 17.87** | **18.08** | **17.97** |
| **1990** January | 18.50 | 18.84 | 19.82 | 20.75 | 20.51 | 20.64 |
| February | 18.18 | 18.01 | 18.97 | 20.75 | 19.84 | 20.35 |
| March | 16.58 | 16.91 | 17.96 | 19.32 | 18.94 | 19.14 |
| April | 14.52 | 14.94 | 15.98 | 17.37 | 16.71 | 17.06 |
| May | 13.82 | 14.57 | 15.36 | 16.46 | 16.03 | 16.26 |
| June | 12.79 | 13.81 | 14.93 | 15.07 | 14.89 | 14.98 |
| July | 14.02 | 16.52 | 17.65 | 15.87 | 16.45 | 16.15 |
| August | 21.85 | R 23.83 | R 24.64 | 23.00 | 24.26 | 23.57 |
| September | R 28.44 | R 28.96 | R 29.39 | 30.16 | R 29.82 | R 30.01 |
| October | 30.86 | 31.27 | 32.01 | 33.33 | 32.68 | 33.06 |

[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.
•Based on October, November, and December data only.
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 for the current month and for F.O.B. and Landed Cost of Imports for the current 2 months are preliminary. • F.O.B. and landed costs through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are the averages of the monthly prices, weighted by volumes.

Sources: See end of section.

# Table 9.2 F.O.B. 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] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average[d]** .. | **7.23** | **5.67** | **4.24** | **NA** | **7.81** | **3.25** | **NA** | **5.39** | **4.84** | **4.06** | **5.43** |
| **1974 Average** .... | **13.23** | **11.99** | **10.85** | **NA** | **12.44** | **10.17** | **NA** | **10.71** | **10.02** | **10.96** | **11.33** |
| **1975 Average** .... | **11.93** | **12.55** | **10.81** | **11.44** | **11.82** | **10.87** | **NA** | **11.04** | **10.86** | **11.18** | **11.34** |
| **1976 Average** .... | **13.05** | **12.76** | **11.61** | **12.22** | **13.08** | **11.69** | **13.09** | **11.32** | **11.92** | **12.06** | **12.23** |
| **1977 Average** .... | **14.36** | **13.57** | **12.67** | **13.42** | **14.44** | **12.37** | **14.11** | **12.68** | **13.19** | **13.13** | **13.29** |
| **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** | **27.20** | **31.11** | **35.82** | **28.53** | **34.58** | **24.78** | **34.24** | **31.61** | **32.25** |
| **1981 Average** .... | **39.09** | **35.93** | **(e)** | **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 Average** .... | **26.84** | **27.12** | **W** | **25.33** | **28.04** | **22.04** | **27.63** | **23.64** | **26.11** | **24.30** | **25.66** |
| **1986 Average** .... | **13.62** | **13.19** | **W** | **11.84** | **14.35** | **11.36** | **13.84** | **10.92** | **13.32** | **11.59** | **12.21** |
| **1987 Average** .... | **16.79** | **17.40** | **W** | **16.36** | **18.47** | **15.12** | **18.28** | **15.08** | **17.11** | **15.80** | **16.43** |
| **1988** January ..... | W | 16.62 | NA | 12.79 | 17.04 | 11.41 | 16.23 | 12.37 | 14.96 | 12.17 | 13.26 |
| February .... | W | 16.16 | NA | 12.91 | 15.80 | 12.78 | W | 12.31 | 14.59 | 13.16 | 13.73 |
| March ..... | W | 13.65 | NA | 11.81 | 15.72 | 12.90 | 14.68 | 12.67 | 13.82 | 13.18 | 13.80 |
| April ..... | W | 14.59 | NA | 13.65 | 16.10 | 12.77 | 15.20 | 13.44 | 14.70 | 13.37 | 14.23 |
| May ..... | W | 15.63 | NA | 13.68 | 16.06 | W | 16.10 | 13.54 | 14.91 | 13.61 | 14.44 |
| June ..... | W | 15.26 | NA | 12.82 | 15.60 | 12.75 | 15.32 | 13.80 | 14.17 | 13.23 | 14.12 |
| July ..... | W | 14.06 | NA | 12.17 | 15.14 | 11.27 | 14.43 | 13.18 | 13.57 | 12.23 | 13.40 |
| August ..... | W | 13.58 | NA | 12.37 | 14.93 | 10.15 | 14.86 | 12.65 | 13.07 | 11.57 | 12.72 |
| September | W | 12.84 | NA | 11.69 | 13.71 | 9.44 | W | 12.38 | 12.33 | 10.32 | 12.15 |
| October ..... | W | 11.47 | NA | 10.00 | 13.66 | W | 12.69 | 12.93 | 11.51 | 11.36 | 12.32 |
| November . | W | 11.48 | NA | 10.16 | 13.74 | W | W | 12.45 | 11.80 | 12.92 | 12.80 |
| December . | W | W | NA | 12.31 | 15.56 | W | 13.59 | 13.46 | 12.78 | 13.51 | 13.85 |
| **Average** .... | **W** | **13.81** | **NA** | **12.18** | **15.16** | **12.16** | **14.80** | **12.96** | **13.45** | **12.57** | **13.43** |
| **1989** January ..... | W | 14.52 | NA | 13.98 | 16.11 | W | W | 13.10 | R 15.05 | 14.91 | 14.77 |
| February .... | W | 17.14 | NA | 14.25 | 17.15 | W | 16.33 | 14.00 | 15.83 | 16.35 | 15.98 |
| March ..... | W | 17.05 | NA | 14.98 | 18.37 | W | W | 16.62 | 17.29 | 17.45 | 17.37 |
| April ..... | W | 17.78 | NA | 17.44 | 19.81 | W | W | 17.77 | R 18.75 | 16.85 | R 18.35 |
| May ..... | W | W | NA | R 16.95 | 18.60 | W | W | 16.78 | 17.97 | 15.98 | 17.28 |
| June ..... | W | 17.78 | NA | 16.62 | 17.68 | 15.54 | W | 15.42 | 17.12 | 16.01 | 16.49 |
| July ..... | W | 17.61 | NA | 16.41 | 17.67 | W | 17.66 | 14.34 | 16.74 | 15.66 | 16.02 |
| August ..... | W | W | NA | 15.22 | 17.25 | W | 17.11 | 15.82 | 16.08 | 15.91 | 16.36 |
| September | W | 16.37 | NA | 15.37 | 18.00 | W | 17.22 | 16.02 | 16.62 | 16.50 | 16.68 |
| October ..... | W | 16.35 | NA | 16.12 | 18.99 | W | 17.78 | 15.45 | 17.37 | R 17.05 | 17.20 |
| November . | W | 17.28 | NA | 16.44 | 19.11 | 18.09 | 18.37 | 15.56 | 17.45 | 17.53 | 17.52 |
| December . | W | W | NA | 17.74 | 19.93 | W | 19.57 | 19.32 | R 18.43 | R 18.70 | R 19.24 |
| **Average** .... | **W** | **17.01** | **NA** | **15.96** | **18.31** | **16.29** | **17.89** | **16.09** | **R 17.12** | **R 16.72** | **17.06** |
| **1990** January ..... | W | 19.25 | NA | 18.03 | 21.22 | W | 21.00 | 16.73 | 19.20 | 18.03 | 18.71 |
| February .... | W | 19.43 | NA | 16.68 | 20.41 | W | W | 16.01 | 18.36 | 16.64 | 18.11 |
| March ..... | W | 18.98 | NA | 16.24 | 18.41 | W | W | 15.95 | 16.82 | 14.98 | 16.85 |
| April ..... | W | 17.38 | NA | 13.30 | 16.79 | 12.37 | 16.13 | 15.57 | 14.77 | 13.24 | 15.10 |
| May ..... | W | 16.19 | NA | 12.11 | 16.50 | 12.97 | 15.69 | 14.60 | 14.39 | 12.82 | 14.78 |
| June ..... | W | 15.20 | NA | 10.68 | 15.58 | W | W | 13.11 | 13.92 | 14.63 | 14.58 |
| July ..... | W | 15.06 | NA | 12.84 | 17.12 | W | 15.10 | 16.66 | 17.80 | 20.27 | 18.17 |
| August ..... | W | 19.12 | NA | 21.16 | 25.65 | R 29.70 | 21.18 | 24.33 | 22.63 | R 28.34 | R 25.39 |
| September | W | W | NA | R 27.04 | R 32.74 | W | 33.05 | R 27.71 | R 29.98 | R 27.38 | R 29.03 |
| October ..... | W | 35.40 | NA | 29.02 | 37.74 | 32.57 | 32.47 | 26.76 | 33.46 | 32.97 | 31.45 |

[a]The Free on Board (F.O.B.) 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. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."
[d]Based on October, November, and December data only.
[e]No crude oil was imported.
R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of individual company data.
Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil 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] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average[d]** .. | **8.39** | **5.33** | **7.22** | **6.48** | **NA** | **9.08** | **5.37** | **NA** | **5.99** | **6.99** | **5.92** | **6.85** |
| **1974 Average** .... | **13.97** | **11.48** | **13.20** | **12.48** | **W** | **13.16** | **11.63** | **NA** | **11.25** | **12.93** | **12.39** | **12.49** |
| **1975 Average** .... | **12.72** | **12.72** | **13.79** | **12.21** | **12.61** | **12.62** | **12.30** | **NA** | **11.65** | **12.66** | **12.71** | **12.70** |
| **1976 Average** .... | **13.81** | **13.57** | **13.82** | **12.82** | **12.64** | **13.80** | **13.04** | **W** | **11.80** | **13.31** | **13.31** | **13.32** |
| **1977 Average** .... | **15.20** | **14.21** | **14.63** | **13.80** | **13.75** | **15.25** | **13.61** | **14.83** | **13.13** | **14.56** | **14.30** | **14.35** |
| **1978 Average** .... | **14.91** | **14.50** | **14.64** | **13.88** | **13.54** | **14.86** | **13.92** | **14.53** | **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** | **29.33** | **31.80** | **37.05** | **30.02** | **35.88** | **25.86** | **36.02** | **32.97** | **33.56** |
| **1981 Average** .... | **40.49** | **32.16** | **37.57** | **(e)** | **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 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 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 Average** .... | **17.87** | **17.04** | **18.49** | **18.28** | **16.69** | **19.32** | **16.81** | **18.78** | **15.76** | **18.30** | **17.32** | **17.64** |
| **1988** January ..... | W | 14.58 | 17.99 | W | 13.16 | 17.91 | 13.23 | 17.59 | 13.10 | 16.28 | 14.16 | 14.61 |
| February .... | W | 14.37 | 17.44 | NA | 13.30 | 16.59 | 14.00 | 16.70 | 13.05 | 15.91 | 14.23 | 14.59 |
| March ..... | W | 13.66 | 15.13 | NA | 12.22 | 16.47 | 14.07 | 15.72 | 13.50 | 15.13 | 14.29 | 14.74 |
| April ..... | W | 14.39 | 16.30 | NA | 13.97 | 16.88 | 14.12 | 16.11 | 14.18 | 15.77 | 14.70 | 15.27 |
| May ..... | W | 15.12 | 16.94 | NA | 14.09 | 17.00 | 14.51 | 16.97 | 14.24 | 16.04 | 15.05 | 15.50 |
| June ..... | W | 14.67 | 16.40 | NA | 13.21 | 16.59 | 13.91 | 16.29 | 14.32 | 15.20 | 14.31 | 15.00 |
| July ..... | W | 13.31 | 15.11 | NA | 12.58 | 15.68 | 13.17 | 15.52 | 13.78 | 14.68 | 13.63 | 14.25 |
| August ..... | W | 13.13 | 14.90 | NA | 12.77 | 15.55 | 12.44 | 15.72 | 13.28 | 14.07 | 13.12 | 13.69 |
| September | W | 12.89 | 14.05 | NA | 12.09 | 14.49 | 11.78 | 14.38 | 12.96 | 13.21 | 12.05 | 12.92 |
| October ..... | W | 11.73 | 12.60 | NA | 10.42 | 14.32 | 11.93 | 13.33 | 13.58 | 12.66 | 11.99 | 12.74 |
| November . | W | 11.58 | 12.82 | NA | 10.56 | 14.49 | 12.79 | 14.02 | 13.12 | 12.51 | 12.44 | 12.87 |
| December . | W | 12.57 | 14.05 | NA | 12.81 | 16.31 | 14.62 | 15.12 | 14.34 | 13.97 | 14.44 | 14.67 |
| **Average** .... | **W** | **13.50** | **15.15** | **W** | **12.58** | **15.88** | **13.37** | **15.82** | **13.66** | **14.45** | **13.60** | **14.18** |
| **1989** January ..... | W | 14.47 | 16.30 | NA | 14.48 | 17.54 | R 15.90 | 17.17 | 14.05 | 15.88 | R 15.73 | R 15.98 |
| February .... | W | 14.97 | 17.86 | NA | 14.55 | 18.19 | 16.60 | R 17.88 | 14.62 | 17.22 | 16.52 | 16.74 |
| March ..... | W | 15.88 | 18.67 | NA | 15.37 | 19.32 | 17.00 | 17.90 | 17.30 | R 18.34 | 17.33 | 17.80 |
| April ..... | 22.13 | 17.42 | 19.11 | NA | 17.78 | 20.53 | R 18.95 | 20.00 | 18.45 | R 19.36 | R 18.90 | R 19.23 |
| May ..... | W | 17.81 | 19.37 | NA | R 17.35 | R 19.65 | 17.43 | 20.04 | 17.32 | 18.79 | 17.58 | 18.15 |
| June ..... | W | 17.69 | 18.92 | NA | 16.99 | 18.90 | R 16.84 | 18.74 | 16.13 | 17.96 | R 17.01 | 17.45 |
| July ..... | W | 17.89 | 18.92 | NA | 16.84 | R 18.68 | 16.72 | 18.81 | 15.13 | R 17.44 | 16.73 | R 17.13 |
| August ..... | W | 16.62 | W | NA | 15.62 | 18.01 | 16.42 | 18.20 | 16.50 | 16.89 | 16.45 | 16.86 |
| September | W | 17.00 | 17.82 | NA | 15.76 | 18.72 | 16.84 | 18.11 | 16.67 | 17.54 | 16.97 | 17.29 |
| October ..... | W | R 17.44 | 17.70 | NA | 16.52 | 19.82 | 17.90 | 18.71 | 16.13 | R 18.27 | 17.82 | 17.97 |
| November . | 18.55 | 17.08 | 18.16 | NA | 16.85 | 20.14 | 18.08 | 19.31 | 16.38 | 18.74 | 18.16 | 18.27 |
| December . | W | R 17.49 | 19.20 | NA | 18.01 | 20.98 | R 19.28 | 20.32 | 20.16 | R 19.84 | R 19.52 | R 19.93 |
| **Average** .... | **19.13** | **16.81** | **18.35** | **NA** | **16.35** | **19.19** | **R 17.34** | **18.74** | **16.78** | **18.08** | **17.41** | **17.78** |
| **1990** January ..... | W | 18.52 | 20.86 | NA | 18.48 | 22.36 | 19.18 | 21.56 | 17.86 | 20.50 | 19.36 | 19.79 |
| February .... | W | 18.52 | 21.21 | NA | 17.13 | 21.46 | 18.32 | W | 16.69 | 19.59 | 18.28 | 18.99 |
| March ..... | W | 17.30 | 20.65 | NA | 16.64 | 19.69 | 16.67 | 20.71 | 16.64 | 18.28 | 16.69 | 17.72 |
| April ..... | W | 15.65 | 18.98 | NA | 13.83 | 18.06 | 14.58 | 17.92 | 16.30 | 16.19 | 14.74 | 15.86 |
| May ..... | W | 15.52 | 17.83 | NA | 12.78 | 17.53 | 14.21 | 17.12 | 15.47 | 15.38 | 14.13 | 15.21 |
| June ..... | W | 14.00 | 16.43 | NA | 11.23 | 16.63 | 16.04 | 17.01 | 14.00 | 15.25 | 15.45 | 15.47 |
| July ..... | 17.67 | 15.03 | 15.96 | NA | 13.37 | 18.04 | 19.89 | 16.68 | 17.40 | 18.57 | 19.85 | 19.01 |
| August ..... | W | 21.26 | 20.23 | NA | 21.50 | 26.71 | R 28.72 | 23.80 | 25.08 | R 23.23 | R 26.94 | R 26.31 |
| September | W | 27.80 | 25.50 | NA | R 27.38 | R 33.40 | R 29.96 | R 30.26 | R 28.56 | R 29.39 | R 30.01 | R 30.16 |
| October ..... | W | 31.04 | 36.59 | NA | 29.47 | 38.00 | 32.17 | 33.72 | 27.33 | 35.27 | 32.39 | 32.08 |

[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. The cost of imports from the Neutral Zone between Kuwait and Saudi Arabia is included in the cost of imports from "Total OPEC."
[d]Based on October, November, and December data only.
[e]No crude oil was imported.
R=Revised data. NA=Not available. W=Value withheld to avoid disclosure of individual company data.
Notes: • Values for the current 2 months are preliminary. • Prices through 1980 reflect the period of reporting; prices after 1980 reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil 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 Taxes)

| | Leaded Regular | Unleaded Regular | Unleaded Premium | Average for All Types[b] |
|---|---|---|---|---|
| **1973 Average** | **38.8** | **NA** | **NA** | **NA** |
| **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** | **NA** | **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 Average** | **111.5** | **120.2** | **134.0** | **119.6** |
| **1986 Average** | **85.7** | **92.7** | **108.5** | **93.1** |
| **1987 Average** | **89.7** | **94.8** | **109.3** | **95.7** |
| **1988** January | 88.1 | 93.3 | 109.5 | 94.7 |
| February | 85.9 | 91.3 | 108.2 | 92.8 |
| March | 85.0 | 90.4 | 107.4 | 92.0 |
| April | 88.3 | 93.0 | 108.8 | 94.6 |
| May | 91.1 | 95.5 | 110.5 | 97.0 |
| June | 91.0 | 95.5 | 111.1 | 97.1 |
| July | 92.3 | 96.7 | 112.3 | 98.4 |
| August | 94.5 | 98.7 | 113.8 | 100.4 |
| September | 93.3 | 97.4 | 113.0 | 99.2 |
| October | 91.0 | 95.6 | 111.9 | 97.5 |
| November | 90.4 | 94.9 | 111.6 | 97.2 |
| December | 88.5 | 93.0 | 110.1 | 95.3 |
| **Average** | **89.9** | **94.6** | **110.7** | **96.3** |
| **1989** January | 87.6 | 91.8 | 109.1 | 94.4 |
| February | 88.6 | 92.6 | 110.0 | 95.5 |
| March | 90.7 | 94.0 | 111.5 | 97.4 |
| April | 104.7 | 106.5 | 122.1 | 109.8 |
| May | 109.8 | 111.9 | 127.8 | 115.2 |
| June | 109.3 | 111.4 | 127.8 | 115.0 |
| July | 107.5 | 109.2 | 126.4 | 113.2 |
| August | 103.4 | 105.7 | 123.3 | 109.6 |
| September | 100.7 | 102.9 | 121.3 | 107.3 |
| October | 100.1 | 102.7 | 120.9 | 107.1 |
| November | 97.5 | 99.9 | 118.7 | 104.6 |
| December | 96.1 | 98.0 | 117.0 | 103.0 |
| **Average** | **99.8** | **102.1** | **119.7** | **106.0** |
| **1990** January | 100.6 | 104.2 | 123.0 | 109.0 |
| February | 101.1 | 103.7 | 122.7 | 108.6 |
| March | 99.9 | 102.3 | 121.8 | 107.6 |
| April | 102.7 | 104.4 | 123.3 | 109.6 |
| May | 104.4 | 106.1 | 124.8 | 111.4 |
| June | 107.7 | 108.8 | 127.1 | 114.0 |
| July | 108.9 | 108.4 | 127.2 | 113.9 |
| August | 119.8 | 119.0 | 136.9 | 124.6 |
| September | 129.7 | 129.4 | 146.7 | 134.7 |
| October | 135.4 | 137.8 | 155.4 | 143.1 |
| November | 135.1 | 137.7 | 155.9 | 143.2 |

[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, gasohol is included in the average for all types and unleaded premium is weighted more heavily.
NA=Not available.
Notes: • Geographic coverage for 1973 through 1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas. • Annual values shown in this table are calculated by the Energy Information Administration as simple averages of monthly data.
Sources: See end of section.

# Table 9.5 Refiner Sales Prices of Residual Fuel Oil
(Cents per Gallon, Excluding Taxes)

| | 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 Average** | **61.0** | **64.4** | **56.0** | **58.2** | **57.7** | **61.0** |
| **1986 Average** | **32.8** | **37.2** | **28.9** | **31.7** | **30.5** | **34.3** |
| **1987 Average** | **41.2** | **44.7** | **36.2** | **39.6** | **38.5** | **42.3** |
| **1988** January | 36.5 | 41.9 | 27.7 | 31.8 | 32.4 | 36.7 |
| February | 35.2 | 40.2 | 27.4 | 31.4 | 32.2 | 35.6 |
| March | 32.4 | 36.9 | 25.0 | 29.0 | 28.6 | 32.9 |
| April | 33.5 | 35.8 | 27.5 | 30.2 | 30.2 | 32.4 |
| May | 34.0 | 36.8 | 29.8 | 32.2 | 31.5 | 33.9 |
| June | 32.9 | 35.3 | 29.0 | 32.3 | 31.0 | 33.6 |
| July | 31.8 | 35.7 | 27.7 | 30.0 | 29.5 | 32.3 |
| August | 32.7 | 36.0 | 28.4 | 30.7 | 30.6 | 33.2 |
| September | 31.4 | 34.7 | 28.4 | 30.1 | 29.5 | 32.1 |
| October | 29.2 | 34.4 | 23.5 | 26.7 | 25.6 | 30.5 |
| November | 31.9 | 36.1 | 24.5 | 27.2 | 28.0 | 32.3 |
| December | 35.6 | 38.8 | 27.0 | 28.6 | 29.8 | 34.3 |
| **Average** | **33.3** | **37.2** | **27.1** | **30.0** | **30.0** | **33.4** |
| **1989** January | R 38.8 | 41.7 | R 29.1 | R 30.5 | R 32.8 | R 35.4 |
| February | R 37.0 | 39.8 | R 30.5 | R 29.9 | R 33.2 | R 34.3 |
| March | R 38.8 | R 42.0 | R 28.1 | R 29.7 | R 32.1 | R 36.1 |
| April | R 44.1 | 46.6 | R 34.2 | R 34.9 | R 38.1 | R 40.3 |
| May | R 43.6 | 46.5 | R 34.7 | R 36.3 | R 37.6 | R 40.5 |
| June | R 39.3 | 42.8 | R 33.9 | R 36.2 | R 35.5 | R 39.1 |
| July | R 39.0 | 42.1 | R 34.0 | R 35.5 | 35.7 | R 38.5 |
| August | R 37.3 | R 39.6 | R 33.0 | R 34.5 | R 34.4 | R 36.8 |
| September | R 38.2 | 40.2 | R 32.3 | R 34.2 | 35.1 | R 36.5 |
| October | R 40.2 | 43.2 | R 34.5 | R 35.9 | R 36.9 | R 38.8 |
| November | R 40.5 | 44.1 | R 34.2 | R 36.2 | R 36.6 | R 39.3 |
| December | R 47.7 | 53.4 | R 38.3 | R 39.5 | R 42.1 | R 45.7 |
| **Average** | **R 40.7** | **43.6** | **R 33.1** | **R 34.4** | **R 36.0** | **R 38.5** |
| **1990** January | 56.0 | 60.0 | 41.9 | 45.1 | 48.1 | 52.0 |
| February | 44.6 | 51.3 | 34.7 | 37.2 | 38.2 | 43.6 |
| March | 39.8 | 45.3 | 31.2 | 35.4 | 34.4 | 40.1 |
| April | 36.1 | 39.6 | 31.1 | 32.5 | 33.3 | 35.5 |
| May | 34.2 | 37.9 | 28.5 | 31.4 | 30.5 | 34.1 |
| June | 31.4 | 34.2 | 24.8 | 27.6 | 27.2 | 30.4 |
| July | 33.4 | 36.3 | 25.3 | 28.3 | 29.1 | 31.9 |
| August | 49.5 | 50.7 | 41.1 | 39.5 | 44.4 | 44.1 |
| September | 56.8 | 59.4 | R 46.1 | R 46.2 | R 50.8 | R 50.7 |
| October | 63.2 | 68.6 | 53.1 | 54.6 | 57.2 | 60.5 |

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as commercial customers. • 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
(Cents per Gallon, Excluding Taxes)

| | Finished Motor Gasoline[a] | 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 Average** | **83.5** | **113.0** | **79.4** | **87.4** | **77.6** | **77.2** | **39.8** |
| **1986 Average** | **53.1** | **91.2** | **49.5** | **60.6** | **48.6** | **45.2** | **29.0** |
| **1987 Average** | **58.9** | **85.9** | **53.8** | **59.2** | **52.7** | **53.4** | **25.2** |
| **1988** January | 53.4 | 85.9 | 53.2 | 59.2 | 52.0 | 51.0 | 26.8 |
| February | 53.8 | 84.2 | 52.4 | 57.1 | 48.9 | 49.0 | 26.6 |
| March | 53.9 | 84.2 | 50.4 | 54.3 | 47.6 | 49.2 | 25.6 |
| April | 58.6 | 84.2 | 50.4 | 54.2 | 50.7 | 51.9 | 25.2 |
| May | 59.9 | 85.0 | 51.4 | 53.3 | 50.1 | 51.3 | 24.9 |
| June | 59.3 | 85.1 | 51.0 | 50.0 | 46.6 | 47.9 | 24.3 |
| July | 62.4 | 86.1 | 47.5 | 48.3 | 43.3 | 44.0 | 21.8 |
| August | 61.4 | 86.7 | 47.9 | 48.9 | 44.3 | 45.0 | 22.1 |
| September | 58.0 | 85.7 | 46.9 | 49.8 | 43.3 | 44.7 | 22.5 |
| October | 57.3 | 83.8 | 45.2 | 49.4 | 41.9 | 42.0 | 22.1 |
| November | 58.1 | 83.5 | 46.4 | 52.8 | 45.1 | 44.6 | 22.1 |
| December | 54.9 | 83.7 | 50.1 | 57.8 | 49.9 | 48.0 | 22.9 |
| **Average** | **57.7** | **85.0** | **49.5** | **54.9** | **47.3** | **47.3** | **24.0** |
| **1989** January | 56.3 | R 84.8 | R 56.2 | 63.1 | 53.2 | 51.1 | 24.0 |
| February | R 57.4 | 86.0 | R 55.4 | 59.5 | R 51.1 | R 52.8 | 22.7 |
| March | 61.2 | 86.6 | 56.5 | 61.3 | 54.4 | 56.0 | 22.5 |
| April | R 74.0 | 94.2 | R 59.5 | 60.3 | 56.5 | R 59.5 | R 22.7 |
| May | R 76.3 | 101.8 | 56.6 | 55.9 | R 52.6 | R 54.0 | 22.1 |
| June | R 73.8 | R 101.3 | R 54.4 | 53.8 | 49.6 | R 50.8 | R 21.4 |
| July | R 69.0 | 100.9 | 53.5 | 57.0 | R 50.4 | R 50.5 | 20.7 |
| August | 62.7 | R 97.7 | R 54.5 | R 59.9 | 51.2 | R 52.4 | R 21.7 |
| September | R 65.7 | 96.2 | 58.6 | 63.6 | 56.4 | R 58.5 | 23.1 |
| October | R 64.2 | 93.3 | R 63.2 | R 67.5 | 60.1 | R 62.2 | 24.4 |
| November | R 61.4 | 92.5 | 63.4 | R 68.5 | 60.4 | R 62.0 | R 24.3 |
| December | 61.6 | 92.8 | R 67.3 | 81.7 | 72.8 | 68.4 | 36.4 |
| **Average** | **R 65.4** | **95.0** | **R 58.3** | **66.9** | **56.5** | **R 56.7** | **R 24.7** |
| **1990** January | 69.2 | 96.8 | 77.0 | 87.0 | 73.8 | 69.3 | 54.5 |
| February | 67.2 | 95.0 | 66.9 | 67.9 | 57.7 | 57.1 | 34.0 |
| March | 66.3 | 93.8 | 61.7 | 64.8 | 57.9 | 57.7 | 27.1 |
| April | 69.7 | 96.4 | 59.9 | 62.4 | 57.5 | 57.5 | 25.2 |
| May | 72.6 | 97.4 | 57.4 | 59.2 | 54.5 | 55.4 | 24.0 |
| June | 72.2 | 99.6 | 54.8 | 53.9 | 49.4 | 50.5 | 24.9 |
| July | 70.6 | 100.2 | 56.0 | 57.1 | 51.9 | 52.0 | 27.3 |
| August | 85.6 | 110.4 | 71.3 | 80.7 | 72.1 | 73.7 | 36.3 |
| September | 95.0 | 122.3 | 93.2 | R 100.4 | R 85.2 | R 87.3 | 43.6 |
| October | 98.6 | 127.8 | 113.5 | 115.6 | 95.0 | 99.4 | 53.5 |

[a]See Note 5 at end of section.

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as residential and commercial customers. • 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
(Cents per Gallon, Excluding Taxes)

| | Finished Motor Gasoline[a] | 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 Average** | **91.2** | **120.1** | **79.6** | **103.0** | **84.9** | **78.9** | **71.7** |
| **1986 Average** | **62.4** | **101.1** | **52.9** | **79.0** | **56.0** | **47.8** | **74.5** |
| **1987 Average** | **66.9** | **90.7** | **54.3** | **77.0** | **58.1** | **55.1** | **70.1** |
| **1988** January | 64.9 | 88.4 | 56.4 | 84.1 | 63.0 | 54.2 | 72.6 |
| February | 63.3 | 88.2 | 55.0 | 84.6 | 60.1 | 51.9 | 75.5 |
| March | 62.5 | 87.7 | 53.9 | 77.5 | 57.6 | 51.3 | 73.6 |
| April | 66.0 | 87.6 | 52.3 | 82.2 | 58.5 | 53.8 | 68.9 |
| May | 68.4 | 89.2 | 53.1 | 61.2 | 55.5 | 53.6 | 65.2 |
| June | 68.1 | 87.2 | 52.7 | 55.4 | 49.3 | 50.8 | 70.0 |
| July | 69.9 | 89.7 | 50.3 | 56.0 | 46.3 | 47.2 | 70.7 |
| August | 71.8 | 92.2 | 49.1 | 56.3 | 47.7 | 47.3 | 68.9 |
| September | 70.0 | 90.8 | 48.4 | 66.1 | 48.3 | 47.3 | 69.9 |
| October | 68.0 | 88.7 | 46.3 | 71.8 | 48.0 | 45.4 | 69.4 |
| November | 67.6 | 89.2 | 47.6 | 71.1 | 51.5 | 47.4 | 71.5 |
| December | 66.1 | 89.2 | 51.0 | 74.1 | 58.1 | 50.5 | 73.5 |
| **Average** | **67.3** | **89.1** | **51.3** | **73.8** | **54.4** | **50.0** | **71.4** |
| **1989** January | R 65.6 | R 89.2 | 56.2 | 71.4 | R 56.7 | 53.5 | R 65.6 |
| February | R 66.1 | 89.7 | 57.0 | 72.2 | R 55.6 | 54.3 | R 66.8 |
| March | R 68.4 | R 90.6 | 57.9 | 67.6 | R 57.1 | R 57.0 | R 63.8 |
| April | R 81.7 | R 99.1 | 60.6 | 66.2 | R 59.2 | R 61.0 | R 55.9 |
| May | R 85.5 | R 107.0 | 58.1 | 59.7 | R 54.8 | R 57.1 | R 55.4 |
| June | R 84.5 | 107.1 | R 56.2 | 53.9 | R 50.3 | R 53.4 | R 49.0 |
| July | R 82.0 | R 105.5 | 54.7 | 55.3 | 51.9 | 53.1 | R 54.9 |
| August | R 76.6 | R 101.9 | 55.1 | 58.0 | R 52.7 | 53.7 | R 57.4 |
| September | R 74.9 | 100.7 | 58.9 | 66.8 | R 57.3 | 59.5 | R 59.0 |
| October | R 74.7 | 100.4 | 63.8 | 73.6 | R 61.7 | R 63.7 | 59.9 |
| November | R 72.7 | 98.6 | 64.4 | 77.7 | 62.6 | R 64.5 | 58.4 |
| December | R 72.1 | 97.3 | R 68.1 | R 90.0 | R 76.0 | R 71.3 | R 74.4 |
| **Average** | **R 75.6** | **99.5** | **59.2** | **R 70.9** | **R 58.7** | **R 58.5** | **R 61.5** |
| **1990** January | 78.6 | 102.0 | 79.7 | 99.9 | 81.0 | 76.4 | 94.5 |
| February | 76.5 | 102.4 | 68.9 | 81.2 | 63.9 | 61.9 | 81.2 |
| March | 75.0 | 100.9 | 63.5 | 82.3 | 62.4 | 60.6 | 71.5 |
| April | 77.8 | 101.4 | 61.1 | 74.2 | 61.6 | 60.2 | 68.5 |
| May | 80.1 | 103.5 | 58.1 | 65.4 | 57.4 | 58.4 | 54.8 |
| June | 81.3 | 104.0 | 55.6 | 58.5 | 51.5 | 54.0 | 57.4 |
| July | 80.6 | 103.6 | 55.3 | 59.3 | 53.6 | 54.9 | 55.6 |
| August | 92.2 | 112.6 | 70.3 | 87.4 | 74.1 | 76.1 | 64.7 |
| September | 100.9 | 125.4 | 91.2 | 101.8 | 87.3 | R 88.4 | R 72.5 |
| October | 108.6 | 134.4 | 115.4 | 118.7 | 99.5 | 101.0 | 78.1 |

[a]See Note 5 at end of section.
R=Revised data.
Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to the ultimate consumer, including bulk customers such as agriculture, industry, and electric utilities, as well as residential and commercial customers. • 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, Northeastern States
(Cents per Gallon, Excluding Taxes)

| | Maine | New Hampshire | Vermont | Massachusetts | Rhode Island | Connecticut | New York | New Jersey | Pennsylvania |
|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **48.6** | **50.3** | **50.8** | **48.8** | **50.7** | **50.1** | **50.1** | **49.6** | **48.8** |
| **1979 Average** | **68.8** | **72.5** | **72.5** | **70.9** | **72.8** | **72.0** | **71.2** | **71.0** | **69.8** |
| **1980 Average** | **96.3** | **100.4** | **101.5** | **97.8** | **101.1** | **98.3** | **98.2** | **97.9** | **96.4** |
| **1981 Average** | **120.4** | **123.7** | **125.4** | **121.3** | **123.8** | **121.7** | **123.2** | **121.5** | **118.1** |
| **1982 Average** | **115.5** | **117.4** | **120.1** | **117.6** | **120.1** | **118.3** | **120.5** | **117.4** | **113.7** |
| **1983 Average** | **102.8** | **104.1** | **112.9** | **109.1** | **110.5** | **109.1** | **112.1** | **107.9** | **105.8** |
| **1984 Average** | **103.9** | **108.4** | **111.9** | **111.6** | **111.4** | **112.1** | **115.5** | **111.0** | **107.9** |
| **1985 Average** | **99.7** | **102.4** | **107.7** | **107.0** | **106.7** | **108.0** | **111.3** | **105.9** | **102.3** |
| **1986 Average** | **74.4** | **75.9** | **86.6** | **82.1** | **82.8** | **89.0** | **91.1** | **90.2** | **81.4** |
| **1987 Average** | **74.7** | **76.5** | **81.1** | **80.6** | **82.5** | **83.4** | **85.2** | **84.3** | **76.9** |
| **1988** January | 80.3 | 82.5 | 85.9 | 85.6 | 87.1 | 88.9 | 89.1 | 88.1 | 82.9 |
| February | 79.7 | 81.6 | 85.9 | 84.1 | 86.4 | 89.0 | 88.4 | 87.7 | 82.0 |
| March | 79.2 | 80.3 | 85.0 | 83.3 | 84.7 | 87.4 | 87.3 | 86.8 | 81.1 |
| April | 78.7 | 79.0 | 85.0 | 83.2 | 85.4 | 88.1 | 86.7 | 85.8 | 80.5 |
| May | 77.6 | 78.3 | 84.4 | 82.3 | 85.1 | 87.6 | 84.9 | 85.4 | 79.1 |
| June | 75.4 | 79.3 | 83.8 | 78.3 | 81.4 | 86.4 | 83.5 | 82.5 | 74.6 |
| July | 73.3 | 76.6 | 81.3 | 77.1 | 76.3 | 83.5 | 81.7 | 80.9 | 71.1 |
| August | 75.7 | 73.8 | 80.3 | 74.2 | 79.7 | 81.9 | 78.0 | 78.6 | 63.9 |
| September | 71.7 | 73.3 | 78.5 | 80.0 | 78.4 | 80.8 | 83.0 | 76.3 | 68.6 |
| October | 69.0 | 71.5 | 77.0 | 77.7 | 75.5 | 79.9 | 81.7 | 77.8 | 69.5 |
| November | 72.0 | 72.3 | 77.8 | 77.9 | 79.7 | 80.5 | 83.3 | 78.8 | 70.9 |
| December | 80.2 | 77.3 | 81.6 | 82.8 | 83.4 | 84.4 | 87.8 | 84.0 | 76.5 |
| **Average** | **77.7** | **78.2** | **82.6** | **82.1** | **83.6** | **85.3** | **86.3** | **84.8** | **77.8** |
| **1989** January | R 85.6 | 83.0 | 86.0 | 87.1 | R 87.5 | R 88.4 | R 91.0 | 87.3 | 81.6 |
| February | R 87.4 | 83.8 | 86.9 | 86.3 | 88.3 | R 88.7 | R 92.2 | 87.0 | 82.2 |
| March | R 88.3 | 84.8 | R 87.8 | 88.1 | 90.0 | 89.8 | R 93.4 | 88.9 | 83.2 |
| April | R 87.4 | 83.2 | R 87.5 | 87.8 | 89.9 | 89.4 | R 93.8 | 87.8 | 83.2 |
| May | 81.0 | 83.1 | R 86.4 | 86.8 | 88.8 | 88.1 | R 92.9 | 87.2 | 82.2 |
| June | 73.5 | R 79.5 | 84.3 | 83.4 | 87.6 | R 85.6 | R 92.0 | 83.0 | 77.6 |
| July | R 72.1 | 77.8 | 82.9 | 81.1 | 85.4 | R 84.9 | R 90.9 | 82.3 | 74.1 |
| August | 70.0 | 78.2 | 82.0 | 81.1 | 84.1 | 84.6 | 90.1 | 80.1 | 72.6 |
| September | 74.6 | R 79.4 | R 82.6 | 84.9 | 86.5 | 85.2 | R 86.6 | 81.8 | 74.2 |
| October | 82.7 | R 83.2 | R 85.3 | 88.5 | 90.3 | 88.9 | 91.0 | 87.3 | 78.9 |
| November | 86.7 | R 87.5 | R 86.1 | 91.1 | R 92.3 | R 90.3 | 93.7 | 89.7 | 81.6 |
| December | 106.0 | R 112.1 | 109.8 | 115.2 | 114.0 | 112.5 | 113.0 | 108.5 | 103.1 |
| **Average** | **89.4** | **89.3** | **R 90.5** | **92.6** | **93.9** | **92.9** | **R 95.8** | **91.8** | **85.1** |
| **1990** January | 115.4 | 118.6 | 121.5 | 116.9 | 122.6 | 119.8 | 122.2 | 117.3 | 113.7 |
| February | 84.8 | 96.0 | 98.4 | 99.7 | 98.5 | 100.8 | 103.1 | 99.5 | 93.4 |
| March | 83.4 | 92.9 | 95.6 | 98.6 | 97.3 | 97.7 | 101.6 | 98.5 | 90.3 |
| April | 82.9 | 89.9 | 94.2 | 95.1 | 95.9 | 96.3 | 100.2 | 96.5 | 87.6 |
| May | 81.0 | 86.9 | 91.7 | 92.4 | 93.9 | 92.7 | 99.2 | 94.4 | 84.4 |
| June | 76.2 | 82.8 | 86.9 | 88.9 | 89.1 | 87.0 | 94.8 | 88.6 | 78.3 |
| July | 74.2 | 80.7 | 85.4 | 88.0 | 86.9 | 85.4 | 93.3 | 85.4 | 74.3 |
| August | 97.7 | 99.2 | 97.4 | 102.3 | 102.3 | 104.1 | 102.6 | 102.1 | 92.5 |
| September | R 118.3 | 110.9 | 114.6 | R 117.1 | R 115.8 | R 114.7 | R 116.3 | R 114.3 | R 108.9 |
| October | 126.7 | 119.5 | 124.3 | 126.7 | 119.1 | 128.2 | 128.8 | 126.5 | 122.6 |

See footnotes at end of Table 9.8c.

# Table 9.8b Sales Prices of No. 2 Distillate to Residences, Selected South Atlantic and Midwestern States
(Cents per Gallon, Excluding Taxes)

| | Delaware | District of Columbia | Maryland | Virginia | West Virginia | Ohio | Michigan | Indiana | Illinois | Wisconsin | Minnesota |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1978 Average** | **47.8** | **50.7** | **49.2** | **49.1** | **46.2** | **47.4** | **47.9** | **48.5** | **46.5** | **44.7** | **47.8** |
| **1979 Average** | **68.2** | **74.2** | **70.1** | **70.4** | **65.1** | **68.6** | **70.9** | **72.7** | **68.8** | **67.3** | **72.4** |
| **1980 Average** | **95.4** | **102.6** | **97.9** | **98.5** | **92.2** | **91.9** | **97.8** | **99.6** | **95.8** | **91.5** | **99.9** |
| **1981 Average** | **117.3** | **127.4** | **121.4** | **120.5** | **115.0** | **113.2** | **118.3** | **118.5** | **114.9** | **109.1** | **118.4** |
| **1982 Average** | **111.3** | **124.5** | **117.1** | **117.7** | **109.3** | **110.2** | **113.9** | **114.3** | **110.9** | **107.8** | **115.1** |
| **1983 Average** | **106.0** | **117.0** | **110.3** | **108.7** | **101.0** | **101.3** | **106.4** | **100.7** | **100.4** | **101.2** | **103.1** |
| **1984 Average** | **109.6** | **118.7** | **113.5** | **110.5** | **102.1** | **102.1** | **105.0** | **103.1** | **100.1** | **101.0** | **104.1** |
| **1985 Average** | **104.6** | **114.3** | **108.8** | **106.3** | **98.0** | **99.7** | **102.1** | **99.1** | **97.5** | **98.3** | **101.9** |
| **1986 Average** | **85.0** | **93.1** | **91.4** | **86.6** | **74.6** | **77.7** | **81.0** | **74.8** | **NA** | **75.6** | **79.2** |
| **1987 Average** | **79.3** | **91.8** | **86.6** | **79.5** | **76.4** | **74.7** | **77.5** | **75.4** | **79.8** | **75.1** | **74.6** |
| **1988** January | 83.9 | 95.8 | 90.9 | 82.7 | 78.7 | 77.2 | 81.2 | 78.3 | 85.4 | 76.9 | 75.5 |
| February | 83.2 | 96.0 | 90.3 | 83.4 | 76.1 | 77.1 | 80.9 | 76.7 | 86.1 | 76.0 | 74.4 |
| March | 81.5 | 93.1 | 88.2 | 83.8 | 75.6 | 76.1 | 78.2 | 77.4 | 86.1 | 75.8 | 72.6 |
| April | 82.5 | 91.8 | 89.1 | 83.0 | 74.6 | 77.1 | 78.8 | 79.0 | 87.4 | 77.7 | 73.1 |
| May | 82.5 | 93.9 | 87.9 | 81.7 | 73.6 | 74.5 | 77.5 | 76.6 | 86.7 | 76.8 | 74.3 |
| June | 80.9 | 89.7 | 86.8 | 79.1 | 71.8 | 71.9 | 73.7 | 80.1 | 82.9 | 74.6 | 73.5 |
| July | 73.4 | 87.6 | 85.0 | 77.3 | 70.3 | 70.0 | 73.3 | 74.0 | 83.8 | 72.7 | 75.7 |
| August | 73.9 | 85.9 | 84.2 | 77.0 | 67.9 | 69.2 | 73.9 | 74.1 | 80.3 | 71.2 | 72.2 |
| September | 72.6 | 85.8 | 76.0 | 75.8 | 69.3 | 72.0 | 74.2 | 69.5 | 68.6 | 68.8 | 72.4 |
| October | 71.8 | 84.1 | 78.3 | 74.8 | 71.3 | 71.2 | 75.4 | 71.2 | 69.4 | 68.0 | 71.1 |
| November | 74.8 | 85.6 | 81.3 | 77.1 | 74.1 | 73.0 | 75.6 | 72.1 | 70.6 | 69.9 | 72.7 |
| December | 79.6 | 89.8 | 85.0 | 79.6 | 73.9 | 75.2 | 77.0 | 75.3 | 73.1 | 71.6 | 73.0 |
| **Average** | **80.1** | **91.6** | **87.0** | **80.5** | **74.2** | **74.7** | **77.5** | **75.4** | **77.6** | **73.9** | **73.5** |
| **1989** January | R 82.4 | 94.0 | R 88.1 | R 82.6 | R 75.8 | R 77.5 | R 78.8 | R 77.8 | 76.6 | 73.9 | R 75.3 |
| February | R 81.8 | 95.1 | R 88.8 | 82.3 | R 76.2 | 76.7 | R 79.3 | R 77.0 | 75.8 | 74.0 | 75.7 |
| March | 82.9 | 96.0 | R 89.4 | R 82.5 | R 76.7 | 77.5 | R 80.1 | R 77.6 | R 76.6 | 75.6 | R 77.1 |
| April | 84.8 | R 95.4 | R 90.3 | 82.1 | 77.0 | 79.4 | R 81.5 | R 79.7 | 79.8 | 76.3 | 82.3 |
| May | 83.4 | 92.1 | 89.6 | R 81.5 | 77.4 | 78.5 | R 81.2 | 78.1 | 78.5 | 78.0 | 82.1 |
| June | 80.3 | 92.0 | 88.4 | R 79.6 | 80.9 | 79.3 | 80.1 | R 76.5 | 77.0 | 78.0 | R 81.0 |
| July | R 79.0 | 90.7 | R 86.5 | R 78.4 | 78.1 | 79.4 | 80.3 | R 77.0 | 74.5 | 75.7 | 80.8 |
| August | 78.8 | 90.1 | R 85.7 | R 77.9 | 73.6 | 78.1 | 79.1 | R 76.5 | R 78.4 | R 75.4 | 79.4 |
| September | 78.8 | 91.4 | R 83.1 | R 79.7 | 79.3 | 77.5 | 82.9 | 80.1 | R 77.5 | 76.5 | R 80.7 |
| October | 82.4 | 92.0 | R 88.2 | R 84.0 | 81.7 | 78.4 | 86.4 | 83.3 | 81.9 | 79.5 | R 82.5 |
| November | 86.1 | 94.7 | R 91.1 | R 86.0 | 83.1 | 78.8 | 88.2 | 84.0 | R 82.8 | R 82.2 | R 86.1 |
| December | 111.6 | 110.8 | R 110.6 | 105.2 | 100.0 | 97.2 | R 102.2 | 98.6 | R 93.9 | R 97.5 | 95.6 |
| **Average** | **R 88.2** | **R 98.6** | **93.8** | **R 87.0** | **R 83.0** | **R 81.6** | **R 85.3** | **R 83.2** | **80.9** | **R 81.1** | **82.4** |
| **1990** January | 119.8 | 119.0 | 120.0 | 118.1 | 109.2 | 96.0 | 103.5 | 99.7 | 95.2 | 91.6 | 100.9 |
| February | 97.1 | 104.9 | 101.4 | 101.7 | 89.4 | 82.8 | 92.0 | 85.6 | 83.2 | 83.9 | 88.1 |
| March | 93.2 | 94.4 | 98.8 | 96.8 | 87.1 | 81.2 | 88.7 | 83.1 | 83.4 | 83.1 | 85.5 |
| April | 91.8 | 93.1 | 97.5 | 95.8 | 83.7 | 80.8 | 86.5 | 83.7 | 82.2 | 82.9 | 85.6 |
| May | 89.9 | 94.2 | 95.0 | 90.6 | 83.0 | 81.9 | 83.7 | 82.4 | 78.3 | 81.0 | 85.2 |
| June | 83.2 | 93.2 | 89.5 | 88.2 | 83.4 | 82.6 | 81.1 | 72.8 | 73.8 | 79.5 | 80.4 |
| July | 77.9 | 97.6 | 86.2 | 89.7 | 79.2 | 81.6 | 82.4 | 74.7 | 76.7 | 77.5 | 83.0 |
| August | 93.1 | 107.1 | 100.2 | 102.4 | 98.1 | 93.3 | 100.2 | 98.1 | 96.9 | 92.0 | 101.6 |
| September | 111.2 | R 116.1 | R 115.8 | R 114.8 | R 115.2 | R 115.2 | R 113.2 | R 110.4 | NA | 107.0 | R 111.7 |
| October | 122.3 | 135.0 | 130.7 | 129.3 | 123.9 | 120.9 | 123.7 | 123.0 | NA | 117.1 | 121.7 |

See notes and sources at end of Table 9.8c.

# Table 9.8c Sales Prices of No. 2 Distillate to Residences, Selected Western States and U.S. Average
(Cents per Gallon, Excluding Taxes)

| | Idaho | Washington | Oregon | Alaska | U.S. Average |
|---|---|---|---|---|---|
| **1978 Average** | **43.6** | **48.6** | **45.8** | **53.2** | **49.0** |
| **1979 Average** | **62.1** | **69.7** | **68.0** | **68.2** | **70.4** |
| **1980 Average** | **91.6** | **100.8** | **97.3** | **97.8** | **97.4** |
| **1981 Average** | **110.4** | **116.5** | **111.4** | **118.0** | **119.4** |
| **1982 Average** | **110.4** | **117.6** | **111.6** | **117.4** | **116.0** |
| **1983 Average** | **101.8** | **109.0** | **103.6** | **108.8** | **107.8** |
| **1984 Average** | **98.5** | **102.6** | **99.3** | **106.9** | **109.1** |
| **1985 Average** | **97.2** | **101.1** | **97.1** | **108.3** | **105.3** |
| **1986 Average** | **73.8** | **77.5** | **70.4** | **94.9** | **83.6** |
| **1987 Average** | **68.8** | **79.5** | **72.5** | **86.5** | **80.3** |
| **1988** January | 74.4 | 83.2 | 76.0 | 88.3 | 84.7 |
| February | 71.7 | 82.1 | 74.9 | 85.6 | 83.9 |
| March | 70.6 | 81.3 | 73.5 | 88.7 | 83.1 |
| April | 73.3 | 82.1 | 75.0 | 86.6 | 83.1 |
| May | 71.9 | 82.3 | 74.6 | 88.9 | 81.9 |
| June | 70.5 | 78.0 | 73.9 | 88.1 | 79.1 |
| July | 67.7 | 73.5 | 66.4 | 85.5 | 76.7 |
| August | 64.3 | 70.1 | 64.3 | 85.7 | 73.7 |
| September | 67.4 | 73.9 | 64.8 | 89.7 | 75.9 |
| October | 66.8 | 71.0 | 62.4 | 86.2 | 75.5 |
| November | 66.6 | 73.4 | 63.4 | 85.3 | 77.2 |
| December | 66.9 | 75.7 | 64.2 | 85.6 | 81.4 |
| **Average** | **68.8** | **78.5** | **70.9** | **86.9** | **81.3** |
| **1989** January | R 68.1 | R 76.9 | R 66.3 | R 86.7 | R 84.9 |
| February | R 71.5 | 86.0 | R 76.7 | R 90.9 | 85.5 |
| March | R 78.3 | R 92.8 | R 84.2 | 96.0 | 87.1 |
| April | 85.8 | R 94.2 | R 87.3 | 99.5 | 87.8 |
| May | 83.5 | R 87.3 | R 79.6 | R 100.1 | R 86.6 |
| June | R 80.3 | R 77.6 | R 74.9 | 101.5 | R 84.1 |
| July | 77.3 | R 74.7 | R 71.1 | 105.8 | 82.1 |
| August | R 77.2 | R 78.2 | 71.2 | R 101.6 | R 81.5 |
| September | 80.3 | 83.9 | 81.5 | R 96.0 | R 81.5 |
| October | R 82.2 | 91.7 | R 86.4 | R 97.8 | 85.6 |
| November | R 84.9 | 93.4 | 86.4 | R 97.9 | 88.3 |
| December | R 84.5 | 93.1 | R 86.1 | R 98.1 | 107.6 |
| **Average** | R **77.8** | R **96.4** | R **80.2** | R **96.4** | **90.0** |
| **1990** January | 85.7 | 96.0 | 88.7 | 98.6 | 114.0 |
| February | 80.8 | 89.0 | 83.9 | 99.6 | 96.3 |
| March | 80.9 | 88.6 | 84.4 | 104.2 | 94.7 |
| April | 81.7 | 90.0 | 85.1 | 97.9 | 93.1 |
| May | 79.4 | 84.3 | 84.6 | 101.7 | 90.7 |
| June | 74.6 | 85.0 | 81.9 | 102.1 | 86.4 |
| July | 70.5 | 76.3 | 79.3 | 97.8 | 83.8 |
| August | 90.7 | 90.0 | 95.3 | 116.8 | 98.8 |
| September | R 108.3 | R 115.3 | 111.9 | R 119.3 | 113.7 |
| October | 121.1 | 131.8 | 128.3 | 128.4 | 125.3 |

Footnotes continued.
R=Revised data. NA=Not available.
Notes: • The States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • 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] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual Series | Monthly Series[c] | Annual 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** | **7.15** | **7.33** | **7.13** | **5.04** | **4.83** | **6.78** | **5.90** | **6.52** | **6.25** |
| **1985 Average** | **7.79** | **7.39** | **7.47** | **7.27** | **5.16** | **4.97** | **6.96** | **6.09** | **6.71** | **6.44** |
| **1986 Average** | **7.41** | **7.42** | **7.13** | **7.20** | **4.90** | **4.93** | **6.64** | **6.11** | **6.42** | **6.44** |
| **1987 Average** | **7.41** | **7.45** | **7.01** | **7.08** | **4.72** | **4.77** | **6.64** | **6.21** | **6.32** | **6.37** |
| **1988** January | 6.92 | | 6.82 | | 4.52 | | 6.37 | | 6.11 | |
| February | 6.99 | | 6.88 | | 4.52 | | 6.47 | | 6.11 | |
| March | 7.14 | | 6.93 | | 4.48 | | 6.35 | | 6.11 | |
| April | 7.30 | | 6.89 | | 4.47 | | 6.07 | | 6.08 | |
| May | 7.58 | | 6.99 | | 4.46 | | 5.87 | | 6.14 | |
| June | 7.84 | | 7.23 | | 4.69 | | 5.87 | | 6.44 | |
| July | 7.90 | | 7.24 | | 4.87 | | 5.51 | | 6.62 | |
| August | 7.93 | | 7.25 | | 4.85 | | 5.35 | | 6.65 | |
| September | 7.84 | | 7.30 | | 4.80 | | 5.93 | | 6.56 | |
| October | 7.70 | | 7.27 | | 4.69 | | 6.23 | | 6.39 | |
| November | 7.46 | | 6.99 | | 4.52 | | 6.33 | | 6.18 | |
| December | 7.28 | | 6.91 | | 4.52 | | 6.61 | | 6.19 | |
| **Average** | **7.49** | **7.48** | **7.07** | **7.04** | **4.62** | **4.70** | **6.02** | **6.20** | **6.31** | **6.35** |
| **1989** January | 7.17 | | 6.93 | | 4.53 | | 6.45 | | 6.20 | |
| February | 7.18 | | 7.01 | | 4.60 | | 6.68 | | 6.23 | |
| March | 7.24 | | 7.02 | | 4.58 | | 6.59 | | 6.23 | |
| April | 7.52 | | 7.09 | | 4.57 | | 6.46 | | 6.25 | |
| May | 7.72 | | 7.15 | | 4.58 | | 6.27 | | 6.29 | |
| June | 8.02 | | 7.39 | | 4.79 | | 5.66 | | 6.57 | |
| July | 8.10 | | 7.46 | | 4.95 | | 5.63 | | 6.77 | |
| August | 8.11 | | 7.49 | | 4.95 | | 5.56 | | 6.77 | |
| September | 8.02 | | 7.46 | | 4.90 | | 6.09 | | 6.70 | |
| October | 7.87 | | 7.49 | | 4.70 | | 6.54 | | 6.51 | |
| November | 7.52 | | 7.11 | | 4.51 | | 6.48 | | 6.23 | |
| December | 7.27 | | 7.03 | | 4.55 | | 6.59 | | 6.26 | |
| **Average** | **7.64** | **NA** | **7.23** | **NA** | **4.69** | **NA** | **6.18** | **NA** | **6.43** | **NA** |
| **1990** January | 7.18 | | 6.94 | | 4.59 | | 5.81 | | 6.27 | |
| February | 7.49 | | 7.13 | | 4.59 | | 5.95 | | 6.33 | |
| March | 7.59 | | 7.20 | | 4.61 | | 6.07 | | 6.37 | |
| April | 7.70 | | 7.19 | | 4.56 | | 6.36 | | 6.35 | |
| May | 7.98 | | 7.31 | | 4.63 | | 6.22 | | 6.46 | |
| June | 8.13 | | 7.50 | | 4.84 | | 6.19 | | 6.72 | |
| July | 8.21 | | 7.52 | | 5.04 | | 6.36 | | 6.93 | |
| August | 8.26 | | 7.53 | | 4.98 | | 6.16 | | 6.90 | |
| September | 8.19 | | 7.50 | | 4.98 | | 6.46 | | 6.87 | |
| October | 8.06 | | 7.58 | | 4.80 | | 6.28 | | 6.67 | |
| **10-Month Average** | **7.88** | **NA** | **7.35** | **NA** | **4.77** | **NA** | **6.18** | **NA** | **6.60** | **NA** |
| **1989 10-Month Average** | **7.69** | | **7.26** | | **4.72** | | **6.12** | | **6.46** | |
| **1988 10-Month Average** | **7.51** | | **7.09** | | **4.64** | | **5.95** | | **6.33** | |

[a]Prices are calculated by dividing revenue by sales. Revenue 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. See Note 7 at end of section.

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

[c]Annual values are the sum of the monthly revenue divided by the sum of the monthly sales. Data through 1979 cover privately owned electric utilities in Classes A and B. Data for 1980 through 1985 cover selected privately owned electric utilities in Class A whose electric operating revenue was $100 million or more during the previous year. See Note 7 at end of section.

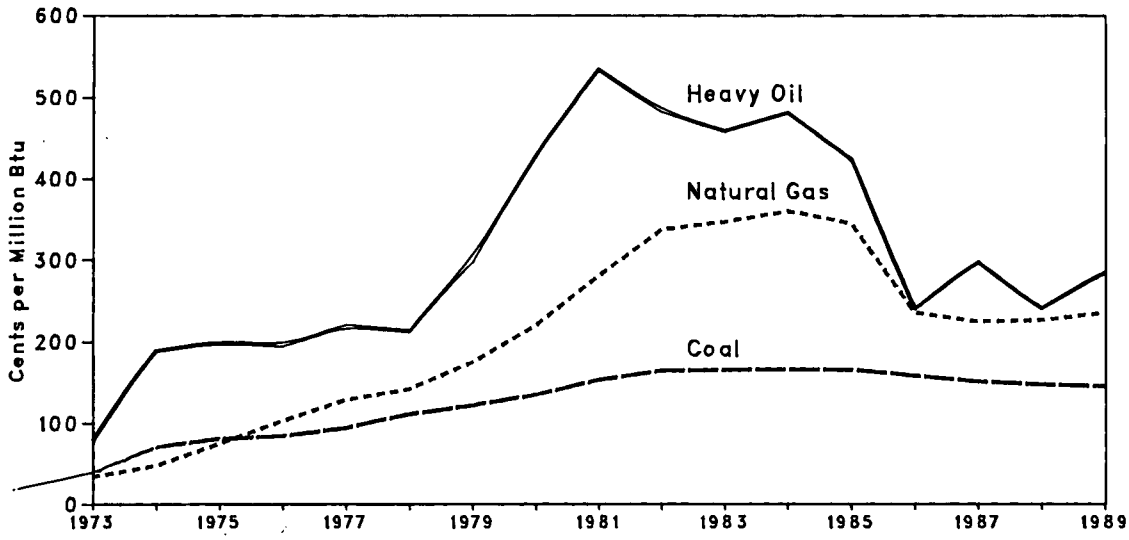
NA=Not available.

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

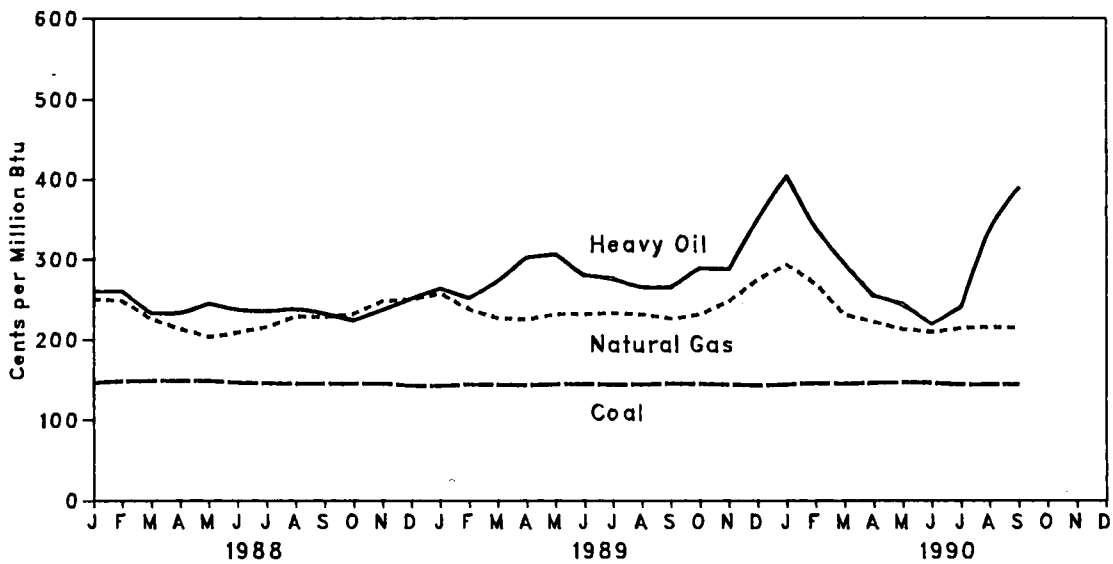
Sources: See end of section.

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

Yearly




Monthly



# Table 9.10 Quantity and Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants[a]

| | Coal | | Petroleum | | | | Gas[b] | | All Fossil Fuels[c] |
|---|---|---|---|---|---|---|---|---|---|
| | | | Heavy Oil[c] | | Total[c d] | | | | |
| | Quantity (thousand short tons) | Cost (cents per million Btu) | Quantity (thousand barrels) | Cost (cents per million Btu) | Quantity (thousand barrels) | Cost (cents per million Btu) | Quantity (million cubic feet) | Cost (cents per million Btu) | Cost (cents per million Btu) |
| **1973 Year** | **374,842** | **40.5** | **512,650** | **78.5** | **535,859** | **80.0** | **3,382,677** | **33.8** | **47.6** |
| **1974 Year** | **384,868** | **70.9** | **479,166** | **189.0** | **515,217** | **191.0** | **3,225,203** | **48.2** | **91.4** |
| **1975 Year** | **431,527** | **81.4** | **457,582** | **200.5** | **510,352** | **202.3** | **3,034,808** | **75.2** | **104.4** |
| **1976 Year** | **454,858** | **84.8** | **495,363** | **195.2** | **549,973** | **199.0** | **2,962,811** | **103.4** | **111.9** |
| **1977 Year** | **490,415** | **94.7** | **563,685** | **219.8** | **635,556** | **224.9** | **3,106,403** | **129.1** | **129.7** |
| **1978 Year** | **476,169** | **111.6** | **546,197** | **212.5** | **616,040** | **219.1** | **3,140,654** | **142.2** | **141.1** |
| **1979 Year** | **556,558** | **122.4** | **479,705** | **298.8** | **515,695** | **307.2** | **3,368,976** | **174.9** | **163.9** |
| **1980 Year** | **593,995** | **135.1** | **394,159** | **426.7** | **419,140** | **435.1** | **3,588,814** | **219.9** | **192.8** |
| **1981 Year** | **579,374** | **153.2** | **327,477** | **533.4** | **345,544** | **542.5** | **3,573,558** | **280.5** | **225.6** |
| **1982 Year** | **601,427** | **164.7** | **228,200** | **483.2** | **239,111** | **492.2** | **3,161,348** | **337.6** | **224.9** |
| **1983 Year** | **592,728** | **165.6** | **211,705** | **457.8** | **219,652** | **462.8** | **2,732,248** | **347.4** | **220.6** |
| **1984 Year** | **684,111** | **166.4** | **193,832** | **481.2** | **202,372** | **486.3** | **2,878,808** | **360.3** | **219.1** |
| **1985 Year** | **666,743** | **164.8** | **156,410** | **424.4** | **164,947** | **431.7** | **2,808,921** | **344.4** | **209.4** |
| **1986 Year** | **686,964** | **157.9** | **220,585** | **240.1** | **228,522** | **243.7** | **2,387,622** | **235.1** | **175.0** |
| **1987 Year** | **721,298** | **150.6** | **187,300** | **297.6** | **194,578** | **301.1** | **2,605,191** | **224.0** | **170.6** |
| **1988** January | 58,626 | 146.5 | 19,517 | 260.0 | 20,190 | 264.1 | 151,366 | 250.4 | 167.1 |
| February | 56,871 | 148.7 | 19,473 | 260.5 | 19,943 | 263.2 | 153,286 | 247.7 | 169.0 |
| March | 59,021 | 149.3 | 17,567 | 232.7 | 18,171 | 236.9 | 185,781 | 225.4 | 165.2 |
| April | 56,136 | 149.8 | 12,418 | 231.6 | 12,761 | 235.8 | 179,872 | 212.8 | 162.7 |
| May | 57,920 | 149.5 | 11,905 | 245.0 | 12,378 | 250.5 | 214,688 | 203.3 | 162.6 |
| June | 59,337 | 146.3 | 14,642 | 236.2 | 15,238 | 241.1 | 251,104 | 209.2 | 162.2 |
| July | 58,989 | 146.0 | 18,599 | 234.5 | 19,156 | 237.7 | 294,679 | 216.0 | 165.7 |
| August | 68,696 | 145.3 | 23,898 | 239.0 | 24,703 | 242.5 | 303,867 | 229.1 | 167.0 |
| September | 63,103 | 145.3 | 19,659 | 232.0 | 20,162 | 234.9 | 211,068 | 228.0 | 162.9 |
| October | 63,574 | 145.6 | 23,220 | 223.6 | 23,694 | 225.8 | 162,176 | 232.2 | 161.6 |
| November | 62,015 | 145.6 | 23,484 | 236.8 | 23,989 | 239.3 | 133,900 | 248.3 | 163.4 |
| December | 63,487 | 142.3 | 25,853 | 251.2 | 26,537 | 254.3 | 120,934 | 250.3 | 162.1 |
| **Average** | **727,775** | **146.6** | **230,234** | **240.5** | **236,924** | **243.9** | **2,362,721** | **226.3** | **164.3** |
| **1989** January | 62,443 | 142.7 | 25,855 | 264.1 | 26,516 | 267.4 | 124,572 | 257.5 | 164.8 |
| February | 56,634 | 145.0 | 20,489 | 251.9 | 21,179 | 256.0 | 150,950 | 237.2 | 164.6 |
| March | 63,218 | 144.4 | 22,427 | 271.8 | 23,199 | 276.0 | 180,668 | 225.7 | 165.0 |
| April | 62,076 | 143.6 | 19,831 | 303.0 | 20,292 | 305.6 | 207,401 | 224.6 | 166.7 |
| May | 64,796 | 145.3 | 20,569 | 307.2 | 21,211 | 310.1 | 226,859 | 232.0 | 169.7 |
| June | 61,272 | 145.5 | 18,677 | 279.9 | 19,354 | 283.5 | 234,010 | 232.1 | 168.5 |
| July | 55,429 | 144.1 | 19,778 | 275.6 | 20,364 | 278.6 | 285,117 | 233.3 | 172.2 |
| August | 70,147 | 144.7 | 19,701 | 264.2 | 20,563 | 268.9 | 282,481 | 230.6 | 166.6 |
| September | 64,539 | 146.0 | 14,967 | 264.8 | 15,609 | 270.6 | 239,696 | 225.4 | 164.9 |
| October | 66,578 | 145.4 | 15,779 | 289.1 | 16,495 | 295.6 | 230,629 | 231.6 | 166.1 |
| November | 65,570 | 144.2 | 16,862 | 288.0 | 17,602 | 294.5 | 162,361 | 248.1 | 164.9 |
| December | 60,515 | 142.8 | 22,734 | 350.2 | 24,040 | 359.0 | 147,763 | 275.4 | 176.7 |
| **Average** | **753,217** | **144.5** | **237,668** | **284.6** | **246,422** | **289.3** | **2,472,506** | **235.5** | **167.5** |
| **1990** January | 67,637 | 145.0 | 26,481 | 403.8 | 27,416 | 409.5 | 126,832 | 293.8 | 182.6 |
| February | 62,280 | 146.4 | 19,190 | 338.2 | 19,683 | 340.7 | 113,436 | 269.3 | 171.0 |
| March | 67,518 | 145.5 | 15,028 | 295.2 | 15,499 | 299.3 | 165,802 | 231.0 | 162.9 |
| April | 63,888 | 147.1 | 13,521 | 254.7 | 13,978 | 260.5 | 180,912 | 221.9 | 161.9 |
| May | 64,958 | 147.5 | 15,003 | 244.8 | 15,551 | 250.8 | 220,164 | 212.4 | 162.2 |
| June | 63,604 | 146.3 | 18,065 | 219.4 | 18,609 | 224.1 | 267,993 | 209.3 | 161.7 |
| July | 63,427 | 144.3 | 22,150 | 239.9 | 22,788 | 243.8 | 294,672 | 214.6 | 164.5 |
| August | 70,571 | 144.5 | 18,768 | 341.0 | 19,320 | 346.2 | 304,424 | 215.9 | 169.1 |
| September | 65,728 | 144.6 | 13,452 | 389.5 | 13,968 | 397.5 | 268,756 | 214.2 | 168.4 |
| **9 Months** | **589,611** | **145.7** | **161,659** | **307.0** | **166,812** | **312.0** | **1,942,991** | **224.1** | **167.2** |
| **1989 9 Months** | **560,554** | **144.6** | **182,293** | **275.7** | **188,285** | **279.4** | **1,931,753** | **231.8** | **167.0** |
| **1988 9 Months** | **538,699** | **147.3** | **157,677** | **241.7** | **162,703** | **245.5** | **1,945,711** | **222.9** | **165.0** |

[a]Data through 1982 cover all steam-electric utility plants with a generator nameplate 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 generator nameplate capacity of 50 megawatts or greater.

[b]Includes supplemental gaseous fuels.

[c]Heavy fuel oil includes fuel oils No. 4, No. 5, and No. 6 and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (No. 2 fuel oil, kerosene, and jet fuel) prices. Data do not include petroleum coke.

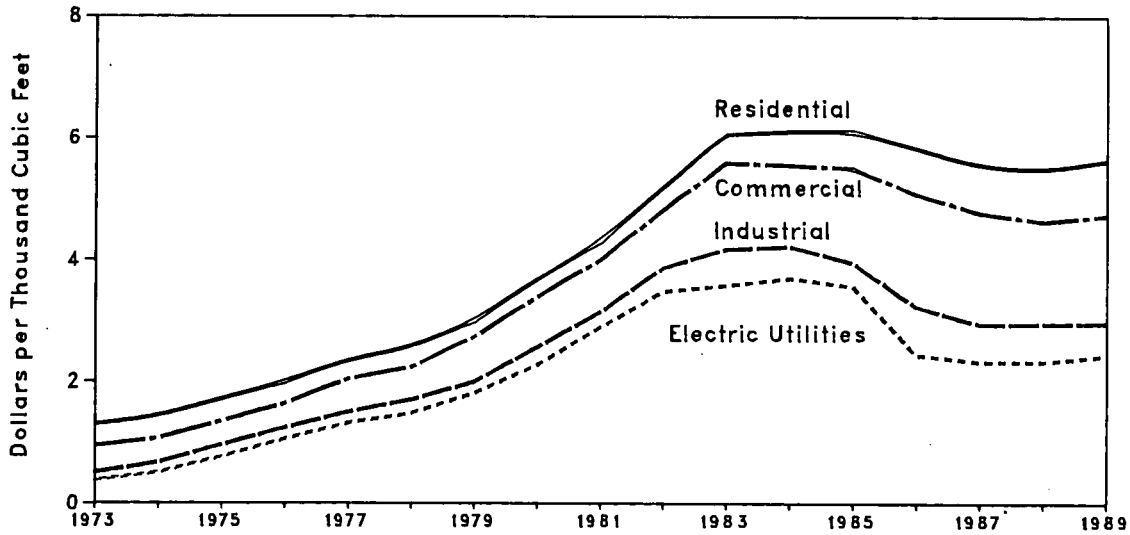
[d]Data for 1973 through 1982 do not include small quantities of rerefined motor oil, bunker oil, and liquefied petroleum gas.

Note: Geographic coverage — 1973 through 1981: the Lower-48 States and the District of Columbia. 1982 forward: the 50 States and the District of Columbia.

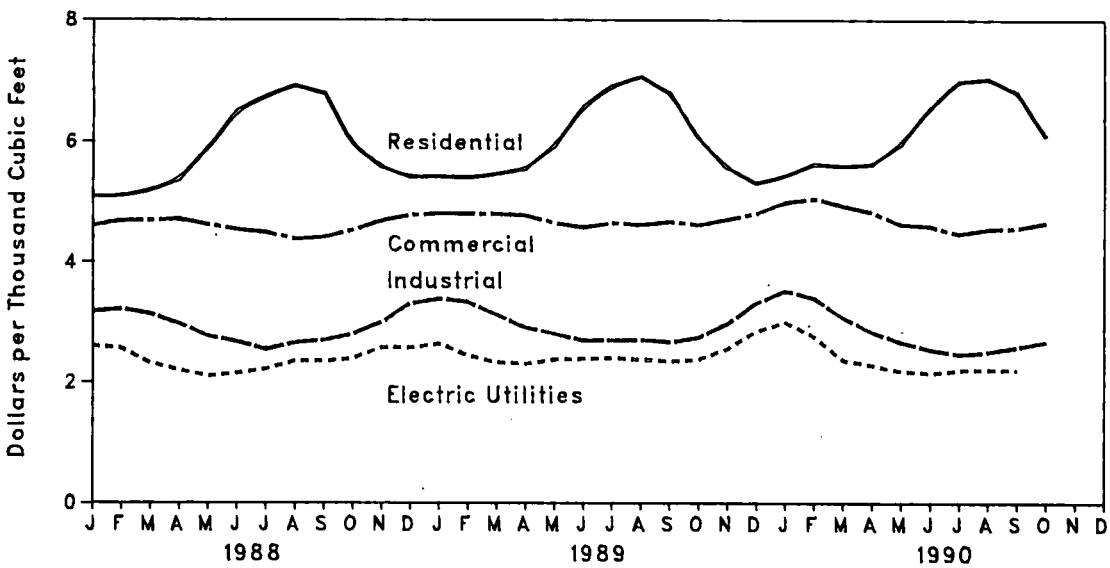
Sources: See end of section.

## 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] [c] | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Imports | Purchases from Producers | | Residential | Commercial | Industrial | Electric Utilities[d] | 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** | **.44** | **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 Average** | **2.51** | **3.19** | **2.85** | **3.75** | **6.12** | **5.50** | **3.95** | **3.55** | **4.72** |
| **1986 Average** | **1.94** | **2.53** | **2.39** | **3.22** | **5.83** | **5.08** | **3.23** | **2.43** | **4.13** |
| **1987 Average** | **1.67** | **2.17** | **2.10** | **2.87** | **5.54** | **4.77** | **2.94** | **2.32** | **4.05** |
| **1988** January | 1.96 | 1.64 | 2.04 | 2.91 | 5.08 | 4.60 | 3.18 | 2.60 | 4.41 |
| February | 1.84 | 2.03 | 2.22 | 2.95 | 5.09 | 4.69 | 3.22 | 2.56 | 4.39 |
| March | 1.70 | 2.09 | 2.03 | 2.87 | 5.18 | 4.69 | 3.13 | 2.32 | 4.25 |
| April | 1.59 | 2.01 | 2.12 | 2.79 | 5.35 | 4.71 | 2.97 | 2.20 | 4.10 |
| May | 1.52 | 2.02 | 2.17 | 2.75 | 5.87 | 4.61 | 2.76 | 2.10 | 3.84 |
| June | 1.53 | 1.98 | 2.05 | 2.87 | 6.50 | 4.53 | 2.67 | 2.16 | 3.54 |
| July | 1.56 | 2.34 | 1.94 | 2.87 | 6.74 | 4.48 | 2.54 | 2.23 | 3.36 |
| August | 1.62 | 1.88 | 2.09 | 2.92 | 6.92 | 4.37 | 2.66 | 2.36 | 3.39 |
| September | 1.53 | 2.00 | 2.13 | 3.05 | 6.79 | 4.41 | 2.70 | 2.36 | 3.61 |
| October | 1.68 | 1.94 | 2.31 | 2.92 | 5.95 | 4.53 | 2.80 | 2.40 | 3.95 |
| November | 1.76 | 1.98 | 2.19 | 2.98 | 5.56 | 4.69 | 3.00 | 2.58 | 4.31 |
| December | 1.89 | 2.14 | 2.25 | 3.08 | 5.39 | 4.78 | 3.31 | 2.57 | 4.56 |
| **Average** | **1.69** | **2.00** | **2.13** | **2.92** | **5.47** | **4.63** | **2.95** | **2.33** | **4.09** |
| **1989** January | 1.99 | 1.77 | 2.35 | 3.17 | 5.41 | 4.81 | 3.39 | 2.64 | 4.67 |
| February | 1.81 | 2.21 | 2.16 | 3.10 | 5.38 | 4.80 | 3.33 | 2.44 | 4.60 |
| March | 1.69 | 1.99 | 2.17 | 2.89 | 5.45 | 4.79 | 3.12 | 2.33 | 4.46 |
| April | 1.56 | 2.01 | 2.22 | 2.83 | 5.54 | 4.77 | 2.91 | 2.31 | 4.18 |
| May | 1.61 | 2.02 | 2.11 | 2.94 | 5.93 | 4.64 | 2.80 | 2.39 | 3.94 |
| June | 1.65 | 2.04 | 2.04 | 2.98 | 6.58 | 4.57 | 2.69 | 2.40 | 3.72 |
| July | 1.65 | 1.88 | 1.99 | 3.08 | 6.92 | 4.65 | 2.70 | 2.40 | 3.59 |
| August | 1.61 | 2.24 | 2.05 | 3.04 | 7.07 | 4.61 | 2.71 | 2.38 | 3.57 |
| September | 1.55 | 2.02 | 2.07 | 2.99 | 6.80 | 4.67 | 2.67 | 2.33 | 3.67 |
| October | 1.58 | 2.17 | 2.04 | 2.84 | 6.06 | 4.61 | 2.75 | 2.39 | 3.86 |
| November | 1.66 | 2.13 | 2.23 | 2.98 | 5.56 | 4.71 | 2.98 | 2.56 | 4.30 |
| December | 1.92 | 2.08 | 2.39 | 3.10 | 5.30 | 4.81 | 3.32 | 2.85 | 4.61 |
| **Average** | **1.69** | **2.04** | **2.17** | **3.01** | **5.64** | **4.74** | **2.97** | **2.43** | **4.22** |
| **1990** January | 2.23 | 2.04 | 2.42 | 3.25 | 5.42 | 4.99 | 3.52 | 3.01 | 4.77 |
| February | 1.87 | 2.25 | 2.18 | 3.10 | 5.63 | 5.05 | 3.40 | 2.76 | 4.82 |
| March | 1.58 | 1.99 | 1.94 | 2.95 | 5.58 | 4.93 | 3.08 | 2.37 | 4.50 |
| April | 1.56 | 2.00 | 2.17 | 2.84 | 5.62 | 4.82 | 2.84 | 2.29 | 4.23 |
| May | 1.53 | 2.08 | 1.98 | 2.81 | 5.97 | 4.62 | 2.67 | 2.19 | 3.84 |
| June | 1.53 | 1.91 | 2.18 | 3.00 | 6.55 | 4.59 | 2.55 | 2.16 | 3.53 |
| July | 1.50 | 1.88 | 2.00 | 3.03 | 6.99 | 4.46 | 2.47 | 2.22 | 3.39 |
| August | 1.54 | 1.92 | 1.86 | 2.91 | 7.04 | 4.55 | 2.52 | 2.23 | 3.36 |
| September | 1.59 | 1.89 | 1.93 | 2.92 | 6.81 | 4.57 | 2.59 | 2.21 | R 3.48 |
| October | NA | 1.90 | 2.18 | 2.81 | 6.09 | 4.66 | 2.68 | NA | NA |
| **10-Mo. Average** | **NA** | **1.99** | **2.08** | **2.99** | **5.82** | **4.82** | **2.87** | **NA** | **NA** |
| **1989 10-Mo. Average** | **1.67** | **2.04** | **2.12** | **2.99** | **5.72** | **4.73** | **2.93** | **2.39** | **4.16** |
| **1988 10-Mo. Average** | **1.65** | **1.99** | **2.11** | **2.89** | **5.47** | **4.61** | **2.90** | **2.31** | **4.01** |

[a]Prices shown on this page are intended to include all taxes. See Note 8 at end of section.
[b]Includes supplemental gaseous fuels.
[c]Prices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, and electric utility consumers. They do not include the price of natural gas delivered to industrial and commercial consumers on behalf of third parties. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.3. Additional information is available in the Energy Information Administration *Natural Gas Monthly*, Appendix C.
[d]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.
R=Revised data. NA=Not available.
Notes: • Geographic coverage is the 50 States and the District of Columbia. • Data through 1988 final. Subsequent data are preliminary. • Wellhead and Major Interstate Pipeline Companies annual and year-to-date prices are simple averages of the monthly prices; City Gate and Delivered to Consumers annual and year-to-date prices are volume-weighted averages of the monthly prices.
Sources: See end of section.

# Price Notes and Sources

## *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; beginning with February 1976, the price represents an average of actual first purchase prices. The data series was previously called "Actual Domestic Wellhead Price."

**2.** F.O.B. 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 Form EIA-14, "Refiners' Monthly Cost Report." These prices were previously published from data collected on Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-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 Form ERA-51, "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 Form ERA-49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on Form FEA-P110-M-1 included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-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 1977, 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 (EIA) 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 Form FEA-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 Form 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 EIA.

**7.** National average electricity prices are shown in two data series. The "Annual Series" is based on data from more than 3,000 publicly and privately owned electric utilities that report on Form EIA-861, "Annual Electric Utility Report." The "Monthly Series" is based on data from over 200 utilities statistically chosen as a stratified sample of the utilities that report on Form EIA-861. The selected utilities report monthly on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions," formerly the "Electric Utility Company Monthly Statement." Annual values shown for the monthly series are the sum of the monthly revenue divided by the sum of the monthly sales. Prior to January 1986, only privately owned utilities were included in the monthly survey and the sample was chosen using cut-off rather than stratification techniques.

**8.** 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--1973: Bureau of Mines, *Minerals Yearbook,* "Crude Oil and Petroleum Products" chapter. 1974 through January 1976: Federal Energy Administration (FEA), Form FEA-90, "Crude Petroleum Production Monthly Report"; February 1976 through September 1979: FEA, Form FEA-P124, "Domestic Crude Oil Purchaser's Report"; October 1979 through 1982: Economic Regulatory Administration, Form ERA-182, "Domestic Crude Oil First Purchase Report"; 1983 forward: Energy Information Administration (EIA), Form EIA-182, "Domestic Crude Oil First Purchase Report."
- F.O.B. and Landed Costs of Crude Oil Imports--October 1973 through September 1977, FEA, Form FEA-F701-M-0, "Transfer Pricing Report"; October 1977 through January 1979: EIA, Form FEA-F701-M-0, "Transfer Pricing Report"; February 1979 through September 1982: EIA, Form ERA-51, "Transfer Pricing Report"; October 1982 through June 1984: EIA, Form EP-51, "Monthly Foreign Crude Oil Transaction Report"; July 1984 forward: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report."
- Refiner Acquisition Costs--1973: EIA estimates. The domestic price was derived by adding estimated transportation costs to the reported domestic first purchase price. The imported price was derived by adding an estimated ocean transport cost to the average "Free Alongside Ship" value published by the U. S. Bureau of the Census. 1974 through January 1976: FEA, Form FEO-96, "Monthly Cost Allocation Report"; February 1976 through September 1977: FEA, Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report"; October 1977 through June 1978: EIA, Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report"; July 1978 through 1980: EIA, Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report"; 1981 forward: EIA, Form EIA-14, "Refiners' Monthly Cost Report."
- U.S. City Average Retail Motor Gasoline Prices--U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Prices: Energy,* monthly.
- No. 2 Distillate to Residences--1978 through 1982: EIA estimates using data from Form FEA-P112-M-1/EIA-9, "No. 2 Heating Oil Supply/Price Monitoring Report" and EIA, Form EIA-9A, "No. 2 Distillate Price Monitoring Report." See Note 6 on the previous page for additional information on the estimated data. 1983 forward: EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report" and EIA, Form EIA-782B, "Reseller/Retailers' Monthly Petroleum Product Sales Report."
- All Other Petroleum Products--1978 through 1982: EIA estimates using data from Form FEA-302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices." See Note 6 on the previous page for additional information on the estimated data. 1983 forward: EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report."

**Natural Gas:**

- Average Wellhead Price--Annual data through 1982: EIA, *Natural Gas Annual 1973* through *1982.* Annual data for 1983 through 1987: EIA, *Natural Gas Annual,* EIA, Form EIA-627, "An-

nual Quantity and Value of Natural Gas Report" and the U.S. Department of the Interior, Minerals Management Service. Monthly data from January 1988 forward and the 1988 average 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. The monthly and annual estimates are adjusted to conform with final reported annual data.

- Imports and Purchases from Producers by Major Interstate Pipeline Companies--Form FERC-11, "Interstate Pipeline Company Purchases, and Industrial Sales."

- City Gate--October 1983 forward: EIA, 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 Average--EIA, Form FPC-423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

**Electricity:**

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

- Retail Prices-- *Monthly Series* - 1973 through September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; October 1977 through February 1980: EIA, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income"; March 1980 through December 1982: EIA, Form FERC-5, "Electric Utility Company Monthly Statement"; January 1983 through December 1986: EIA, Form EIA-826, "Electric Utility Company Monthly Statement"; January 1987 forward: EIA, Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions." *Annual Series* - 1984 forward: EIA, *Electric Power Annual 1988,* Table 18.

# Section 10. International

**Crude Oil Production.** World crude oil production during October 1990 was 60 million barrels per day, up 0.7 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during October 1990 averaged 23 million barrels per day, up 30 thousand barrels per day from the level during the previous month. Production by the Arab members of OPEC during October 1990 averaged 14 million barrels per day, up 0.3 million barrels per day from the September 1990 level. During October 1990, production increased in Libya by 150 thousand barrels per day, in the United Arab Emirates by 110 thousand barrels per day, in Saudi Arabia by 70 thousand barrels per day, and in Algeria by 20 thousand barrels per day. Production decreased in Iraq by 50 thousand barrels per day and in Kuwait by 25 thousand barrels per day. Production in Qatar remained unchanged from the previous month. Among the non-Arab members of OPEC, production during October 1990 increased in Nigeria by 50 thousand barrels per day and in Indonesia by 5 thousand barrels per day. Production decreased in Iran by 300 thousand barrels per day and in Venezuela by 15 thousand barrels per day.

Among the non-OPEC nations, production during October 1990 increased in the United States by 287 thousand barrels per day, in the United Kingdom by 105 thousand barrels per day, in Canada by 50 thousand barrels per day, and in Mexico by 30 thousand barrels per day. Production decreased in China by 35 thousand barrels per day but remained unchanged in the U.S.S.R. from the previous month.

**Petroleum Consumption.** In July 1990, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 38 million barrels per day, 7 percent higher than the level in July 1989. Consumption was higher in Japan by 11 percent, higher in Canada by 4 percent, and higher in the United States by 2 percent, compared with levels 1 year earlier. In July 1990, consumption in all European OECD countries combined was 13.1 million barrels per day, 13 percent higher than in the previous July. Consumption was higher in West Germany by 16 percent, in France by 13 percent, in the United Kingdom by 13 percent, and in Italy by 11 percent, compared with levels 1 year earlier.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of July 1990 totaled 3.7 billion barrels, 4 percent higher than the ending stock level in July 1989. Stocks were higher by 4 percent in both Japan and the United States but lower in Canada by 6 percent, compared with levels 1 year earlier. In July 1990, stock levels in all European OECD countries was 1.2 billion barrels, 5 percent higher than in the previous July. Stocks were higher in France by 12 percent, slightly higher in West Germany, the same in Italy, and lower in the United Kingdom by 1 percent, compared with levels 1 year earlier.

**Nuclear Electricity Generation.** Based on *Nucleonics Week* information for October 1990, the 20 reporting countries with nuclear capacity generated 141 gross terawatthours (billion kilowatthours) of nuclear-generated electricity, 2 percent more than in October 1989.

In October 1990, two units became commercially operable--France's Cattenom 3, a 1,362-gross-MWe unit on October 4, and Canada's Darlington 2, a 935-gross-MWe unit on October 9.

As of October 31, 1990, there were 351 operable nuclear operating units in the 20 reporting countries. The units had a collective gross generating capacity of 292.5 gigawatts (million kilowatts). The 111 U.S. units accounted for 106.0 gross gigawatts, 36.2 percent of the total reported nuclear generating capacity.

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

| | Algeria | Iraq | Kuwait[b] | Libya | Qatar | Saudi Arabia[b] | United Arab Emirates | Arab OPEC[c] | Indonesia | Iran | Nigeria | Venezuela |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,097** | **2,018** | **3,020** | **2,175** | **570** | **7,596** | **1,533** | **18,009** | **1,339** | **5,861** | **2,054** | **3,366** |
| **1974 Average** | **1,009** | **1,971** | **2,546** | **1,521** | **518** | **8,480** | **1,679** | **17,724** | **1,375** | **6,022** | **2,255** | **2,976** |
| **1975 Average** | **983** | **2,262** | **2,084** | **1,480** | **438** | **7,075** | **1,664** | **15,986** | **1,307** | **5,350** | **1,783** | **2,346** |
| **1976 Average** | **1,075** | **2,415** | **2,145** | **1,933** | **497** | **8,577** | **1,936** | **18,578** | **1,504** | **5,883** | **2,067** | **2,294** |
| **1977 Average** | **1,152** | **2,348** | **1,969** | **2,063** | **445** | **9,245** | **1,999** | **19,221** | **1,686** | **5,663** | **2,085** | **2,238** |
| **1978 Average** | **1,231** | **2,563** | **2,131** | **1,983** | **487** | **8,301** | **1,831** | **18,527** | **1,635** | **5,242** | **1,897** | **2,165** |
| **1979 Average** | **1,224** | **3,477** | **2,500** | **2,092** | **508** | **9,532** | **1,831** | **21,164** | **1,591** | **3,168** | **2,302** | **2,356** |
| **1980 Average** | **1,106** | **2,514** | **1,656** | **1,787** | **472** | **9,900** | **1,709** | **19,144** | **1,577** | **1,662** | **2,055** | **2,168** |
| **1981 Average** | **1,002** | **1,000** | **1,125** | **1,140** | **405** | **9,815** | **1,474** | **15,961** | **1,605** | **1,380** | **1,433** | **2,102** |
| **1982 Average** | **987** | **1,012** | **823** | **1,150** | **330** | **6,483** | **1,250** | **12,035** | **1,339** | **2,214** | **1,295** | **1,895** |
| **1983 Average** | **968** | **1,005** | **1,064** | **1,105** | **295** | **5,086** | **1,149** | **10,672** | **1,343** | **2,440** | **1,241** | **1,801** |
| **1984 Average** | **1,014** | **1,209** | **1,157** | **1,087** | **394** | **4,663** | **1,146** | **10,670** | **1,412** | **2,174** | **1,388** | **1,798** |
| **1985 Average** | **1,037** | **1,433** | **1,023** | **1,059** | **301** | **3,388** | **1,193** | **9,434** | **1,325** | **2,250** | **1,495** | **1,677** |
| **1986 Average** | **945** | **1,690** | **1,419** | **1,034** | **308** | **4,870** | **1,330** | **11,596** | **1,390** | **2,035** | **1,467** | **1,787** |
| **1987 Average** | **1,048** | **2,079** | **1,585** | **972** | **293** | **4,265** | **1,541** | **11,783** | **1,343** | **2,298** | **1,341** | **1,752** |
| **1988** January | 990 | 2,550 | 1,373 | 1,030 | 365 | 4,320 | 1,205 | 11,834 | 1,265 | 2,100 | 1,360 | 1,853 |
| February | 1,030 | 2,600 | 1,239 | 1,030 | 430 | 4,493 | 1,055 | 11,878 | 1,265 | 2,000 | 1,410 | 1,853 |
| March | 1,050 | 2,650 | 1,244 | 1,030 | 320 | 4,504 | 1,255 | 12,054 | 1,315 | 2,100 | 1,360 | 1,853 |
| April | 1,010 | 2,650 | 1,342 | 975 | 320 | 4,647 | 1,425 | 12,370 | 1,365 | 2,200 | 1,415 | 1,853 |
| May | 1,040 | 2,600 | 1,249 | 1,030 | 320 | 4,662 | 1,405 | 12,307 | 1,365 | 2,200 | 1,465 | 1,853 |
| June | 1,040 | 2,700 | 1,456 | 1,030 | 325 | 4,764 | 1,405 | 12,721 | 1,365 | 2,100 | 1,465 | 1,853 |
| July | 1,040 | 2,600 | 1,420 | 1,030 | 325 | 4,825 | 1,430 | 12,671 | 1,365 | 2,300 | 1,410 | 1,853 |
| August | 1,040 | 2,600 | 1,621 | 1,030 | 325 | 5,382 | 1,905 | 13,904 | 1,365 | 2,300 | 1,460 | 1,853 |
| September | 1,040 | 2,700 | 1,714 | 1,080 | 325 | 5,525 | 1,965 | 14,350 | 1,265 | 2,400 | 1,515 | 1,928 |
| October | 1,040 | 2,700 | 1,704 | 1,130 | 375 | 6,587 | 2,000 | 15,537 | 1,365 | 2,400 | 1,515 | 1,928 |
| November | 1,080 | 2,700 | 1,807 | 1,130 | 375 | 6,791 | 2,100 | 15,984 | 1,265 | 2,500 | 1,465 | 2,078 |
| December | 1,080 | 2,700 | 1,725 | 1,130 | 375 | 6,919 | 2,100 | 16,030 | 1,365 | 2,500 | 1,560 | 2,078 |
| **Average** | **1,040** | **2,646** | **1,492** | **1,055** | **348** | **5,288** | **1,606** | **13,475** | **1,328** | **2,259** | **1,450** | **1,903** |
| **1989** January | 1,090 | 2,650 | 1,250 | 1,050 | 400 | 5,000 | 1,735 | 13,175 | 1,365 | 2,800 | 1,450 | 1,840 |
| February | 1,090 | 2,650 | 1,350 | 1,050 | 420 | 4,750 | 1,650 | 12,960 | 1,365 | 2,850 | 1,450 | 1,840 |
| March | 1,090 | 2,650 | 1,390 | 1,050 | 340 | 4,590 | 1,675 | 12,785 | 1,365 | 3,200 | 1,600 | 1,840 |
| April | 1,090 | 2,750 | 1,695 | 1,100 | 330 | 4,995 | 1,705 | 13,665 | 1,365 | 2,900 | 1,650 | 1,840 |
| May | 1,090 | 2,750 | 2,005 | 1,100 | 410 | 5,105 | 1,705 | 14,165 | 1,365 | 2,500 | 1,650 | 1,840 |
| June | 1,090 | 2,700 | 2,105 | 1,100 | 420 | 4,905 | 1,975 | 14,295 | 1,365 | 2,800 | 1,750 | 1,890 |
| July | 1,110 | 2,850 | 1,905 | 1,100 | 400 | 5,005 | 1,920 | 14,290 | 1,350 | 2,800 | 1,850 | 1,850 |
| August | 1,110 | 3,000 | 1,905 | 1,100 | 400 | 5,105 | 1,960 | 14,580 | 1,400 | 3,000 | 1,750 | 1,900 |
| September | 1,110 | 2,900 | 1,905 | 1,100 | 400 | 5,305 | 2,155 | 14,875 | 1,350 | 2,850 | 1,750 | 1,900 |
| October | 1,110 | 3,000 | 1,905 | 1,100 | 400 | 5,405 | 2,255 | 15,175 | 1,400 | 2,950 | 1,650 | 1,950 |
| November | 1,110 | 2,950 | 2,095 | 1,150 | 380 | 5,795 | 2,355 | 15,835 | 1,400 | 2,800 | 1,850 | 1,950 |
| December | 1,110 | 3,000 | 2,090 | 1,150 | 395 | 5,790 | 2,405 | 15,940 | 1,400 | 2,900 | 1,850 | 1,950 |
| **Average** | **1,100** | **2,822** | **1,802** | **1,096** | **391** | **5,148** | **1,959** | **14,319** | **1,374** | **2,863** | **1,689** | **1,883** |
| **1990** January | 1,160 | 2,900 | 1,995 | 1,200 | 370 | 5,595 | 2,055 | 15,275 | 1,250 | 2,700 | 1,750 | 1,990 |
| February | 1,160 | 2,900 | 1,995 | 1,350 | 380 | 5,695 | 2,030 | 15,510 | 1,250 | 3,000 | 1,750 | 2,140 |
| March | 1,160 | 2,900 | 2,175 | 1,300 | 400 | 5,825 | 2,055 | 15,815 | 1,350 | 3,000 | 1,750 | 2,040 |
| April | 1,160 | 2,950 | 1,950 | 1,250 | 400 | 5,950 | 2,100 | 15,760 | 1,400 | 2,900 | 1,850 | 2,040 |
| May | 1,160 | 3,100 | 1,950 | 1,250 | 365 | 5,450 | 2,110 | 15,385 | 1,350 | 3,200 | 1,750 | 2,040 |
| June | 1,160 | 3,200 | 1,755 | 1,250 | 365 | 5,455 | 2,050 | 15,235 | 1,350 | 3,100 | 1,750 | 2,040 |
| July | 1,160 | 3,400 | 1,850 | 1,250 | 370 | 5,450 | 2,050 | 15,530 | 1,380 | 3,050 | 1,750 | 2,040 |
| August | 1,160 | 1,000 | 140 | 1,400 | 400 | 5,850 | 1,650 | 11,600 | 1,450 | 3,300 | 1,850 | 2,090 |
| September | 1,190 | 500 | 100 | 1,400 | 400 | 7,740 | 2,200 | 13,530 | 1,470 | 3,300 | 1,900 | 2,290 |
| October | 1,210 | 450 | 75 | 1,550 | 400 | 7,810 | 2,310 | 13,805 | 1,475 | 3,000 | 1,950 | 2,275 |
| **10-Mo. Avg.** | **1,168** | **2,325** | **1,394** | **1,320** | **385** | **6,083** | **2,061** | **14,736** | **1,373** | **3,055** | **1,805** | **2,098** |

[a]Includes lease condensate; excludes natural gas plant liquids.

[b]Includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone from 1973 through July 1990. Kuwait Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990. In October 1990, therefore, total production in the Kuwait-Saudi Arabia Neutral Zone, which amounted to approximately 160 thousand barrels per day, was all included in Saudi Arabian production.

[c]The Arab members of the Organization of Petroleum Exporting Countries (OPEC) are Algeria, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and the United Arab Emirates. Production in the Neutral Zone between Kuwait and Saudi Arabia is included in "Arab OPEC" production.

Footnotes continued on following page.

# Table 10.1b World Crude Oil[a] Production (Continued)
(Thousand Barrels per Day)

| | Total OPEC[d] | Persian Gulf Nations[e] | Canada | Mexico | United Kingdom | United States | China | U.S.S.R. | Other[f] | Market Economies[g] | World |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **30,988** | **20,668** | **1,798** | **465** | **2** | **9,208** | **1,090** | **8,329** | **3,804** | **45,805** | **55,684** |
| **1974 Average** | **30,729** | **21,282** | **1,551** | **571** | **2** | **8,774** | **1,315** | **8,856** | **3,862** | **45,021** | **55,660** |
| **1975 Average** | **27,154** | **18,934** | **1,430** | **705** | **12** | **8,375** | **1,490** | **9,472** | **4,139** | **41,338** | **52,777** |
| **1976 Average** | **30,737** | **21,514** | **1,314** | **831** | **245** | **8,132** | **1,670** | **9,985** | **4,355** | **45,132** | **57,269** |
| **1977 Average** | **31,299** | **21,725** | **1,321** | **981** | **768** | **8,245** | **1,874** | **10,485** | **4,616** | **46,745** | **59,589** |
| **1978 Average** | **29,875** | **20,606** | **1,316** | **1,209** | **1,082** | **8,707** | **2,082** | **10,950** | **4,782** | **46,497** | **60,003** |
| **1979 Average** | **30,998** | **21,066** | **1,500** | **1,461** | **1,568** | **8,552** | **2,122** | **11,187** | **5,089** | **48,725** | **62,477** |
| **1980 Average** | **26,985** | **17,961** | **1,435** | **1,936** | **1,622** | **8,597** | **2,114** | **11,460** | **5,204** | **45,355** | **59,353** |
| **1981 Average** | **22,843** | **15,245** | **1,285** | **2,313** | **1,811** | **8,572** | **2,012** | **11,552** | **5,390** | **41,784** | **55,778** |
| **1982 Average** | **19,145** | **12,156** | **1,271** | **2,748** | **2,065** | **8,649** | **2,045** | **11,615** | **5,646** | **39,069** | **53,184** |
| **1983 Average** | **17,891** | **11,081** | **1,356** | **2,689** | **2,291** | **8,688** | **2,120** | **11,684** | **6,248** | **38,703** | **52,967** |
| **1984 Average** | **17,857** | **10,784** | **1,438** | **2,780** | **2,480** | **8,879** | **2,296** | **11,576** | **6,897** | **39,893** | **54,203** |
| **1985 Average** | **16,634** | **9,630** | **1,471** | **2,745** | **2,530** | **8,971** | **2,505** | **11,250** | **7,540** | **39,463** | **53,646** |
| **1986 Average** | **18,734** | **11,696** | **1,474** | **2,435** | **2,539** | **8,680** | **2,620** | **11,540** | **7,850** | **41,282** | **55,872** |
| **1987 Average** | **18,846** | **12,103** | **1,535** | **2,548** | **2,406** | **8,349** | **2,690** | **11,690** | **8,242** | **41,507** | **56,306** |
| **1988** January | 18,887 | 11,956 | 1,528 | 2,566 | 2,524 | 8,250 | 2,710 | 11,705 | 8,698 | 42,043 | 56,868 |
| February | 18,891 | 11,860 | 1,608 | 2,536 | 2,519 | 8,374 | 2,710 | 11,715 | 8,593 | 42,111 | 56,946 |
| March | 19,167 | 12,116 | 1,633 | 2,521 | 2,519 | 8,374 | 2,710 | 11,655 | 8,731 | 42,535 | 57,310 |
| April | 19,688 | 12,628 | 1,573 | 2,496 | 2,509 | 8,288 | 2,710 | 11,675 | 8,697 | 42,841 | 57,636 |
| May | 19,675 | 12,480 | 1,602 | 2,531 | 2,367 | 8,229 | 2,690 | 11,675 | 8,579 | 42,573 | 57,348 |
| June | 19,989 | 12,794 | 1,600 | 2,536 | 2,003 | 8,170 | 2,690 | 11,675 | 8,352 | 42,240 | 57,015 |
| July | 20,084 | 12,944 | 1,643 | 2,536 | 2,087 | 8,040 | 2,690 | 11,675 | 8,689 | 42,664 | 57,444 |
| August | 21,367 | 14,177 | 1,648 | 2,536 | 2,052 | 8,079 | 2,695 | 11,675 | 8,582 | 43,849 | 58,634 |
| September | 21,943 | 14,673 | 1,600 | 2,291 | 2,077 | 7,895 | 2,765 | 11,675 | 8,743 | 44,134 | 58,989 |
| October | 23,230 | 15,812 | 1,631 | 2,536 | 2,033 | 8,023 | 2,790 | 11,675 | 8,789 | 45,827 | 60,707 |
| November | 23,777 | 16,318 | 1,648 | 2,516 | 2,057 | 8,023 | 2,790 | 11,675 | 8,693 | 46,299 | 61,179 |
| December | 24,018 | 16,364 | 1,609 | 2,536 | 2,047 | 7,942 | 2,790 | 11,675 | 8,813 | 46,550 | 61,430 |
| **Average** | **20,899** | **13,682** | **1,610** | **2,512** | **2,232** | **8,140** | **2,728** | **11,679** | **8,664** | **43,645** | **58,464** |
| **1989** January | 21,115 | 13,878 | 1,580 | 2,525 | 1,814 | 7,937 | 2,790 | 11,535 | 9,069 | 43,632 | 58,365 |
| February | 20,920 | 13,713 | 1,570 | 2,495 | 1,764 | 7,788 | 2,790 | 11,535 | 9,017 | 43,146 | 57,879 |
| March | 21,250 | 13,888 | 1,540 | 2,535 | 1,809 | 7,575 | 2,790 | 11,535 | 9,236 | 43,537 | 58,270 |
| April | 21,900 | 14,418 | 1,555 | 2,520 | 1,709 | 7,772 | 2,690 | 11,420 | 9,134 | 44,172 | 58,700 |
| May | 21,980 | 14,518 | 1,560 | 2,520 | 1,554 | 7,816 | 2,700 | 11,420 | 9,072 | 44,104 | 58,622 |
| June | 22,590 | 14,948 | 1,600 | 2,520 | 1,365 | 7,624 | 2,700 | 11,365 | 8,920 | 44,221 | 58,684 |
| July | 22,630 | 14,923 | 1,535 | 2,515 | 1,752 | 7,444 | 2,740 | 11,365 | 9,210 | 44,688 | 59,191 |
| August | 23,160 | 15,410 | 1,540 | 2,515 | 1,839 | 7,544 | 2,770 | 11,365 | 9,347 | 45,542 | 60,080 |
| September | 23,255 | 15,558 | 1,580 | 2,450 | 1,949 | 7,548 | 2,805 | 11,255 | 9,340 | 45,719 | 60,182 |
| October | 23,705 | 15,958 | 1,525 | 2,510 | 2,044 | 7,453 | 2,830 | 11,180 | 9,507 | 46,336 | 60,754 |
| November | 24,405 | 16,418 | 1,595 | 2,510 | 1,964 | 7,536 | 2,770 | 11,180 | 9,557 | 47,159 | 61,517 |
| December | 24,590 | 16,623 | 1,545 | 2,470 | 1,874 | 7,337 | 2,745 | 11,180 | 9,429 | 46,837 | 61,170 |
| **Average** | **22,634** | **15,028** | **1,560** | **2,507** | **1,787** | **7,613** | **2,760** | **11,360** | **9,238** | **44,934** | **59,460** |
| **1990** January | 23,505 | 15,658 | 1,460 | 2,515 | 1,924 | E 7,522 | 2,800 | 11,215 | 9,546 | 46,059 | 60,487 |
| February | 24,200 | 16,041 | 1,480 | 2,515 | 1,824 | E 7,465 | 2,780 | 11,215 | 9,623 | 46,694 | 61,102 |
| March | 24,515 | 16,396 | 1,585 | 2,505 | 1,949 | E 7,394 | 2,750 | 11,050 | 9,709 | 47,244 | 61,457 |
| April | 24,510 | 16,291 | 1,530 | 2,505 | 1,929 | E 7,331 | 2,750 | 11,050 | 9,733 | 47,120 | 61,338 |
| May | 24,255 | 16,216 | 1,510 | 2,480 | 1,899 | E 7,259 | 2,750 | 10,950 | 9,740 | 46,725 | 60,843 |
| June | 24,025 | 15,967 | 1,490 | 2,460 | 1,844 | E 7,076 | 2,760 | 10,900 | 9,629 | 46,111 | 60,184 |
| July | 24,300 | 16,211 | 1,525 | 2,500 | 1,755 | E 7,144 | 2,720 | R 10,605 | 9,548 | 46,359 | R 60,097 |
| August | 20,860 | 12,382 | 1,525 | 2,540 | 1,635 | E 7,215 | 2,755 | R 10,485 | 9,550 | R 42,915 | R 56,565 |
| September | 23,060 | 14,282 | 1,530 | 2,620 | 1,765 | E 7,167 | 2,815 | R 10,395 | R 9,830 | R 45,559 | R 59,182 |
| October | 23,090 | 14,087 | 1,580 | 2,650 | 1,870 | E 7,454 | 2,780 | 10,395 | 10,112 | 46,343 | 59,931 |
| **10-Mo. Avg.** | **23,624** | **15,345** | **1,522** | **2,529** | **1,839** | **E 7,302** | **2,766** | **10,823** | **9,702** | **46,106** | **60,108** |

Footnotes continued.

[d]"Total OPEC" consists of Algeria, Ecuador, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Total OPEC" production.

[e]The Persian Gulf Nations are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates. Production from the Neutral Zone between Kuwait and Saudi Arabia is included in "Persian Gulf Nations" production.

[f]Other is a calculated total derived from the difference between World and the sum of production in Total OPEC, Canada, Mexico, the United Kingdom, the United States, China, and the U.S.S.R.

[g]World excluding Albania, Bulgaria, Cambodia, China, Cuba, Czechoslovakia, East Germany, Hungary, Laos, Mongolia, North Korea, Poland, Romania, U.S.S.R., Vietnam, and Yugoslavia.

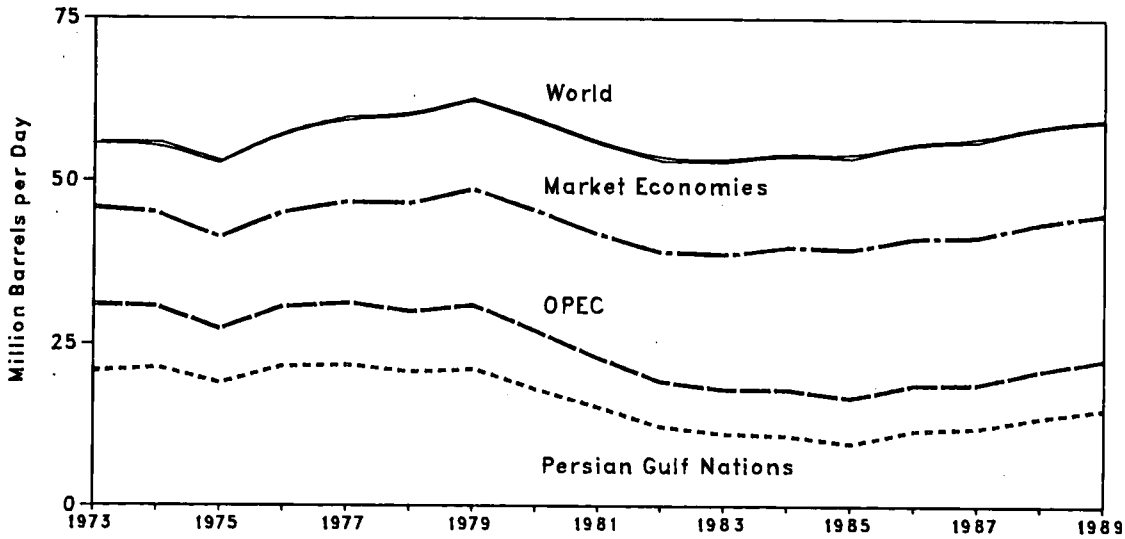
R=Revised data. E=Estimate.

Notes: • 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.

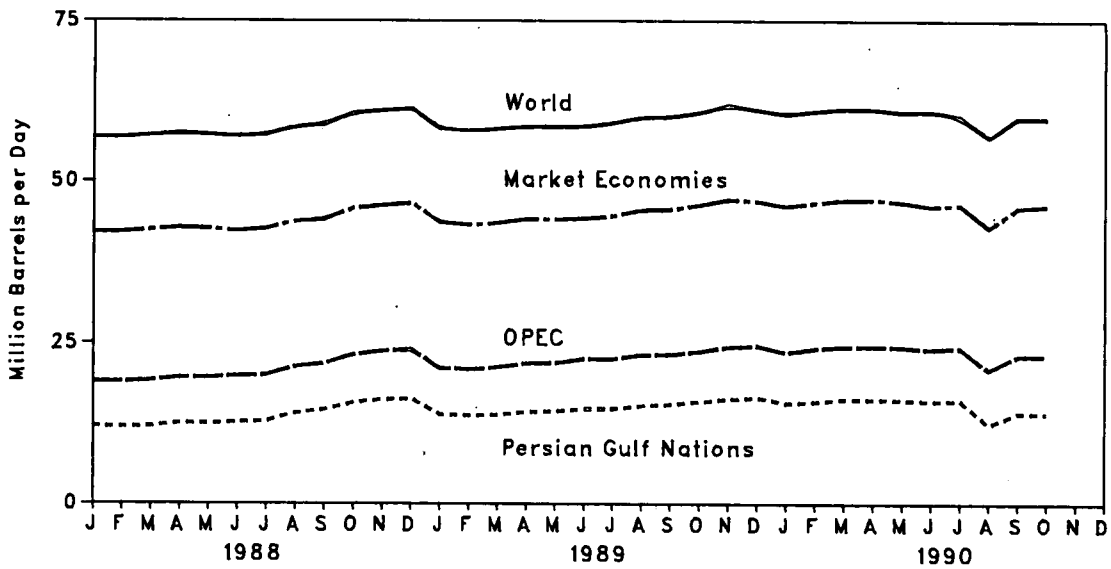
Sources: • **United States**—1973 through 1988: Energy Information Administration (EIA), *Petroleum Supply Annual.* 1989 forward: EIA, *Petroleum Supply Monthly.* •**Other Countries**—1973 through 1988 annual data: EIA, *International Energy Annual.* 1988 annual data: Average of monthly data. Monthly data: *Petroleum Intelligence Weekly,* the *Oil and Gas Journal,* and other industry sources. • **World**—1973 through 1988: EIA, *International Energy Annual.* 1989 annual data: average of monthly data. Monthly data: Sum of all countries' monthly data.

## Figure 10.1 World Crude Oil Production

Yearly

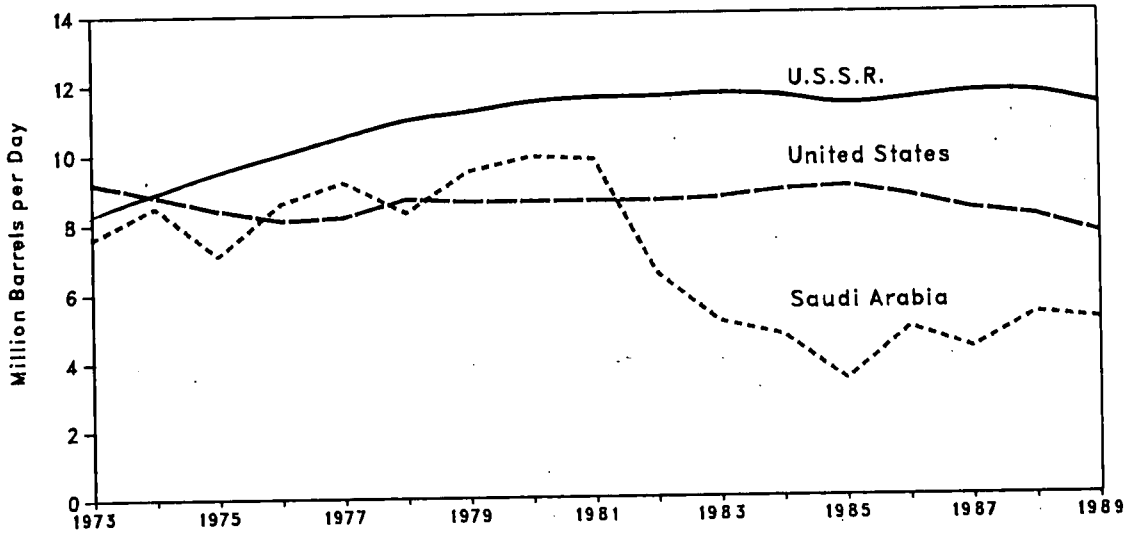



Monthly

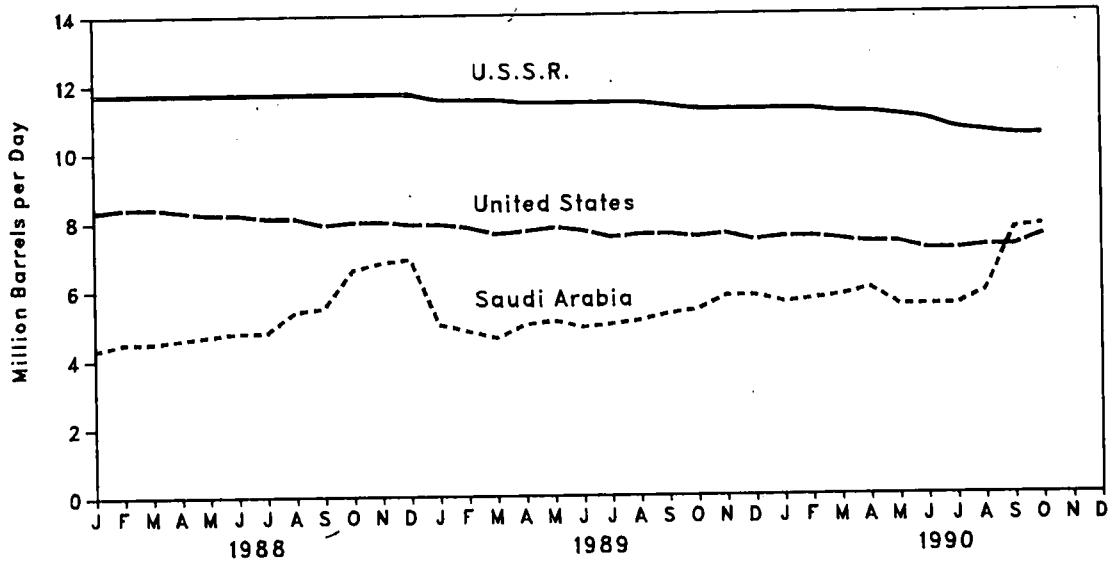


## Figure 10.2 Crude Oil Production in Selected Countries

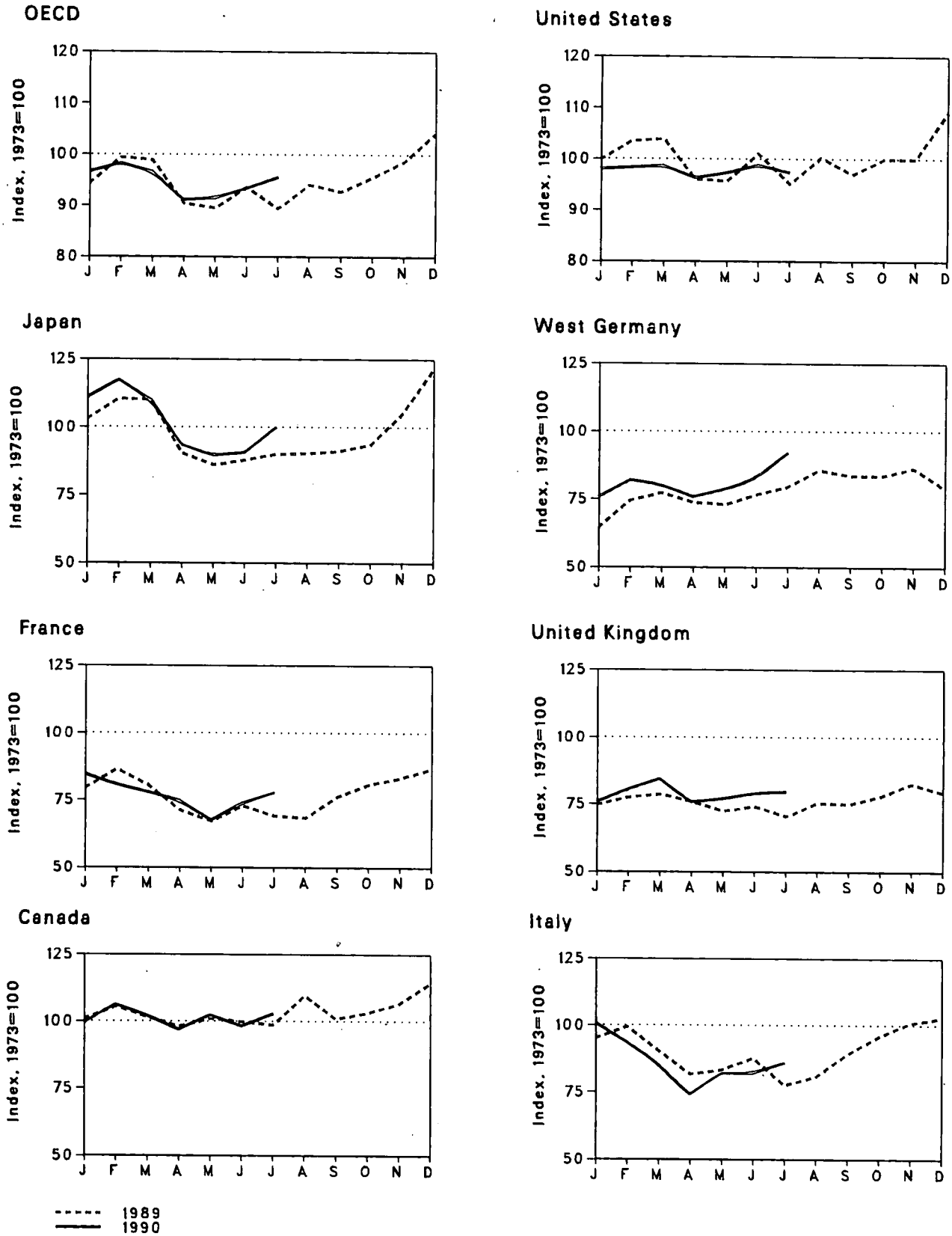
Yearly




Monthly



## Figure 10.3 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** | **1,578** | **1,880** | **1,781** | **4,582** | **1,590** | **15,296** | **2,372** | **12,053** | **1,008** | **34,517** |
| **1983 Average** | **1,448** | **1,835** | **1,750** | **4,395** | **1,531** | **15,231** | **2,324** | **11,765** | **954** | **33,793** |
| **1984 Average** | **1,472** | **1,754** | **1,646** | **4,576** | **1,849** | **15,726** | **2,322** | **11,736** | **989** | **34,500** |
| **1985 Average** | **1,504** | **1,775** | **1,717** | **4,384** | **1,634** | **15,726** | **2,338** | **11,681** | **976** | **34,271** |
| **1986 Average** | **1,506** | **1,772** | **1,738** | **4,439** | **1,649** | **16,281** | **2,498** | **12,102** | **951** | **35,279** |
| **1987 Average** | **1,548** | **1,789** | **1,855** | **4,484** | **1,603** | **16,665** | **2,424** | **12,255** | **958** | **35,911** |
| **1988** January | 1,596 | 1,697 | 1,811 | 4,874 | 1,580 | 17,403 | 2,135 | 11,468 | 821 | 36,163 |
| February | 1,720 | 1,978 | 1,926 | 5,696 | 1,722 | 17,760 | 2,360 | 12,662 | 904 | 38,742 |
| March | 1,678 | 1,968 | 1,834 | 5,249 | 1,797 | 17,612 | 2,546 | 13,156 | 1,032 | 38,728 |
| April | 1,503 | 1,703 | 1,643 | 4,469 | 1,642 | 16,561 | 2,240 | 11,652 | 901 | 35,085 |
| May | 1,637 | 1,560 | 1,663 | 3,964 | 1,591 | 16,197 | 2,256 | 11,293 | 965 | 34,055 |
| June | 1,674 | 1,726 | 1,813 | 4,164 | 1,725 | 17,059 | 2,580 | 12,507 | 995 | 36,399 |
| July | 1,624 | 1,677 | 1,787 | 4,228 | 1,584 | 16,695 | 2,528 | 12,001 | 946 | 35,494 |
| August | 1,765 | 1,577 | 1,631 | 4,447 | 1,649 | 17,482 | 2,352 | 11,852 | 986 | 36,532 |
| September | 1,719 | 1,770 | 1,870 | 4,293 | 1,743 | 17,072 | 2,519 | 12,633 | 935 | 36,652 |
| October | 1,708 | 1,772 | 1,892 | 4,374 | 1,720 | 17,580 | 2,384 | 12,436 | 934 | 37,032 |
| November | 1,834 | 2,076 | 2,113 | 5,280 | 1,859 | 17,620 | 2,549 | 13,764 | 918 | 39,416 |
| December | 1,853 | 2,039 | 2,059 | 6,017 | 1,762 | 18,365 | 2,622 | 13,731 | 928 | 40,895 |
| **Average** | **1,693** | **1,797** | **1,836** | **4,752** | **1,697** | **17,283** | **2,422** | **12,427** | **939** | **37,093** |
| **1989** January | 1,720 | 1,923 | 2,041 | 5,224 | 1,716 | 17,269 | 1,878 | 12,235 | 895 | 37,343 |
| February | 1,801 | 2,089 | 2,136 | 5,601 | 1,784 | 17,920 | 2,172 | 12,999 | 1,036 | 39,357 |
| March | 1,732 | 1,946 | 1,941 | 5,571 | 1,810 | 17,989 | 2,254 | 12,878 | 949 | 39,119 |
| April | 1,673 | 1,719 | 1,753 | 4,581 | 1,747 | 16,624 | 2,147 | 11,910 | 974 | 35,762 |
| May | 1,724 | 1,623 | 1,792 | 4,362 | 1,665 | 16,546 | 2,128 | 11,747 | 1,022 | 35,400 |
| June | 1,702 | 1,762 | 1,884 | 4,455 | 1,708 | 17,497 | 2,235 | 12,346 | 1,040 | 37,040 |
| July | R 1,683 | 1,668 | 1,667 | 4,570 | 1,617 | 16,453 | 2,324 | 11,655 | 983 | R 35,344 |
| August | R 1,872 | 1,651 | 1,737 | 4,586 | 1,737 | 17,360 | 2,502 | 12,389 | 1,029 | R 37,236 |
| September | R 1,723 | 1,846 | 1,917 | 4,630 | 1,727 | 16,795 | 2,438 | 12,638 | 902 | R 36,687 |
| October | 1,762 | 1,955 | 2,061 | 4,746 | 1,795 | 17,304 | 2,436 | 13,052 | 930 | R 37,795 |
| November | 1,819 | 2,015 | 2,166 | 5,319 | 1,900 | 17,311 | 2,520 | R 13,608 | 976 | R 39,034 |
| December | 1,950 | 2,095 | 2,206 | 6,161 | 1,822 | 18,858 | 2,304 | R 13,264 | 981 | R 41,214 |
| **Average** | **1,763** | **1,856** | **1,940** | **4,981** | **1,752** | **17,325** | **2,278** | **12,561** | **976** | **37,607** |
| **1990** January | 1,696 | 2,043 | 2,163 | 5,628 | 1,742 | 16,968 | 2,206 | R 12,981 | 953 | R 38,226 |
| February | 1,812 | 1,951 | 2,015 | 5,952 | 1,853 | 17,024 | 2,391 | R 13,094 | 978 | R 38,861 |
| March | 1,745 | 1,886 | 1,838 | 5,576 | 1,939 | 17,083 | 2,342 | R 12,745 | 1,063 | R 38,211 |
| April | R 1,654 | 1,806 | 1,594 | 4,737 | 1,744 | 16,666 | R 2,209 | R 12,055 | R 949 | R 36,061 |
| May | R 1,746 | 1,635 | 1,762 | 4,544 | 1,774 | 16,843 | R 2,294 | R 12,073 | R 1,018 | R 36,224 |
| June | R 1,679 | 1,792 | 1,768 | 4,607 | 1,823 | 17,112 | R 2,412 | R 12,574 | R 982 | R 36,953 |
| July | 1,755 | 1,884 | 1,846 | 5,069 | 1,835 | 16,856 | 2,687 | 13,122 | 993 | 37,794 |
| **7-Mo. Average** | **1,726** | **1,856** | **1,854** | **5,152** | **1,815** | **16,935** | **2,363** | **12,661** | **991** | **37,465** |

[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.

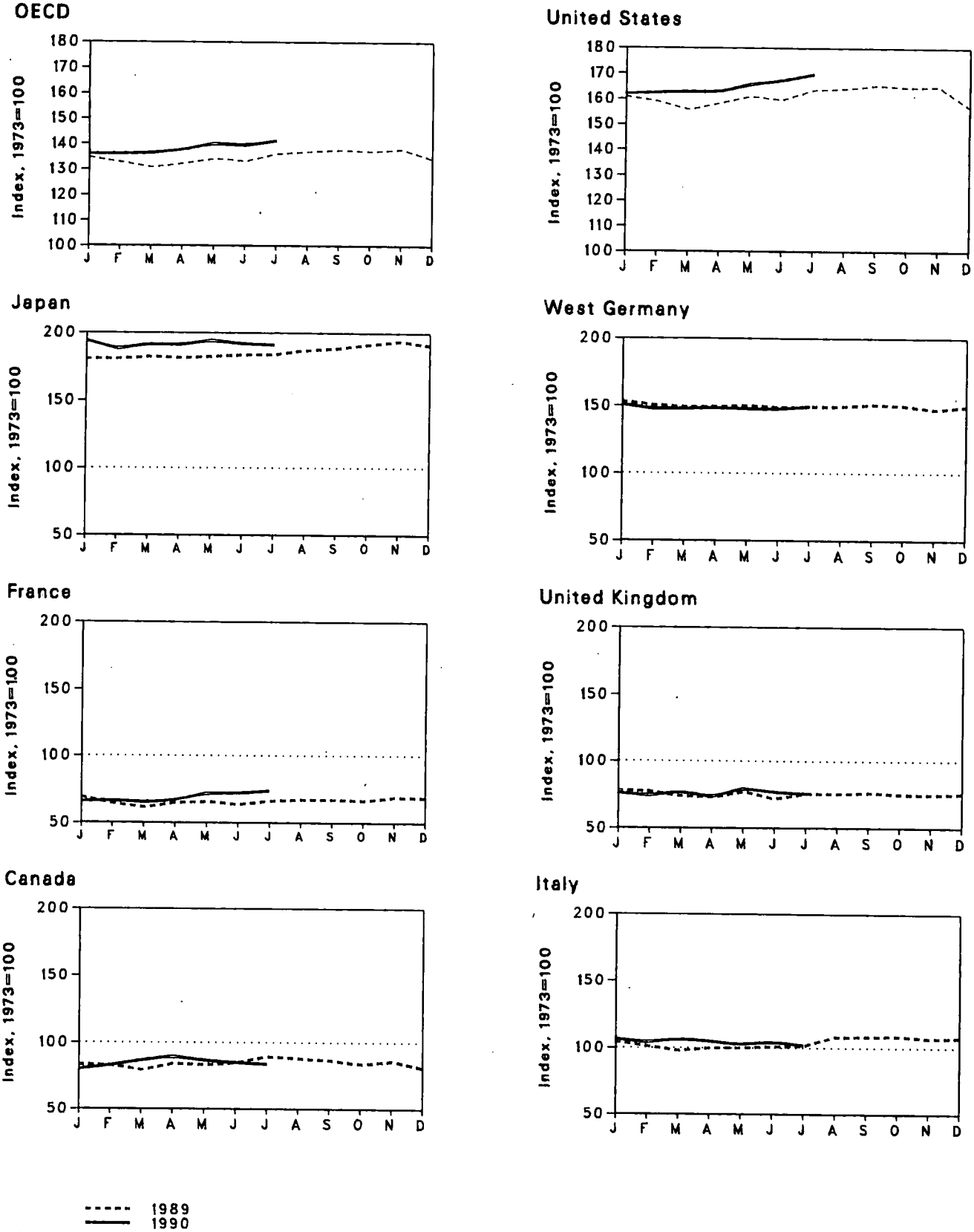
[c]"Other OECD" consists of Australia, New Zealand, and the U.S. Territories.

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 1987 are final. Subsequent data are preliminary.

Sources: • **United States**—Table 3.1a. • **All Other**—International Energy Agency, *Quarterly Oil Statistics* and *Monthly Oil Statistics*.

## Figure 10.4 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** | **121** | **153** | **149** | **470** | **118** | **1,454** | **249** | **1,142** | **68** | **3,255** |
| **1984 Year** | **128** | **152** | **159** | **479** | **112** | **1,556** | **239** | **1,130** | **69** | **3,362** |
| **1985 Year** | **113** | **139** | **157** | **494** | **123** | **1,519** | **233** | **1,092** | **66** | **3,284** |
| **1986 Year** | **111** | **127** | **155** | **509** | **124** | **1,593** | **252** | **1,133** | **72** | **3,418** |
| **1987 Year** | 126 | 127 | 169 | 540 | 121 | 1,607 | 259 | 1,130 | 72 | 3,474 |
| **1988** January | 130 | 129 | 163 | 544 | 117 | 1,597 | 268 | 1,131 | 68 | 3,469 |
| February | 124 | 118 | 159 | 530 | 120 | 1,576 | 271 | 1,107 | 69 | 3,406 |
| March | 127 | 108 | 146 | 522 | 113 | 1,559 | 266 | 1,065 | 65 | 3,338 |
| April | 127 | 110 | 148 | 519 | 114 | 1,578 | 270 | 1,066 | 66 | 3,355 |
| May | 123 | 117 | 156 | 533 | 122 | 1,614 | 269 | 1,098 | 65 | 3,433 |
| June | 118 | 120 | 152 | 556 | 118 | 1,612 | 266 | 1,099 | 64 | 3,450 |
| July | 125 | 123 | 158 | 593 | 117 | 1,629 | 270 | 1,103 | 67 | 3,517 |
| August | 123 | 126 | 164 | 566 | 120 | 1,624 | 271 | 1,127 | 66 | 3,506 |
| September | 124 | 126 | 162 | 559 | 119 | 1,628 | 270 | 1,127 | 66 | 3,504 |
| October | 124 | 131 | 164 | 557 | 119 | 1,630 | 276 | 1,142 | 64 | 3,517 |
| November | 122 | 128 | 158 | 558 | 113 | 1,631 | 269 | 1,103 | 69 | 3,482 |
| December | 116 | 140 | 155 | 538 | 112 | 1,597 | 266 | 1,118 | 71 | 3,440 |
| **1989** January | 117 | 138 | 159 | 547 | 121 | 1,620 | 277 | 1,133 | 69 | 3,486 |
| February | 116 | 129 | 154 | 548 | 121 | 1,601 | 272 | 1,103 | 69 | 3,437 |
| March | 111 | 123 | 148 | 552 | 115 | 1,568 | 270 | 1,085 | 68 | 3,384 |
| April | 118 | 131 | 152 | 549 | 114 | 1,596 | 271 | 1,091 | 71 | 3,425 |
| May | 117 | 132 | 152 | 553 | 121 | 1,623 | 272 | 1,111 | 73 | 3,476 |
| June | 119 | 128 | 154 | 557 | 112 | 1,608 | 269 | 1,096 | 71 | 3,450 |
| July | 125 | 133 | 155 | 557 | 119 | 1,649 | 270 | 1,120 | 70 | 3,521 |
| August | 123 | 135 | 165 | 567 | 118 | 1,654 | 271 | 1,133 | 72 | 3,549 |
| September | 121 | 135 | 165 | 572 | 120 | 1,667 | 274 | 1,137 | 66 | 3,563 |
| October | 117 | 134 | 165 | 580 | 117 | 1,658 | 272 | 1,121 | 70 | 3,547 |
| November | 121 | 139 | 163 | 588 | 117 | 1,663 | 267 | 1,125 | 75 | 3,571 |
| December | 114 | 138 | 164 | 577 | 118 | 1,581 | 271 | 1,133 | 71 | 3,476 |
| **1990** January | 112 | 132 | 162 | 588 | 119 | 1,632 | 273 | 1,120 | 68 | 3,521 |
| February | 116 | 134 | 158 | 569 | 116 | 1,639 | 267 | 1,126 | 74 | 3,525 |
| March | 121 | 130 | 163 | 581 | 121 | 1,643 | 268 | 1,117 | 71 | 3,533 |
| April | 126 | 135 | 159 | 578 | 114 | 1,640 | 270 | R 1,143 | 77 | R 3,564 |
| May | 121 | 145 | 155 | 590 | 125 | 1,671 | 268 | R 1,170 | 77 | R 3,629 |
| June | 119 | 145 | 160 | 581 | 120 | 1,684 | 268 | R 1,146 | 75 | R 3,605 |
| July | 117 | 149 | 155 | 578 | 118 | 1,711 | 271 | 1,177 | 71 | 3,655 |

[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) consists of 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. • Data through 1987 are final. Subsequent data are preliminary.

Sources: • **United States**—Table 3.1a. • **All Other**—International Energy Agency, *Quarterly Oil Statistics* and *Monthly Oil Statistics*.

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

| | Argentina | Belgium | Brazil | Canada | Finland | France | India | Italy | Japan | Netherlands | Pakistan |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 0.0 | 0.0 | 0.0 | 15.3 | 0.0 | 14.7 | 2.5 | 3.1 | 9.4 | 1.1 | 0.5 |
| **1974 Total** | 1.0 | .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 | .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 Total** | 5.8 | 34.5 | 3.4 | 62.9 | 18.8 | 224.0 | 4.5 | 7.0 | 152.0 | 3.9 | .3 |
| **1986 Total** | 5.7 | 38.6 | .1 | 74.6 | 18.8 | 254.3 | 5.1 | 8.7 | 164.8 | 4.2 | .5 |
| **1987 Total** | 5.2 | 41.9 | 1.0 | 80.6 | 19.4 | 265.5 | 5.5 | .2 | 182.8 | 3.6 | .3 |
| **1988** January | .5 | 3.9 | .0 | 7.7 | 1.8 | 26.1 | .3 | .0 | 15.0 | .3 | .1 |
| February | .5 | 3.2 | .0 | 7.5 | 1.6 | 24.5 | .4 | .0 | 13.5 | (s) | (s) |
| March | .5 | 3.7 | .0 | 7.9 | 1.8 | 26.0 | .4 | .0 | 14.7 | (s) | (s) |
| April | .2 | 3.4 | .0 | 6.9 | 1.7 | 21.0 | .4 | .0 | 14.9 | .2 | .0 |
| May | .2 | 3.3 | .0 | 6.7 | 1.3 | 18.9 | .5 | .0 | 15.7 | .4 | .0 |
| June | .2 | 2.7 | .0 | 6.6 | 1.4 | 20.1 | .6 | .0 | 14.8 | .4 | (s) |
| July | .7 | 3.3 | .0 | 7.2 | 1.2 | 20.6 | .7 | .0 | 15.5 | .4 | (s) |
| August | .5 | 3.8 | .0 | 7.4 | 1.5 | 20.9 | .6 | .0 | 15.8 | .4 | .0 |
| September | .5 | 3.9 | .0 | 6.9 | 1.7 | 23.4 | .5 | .0 | 14.1 | .4 | .0 |
| October | .5 | 3.9 | .0 | 6.6 | 1.8 | 24.0 | .5 | .0 | 13.6 | .4 | .0 |
| November | .5 | 3.9 | .0 | 6.7 | 1.7 | 23.3 | .4 | .0 | 11.5 | .4 | .0 |
| December | .5 | 4.1 | .3 | 7.7 | 1.8 | 26.1 | .5 | .0 | 14.6 | .4 | .0 |
| **Total** | 5.1 | 43.1 | .3 | 85.6 | 19.3 | 274.9 | 6.1 | .0 | 173.6 | 3.7 | .2 |
| **1989** January | .5 | 4.1 | .2 | 8.1 | 1.8 | 30.5 | .3 | .0 | 15.2 | .4 | .0 |
| February | .4 | 3.4 | .2 | 6.9 | 1.6 | 27.1 | .3 | .0 | 14.4 | (s) | .0 |
| March | .5 | 3.6 | .2 | 7.7 | 1.8 | 27.8 | .3 | .0 | 16.2 | .2 | .0 |
| April | .4 | 3.0 | .3 | 7.3 | 1.7 | 25.5 | .4 | .0 | 13.3 | .4 | .0 |
| May | .5 | 3.0 | (s) | 6.2 | 1.2 | 23.2 | .4 | .0 | 13.8 | .4 | .0 |
| June | .5 | 3.0 | .2 | 5.8 | 1.6 | 23.9 | .4 | .0 | 14.3 | .4 | .0 |
| July | .5 | 3.2 | .2 | 7.1 | 1.4 | 23.7 | .3 | .0 | 17.4 | .4 | .0 |
| August | (s) | 3.7 | .0 | 6.9 | 1.5 | 21.0 | .2 | .0 | 18.1 | .4 | .0 |
| September | .5 | 3.3 | .2 | 6.6 | 1.3 | 22.6 | .3 | .0 | 15.5 | .4 | .0 |
| October | .5 | 3.6 | .0 | 6.6 | 1.4 | 24.6 | .4 | .0 | 14.8 | .4 | (s) |
| November | .5 | 3.6 | .0 | 6.3 | 1.7 | 24.9 | .5 | .0 | 14.7 | .4 | (s) |
| December | .4 | 3.6 | .0 | 7.6 | 1.8 | 27.8 | .4 | .0 | 16.0 | .4 | (s) |
| **Total** | 5.0 | 41.2 | 1.6 | 83.2 | 18.8 | 302.5 | 4.0 | .0 | 183.7 | 4.0 | .1 |
| **1990** January | .5 | 3.9 | .1 | 7.3 | 1.8 | 28.7 | .4 | .0 | 15.0 | .3 | (s) |
| February | .4 | 3.5 | .2 | 5.8 | 1.6 | 23.5 | .5 | .0 | 12.0 | (s) | (s) |
| March | .7 | 4.2 | .0 | 6.2 | 1.7 | 25.8 | .5 | .0 | 14.6 | (s) | (s) |
| April | .6 | 3.6 | .1 | 5.4 | 1.7 | E 26.5 | .5 | .0 | 15.6 | (s) | (s) |
| May | E .1 | 2.9 | E .0 | 4.4 | 1.3 | 23.9 | .4 | .0 | 16.6 | .4 | .1 |
| June | E .2 | 2.9 | E .0 | 5.1 | 1.3 | E 23.8 | .4 | .0 | 16.0 | .3 | .1 |
| July | E .2 | 3.5 | E .0 | 6.6 | 1.6 | 23.9 | .5 | .0 | 18.5 | .4 | .1 |
| August | E .2 | 3.7 | .3 | 5.9 | 1.2 | 23.3 | .5 | .0 | 19.2 | .4 | .1 |
| September | E .2 | 3.3 | E .3 | 5.5 | 1.4 | 26.5 | .5 | .0 | 15.8 | .4 | (s) |
| October | E .2 | 3.4 | E .3 | 7.1 | 1.8 | 27.6 | .5 | .0 | 15.8 | .4 | .0 |
| **10-Month Total** | E 3.5 | 34.9 | E 1.3 | 59.3 | 15.4 | E 253.6 | 4.8 | .0 | 159.1 | 2.7 | .3 |
| **1989 10-Month Total** | 4.2 | 34.0 | 1.6 | 69.3 | 15.3 | 249.9 | 3.1 | .0 | 153.0 | 3.3 | .0 |
| **1988 10-Month Total** | 4.2 | 35.1 | .0 | 71.2 | 15.8 | 225.4 | 5.1 | .0 | 147.5 | 2.9 | .2 |

[a]Figures are for gross generation, as opposed to net 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.

[c]Total equals all countries with nuclear generating capacity except Bulgaria, China, Cuba, Czechoslovakia, the German Democratic Republic, Hungary, North Korea, Poland, Romania, the U.S.S.R., and Yugoslavia.

[d]Some Central Electricity Generating Board figures were unavailable for March 1988. This number does not reflect the total generation for March.

[e]Total nuclear generation for August through October 1990 is not equal to the sum of the generation from the reporting countries listed because Mexico, which began generating nuclear electricity in August 1990, is not shown separately in the table.

E=Estimate. (s)=Less than 0.05 billion gross kilowatthours.

Footnotes continued on following page.

# Table 10.4b Nuclear Electricity Generation by Reporting Countries[a] (Continued)
(Billion Gross Kilowatthours)

| | South Africa | South Korea | Spain | Sweden | Switzer-land | Taiwan | United King-dom[b] | West Germany | Total[c] Excluding U.S. | United States | Total[c] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Total** | 0.0 | 0.0 | 6.5 | 2.1 | 6.2 | 0.0 | 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 | .1 | 6.5 | 19.9 | 8.1 | .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 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 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 Total** | 6.6 | 37.8 | 41.3 | 67.2 | 23.0 | 33.1 | 56.2 | 130.2 | 1,001.3 | 478.5 | 1,479.8 |
| **1988** January | .3 | 3.9 | 4.2 | 7.2 | 2.3 | 2.2 | 4.9 | 13.1 | 93.5 | 47.4 | 140.9 |
| February | .7 | 3.1 | 3.4 | 6.8 | 2.2 | 2.0 | 4.3 | 12.4 | 86.1 | 44.5 | 130.5 |
| March | 1.1 | 2.8 | 3.5 | 7.2 | 2.3 | 2.7 | [d] 1.8 | 13.5 | 90.0 | 46.2 | 136.1 |
| April | 1.3 | 2.9 | 3.7 | 6.8 | 2.2 | 2.6 | 4.5 | 11.4 | 84.1 | 42.2 | 126.3 |
| May | 1.4 | 2.8 | 4.4 | 5.4 | 2.0 | 2.2 | 4.3 | 11.0 | 80.3 | 42.7 | 123.0 |
| June | 1.3 | 3.1 | 4.4 | 4.3 | 1.2 | 2.6 | 5.7 | 10.6 | 80.0 | 46.3 | 126.4 |
| July | 1.3 | 3.6 | 3.8 | 3.7 | 1.3 | 2.9 | 5.1 | 10.6 | 82.1 | 51.7 | 133.8 |
| August | .8 | 3.5 | 2.7 | 3.6 | 1.0 | 3.0 | 5.3 | 10.0 | 80.8 | 51.7 | 132.5 |
| September | .7 | 3.1 | 4.6 | 4.5 | 1.5 | 2.9 | 6.0 | 12.2 | 86.8 | 48.7 | 135.5 |
| October | .7 | 3.8 | 4.9 | 6.6 | 2.3 | 2.4 | 5.3 | 13.7 | 91.0 | 44.6 | 135.5 |
| November | .7 | 3.0 | 5.0 | 6.7 | 2.2 | 2.2 | 5.0 | 13.4 | 86.7 | 41.7 | 128.4 |
| December | .9 | 3.2 | 4.6 | 6.7 | 2.3 | 2.2 | 7.2 | 13.2 | 96.2 | 46.4 | 142.7 |
| **Total** | 11.1 | 38.7 | 49.2 | 69.4 | 22.7 | 29.9 | 59.4 | 145.2 | 1,037.5 | 554.1 | 1,591.6 |
| **1989** January | 1.1 | 3.4 | 4.9 | 7.2 | 2.3 | 2.4 | 6.8 | 13.0 | 102.1 | 48.7 | 150.9 |
| February | .5 | 3.7 | 4.2 | 6.5 | 2.1 | 1.8 | 6.3 | 13.5 | 92.9 | 40.8 | 133.7 |
| March | .6 | 4.4 | 4.2 | 6.7 | 2.3 | 1.7 | 6.7 | 14.8 | 99.8 | 41.8 | 141.6 |
| April | .7 | 3.7 | 4.8 | 5.6 | 2.2 | 2.2 | 5.9 | 13.4 | 90.9 | 35.3 | 126.2 |
| May | .7 | 3.8 | 4.7 | 3.9 | 2.0 | 2.1 | 5.7 | 11.1 | 82.7 | 40.8 | 123.5 |
| June | 1.1 | 3.4 | 4.2 | 3.3 | 1.2 | 2.0 | 6.7 | 9.6 | 81.6 | 45.1 | 126.7 |
| July | 1.1 | 4.0 | 5.4 | 2.6 | 1.1 | 2.7 | 4.8 | 8.7 | 84.4 | 55.2 | 139.7 |
| August | 1.1 | 4.9 | 5.2 | 3.3 | 1.0 | 2.9 | 4.8 | 11.4 | 86.4 | 57.6 | 144.0 |
| September | 1.3 | 4.1 | 4.6 | 5.0 | 1.9 | 2.5 | 6.6 | 11.0 | 87.8 | 47.0 | 134.8 |
| October | 1.3 | 4.5 | 4.7 | 6.8 | 2.3 | 2.7 | 5.2 | 13.5 | 93.2 | 45.7 | 138.8 |
| November | 1.2 | 3.6 | 4.6 | 7.0 | 2.2 | 2.6 | 5.3 | 14.2 | 93.2 | 45.6 | 138.8 |
| December | 1.1 | 3.6 | 4.7 | 7.5 | 2.3 | 2.8 | 6.9 | 14.4 | 101.3 | 53.3 | 154.6 |
| **Total** | 11.7 | 47.2 | 56.1 | 65.6 | 22.8 | 28.3 | 71.6 | 148.7 | 1,096.2 | 557.0 | 1,653.2 |
| **1990** January | .6 | 4.0 | 5.4 | 7.4 | 2.3 | 2.6 | 6.0 | 15.4 | 101.7 | 57.7 | 159.4 |
| February | .5 | 4.6 | 4.5 | 6.6 | 2.1 | 2.1 | 5.8 | 12.8 | 86.6 | 52.3 | 138.8 |
| March | .5 | 4.1 | 4.5 | 6.4 | 2.3 | 2.6 | 6.2 | 13.2 | 93.5 | 48.4 | 141.9 |
| April | .6 | 4.3 | 4.8 | 5.4 | 2.2 | 2.2 | 5.2 | 12.8 | 91.6 | 40.6 | 132.2 |
| May | 1.2 | 4.0 | 4.1 | 4.8 | 2.1 | 2.8 | 5.2 | 12.2 | 86.5 | 45.1 | 131.6 |
| June | 1.2 | 4.4 | 3.5 | 4.3 | 1.3 | 2.9 | 5.2 | 9.8 | 82.8 | 48.5 | 131.3 |
| July | 1.1 | [E] 4.4 | 4.4 | 2.7 | 1.7 | 3.5 | 4.2 | 10.0 | 87.5 | 55.3 | 142.8 |
| August | .8 | [E] 3.6 | 5.0 | 4.2 | 1.0 | 3.4 | 4.9 | 9.3 | • 87.4 | 57.9 | • 145.3 |
| September | .6 | 4.2 | 4.1 | [E] 5.0 | 1.9 | 3.0 | 5.0 | 9.6 | • 87.6 | 53.3 | • 140.9 |
| October | .6 | 4.4 | 3.9 | 6.7 | 2.3 | 3.0 | 4.8 | 13.0 | • 96.1 | 45.6 | • 141.7 |
| **10-Month Total** | 7.8 | [E] 42.0 | 44.2 | [E] 53.5 | 19.1 | 28.1 | 52.3 | 118.1 | • 901.2 | 504.7 | • 1405.9 |
| **1989 10-Month Total** | 9.5 | 40.1 | 46.8 | 51.1 | 18.2 | 22.9 | 59.4 | 120.1 | 901.7 | 458.1 | 1,359.8 |
| **1988 10-Month Total** | 9.5 | 32.5 | 39.7 | 56.1 | 18.2 | 25.5 | 47.1 | 118.6 | 854.6 | 465.9 | 1,320.5 |

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).

# Appendix. Conversion Factors

## Using Conversion Factors

Physical conversion factors can be used to compare energy quantities expressed in units of volume and weight. For example, 6.65 barrels of crude oil weighs approximately 1 short ton, as indicated in Table A1.

However, the heat content of a "short ton" of crude oil is greater than the heat content of a short ton of coal. The heat content, measured in British thermal units (Btu), of a given quantity of energy can be calculated using the thermal conversion factors presented in Tables A2 through A9.

Based on the thermal conversion factor shown for crude oil (production) in Table A2, a short ton of crude oil has a heat content of approximately 39 million Btu (6.65 barrels $\times$ 5.8 million Btu per barrel = 38.57 million Btu, which rounds to 39). As calculated from the thermal conversion factor for coal (production) in Table A6, a short ton of coal has a heat content of 22 million Btu (1 short ton $\times$ 21.922 million Btu per short ton = 21.922 million Btu, which rounds to 22). A short ton of crude oil, therefore, has a heat content almost two times greater than does a short ton of coal.

The thermal conversion factors in Tables A2 through A9 are computed from final annual data. When the current year's final data are not yet available for publication, thermal conversion factors for the current year are computed from the best available data and are labeled "preliminary." The source of each factor is described in a section entitled "Thermal Conversion Factor Source Documentation," which follows Table A9 in this appendix.

Thermal conversion factors for hydrocarbon mixes (Table A2) are weighted averages of the thermal conversion factors for each hydrocarbon included in the mix. For example, in calculating the thermal conversion factor for a 60/40 butane/propane mixture, the thermal conversion factor for butane is weighted 1.5 times more heavily than the thermal conversion factor for propane.

### Table A1. Physical Conversion Factors for Energy Units

| Unit | Equivalent | |
|---|---|---|
| **Crude Oil (Average Gravity)** | | |
| 1 U.S. barrel | 42 | U.S. gallons |
| 1 short ton | 6.65 | barrels |
| 1 metric ton | 7.33 | barrels |
| **Coal** | | |
| 1 short ton | 2,000 | pounds |
| 1 long ton | 2,240 | pounds |
| 1 metric ton | 2,204.62 | pounds |
| 1 metric ton | 1,000 | kilograms |
| **Uranium** | | |
| 1 short ton $U_3O_8$ | 0.769 | metric ton of uranium |
| 1 short ton $UF_6$ | 0.613 | metric ton of uranium |
| 1 metric ton $UF_6$ | 0.676 | metric ton of uranium |
| **Wood (Average Dry Hardwood)** | | |
| 1 cord | 1.25 | short tons |
| 1 cord | 128 | cubic feet |
| 1 cubic foot | 0.028 | cubic meters |

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A2. Approximate Heat Content of Petroleum Products
(Million Btu per Barrel)

| Petroleum Product | Heat Content | Petroleum Product | Heat Content |
|---|---|---|---|
| Asphalt | 6.636 | Petrochemical Feedstocks | |
| Aviation Gasoline | 5.048 | Naphtha Less Than 401 °F | 5.248 |
| Butane | 4.326 | Other Oils Equal to or Greater Than 401 °F | 5.825 |
| Butane-Propane Mixture[a] | 4.130 | Still Gas | 6.000 |
| Distillate Fuel Oil | 5.825 | Petroleum Coke | 6.024 |
| Ethane | 3.082 | Plant Condensate | 5.418 |
| Ethane-Propane Mixture[b] | 3.308 | Propane | 3.836 |
| Isobutane | 3.974 | Residual Fuel Oil | 6.287 |
| Jet Fuel, Kerosene Type | 5.670 | Road Oil | 6.636 |
| Jet Fuel, Naphtha Type | 5.355 | Special Naphthas | 5.248 |
| Kerosene | 5.670 | Still Gas | 6.000 |
| Lubricants | 6.065 | Unfinished Oils | 5.825 |
| Motor Gasoline | 5.253 | Unfractionated Stream | 5.418 |
| Natural Gasoline and Isopentane | 4.620 | Waxes | 5.537 |
| Pentanes Plus | 4.620 | Miscellaneous | 5.796 |

[a]60 percent butane and 40 percent propane.
[b]70 percent ethane and 30 percent propane.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A3. Approximate Heat Content of Crude Oil,[a] Crude Oil and Products, and Natural Gas Plant Liquids
(Million Btu per Barrel)

| | Crude Oil Only | | | Crude Oil and Products | | Natural Gas Plant Liquids |
|---|---|---|---|---|---|---|
| | Production | Imports | Exports | Imports | Exports | |
| 1973 | 5.800 | 5.817 | 5.800 | 5.897 | 5.752 | 4.049 |
| 1974 | 5.800 | 5.827 | 5.800 | 5.884 | 5.774 | 4.011 |
| 1975 | 5.800 | 5.821 | 5.800 | 5.858 | 5.748 | 3.984 |
| 1976 | 5.800 | 5.808 | 5.800 | 5.856 | 5.745 | 3.964 |
| 1977 | 5.800 | 5.810 | 5.800 | 5.834 | 5.797 | 3.941 |
| 1978 | 5.800 | 5.802 | 5.800 | 5.839 | 5.808 | 3.925 |
| 1979 | 5.800 | 5.810 | 5.800 | 5.810 | 5.832 | 3.955 |
| 1980 | 5.800 | 5.812 | 5.800 | 5.796 | 5.820 | 3.914 |
| 1981 | 5.800 | 5.818 | 5.800 | 5.775 | 5.821 | 3.930 |
| 1982 | 5.800 | 5.826 | 5.800 | 5.775 | 5.820 | 3.872 |
| 1983 | 5.800 | 5.825 | 5.800 | 5.774 | 5.800 | 3.839 |
| 1984 | 5.800 | 5.823 | 5.800 | 5.745 | 5.850 | 3.812 |
| 1985 | 5.800 | 5.832 | 5.800 | 5.736 | 5.814 | 3.815 |
| 1986 | 5.800 | 5.903 | 5.800 | 5.808 | 5.832 | 3.797 |
| 1987 | 5.800 | 5.901 | 5.800 | 5.820 | 5.858 | 3.804 |
| 1988 | 5.800 | 5.900 | 5.800 | 5.820 | 5.840 | 3.800 |
| 1989[b] | 5.800 | 5.901 | 5.800 | 5.837 | 5.871 | 3.826 |
| 1990[b] | 5.800 | 5.901 | 5.800 | 5.837 | 5.871 | 3.826 |

[a]Includes lease condensate.
[b]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A4. Approximate Heat Content of Petroleum Product Weighted Averages[a] (Million Btu per Barrel)

| | Consumption | | | | | Imports | Exports | LPG Consumption |
|---|---|---|---|---|---|---|---|---|
| | Residential and Commercial | Industrial | Transportation | Electric Utilities | Total | | | |
| 1973 | 5.387 | 5.568 | 5.395 | 6.245 | 5.515 | 5.983 | 5.752 | 3.746 |
| 1974 | 5.377 | 5.538 | 5.394 | 6.238 | 5.504 | 5.959 | 5.773 | 3.730 |
| 1975 | 5.358 | 5.528 | 5.392 | 6.250 | 5.494 | 5.935 | 5.747 | 3.715 |
| 1976 | 5.383 | 5.538 | 5.395 | 6.251 | 5.504 | 5.980 | 5.743 | 3.711 |
| 1977 | 5.389 | 5.555 | 5.400 | 6.249 | 5.518 | 5.908 | 5.796 | 3.677 |
| 1978 | 5.382 | 5.553 | 5.404 | 6.251 | 5.519 | 5.955 | 5.814 | 3.669 |
| 1979 | 5.471 | 5.418 | 5.428 | 6.258 | 5.494 | 5.811 | 5.864 | 3.680 |
| 1980 | 5.468 | 5.376 | 5.440 | 6.254 | 5.479 | 5.748 | 5.841 | 3.674 |
| 1981 | 5.409 | 5.313 | 5.432 | 6.258 | 5.448 | 5.659 | 5.837 | 3.643 |
| 1982 | 5.392 | 5.263 | 5.422 | 6.258 | 5.415 | 5.664 | 5.829 | 3.615 |
| 1983 | 5.286 | 5.273 | 5.415 | 6.255 | 5.406 | 5.677 | 5.800 | 3.614 |
| 1984 | 5.261 | 5.253 | 5.424 | 6.251 | 5.395 | 5.613 | 5.867 | 3.599 |
| 1985 | 5.203 | 5.258 | 5.424 | 6.247 | 5.387 | 5.572 | 5.819 | 3.603 |
| 1986 | 5.238 | 5.330 | 5.425 | 6.257 | 5.418 | 5.624 | 5.839 | 3.640 |
| 1987 | 5.245 | 5.285 | 5.427 | 6.249 | 5.403 | 5.599 | 5.860 | 3.659 |
| 1988 | 5.216 | 5.293 | 5.430 | 6.250 | 5.411 | 5.618 | 5.842 | 3.652 |
| 1989[b] | 5.213 | 5.281 | 5.431 | 6.241 | 5.410 | 5.667 | 5.886 | 3.683 |
| 1990[b] | 5.213 | 5.281 | 5.431 | 6.241 | 5.410 | 5.667 | 5.886 | 3.683 |

[a]Weighted averages of the products included in each category are calculated using heat content values shown in Table A1.
[b]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A5. Approximate Heat Content of Natural Gas (Btu per Cubic Foot)

| | Production | | Consumption | | | Imports | Exports |
|---|---|---|---|---|---|---|---|
| | Dry | Marketed (Wet) | Non-Electric Utility Users | Electric Utilities | Total | | |
| 1973 | 1,021 | 1,093 | 1,020 | 1,024 | 1,021 | 1,026 | 1,023 |
| 1974 | 1,024 | 1,097 | 1,024 | 1,022 | 1,024 | 1,027 | 1,016 |
| 1975 | 1,021 | 1,095 | 1,020 | 1,026 | 1,021 | 1,026 | 1,014 |
| 1976 | 1,020 | 1,093 | 1,019 | 1,023 | 1,020 | 1,025 | 1,013 |
| 1977 | 1,021 | 1,093 | 1,019 | 1,029 | 1,021 | 1,026 | 1,013 |
| 1978 | 1,019 | 1,088 | 1,016 | 1,034 | 1,019 | 1,030 | 1,013 |
| 1979 | 1,021 | 1,092 | 1,018 | 1,035 | 1,021 | 1,037 | 1,013 |
| 1980 | 1,026 | 1,098 | 1,024 | 1,035 | 1,026 | 1,022 | 1,013 |
| 1981 | 1,027 | 1,103 | 1,025 | 1,035 | 1,027 | 1,014 | 1,011 |
| 1982 | 1,028 | 1,107 | 1,026 | 1,036 | 1,028 | 1,018 | 1,011 |
| 1983 | 1,031 | 1,115 | 1,031 | 1,030 | 1,031 | 1,024 | 1,010 |
| 1984 | 1,031 | 1,109 | 1,030 | 1,035 | 1,031 | 1,005 | 1,010 |
| 1985 | 1,032 | 1,112 | 1,031 | 1,038 | 1,032 | 1,002 | 1,011 |
| 1986 | 1,030 | 1,110 | 1,029 | 1,034 | 1,030 | 997 | 1,008 |
| 1987 | 1,031 | 1,112 | 1,031 | 1,032 | 1,031 | 999 | 1,011 |
| 1988 | 1,029 | 1,109 | 1,029 | 1,028 | 1,029 | 1,002 | 1,018 |
| 1989[a] | 1,031 | 1,107 | 1,030 | 1,034 | 1,031 | 1,004 | 1,019 |
| 1990[a] | 1,031 | 1,107 | 1,030 | 1,034 | 1,031 | 1,004 | 1,019 |

[a]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A6. Approximate Heat Content of Coal
(Million Btu per Short Ton)

| | Production | Consumption | | | | | Imports | Exports |
|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Coke Plants | Other Industrial[a] | Electric Utilities[b] | Total | | |
| 1973 | 23.376 | 22.831 | 26.780 | 22.586 | 22.246 | 23.057 | 25.000 | 26.596 |
| 1974 | 23.072 | 22.479 | 26.778 | 22.419 | 21.781 | 22.677 | 25.000 | 26.700 |
| 1975 | 22.897 | 22.261 | 26.782 | 22.436 | 21.642 | 22.506 | 25.000 | 26.562 |
| 1976 | 22.855 | 22.774 | 26.781 | 22.530 | 21.679 | 22.498 | 25.000 | 26.601 |
| 1977 | 22.597 | 22.919 | 26.787 | 22.322 | 21.508 | 22.265 | 25.000 | 26.548 |
| 1978 | 22.248 | 22.466 | 26.789 | 22.207 | 21.275 | 22.017 | 25.000 | 26.478 |
| 1979 | 22.454 | 22.242 | 26.788 | 22.452 | 21.364 | 22.100 | 25.000 | 26.548 |
| 1980 | 22.415 | 22.543 | 26.790 | 22.690 | 21.295 | 21.947 | 25.000 | 26.384 |
| 1981 | 22.308 | 22.474 | 26.794 | 22.585 | 21.085 | 21.713 | 25.000 | 26.160 |
| 1982 | 22.239 | 22.695 | 26.797 | 22.712 | 21.194 | 21.674 | 25.000 | 26.223 |
| 1983 | 22.052 | 22.775 | 26.798 | 22.691 | 21.133 | 21.576 | 25.000 | 26.291 |
| 1984 | 22.010 | 22.844 | 26.799 | 22.543 | 21.101 | 21.573 | 25.000 | 26.402 |
| 1985 | 21.870 | 22.646 | 26.798 | 22.020 | 20.959 | 21.366 | 25.000 | 26.307 |
| 1986 | 21.913 | 22.947 | 26.798 | 22.198 | 21.084 | 21.462 | 25.000 | 26.292 |
| 1987 | 21.922 | 23.404 | 26.799 | 22.381 | 21.136 | 21.517 | 25.000 | 26.291 |
| 1988 | 21.822 | 23.571 | 26.799 | 22.360 | 20.900 | 21.327 | 25.000 | 26.299 |
| 1989[c] | 21.776 | 23.527 | 26.800 | 22.411 | 20.838 | 21.266 | 25.000 | 26.312 |
| 1990[c] | 21.776 | 23.527 | 26.800 | 22.411 | 20.838 | 21.266 | 25.000 | 26.312 |

[a]Includes transportation.
[b]Data shown in this column are not the same as those shown in the *Electric Power Monthly* (EPM). The EPM data report coal receipts; the data shown here represent coal consumption.
[c]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A7. Approximate Heat Content of Bituminous Coal and Lignite
(Million Btu per Short Ton)

| | Production | Consumption | | | | | Imports | Exports |
|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Coke Plants | Other Industrial[a] | Electric Utilities | Total | | |
| 1973 | 23.391 | 22.887 | 26.800 | 22.585 | 22.262 | 23.073 | 25.000 | 26.612 |
| 1974 | 23.087 | 22.523 | 26.800 | 22.420 | 21.799 | 22.694 | 25.000 | 26.716 |
| 1975 | 22.910 | 22.258 | 26.800 | 22.439 | 21.659 | 22.522 | 25.000 | 26.573 |
| 1976 | 22.863 | 22.819 | 26.800 | 22.528 | 21.692 | 22.509 | 25.000 | 26.613 |
| 1977 | 22.597 | 22.594 | 26.800 | 22.290 | 21.521 | 22.266 | 25.000 | 26.561 |
| 1978 | 22.242 | 22.078 | 26.800 | 22.175 | 21.284 | 22.014 | 25.000 | 26.501 |
| 1979 | 22.449 | 21.884 | 26.800 | 22.436 | 21.372 | 22.100 | 25.000 | 26.570 |
| 1980 | 22.411 | 22.488 | 26.800 | 22.690 | 21.301 | 21.950 | 25.000 | 26.404 |
| 1981 | 22.301 | 22.010 | 26.800 | 22.572 | 21.091 | 21.710 | 25.000 | 26.176 |
| 1982 | 22.233 | 22.226 | 26.800 | 22.695 | 21.200 | 21.670 | 25.000 | 26.231 |
| 1983 | 22.048 | 22.438 | 26.800 | 22.680 | 21.141 | 21.576 | 25.000 | 26.300 |
| 1984 | 22.005 | 22.406 | 26.800 | 22.525 | 21.108 | 21.570 | 25.000 | 26.410 |
| 1985 | 21.867 | 22.568 | 26.800 | 22.013 | 20.965 | 21.368 | 25.000 | 26.320 |
| 1986 | 21.908 | 22.669 | 26.800 | 22.185 | 21.091 | 21.462 | 25.000 | 26.308 |
| 1987 | 21.918 | 22.800 | 26.800 | 22.360 | 21.143 | 21.514 | 25.000 | 26.304 |
| 1988 | 21.817 | 23.135 | 26.800 | 22.341 | 20.905 | 21.324 | 25.000 | 26.308 |
| 1989[b] | 21.772 | 22.948 | 26.800 | 22.390 | 20.844 | 21.263 | 25.000 | 26.319 |
| 1990[b] | 21.772 | 22.948 | 26.800 | 22.390 | 20.844 | 21.263 | 25.000 | 26.319 |

[a]Includes transportation.
[b]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A8. Approximate Heat Content of Anthracite and Coal Coke
(Million Btu per Short Ton)

| | Anthracite | | | | | Coal Coke Imports and Exports |
|---|---|---|---|---|---|---|
| | Production | Consumption | | | Imports and Exports | |
| | | Non-Electric Utility Users | Electric Utilities | Total | | |
| 1973 | 22.132 | 22.674 | 17.920 | 21.464 | 25.400 | 24.800 |
| 1974 | 21.711 | 22.330 | 17.200 | 20.919 | 25.400 | 24.800 |
| 1975 | 21.582 | 22.272 | 17.064 | 20.762 | 25.400 | 24.800 |
| 1976 | 22.045 | 22.618 | 17.526 | 21.254 | 25.400 | 24.800 |
| 1977 | 22.661 | 24.101 | 17.244 | 22.066 | 25.400 | 24.800 |
| 1978 | 23.079 | 24.388 | 17.104 | 22.398 | 25.400 | 24.800 |
| 1979 | 23.170 | 24.272 | 17.454 | 22.069 | 25.400 | 24.800 |
| 1980 | 22.869 | 22.719 | 17.652 | 21.405 | 25.400 | 24.800 |
| 1981 | 23.291 | 23.749 | 18.168 | 22.080 | 25.400 | 24.800 |
| 1982 | 23.289 | 24.578 | 18.160 | 22.518 | 25.400 | 24.800 |
| 1983 | 22.734 | 24.536 | 16.516 | 21.583 | 25.400 | 24.800 |
| 1984 | 23.107 | 25.128 | 17.018 | 22.322 | 25.400 | 24.800 |
| 1985 | 22.428 | 23.031 | 16.784 | 20.817 | 25.400 | 24.800 |
| 1986 | 23.084 | 24.399 | 15.578 | 21.512 | 25.400 | 24.800 |
| 1987 | 23.108 | 26.293 | 15.962 | 22.435 | 25.400 | 24.800 |
| 1988 | 23.266 | 26.021 | 17.312 | 22.423 | 25.400 | 24.800 |
| 1989[a] | 23.268 | 26.556 | 16.344 | 22.244 | 25.400 | 24.800 |
| 1990[a] | 23.268 | 26.556 | 16.344 | 22.244 | 25.400 | 24.800 |

[a]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A9.

## Table A9. Approximate Heat Rates for Electricity
(Btu per Kilowatthour)

| | By Type of Generation | | | Electricity Consumption |
|---|---|---|---|---|
| | Fossil Fuel Steam-Electric Power Plant Generation[a] | Nuclear Power Plant Generation | Geothermal Energy Power Plant Generation | |
| 1973 | 10,389 | 10,903 | 21,674 | 3,412 |
| 1974 | 10,442 | 11,161 | 21,674 | 3,412 |
| 1975 | 10,406 | 11,013 | 21,611 | 3,412 |
| 1976 | 10,373 | 11,047 | 21,611 | 3,412 |
| 1977 | 10,435 | 10,769 | 21,611 | 3,412 |
| 1978 | 10,361 | 10,941 | 21,611 | 3,412 |
| 1979 | 10,353 | 10,879 | 21,545 | 3,412 |
| 1980 | 10,388 | 10,908 | 21,639 | 3,412 |
| 1981 | 10,453 | 11,030 | 21,639 | 3,412 |
| 1982 | 10,454 | 11,073 | 21,629 | 3,412 |
| 1983 | 10,520 | 10,905 | 21,290 | 3,412 |
| 1984 | 10,323 | 10,843 | 21,303 | 3,412 |
| 1985 | 10,339 | 10,813 | 21,263 | 3,412 |
| 1986 | 10,261 | 10,799 | 21,263 | 3,412 |
| 1987 | 10,253 | 10,776 | 21,263 | 3,412 |
| 1988 | 10,235 | 10,743 | 21,096 | 3,412 |
| 1989[b] | 10,235 | 10,743 | 21,096 | 3,412 |
| 1990[b] | 10,235 | 10,743 | 21,096 | 3,412 |

[a]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.
[b]Preliminary.
Sources: See "Thermal Conversion Factor Source Documentation," which follows this table.

# Thermal Conversion Factor Source Documentation

## Approximate Heat Content of Petroleum Products

**Asphalt.** 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.** 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.** 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.** 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.** 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.** 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.** 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.** 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 Petroleum Industry,* First Issue, April 1942.

**Jet Fuel, Kerosene Type.** 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 Eastrn Transmission Corporation in the report *Competition and Growth in American Energy Markets 1947-1985,* 1968.

**Jet Fuel, Naphtha Type.** 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.** 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.** 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.** 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, Statement, Annual, 1956.*

**Motor Gasoline.** 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 *Competion and Growth in American Energy Markets 1947-1985,* 1968.

**Natural Gasoline.** 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.** 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 Less Than 401 Degrees Fahrenheit.** Assumed by EIA to be 5.248 million Btu per barrel, equal to the thermal conversion to the thermal conversion factor for special naphtha. See "Special Naphtha."

**Petrochemical Feedstocks, Oils Equal to or Greater Than 401 Degrees Fahrenheit.** 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 Feedstocks, Still Gas.** 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.** 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 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.** Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

**Propane.** 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.** EIA adopted the therml 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.** 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.** 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 (avaiation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970.*

**Still Gas.** EIA adopted the Bureau of Mines estimated thermal 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.** 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.** 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.** 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.** 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.** 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.** 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.** 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 "Crude Oil, Exports," and "Petroleum Products, Exports."

**Crude Oil and Petroleum Products, Imports.** 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.** 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.** 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.** 1973-1988: 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.* 1989 forward: Estimated by EIA.

**Petroleum Products, Consumption by Industrial Users.** 1973-1988: 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 States Energy Data System as documented in the *State Energy Data Report.* 1989 forward: Estimated by EIA.

**Petroleum Products, Consumption by Residential and Commercial Users.** 1973-1988: 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.* 1989 forward: Estimated by EIA.

**Petroleum Products, Consumption by Transportation Users.** 1973-1988: 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.* 1989 forward: Estimated by EIA.

**Petroleum Products, Exports.** 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.** 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.** Calculated annually by EIA as the average of the thermal conversion factors of each liquefied petroleum gas consumed weighted by the quantity of each liquefield 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 natural gas consumed. The heat content and quantity consumed are from Form EIA-176, and the factors are published in the EIA *Natural Gas Annual 1989,* Table B1.

**Natural Gas, Consumption by Electric Utilities.** 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 Form FERC-423 and predecessor forms.

**Natural Gas, Consumption by Non-Electric Utility Users.** 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-423, EIA-759, and predecessor forms.

**Natural Gas, Exports.** 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.** 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.** 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).** 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.** 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.** Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

**Anthracite, Consumption by Non-Electric Utility Users.** 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.** 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.** 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.** 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.** 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.** 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 Form FERC-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 Form EIA-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 Form FERC-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 Form EIA-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 Form FERC-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.** 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.** EIA estimated the average thermal conversion factor to be 25.000 million Btu per short ton.

**Bituminous Coal and Lignite, Production.** 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.** 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.** 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.** 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.** 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.** 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.** 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.** 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 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 in the United States. By using that factor, it is possible to evaluate fossil fuel requirements for replacing those sources during periods of interruption such as droughts. The heat content of a kilowatthour of electricity produced, regardless of the generation process, is 3,412 Btu per kilowatthour. 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.** 1973-1981: 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.** 1973-1986: 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. The heat content and electricity generation are reported on Form FERC-1, Form EIA-412, and predecessor forms. The factors are published beginning with 1982 data in EIA, *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants.* 1987 forward: Estimated by EIA.

# 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 multipliedby 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 pupulation-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. Excluded 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.

**Gross Wet Gas Withdrawal:** Full well stream volume, including all natural gas plant liquid and nonhydrocarbon gases, but excluding lease condensate. Also includes amounts delivered as royalty payments or consumed in field operations.

**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 included 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 phosphorous 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 phosphorous per gallon.

**Natural Gas:** A mixture of hydrocarbons (principally methane) 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 annual 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, as well as the U.S. Geological Survey (through 1981) and the U.S. Minerals Management Service (from 1982 forward). 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.

An estimate of the U.S. natural gas price is made each month based on monthly natural gas prices from four States: Mississippi, New Mexico, Oklahoma, and Texas.

**Net Generation of Electricity:** 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 Consumption of Energy:** 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.

**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 401 °F end-point, other oils equal to or greater than 401 °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.

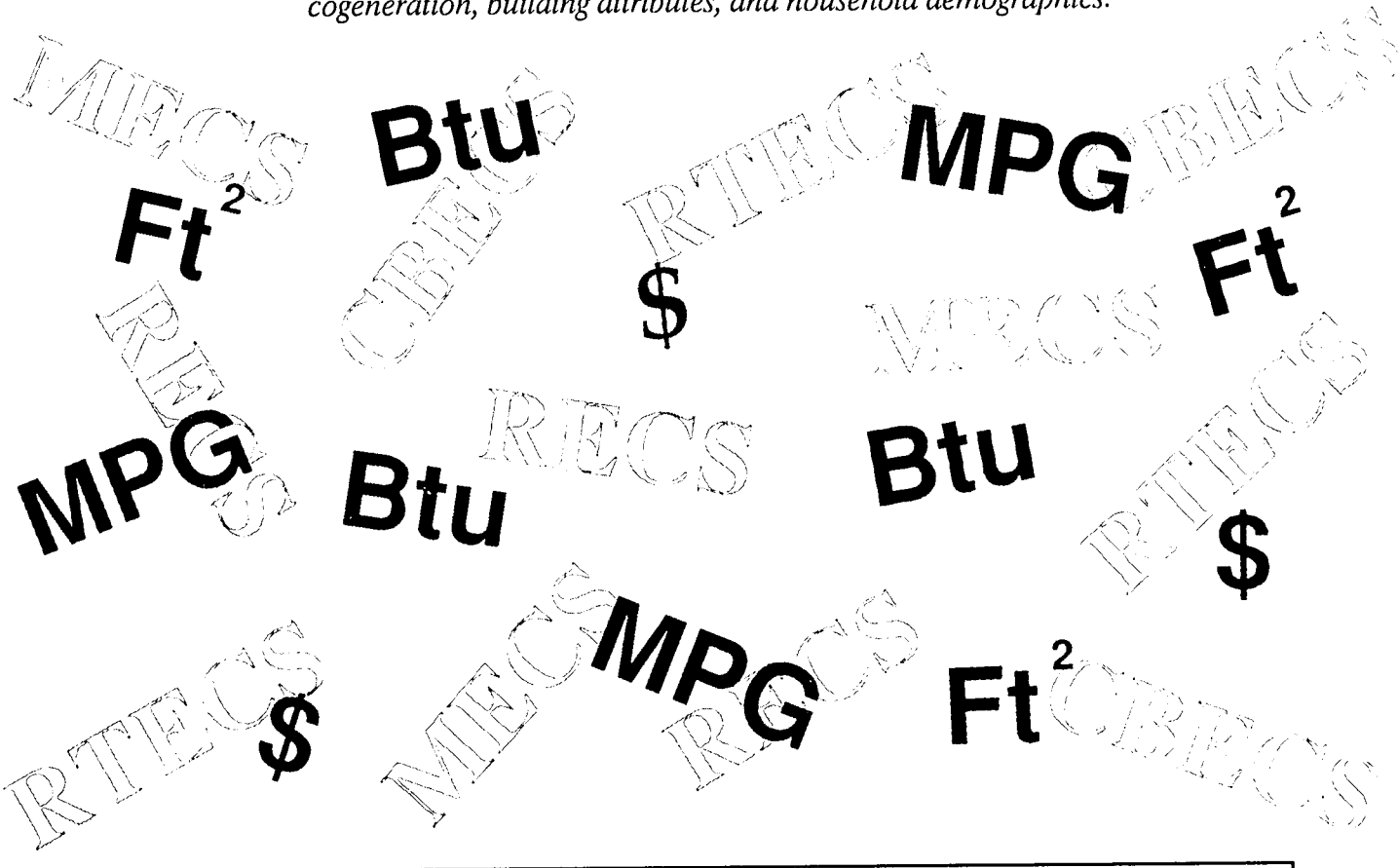
**Wood Energy:** Wood and wood products used as fuel. Included are round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, and spent pulping liquor.

**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.


* U.S. G.P.O.:1991-281-696:20005

# EIA Consumption Data

*Triennial surveys of manufacturing establishments, commercial buildings, and residential households and vehicles, reporting energy characteristics, consumption, and expenditure patterns, and providing important statistics related to fuel switching, energy efficiency, cogeneration, building attributes, and household demographics.*




| Survey Titles: | Most Recent Year: |
|---|---|
| ***Manufacturing Energy Consumption Survey*** (MECS) | 1985 |
| ***Commercial Buildings Energy Consumption Survey*** (CBECS) | 1986 |
| ***Residential Energy Consumption Survey*** (RECS) | 1987 |
| ***Residential Transportation Energy Consumption Survey*** (RTECS) | 1988 |

For information about survey data, contact: John Preston, 202-586-1128 (MECS); Julia Olivér, 202-586-5744 (CBECS); Wendel Thompson, 202-586-1119 (RECS); and Martha Johnson, 202-586-1135 (RTECS). For copies of reports on the survey data, call the National Energy Information Center, 202-586-8800.

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