# Monthly Energy Review

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## April 2002

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Energy Information Administration

**Energy Plugs:**
Motor Gasoline Outlook
International Energy Outlook

# *Monthly Energy Review*

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# Monthly Energy Review

## April 2002

**Energy Information Administration**
Office of Energy Markets and End Use
U.S. Department of Energy
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# Contacts

The *Monthly Energy Review* is prepared in the Integrated Energy Statistics Division of the Office of Energy Markets and End Use, Energy Information Administration, under the direction of Katherine E. Seiferlein, 202-586-5695 (kitty.seiferlein@eia.doe.gov). Questions and comments specifically related to the *Monthly Energy Review* may be addressed to Diane D. Perritt, 202-586-2788 (diane.perritt@eia.doe.gov), or Michelle Burch, 202-586-5850 (michelle.burch@eia.doe.gov).

For assistance in acquiring data, please contact the **National Energy Information Center at 202-586-8800 or infoctr@eia.doe.gov.** Questions about the collection, processing, or interpretation of the information may be directed to the following subject specialists:

| | | | | |
|---|---|---|---|---|
| **Section** | **1.** | **Energy Overview** | Dianne R. Dunn | 202-586-2792<br>dianne.dunn@eia.doe.gov |
| **Section** | **2.** | **Energy Consumption by Sector** | Dianne R. Dunn | 202-586-2792<br>dianne.dunn@eia.doe.gov |
| **Section** | **3.** | **Petroleum** | Michael Conner | 202-586-1795<br>michael.conner@eia.doe.gov |
| **Section** | **4.** | **Natural Gas** | Margaret Natof | 202-586-6303<br>margaret.natof@eia.doe.gov |
| **Section** | **5.** | **Crude Oil and Natural Gas Resource Development** | Robert F. King | 202-586-4787<br>robert.king@eia.doe.gov |
| **Section** | **6.** | **Coal** | Mary L. Lilly | 202-287-1742<br>mary.lilly@eia.doe.gov |
| **Section** | **7.** | **Electricity** | | |
| | | Electric Utilities | Melvin E. Johnson | 202-287-1754<br>melvin.johnson@eia.doe.gov |
| | | Nonutility Power Producers | Barbara A. Rucker | 202-287-1765<br>barbara.rucker@eia.doe.gov |
| | | Retail Sales | Stephen Scott | 202-287-1737<br>stephen.scott@eia.doe.gov |
| **Section** | **8.** | **Nuclear Energy** | John R. Moens | 202-287-1976<br>john.moens@eia.doe.gov |
| **Section** | **9.** | **Energy Prices** | | |
| | | Petroleum | Patricia Wells | 202-586-4885<br>patricia.wells@eia.doe.gov |
| | | Natural Gas | Roy Kass | 202-586-4790<br>nathaniel.kass@eia.doe.gov |
| | | Electricity Retail Prices | Stephen Scott | 202-287-1737<br>stephen.scott@eia.doe.gov |
| | | Electricity Fossil-Fuel Receipts | Kenneth M. McClevey | 202-287-1732<br>kenneth.mcclevey@eia.doe.gov |
| **Section** | **10.** | **Renewable Energy** | Louise Guey-Lee | 202-287-1731<br>louise.guey-lee@eia.doe.gov |
| **Section** | **11.** | **International Energy** | | |
| | | Petroleum Production | Patricia Smith | 202-586-6925<br>patricia.smith@eia.doe.gov |
| | | Petroleum Consumption and Stocks | Kathy Washington | 202-586-1446<br>kathy.washington@eia.doe.gov |
| | | Nuclear Electricity Gross Generation | John R. Moens | 202-287-1976<br>john.moens@eia.doe.gov |

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# Energy Plug

## Summer 2002 Motor Gasoline Outlook

The national average price of regular motor gasoline is expected to run about $1.46 per gallon at the pump this summer, according to the motor gasoline outlook published in the Energy Information Administration's (EIA's) April *Short-Term Energy Outlook* (*STEO*). That price is lower by about 8 cents per gallon than last summer's average. Although crude oil prices have risen recently, they remain lower than prices a year ago and are expected to remain so through most of the summer.

Shifting world petroleum supply and demand patterns and/or other unforeseen developments could influence the price, and *STEO* accommodates this uncertainty by generating a probable price range forecast (see figure). According to EIA estimates, there is a 95-percent likelihood that the national average retail price for a gallon of regular gasoline will lie between $1.36 and $1.57 this summer, and consequently a 5-percent probability that it will fall outside that range. Average prices will vary regionally, however, due to differences in tax rates, environmental requirements, and market circumstances.

Nationwide gasoline inventories stood at 211 million barrels at the start of the driving season, about 8 percent higher than at the same time last year. Stocks are higher than a year ago in all regions of the country, although the difference is small in the West Coast region and it is possible that the high price volatility witnessed there in recent years will recur this summer. On the other hand, the price volatility seen in the Midwest in the last 2 years may be mitigated this year by the 11-percent increment in midwestern stocks compared with last season.

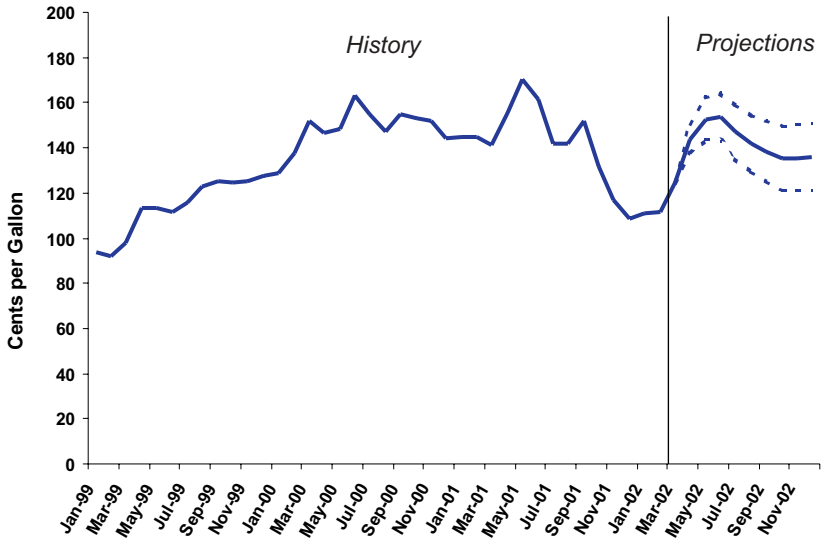
Despite the still relatively weak economy, total gasoline demand is expected to grow 1.6 percent this summer, about average for the last 5 years but double the average for the last 2 years. The inflation-adjusted cost of driving a mile is expected to be about 9 percent below the summer 2001 average, which should boost highway travel somewhat. Total demand is expected to reach 8.9 million barrels per day.

The system's ability to supply adequate quantities of motor gasoline has caused concern in previous driving seasons. In 2000, more stringent pollution-control requirements triggered price jumps in the Midwest early in the driving season as supplies tightened in response to problems in transporting and blending ethanol. In 2001, the season began with stocks at a record low, which caused alarm and raised prices in the Midwest (because of the previous summer's experience) and on the West Coast (where prices are usually higher and more unstable anyway because of its relative isolation from the major refining and distribution complexes on the Gulf Coast).

For the 2002 summer driving season, initial supplies are expected to be less constrained than in the previous 2 years. Moreover, refinery utilization rates have been relatively low because of a sharp drop in jet-fuel requirements since September 11, warm weather, and the weak economy, leaving ample capacity to meet gasoline demand. The average refinery utilization rate is projected to be about 93 percent, the lowest summer average in 9 years, while motor gasoline yields should average a record 47 percent.

Strong inventories and refinery output will probably reduce motor gasoline net imports this summer, though they will remain high by historical standards. *STEO* projections put net imports in 2002 at 560,000 barrels, down by about 90,000 barrels from last year.

**Historical and Projected Retail Motor Gasoline Prices, 1999–2002**




Note: Prices are for regular gasoline, self-service cash.
Source: Energy Information Administration.

***Summer 2002 Motor Gasoline Outlook*** is a special report in EIA's April 2002 *Short-Term Energy Outlook*, and is available only on the EIA website. Go to www.eia.doe.gov and select Forecasts and Short-Term. Contact wmaster@eia.doe.gov or call 202–586–8959 if you have problems. Questions about the report's content should be directed to Dave Costello, Office of Energy Markets and End Use, at dave.costello@eia.doe.gov or 202–586–1468. For general information about energy, contact the National Energy Information Center at infoctr@eia.doe.gov or 202–586–8800.

# Energy Plug

## International Energy Outlook 2002

World energy consumption is projected to rise 60 percent between 1999 and 2020, from 382 quadrillion Btu to 612 quadrillion Btu (see figure), according to the reference case in the Energy Information Administration's *International Energy Outlook 2002* (*IEO 2002*). Widening energy demand in the developing world, especially in Asia and Central and South America, will account for much of the growth.

The U.S. refiner acquisition cost of imported crude oil dropped from $27.72 in 2000 to an estimated $22.05 in 2001 (nominal prices). World crude oil prices are expected to undergo only modest increases through the forecast period, reaching $25 per barrel (2000 dollars) in 2020. Against this backdrop, world demand for crude oil is projected to rise 2.2 percent per year to 242 quadrillion Btu in 2020 (119 million barrels per day); demand growth in developing countries is expected to average 3.3 percent per year. Projected demand growth for all types of energy is 2.3 percent per year globally and 3.7 percent annually in the developing world.

Crude oil is expected to retain its dominant position vis-B-vis other fuels, accounting for 40 percent of total energy consumption through the forecast period. However, the fastest-growing source of energy will be natural gas, according to the reference case projections. Natural gas consumption is expected to soar from 87 quadrillion Btu in 1999 to 169 quadrillion Btu in 2020; its share of total energy consumption will increase from 23 percent to 28 percent. Much of this growth is in response to rising demand for electricity generated by new natural gas-fired turbines, which is driven in turn by environmental, price, and energy-security concerns.

Growth in coal consumption will be much lower (a projected 1.7 percent per year) and its share of total consumption is projected to continue its recent decline and subside to 20 percent by 2020. This drop in share occurs despite projected increases in energy use in developing Asia, where coal remains a dominant fuel. Power generation remains the main driver of coal consumption growth, although the fuel is also vital to China's industrial sector.

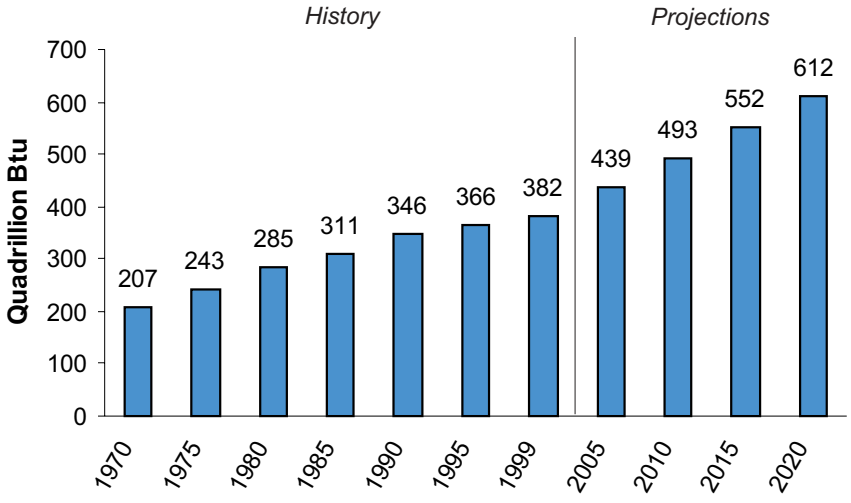
The *IEO2002* reference case projects world nuclear capacity to rise from 350 gigawatts in 2000 to 363 gigawatts in 2010, but then to decline to 359 gigawatts in 2020. Consumption of electricity from nuclear power increases 0.5 percent per year worldwide. However, nuclear-generated electricity rises by 4.7 percent per year through 2020 in the developing nations. The nations of developing Asia account for half of all reactors now being built.

Although renewable energy consumption is expected to increase by over half through the forecast period, its share of total consumption falls from 9 percent to 8 percent, constrained by moderate fossil fuel prices. Lying behind much of the growth are large hydroelectric projects in developing Asia.

The broad desirability of electric power is reflected in its projected increase in consumption from 13 trillion kilowatthours in 1999 to 22 trillion kilowatthours in 2020. Once again, the strongest growth occurs in Asia (4.5 percent per year). Consumption growth in the mature industrialized economies is a more modest 1.9 percent per year.

Higher emissions of carbon dioxide inevitably follow greater use of fossil fuels. Although energy intensity (consumption per dollar of gross domestic product) decreases in most of the world through the forecast period, total emissions are expected to grow faster than in the 1990s, rising from 6.1 billion metric tons carbon equivalent in 1999 to 9.9 billion tons in 2020.

**World Energy Consumption, 1970-2020**




Source: Energy Information Administration.

***International Energy Outlook 2002***, DOE/EIA-0484(2002); 285 pages, 90 tables, 98 figures. This report is available only on the EIA website. Go to www.eia.doe.gov and select Forecasts and then International from the drop-down menu. Contact wmaster@eia.doe.gov or call 202–586–8959 if you have problems. Questions about the report's content should be directed to Linda E. Doman, Office of Integrated Analysis and Forecasting, at linda.doman@eia.doe.gov or 202–586–1041. For general information about energy, contact the National Energy Information Center at infoctr@eia.doe.gov or 202–586–8800.

# Section 1. Energy Overview

Energy production during January 2002 totaled 6.2 quadrillion Btu, a 0.5-percent increase compared with the level of production during January 2001. Production of natural gas plant liquids increased 32.8 percent; natural gas (dry) decreased 4.8 percent; nuclear electric power increased 2.2 percent; crude oil increased 1.7 percent; and coal increased 0.1 percent, compared with the level of production during January 2001.

Energy consumption during January 2002 totaled 8.8 quadrillion Btu, 4.9 percent below the level of consumption during January 2001. Consumption of natural gas decreased 9.9 percent; coal decreased 5.5 percent; petroleum decreased 3.7 percent; and nuclear electric power increased 2.2 percent, compared with the level 1 year earlier.

Net imports of energy during January 2002 totaled 2.0 quadrillion Btu, 10.8 percent below the level of net imports 1 year earlier. Net imports of natural gas fell 25.0 percent; petroleum products decreased 43.9 percent; and crude oil decreased 1.6 percent. Net exports of coal decreased 34.5 percent while net imports of coal coke decreased 137.9 percent, compared with the level in January 2001.

## Table 1.1 Energy Summary for January 2002

(Quadrillion Btu)

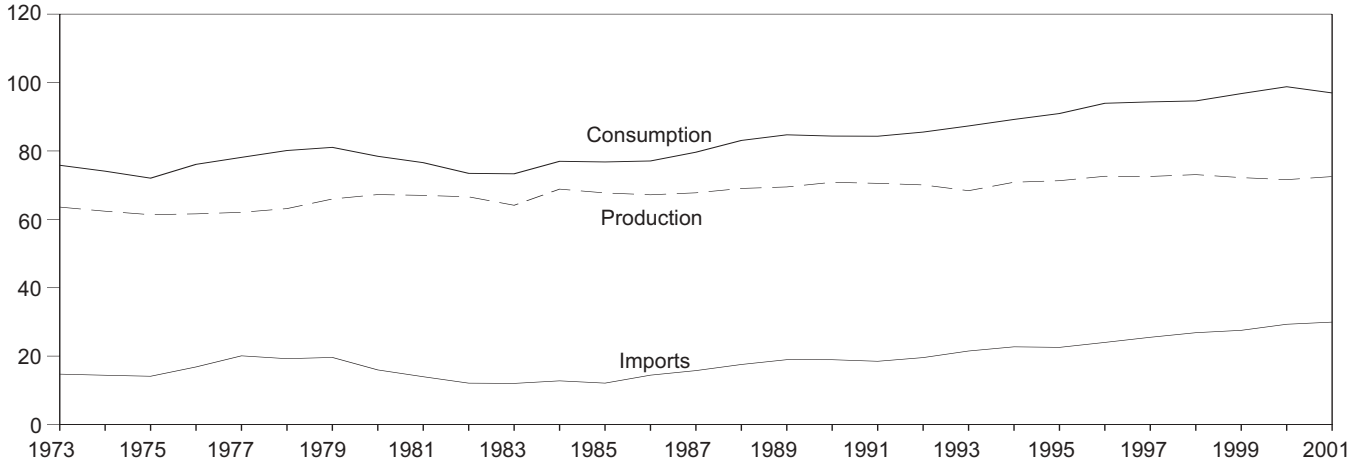
| | January | | | | |
|---|---|---|---|---|---|
| | 2002 | 2002 Daily Rate | 2001 | 2001 Daily Rate | Percent Change[b] |
| **Production**[c] | **6.236** | **0.201** | **6.206** | **0.200** | **0.5** |
| **Fossil Fuels** | **4.958** | **.160** | **4.967** | .160 | **-.2** |
| Coal | 2.047 | .066 | 2.044 | .066 | .1 |
| Natural Gas (Dry) | [E] 1.632 | [E] .053 | [E] 1.713 | [E] .055 | -4.8 |
| Crude Oil[d] | [E] 1.067 | [E] .034 | [E] 1.049 | [E] .034 | 1.7 |
| Natural Gas Plant Liquids | .212 | .007 | .160 | .005 | 32.8 |
| **Nuclear Electric Power** | **.746** | **.024** | **.730** | .024 | **2.2** |
| **Renewable Energy** | **.538** | **.017** | **.513** | .017 | **4.9** |
| **Consumption**[e] | **8.777** | **.283** | **9.229** | **.298** | **-4.9** |
| **Fossil Fuels**[f] | **7.494** | **.242** | **7.991** | .258 | **-6.2** |
| Coal | 1.878 | .061 | 1.986 | .064 | -5.5 |
| Natural Gas[g] | [F] 2.432 | [F] .078 | 2.700 | .087 | -9.9 |
| Petroleum[h] | 3.177 | .102 | 3.298 | .106 | -3.7 |
| **Nuclear Electric Power** | **.746** | **.024** | **.730** | .024 | 2.2 |
| **Renewable Energy**[e] | **.555** | **.018** | **.527** | .017 | **5.3** |
| **Net Imports** | **2.040** | **.066** | **2.287** | **.074** | **-10.8** |
| **Fossil Fuels**[i] | **2.023** | **.065** | **2.273** | .073 | **-11.0** |
| Coal[j] | -.073 | -.002 | -.111 | -.004 | -34.5 |
| Coal Coke | -.001 | .000 | .003 | .000 | -137.9 |
| Natural Gas | [E] .268 | [E] .009 | .357 | .012 | -25.0 |
| Crude Oil[k] | 1.600 | .052 | 1.625 | .052 | -1.6 |
| Petroleum Products[l] | .221 | .007 | .395 | .013 | -43.9 |
| **Renewable Energy**[m] | [E] **.017** | [E] **.001** | [E] **.014** | [E] **(s)** | **21.4** |

[b] Based on daily rates prior to rounding.
[c] Total production also includes hydroelectricity generated from pumped storage.
[d] Includes lease condensate.
[e] Alcohol (ethanol blended into motor gasoline) is included in both "Petroleum" and "Renewable Energy," but is counted only once in total energy consumption.
[f] Fossil fuel consumption also includes coal coke net imports and electricity net imports from fossil fuels.
[g] Includes supplemental gaseous fuels.
[h] Petroleum products supplied, including natural gas plant liquids and crude oil burned as fuel.
[i] Fossil fuel net imports also include electricity net imports from fossil fuels.
[j] Minus sign indicates exports are greater than imports.
[k] Crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.
[l] Petroleum products, unfinished oils, pentanes plus, and gasoline blending components.
[m] Electricity net imports derived from hydroelectric power or geothermal energy.
(s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.
E=Estimate. F=Forecast.
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: Tables 1.3, 1.4, and 1.5.

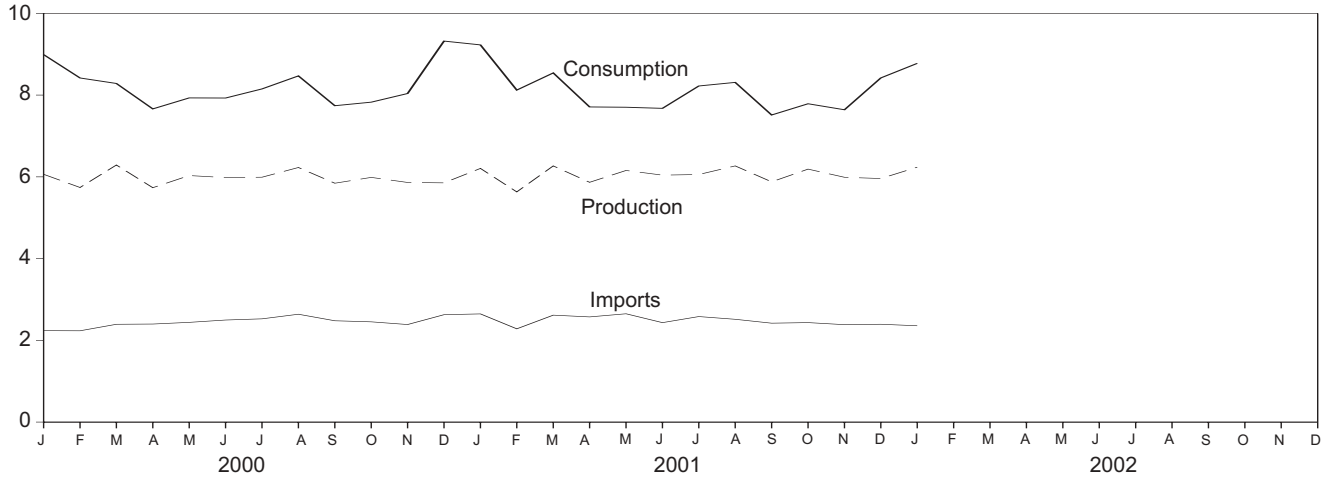
## Figure 1.1 Energy Overview

(Quadrillion Btu)

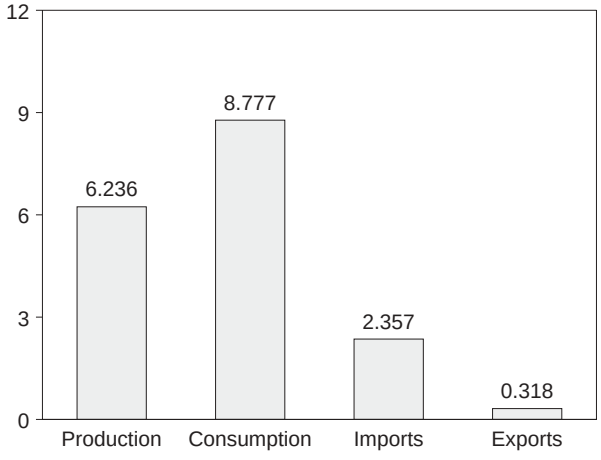
### Consumption, Production, and Imports, 1973-2001



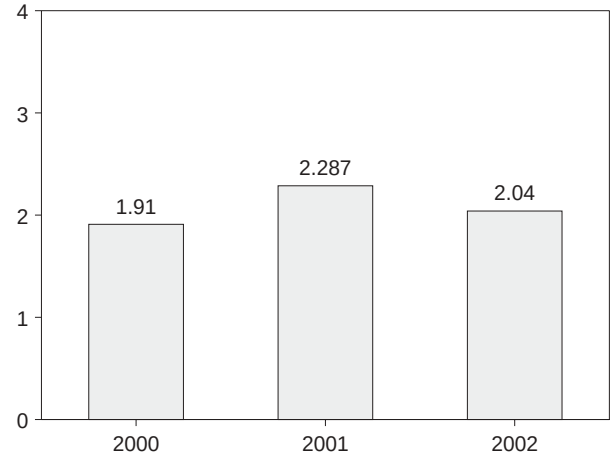

### Consumption, Production, and Imports, Monthly




### Overview, January 2002




### Net Imports, January




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.2.

# Table 1.2 Energy Overview

(Quadrillion Btu)

| | Production | Consumption[a] | Imports | Exports | Net Imports |
|---|---|---|---|---|---|
| **1973 Total** | **63.585** | **75.808** | **14.731** | **2.051** | **12.680** |
| **1974 Total** | **62.372** | **74.080** | **14.413** | **2.223** | **12.190** |
| **1975 Total** | **61.357** | **72.042** | **14.111** | **2.359** | **11.752** |
| **1976 Total** | **61.602** | **76.072** | **16.837** | **2.188** | **14.648** |
| **1977 Total** | **62.052** | **78.122** | **20.090** | **2.071** | **18.019** |
| **1978 Total** | **63.137** | **80.123** | **19.254** | **1.931** | **17.323** |
| **1979 Total** | **65.948** | **81.044** | **19.616** | **2.870** | **16.746** |
| **1980 Total** | **67.241** | **78.435** | **15.971** | **3.723** | **12.247** |
| **1981 Total** | **67.007** | **76.569** | **13.975** | **4.329** | **9.646** |
| **1982 Total** | **66.574** | **73.440** | **12.092** | **4.633** | **7.460** |
| **1983 Total** | **64.106** | **73.317** | **12.027** | **3.717** | **8.310** |
| **1984 Total** | **68.832** | **76.972** | **12.767** | **3.804** | **8.963** |
| **1985 Total** | **67.720** | **76.778** | **12.103** | **4.231** | **7.872** |
| **1986 Total** | **67.178** | **77.065** | **14.438** | **4.055** | **10.382** |
| **1987 Total** | **67.760** | **79.633** | **15.764** | **3.853** | **11.911** |
| **1988 Total** | **69.025** | **83.068** | **17.564** | **4.415** | **13.149** |
| **1989 Total** | **69.467** | **84.716** | **18.955** | **4.767** | **14.188** |
| **1990 Total** | **70.835** | **84.344** | **18.952** | **4.865** | **14.087** |
| **1991 Total** | **70.528** | **84.298** | **18.497** | **5.157** | **13.339** |
| **1992 Total** | **70.069** | **85.513** | **19.577** | **4.957** | **14.621** |
| **1993 Total** | **68.378** | **87.300** | **21.498** | **4.283** | **17.215** |
| **1994 Total** | **70.848** | **89.213** | **22.727** | **4.075** | **18.652** |
| **1995 Total** | **71.301** | **90.943** | **22.566** | **4.536** | **18.030** |
| **1996 Total** | **72.595** | **93.931** | **24.010** | **4.656** | **19.354** |
| **1997 Total** | **72.545** | **94.340** | **25.514** | **4.576** | **20.938** |
| **1998 Total** | **73.068** | **94.623** | **26.855** | **4.389** | **22.466** |
| **1999 Total** | **72.197** | **96.767** | **27.549** | **3.811** | **23.738** |
| **2000** January | 6.062 | 8.991 | 2.237 | .327 | 1.910 |
| February | 5.740 | 8.419 | 2.234 | .269 | 1.965 |
| March | 6.289 | 8.285 | 2.393 | .371 | 2.021 |
| April | 5.735 | 7.662 | 2.399 | .315 | 2.084 |
| May | 6.031 | 7.932 | 2.440 | .332 | 2.108 |
| June | 5.982 | 7.929 | 2.497 | .332 | 2.165 |
| July | 5.991 | 8.151 | 2.526 | .317 | 2.209 |
| August | 6.229 | 8.470 | 2.639 | .388 | 2.251 |
| September | 5.844 | 7.740 | 2.479 | .330 | 2.149 |
| October | 5.987 | 7.827 | 2.453 | .382 | 2.071 |
| November | 5.863 | 8.039 | 2.387 | .384 | 2.004 |
| December | 5.853 | 9.322 | 2.628 | .361 | 2.266 |
| **Total** | **71.604** | **98.774** | **29.313** | **4.109** | **25.204** |
| **2001** January | R 6.206 | R 9.229 | R 2.647 | .360 | R 2.287 |
| February | 5.632 | R 8.123 | R 2.282 | R .307 | R 1.975 |
| March | 6.268 | R 8.543 | R 2.616 | .304 | R 2.312 |
| April | 5.867 | R 7.710 | 2.574 | R .326 | R 2.249 |
| May | 6.156 | 7.703 | 2.650 | .376 | 2.274 |
| June | R 6.042 | R 7.676 | 2.433 | .316 | 2.117 |
| July | 6.057 | 8.223 | 2.582 | .288 | R 2.294 |
| August | 6.268 | R 8.311 | R 2.515 | .352 | R 2.162 |
| September | 5.878 | R 7.513 | 2.420 | .303 | 2.117 |
| October | 6.189 | R 7.788 | R 2.434 | R .322 | R 2.112 |
| November | R 5.990 | R 7.641 | R 2.384 | R .334 | R 2.050 |
| December | 5.959 | R 8.421 | R 2.394 | R .319 | R 2.075 |
| **Total** | R **72.514** | R **96.880** | R **29.932** | R **3.907** | R **26.025** |
| **2002** January | 6.236 | 8.777 | 2.357 | .318 | 2.040 |

[a] 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.

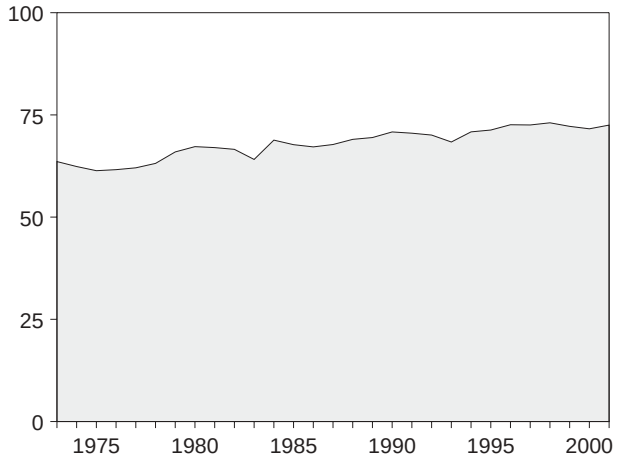
Notes: For definitions, see Notes 1 through 4 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Production:** Table 1.3. **Consumption:** Table 1.4. **Imports and Exports:** Tables 3.1b, 4.3, 6.1, 7.1, A2-A6, 10.3b, and Section 2, "Energy Consumption Notes and Sources," Note 5. **Net Imports:** Table 1.5.

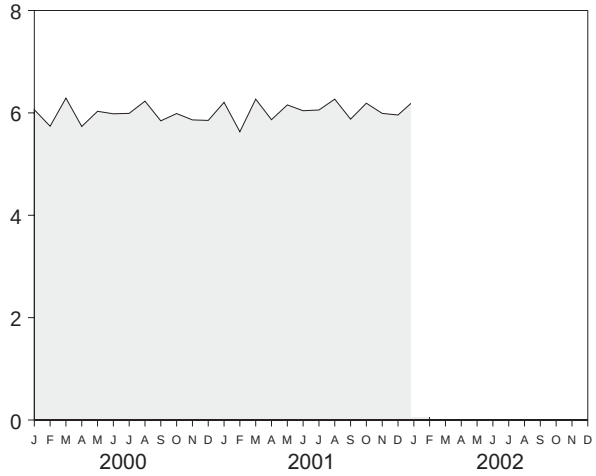
## Figure 1.2 Energy Production

(Quadrillion Btu)

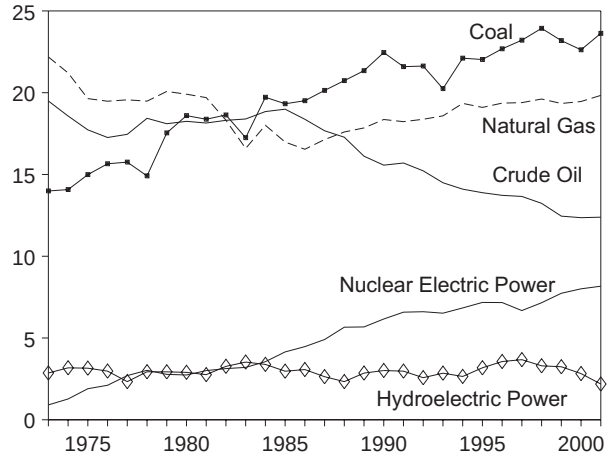
Total, 1973-2001



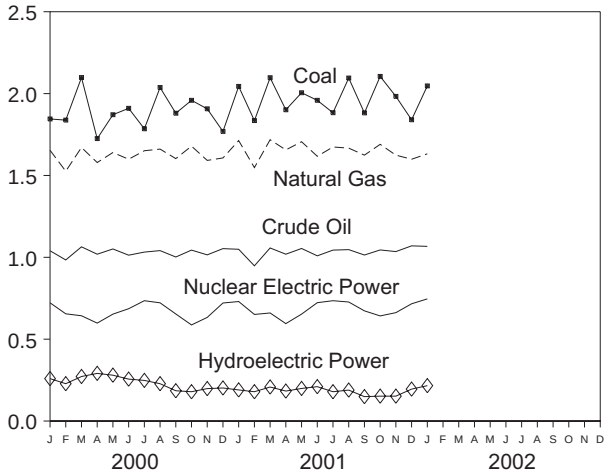

Total, Monthly



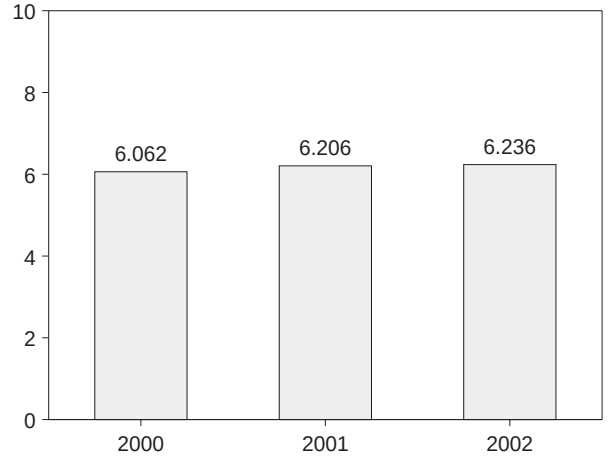

By Major Sources, 1973-2001



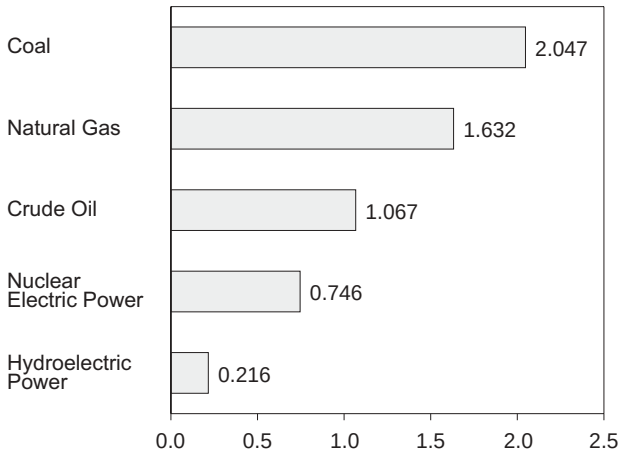

By Major Sources, Monthly




Total, January




By Major Sources, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.3.

# Table 1.3 Energy Production by Source

(Quadrillion Btu)

| | Fossil Fuels | | | | | | | Renewable Energy[a] | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal | Natural Gas (Dry) | Crude Oil[b] | Natural Gas Plant Liquids | Total | Nuclear Electric Power | Hydroelectric Pumped Storage[c] | Conventional Hydroelectric Power | Wood, Waste, Alcohol[d] | Geothermal | Solar and Wind | Total | Total |
| **1973 Total** | **13.992** | **22.187** | **19.493** | **2.569** | **58.241** | **0.910** | **( e )** | **2.861** | **1.529** | **0.043** | **NA** | **4.433** | **63.585** |
| **1974 Total** | **14.074** | **21.210** | **18.575** | **2.471** | **56.331** | **1.272** | **( e )** | **3.177** | **1.540** | **.053** | **NA** | **4.769** | **62.372** |
| **1975 Total** | **14.989** | **19.640** | **17.729** | **2.374** | **54.733** | **1.900** | **( e )** | **3.155** | **1.499** | **.070** | **NA** | **4.723** | **61.357** |
| **1976 Total** | **15.654** | **19.480** | **17.262** | **2.327** | **54.723** | **2.111** | **( e )** | **2.976** | **1.713** | **.078** | **NA** | **4.768** | **61.602** |
| **1977 Total** | **15.755** | **19.565** | **17.454** | **2.327** | **55.101** | **2.702** | **( e )** | **2.333** | **1.838** | **.077** | **NA** | **4.249** | **62.052** |
| **1978 Total** | **14.910** | **19.485** | **18.434** | **2.245** | **55.074** | **3.024** | **( e )** | **2.937** | **2.038** | **.064** | **NA** | **5.039** | **63.137** |
| **1979 Total** | **17.540** | **20.076** | **18.104** | **2.286** | **58.006** | **2.776** | **( e )** | **2.931** | **2.152** | **.084** | **NA** | **5.166** | **65.948** |
| **1980 Total** | **18.598** | **19.908** | **18.249** | **2.254** | **59.008** | **2.739** | **( e )** | **E 2.900** | **2.485** | **.110** | **NA** | **5.494** | **67.241** |
| **1981 Total** | **18.377** | **19.699** | **18.146** | **2.307** | **58.529** | **3.008** | **( e )** | **E 2.758** | **2.590** | **.123** | **NA** | **5.471** | **67.007** |
| **1982 Total** | **18.639** | **18.319** | **18.309** | **2.191** | **57.458** | **3.131** | **( e )** | **E 3.266** | **2.615** | **.105** | **NA** | **5.985** | **66.574** |
| **1983 Total** | **17.247** | **16.593** | **18.392** | **2.184** | **54.416** | **3.203** | **( e )** | **E 3.527** | **2.831** | **.129** | **(s)** | **6.488** | **64.106** |
| **1984 Total** | **19.719** | **18.008** | **18.848** | **2.274** | **58.849** | **3.553** | **( e )** | **E 3.386** | **2.880** | **.165** | **(s)** | **6.431** | **68.832** |
| **1985 Total** | **19.325** | **16.980** | **18.992** | **2.241** | **57.539** | **4.149** | **( e )** | **E 2.970** | **E 2.864** | **.198** | **(s)** | **6.033** | **67.720** |
| **1986 Total** | **19.509** | **16.541** | **18.376** | **2.149** | **56.575** | **4.471** | **( e )** | **E 3.071** | **E 2.841** | **.219** | **(s)** | **6.132** | **67.178** |
| **1987 Total** | **20.141** | **17.136** | **17.675** | **2.215** | **57.167** | **4.906** | **( e )** | **E 2.635** | **E 2.823** | **.229** | **(s)** | **5.687** | **67.760** |
| **1988 Total** | **20.738** | **17.599** | **17.279** | **2.260** | **57.875** | **5.661** | **( e )** | **E 2.334** | **E 2.937** | **.217** | **(s)** | **5.489** | **69.025** |
| **1989 Total** | **21.346** | **17.847** | **16.117** | **2.158** | **57.468** | **[f]5.677** | **( e )** | **2.855** | **E 3.060** | **.323** | **.083** | **6.322** | **69.467** |
| **1990 Total** | **22.456** | **18.362** | **15.571** | **2.175** | **58.564** | **6.162** | **-.036** | **3.048** | **E 2.660** | **.343** | **.094** | **6.145** | **70.835** |
| **1991 Total** | **21.594** | **18.229** | **15.701** | **2.306** | **57.829** | **6.580** | **-.047** | **3.021** | **E 2.700** | **.348** | **.097** | **6.167** | **70.528** |
| **1992 Total** | **21.629** | **18.375** | **15.223** | **2.363** | **57.590** | **6.608** | **-.043** | **2.617** | **E 2.845** | **.355** | **.097** | **5.915** | **70.069** |
| **1993 Total** | **20.249** | **18.584** | **14.494** | **2.408** | **55.736** | **6.520** | **-.042** | **2.892** | **2.803** | **.369** | **.102** | **6.165** | **68.378** |
| **1994 Total** | **22.111** | **19.348** | **14.103** | **2.391** | **57.952** | **6.838** | **-.035** | **2.684** | **2.938** | **.364** | **.107** | **6.093** | **70.848** |
| **1995 Total** | **22.029** | **19.101** | **13.887** | **2.442** | **57.458** | **7.177** | **-.028** | **3.207** | **3.066** | **.314** | **.106** | **6.694** | **71.301** |
| **1996 Total** | **22.684** | **19.363** | **13.723** | **2.530** | **58.299** | **7.168** | **-.032** | **3.593** | **3.126** | **.332** | **.110** | **7.160** | **72.595** |
| **1997 Total** | **23.211** | **19.394** | **13.658** | **2.495** | **58.758** | **6.678** | **-.042** | **3.718** | **3.004** | **.322** | **.107** | **7.151** | **72.545** |
| **1998 Total** | **23.935** | **19.613** | **13.235** | **2.420** | **59.204** | **7.157** | **-.046** | **3.345** | **2.976** | **.327** | **.104** | **6.752** | **73.068** |
| **1999 Total** | **23.186** | **19.341** | **12.451** | **2.528** | **57.505** | **7.736** | **-.063** | **3.305** | **E 3.259** | **.335** | **.119** | **7.018** | **72.197** |
| **2000** January | 1.845 | 1.654 | 1.040 | .226 | 4.766 | .722 | -.005 | .264 | E .277 | E .027 | E .010 | .578 | 6.062 |
| February | 1.838 | 1.526 | .984 | .215 | 4.564 | .655 | -.004 | .233 | E .260 | E .024 | E .009 | .526 | 5.740 |
| March | 2.098 | 1.671 | 1.064 | .230 | 5.062 | .643 | -.006 | .277 | E .278 | E .024 | E .010 | .589 | 6.289 |
| April | 1.725 | 1.579 | 1.019 | .220 | 4.542 | .598 | -.004 | .295 | E .268 | E .025 | E .011 | .599 | 5.735 |
| May | 1.871 | 1.640 | 1.051 | .225 | 4.787 | .653 | -.005 | .285 | E .275 | E .026 | E .011 | .596 | 6.031 |
| June | 1.910 | 1.599 | 1.013 | .215 | 4.737 | .686 | -.006 | .262 | E .266 | E .026 | E .011 | .564 | 5.982 |
| July | 1.785 | 1.651 | 1.032 | .224 | 4.691 | .735 | -.003 | .252 | E .279 | E .027 | E .010 | .568 | 5.991 |
| August | 2.037 | 1.661 | 1.041 | .225 | 4.963 | .722 | -.004 | .232 | E .278 | E .028 | E .011 | .548 | 6.229 |
| September | 1.880 | 1.603 | 1.002 | .215 | 4.700 | .654 | -.007 | .192 | E .268 | E .027 | E .010 | .497 | 5.844 |
| October | 1.959 | 1.679 | 1.044 | .222 | 4.904 | .587 | -.004 | .183 | E .279 | E .028 | E .010 | .500 | 5.987 |
| November | 1.907 | 1.592 | 1.015 | .210 | 4.724 | .633 | -.004 | .201 | E .271 | E .028 | E .010 | .510 | 5.863 |
| December | 1.769 | 1.607 | 1.053 | .183 | 4.613 | .721 | -.005 | .208 | E .278 | E .029 | E .009 | .524 | 5.853 |
| **Total** | **22.623** | **19.461** | **12.358** | **2.611** | **57.054** | **8.009** | **-.057** | **2.883** | **E 3.276** | **E .319** | **E .121** | **6.599** | **71.604** |
| **2001** January | 2.044 | E 1.713 | E 1.049 | .160 | 4.967 | R .730 | -.004 | .195 | E .280 | E .029 | E .009 | .513 | R 6.206 |
| February | 1.835 | E 1.548 | E .948 | .181 | 4.512 | R .651 | -.005 | .184 | E .255 | E .026 | E .010 | .475 | 5.632 |
| March | 2.097 | E 1.718 | E 1.057 | .212 | 5.083 | .660 | -.006 | .213 | E .278 | E .027 | E .012 | .530 | 6.268 |
| April | 1.901 | E 1.656 | E 1.019 | .206 | 4.781 | R .595 | -.006 | .190 | E .270 | E .025 | E .013 | .497 | 5.867 |
| May | 2.005 | E 1.706 | E 1.054 | .222 | 4.987 | R .653 | -.003 | .202 | E .278 | E .025 | E .014 | .519 | 6.156 |
| June | 1.959 | E 1.617 | E 1.009 | .214 | 4.799 | R .723 | -.004 | .214 | E .272 | E .025 | E .014 | .524 | R 6.042 |
| July | 1.883 | E 1.674 | E 1.044 | .219 | 4.820 | R .735 | -.005 | .185 | E .283 | E .027 | E .014 | .508 | 6.057 |
| August | 2.095 | E 1.667 | E 1.047 | .225 | 5.034 | R .727 | -.004 | .193 | E .279 | E .026 | E .013 | .511 | 6.268 |
| September | 1.882 | E 1.624 | E 1.014 | .227 | 4.747 | .673 | -.007 | .156 | E .271 | E .026 | E .012 | .465 | 5.878 |
| October | 2.105 | RE 1.690 | E 1.045 | .233 | 5.073 | .642 | -.005 | .156 | E .284 | E .026 | E .012 | .479 | 6.189 |
| November | 1.983 | RE 1.624 | E 1.035 | .223 | R 4.865 | R .662 | -.007 | .159 | E .274 | E .026 | E .011 | .470 | R 5.990 |
| December | 1.840 | E 1.599 | E 1.070 | .218 | 4.727 | .716 | -.005 | .200 | E .282 | E .027 | E .011 | .521 | 5.959 |
| **Total** | **23.629** | **RE 19.836** | **E 12.390** | **2.541** | **R 58.395** | **R 8.167** | **-.062** | **2.247** | **E 3.305** | **E .315** | **E .146** | **6.013** | **R 72.514** |
| **2002** January | 2.047 | E 1.632 | E 1.067 | .212 | 4.958 | .746 | -.006 | .222 | E .280 | E .026 | E .011 | .538 | 6.236 |

[a] End-use consumption, and electric utility and nonutility electricity net generation.
[b] Includes lease condensate.
[c] Pumped storage facility production minus energy used for pumping.
[d] Alcohol is ethanol blended into motor gasoline.
[e] Included in conventional hydroelectric power.
[f] Beginning in 1989, includes electricity generated by nonutility nuclear units.
R=Revised. NA=Not available. E=Estimate. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

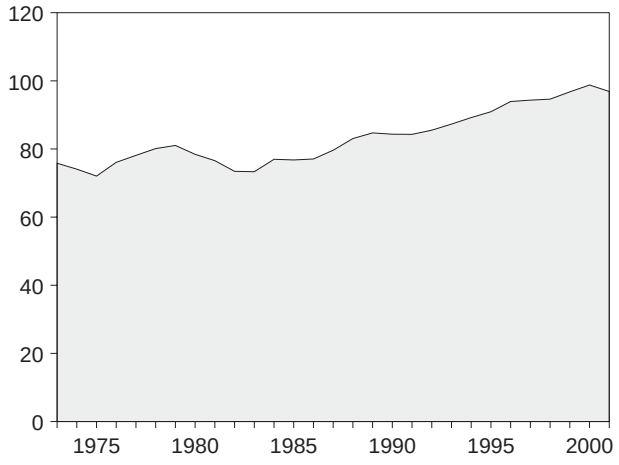
Notes: See Note 1 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Coal:** Tables 6.1 and A5. **Natural Gas (Dry):** Tables 4.1 and A4. **Crude Oil and Natural Gas Plant Liquids:** Tables 3.1a and A2. **Nuclear Electric Power:** Tables 8.1 and A6. **Hydroelectric Pumped Storage:** Tables 7.2 and A6. **Renewable Energy:** Tables 10.2, 10.3a, and 10.3b.

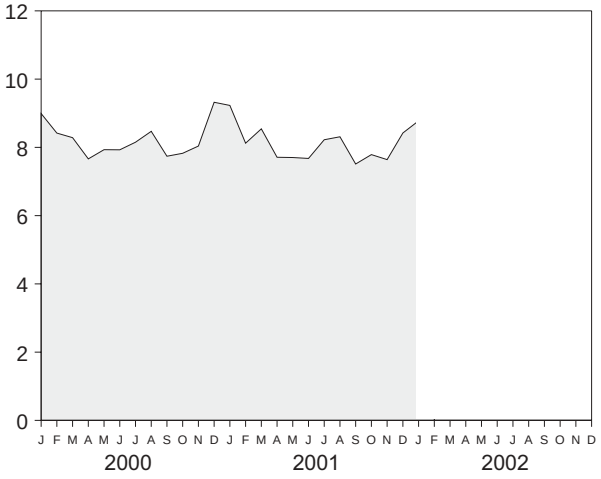
## Figure 1.3 Energy Consumption

(Quadrillion Btu)

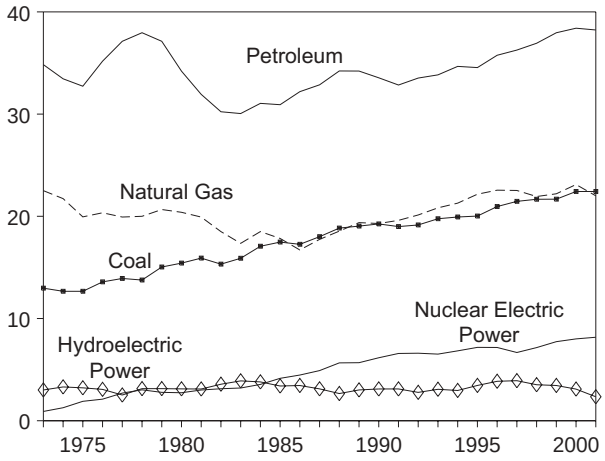
Total, 1973-2001



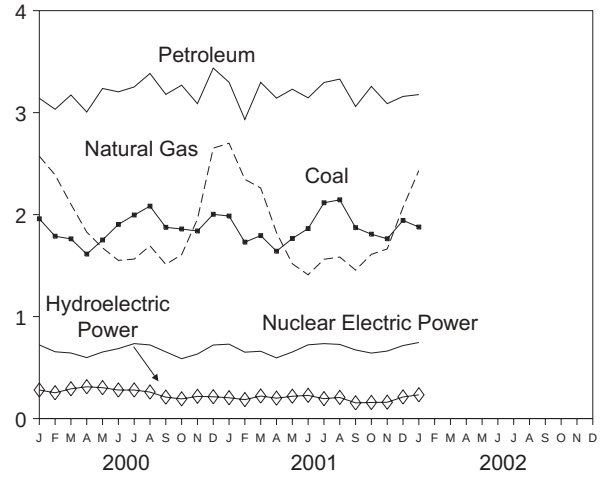

Total, Monthly



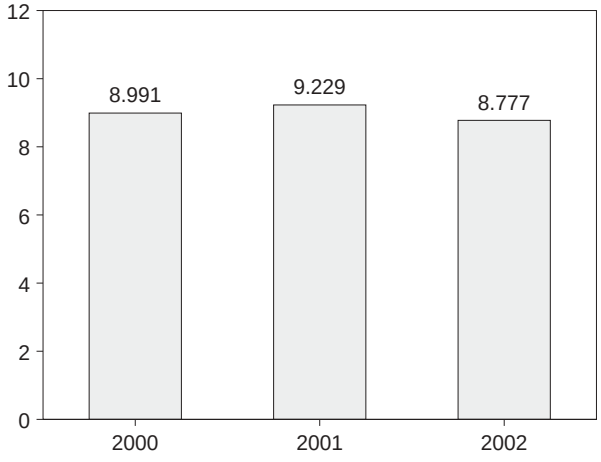

By Major Sources, 1973-2001



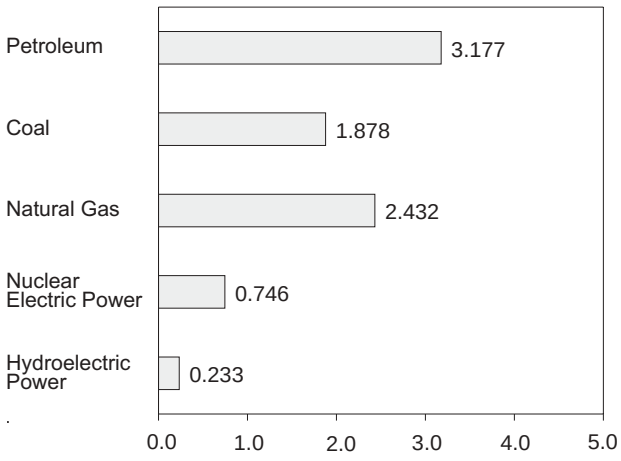

By Major Sources, Monthly




Total, January




By Major Sources, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.4.

# Table 1.4 Energy Consumption by Source

(Quadrillion Btu)

| | Fossil Fuels | | | | Nuclear Electric Power | Hydroelectric Pumped Storage[e] | Renewable Energy[a] | | | | | Total[f] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal | Natural Gas[b] | Petroleum[c] | Total[d] | | | Conventional Hydroelectric Power | Wood, Waste, Alcohol[f] | Geothermal | Solar and Wind | Total | |
| **1973 Total** | **12.971** | **22.512** | **34.840** | **70.316** | **0.910** | **( g )** | **3.010** | **1.529** | **0.043** | **NA** | **4.581** | **75.808** |
| **1974 Total** | **12.663** | **21.732** | **33.455** | **67.906** | **1.272** | **( g )** | **3.309** | **1.540** | **.053** | **NA** | **4.902** | **74.080** |
| **1975 Total** | **12.663** | **19.948** | **32.731** | **65.355** | **1.900** | **( g )** | **3.219** | **1.499** | **.070** | **NA** | **4.788** | **72.042** |
| **1976 Total** | **13.584** | **20.345** | **35.175** | **69.104** | **2.111** | **( g )** | **3.066** | **1.713** | **.078** | **NA** | **4.857** | **76.072** |
| **1977 Total** | **13.922** | **19.931** | **37.122** | **70.989** | **2.702** | **( g )** | **2.515** | **1.838** | **.077** | **NA** | **4.431** | **78.122** |
| **1978 Total** | **13.766** | **20.000** | **37.965** | **71.856** | **3.024** | **( g )** | **3.141** | **2.038** | **.064** | **NA** | **5.243** | **80.123** |
| **1979 Total** | **15.040** | **20.666** | **37.123** | **72.892** | **2.776** | **( g )** | **3.141** | **2.152** | **.084** | **NA** | **5.377** | **81.044** |
| **1980 Total** | **15.423** | **20.394** | **34.202** | **69.984** | **2.739** | **( g )** | **E 3.118** | **2.485** | **.110** | **NA** | **5.712** | **78.435** |
| **1981 Total** | **15.908** | **19.928** | **31.931** | **67.750** | **3.008** | **( g )** | **E 3.105** | **2.590** | **.123** | **NA** | **5.818** | **76.569** |
| **1982 Total** | **15.322** | **18.505** | **30.231** | **64.036** | **3.131** | **( g )** | **E 3.572** | **2.615** | **.105** | **NA** | **6.292** | **73.440** |
| **1983 Total** | **15.894** | **17.357** | **30.054** | **63.290** | **3.203** | **( g )** | **E 3.899** | **2.831** | **.129** | **(s)** | **6.860** | **73.317** |
| **1984 Total** | **17.071** | **18.507** | **31.051** | **66.617** | **3.553** | **( g )** | **E 3.800** | **2.880** | **.165** | **(s)** | **6.845** | **76.972** |
| **1985 Total** | **17.478** | **17.834** | **30.922** | **66.221** | **4.149** | **( g )** | **E 3.398** | **E 2.864** | **.198** | **(s)** | **6.460** | **76.778** |
| **1986 Total** | **17.260** | **16.708** | **32.196** | **66.148** | **4.471** | **( g )** | **E 3.446** | **E 2.841** | **.219** | **(s)** | **6.507** | **77.065** |
| **1987 Total** | **18.008** | **17.744** | **32.865** | **68.626** | **4.906** | **( g )** | **E 3.117** | **E 2.823** | **.229** | **(s)** | **6.170** | **79.633** |
| **1988 Total** | **18.846** | **18.552** | **34.222** | **71.660** | **5.661** | **( g )** | **E 2.662** | **E 2.937** | **.217** | **(s)** | **5.817** | **83.068** |
| **1989 Total** | **[h]19.043** | **19.384** | **34.211** | **72.618** | **[i]5.677** | **( g )** | **3.014** | **E 3.060** | **.334** | **.083** | **6.492** | **84.716** |
| **1990 Total** | **19.253** | **19.296** | **33.553** | **72.027** | **6.162** | **-.036** | **3.146** | **E 2.660** | **.355** | **.094** | **6.254** | **84.344** |
| **1991 Total** | **18.998** | **19.606** | **32.845** | **71.519** | **6.580** | **-.047** | **3.159** | **E 2.700** | **.363** | **.097** | **6.320** | **84.298** |
| **1992 Total** | **19.152** | **20.131** | **33.527** | **72.897** | **6.608** | **-.043** | **2.818** | **E 2.845** | **.374** | **.097** | **6.134** | **85.513** |
| **1993 Total** | **19.763** | **20.827** | **33.841** | **74.508** | **6.520** | **-.042** | **3.119** | **2.803** | **.387** | **.102** | **6.410** | **87.300** |
| **1994 Total** | **19.933** | **21.288** | **34.670** | **76.089** | **6.838** | **-.035** | **2.993** | **2.938** | **.391** | **.107** | **6.429** | **89.213** |
| **1995 Total** | **20.025** | **22.163** | **34.553** | **76.924** | **7.177** | **-.028** | **3.481** | **3.066** | **.333** | **.106** | **6.987** | **90.943** |
| **1996 Total** | **20.957** | **22.559** | **35.757** | **79.406** | **7.168** | **-.032** | **3.892** | **3.126** | **.346** | **.110** | **7.473** | **93.931** |
| **1997 Total** | **21.464** | **22.530** | **36.266** | **80.415** | **6.678** | **-.042** | **3.961** | **3.004** | **.322** | **.107** | **7.395** | **94.340** |
| **1998 Total** | **21.667** | **21.937** | **36.934** | **80.652** | **7.157** | **-.046** | **3.569** | **2.976** | **.328** | **.104** | **6.977** | **94.623** |
| **1999 Total** | **21.677** | **22.203** | **37.960** | **81.990** | **7.736** | **-.063** | **3.512** | **E 3.259** | **.335** | **.119** | **7.226** | **96.767** |
| **2000** January | 1.959 | 2.573 | 3.141 | 7.686 | .722 | -.005 | E .285 | E .277 | E .027 | E .010 | .599 | 8.991 |
| February | 1.788 | 2.389 | 3.033 | 7.228 | .655 | -.004 | E .257 | E .260 | E .024 | E .009 | .550 | 8.419 |
| March | 1.762 | 2.102 | 3.173 | 7.049 | .643 | -.006 | E .298 | E .278 | E .024 | E .010 | .610 | 8.285 |
| April | 1.613 | 1.828 | 3.006 | 6.460 | .598 | -.004 | E .316 | E .268 | E .025 | E .011 | .619 | 7.662 |
| May | 1.751 | 1.674 | 3.237 | 6.676 | .653 | -.005 | E .308 | E .275 | E .026 | E .011 | .620 | 7.932 |
| June | 1.904 | 1.551 | 3.204 | 6.670 | .686 | -.006 | E .286 | E .266 | E .026 | E .011 | .588 | 7.929 |
| July | 1.996 | 1.564 | 3.252 | 6.831 | .735 | -.003 | E .283 | E .279 | E .027 | E .010 | .600 | 8.151 |
| August | 2.083 | 1.694 | 3.384 | 7.183 | .722 | -.004 | E .264 | E .278 | E .028 | E .011 | .581 | 8.470 |
| September | 1.875 | 1.512 | 3.179 | 6.582 | .654 | -.007 | E .217 | E .268 | E .027 | E .010 | .522 | 7.740 |
| October | 1.859 | 1.607 | 3.269 | 6.744 | .587 | -.004 | E .197 | E .279 | E .028 | E .010 | .515 | 7.827 |
| November | 1.839 | 1.956 | 3.088 | 6.893 | .633 | -.004 | E .221 | E .271 | E .028 | E .010 | .530 | 8.039 |
| December | 2.003 | 2.652 | 3.437 | 8.084 | .721 | -.005 | E .219 | E .278 | E .029 | E .009 | .536 | 9.322 |
| **Total** | **22.431** | **23.111** | **38.404** | **84.094** | **8.009** | **-.057** | **E 3.152** | **E 3.276** | **E .319** | **E .121** | **6.868** | **98.774** |
| **2001** January | 1.986 | R 2.700 | 3.298 | R 7.991 | R .730 | -.004 | E .209 | E .280 | E .029 | E .009 | .527 | R 9.229 |
| February | 1.730 | R 2.346 | 2.933 | R 7.008 | R .651 | -.005 | E .191 | E .255 | E .026 | E .010 | .482 | R 8.123 |
| March | 1.794 | R 2.261 | 3.297 | R 7.357 | .660 | -.006 | E .227 | E .278 | E .027 | E .012 | .544 | R 8.543 |
| April | 1.641 | R 1.824 | 3.142 | R 6.618 | R .595 | -.006 | E .206 | E .270 | E .025 | E .013 | .514 | R 7.710 |
| May | 1.766 | R 1.518 | 3.230 | R 6.526 | R .653 | -.003 | E .222 | E .278 | E .025 | E .014 | .539 | 7.703 |
| June | 1.863 | R 1.410 | 3.145 | R 6.428 | R .723 | -.004 | E .231 | E .272 | E .025 | E .014 | .541 | R 7.676 |
| July | 2.116 | R 1.562 | 3.295 | 6.981 | R .735 | -.005 | E .201 | E .283 | E .027 | E .014 | .524 | 8.223 |
| August | 2.145 | R 1.584 | 3.329 | R 7.069 | R .727 | -.004 | E .210 | E .279 | E .026 | E .013 | .529 | R 8.311 |
| September | 1.872 | 1.456 | 3.060 | 6.388 | .673 | -.007 | E .161 | E .271 | E .026 | E .012 | .471 | R 7.513 |
| October | R 1.808 | R 1.610 | 3.257 | R 6.680 | .642 | -.005 | E .163 | E .284 | E .026 | E .012 | .486 | R 7.788 |
| November | R 1.763 | R 1.664 | 3.088 | R 6.520 | R .662 | -.007 | E .167 | E .274 | E .026 | E .011 | .478 | R 7.641 |
| December | 1.943 | R 2.072 | 3.159 | R 7.184 | .716 | -.005 | E .217 | E .282 | E .027 | E .011 | .538 | R 8.421 |
| **Total** | **R 22.428** | **E 22.007** | **38.232** | **R 82.750** | **R 8.167** | **-.062** | **E 2.407** | **E 3.305** | **E .315** | **E .146** | **6.173** | **R 96.880** |
| **2002** January | 1.878 | F 2.432 | 3.177 | 7.494 | .746 | -.006 | E .238 | E .280 | E .026 | E .011 | .555 | 8.777 |

[a] End-use consumption, electric utility and nonutility electricity net generation, and net imports of electricity.

[b] Includes supplemental gaseous fuels. For 1990-1999, annual values also include natural gas used by vehicles, whereas monthly values do not. See Table 4.4.

[c] Petroleum products supplied, including natural gas plant liquids and crude oil burned as fuel.

[d] Includes coal coke net imports and electricity net imports from fossil fuels. See Table 1.5.

[e] Pumped storage facility production minus energy used for pumping.

[f] Alcohol (ethanol blended into motor gasoline) is included in both "Petroleum" and "Alcohol," but is counted only once in total energy consumption.

[g] Included in conventional hydroelectric power.

[h] Beginning in 1989, includes coal consumed by "Other Power Producers." See Table 6.2.

[i] Beginning in 1989, includes electricity generated by nonutility nuclear units.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

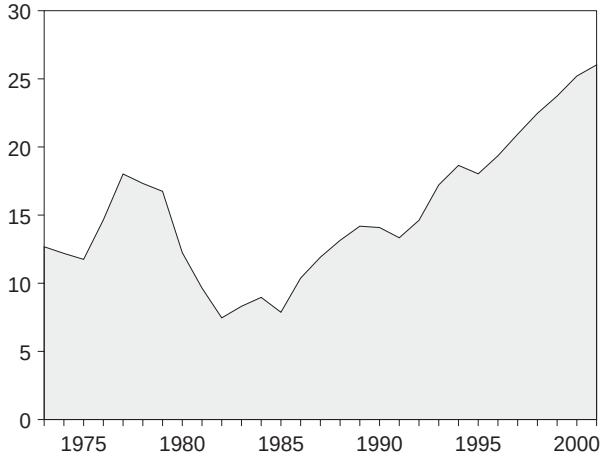
Notes: See Note 2 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Coal:** Tables 6.1 and A5. **Natural Gas:** Tables 4.1 and A4. **Petroleum:** Tables 3.1a and A3. **Nuclear Electric Power:** Tables 8.1 and A6. **Hydroelectric Pumped Storage:** Tables 7.2 and A6. **Renewable Energy:** Table 10.1.

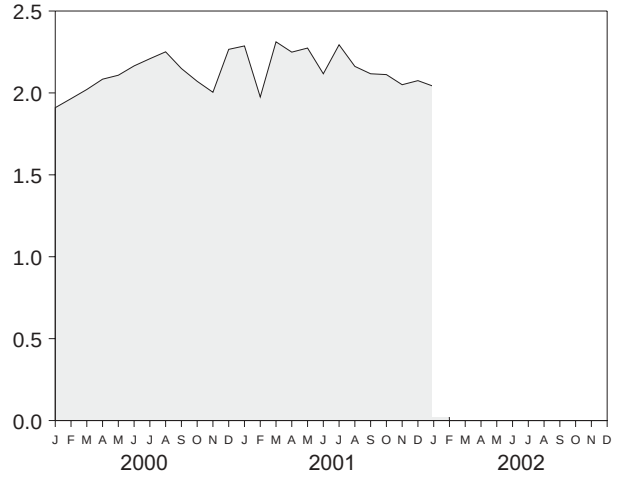
## Figure 1.4 Energy Net Imports

(Quadrillion Btu, Except as Noted)

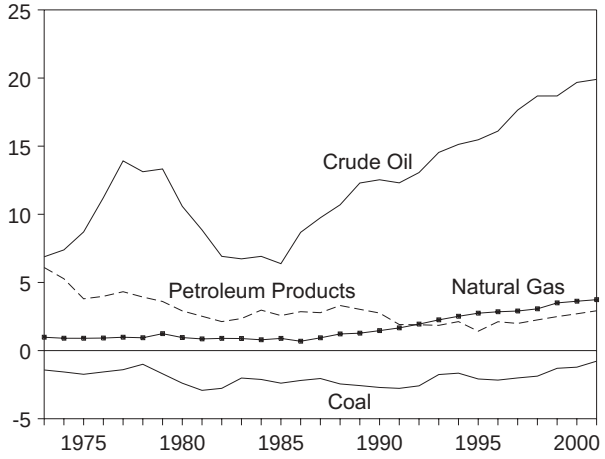
Total, 1973-2001



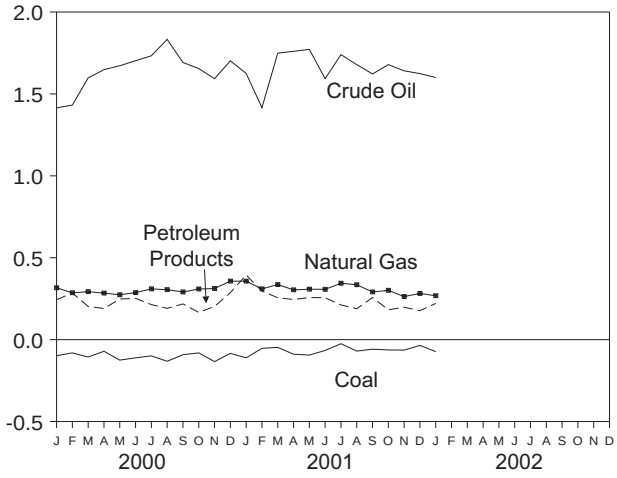

Total, Monthly



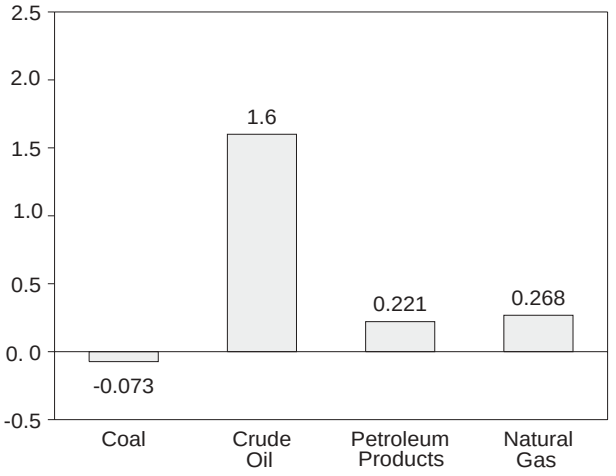

By Major Sources, 1973-2001



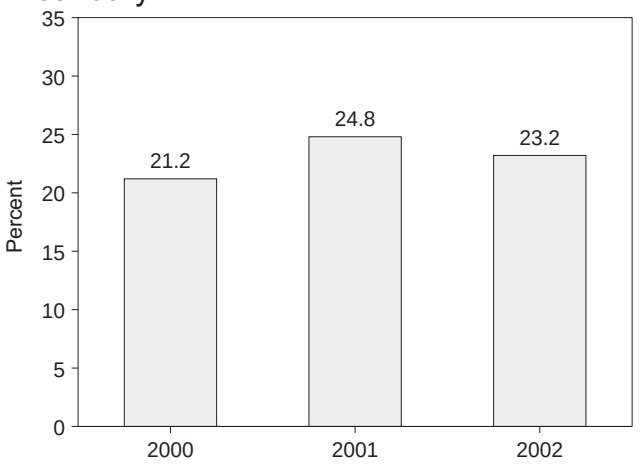

By Major Sources, Monthly




By Major Sources, January 2002




As Share of Consumption, January




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 1.4 and 1.5.

# Table 1.5 Energy Net Imports by Source

(Quadrillion Btu)

| | Fossil Fuels | | | | | | | Renewable Energy | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Electricity[a] | | | |
| | Coal | Coal Coke | Natural Gas | Crude Oil[b] | Petroleum Products[c] | Electricity[d] | Total | Hydro-power[e] | Geo-thermal | Total | Total |
| **1973 Total** | **-1.422** | **-0.007** | **0.981** | **6.883** | **6.097** | **(f)** | **12.531** | **0.148** | **(f)** | **0.148** | **12.680** |
| **1974 Total** | **-1.568** | **.056** | **.907** | **7.389** | **5.273** | **(f)** | **12.058** | **.133** | **(f)** | **.133** | **12.190** |
| **1975 Total** | **-1.738** | **.014** | **.904** | **8.708** | **3.800** | **(f)** | **11.688** | **.064** | **(f)** | **.064** | **11.752** |
| **1976 Total** | **-1.567** | .000 | **.922** | **11.221** | **3.982** | **(f)** | **14.559** | **.089** | **(f)** | **.089** | **14.648** |
| **1977 Total** | **-1.401** | **.015** | **.981** | **13.921** | **4.321** | **(f)** | **17.837** | **.182** | **(f)** | **.182** | **18.019** |
| **1978 Total** | **-1.004** | **.125** | **.941** | **13.125** | **3.932** | **(f)** | **17.118** | **.204** | **(f)** | **.204** | **17.323** |
| **1979 Total** | **-1.702** | **.063** | **1.243** | **13.328** | **3.603** | **(f)** | **16.535** | **.211** | **(f)** | **.211** | **16.746** |
| **1980 Total** | **-2.391** | **-.035** | **.957** | **10.586** | **2.912** | **(f)** | **12.030** | **.217** | **(f)** | **.217** | **12.247** |
| **1981 Total** | **-2.918** | **-.016** | **.857** | **8.854** | **2.522** | **(f)** | **9.298** | **.347** | **(f)** | **.347** | **9.646** |
| **1982 Total** | **-2.768** | **-.022** | **.898** | **6.917** | **2.128** | **(f)** | **7.153** | **.306** | **(f)** | **.306** | **7.460** |
| **1983 Total** | **-2.013** | **-.016** | **.885** | **6.731** | **2.351** | **(f)** | **7.938** | **.372** | **(f)** | **.372** | **8.310** |
| **1984 Total** | **-2.119** | **-.011** | **.792** | **6.918** | **2.970** | **(f)** | **8.549** | **.414** | **(f)** | **.414** | **8.963** |
| **1985 Total** | **-2.389** | **-.013** | **.896** | **6.381** | **2.570** | **(f)** | **7.445** | **.428** | **(f)** | **.428** | **7.872** |
| **1986 Total** | **-2.193** | **-.017** | **.686** | **8.676** | **2.855** | **(f)** | **10.007** | **.375** | **(f)** | **.375** | **10.382** |
| **1987 Total** | **-2.049** | **.009** | **.937** | **9.748** | **2.784** | **(f)** | **11.428** | **.483** | **(f)** | **.483** | **11.911** |
| **1988 Total** | **-2.446** | **.040** | **1.221** | **10.698** | **3.308** | **(f)** | **12.821** | **.328** | **(f)** | **.328** | **13.149** |
| **1989 Total** | **-2.566** | **.030** | **1.278** | **12.296** | **3.029** | **-.050** | **14.018** | **.159** | **.011** | **.171** | **14.188** |
| **1990 Total** | **-2.705** | **.005** | **1.464** | **12.536** | **2.757** | **-.080** | **13.977** | **.098** | **.011** | **.110** | **14.087** |
| **1991 Total** | **-2.769** | **.010** | **1.666** | **12.308** | **1.912** | **.059** | **13.186** | **.138** | **.015** | **.153** | **13.339** |
| **1992 Total** | **-2.587** | **.035** | **1.941** | **13.065** | **1.895** | **.053** | **14.401** | **.201** | **.019** | **.219** | **14.621** |
| **1993 Total** | **-1.758** | **.027** | **2.255** | **14.542** | **1.854** | **.050** | **16.970** | **.227** | **.018** | **.246** | **17.215** |
| **1994 Total** | **-1.657** | **.058** | **2.518** | **15.131** | **2.126** | **.140** | **18.316** | **.309** | **.027** | **.337** | **18.652** |
| **1995 Total** | **-2.081** | **.061** | **2.745** | **15.469** | **1.422** | **.121** | **17.737** | **.274** | **.019** | **.293** | **18.030** |
| **1996 Total** | **-2.165** | **.023** | **2.847** | **16.108** | **2.119** | **.109** | **19.041** | **.300** | **.014** | **.313** | **19.354** |
| **1997 Total** | **-2.006** | **.046** | **2.904** | **17.648** | **1.993** | **.109** | **20.694** | **.244** | .000 | **.244** | **20.938** |
| **1998 Total** | **-1.874** | **.067** | **3.064** | **18.684** | **2.252** | **.048** | **22.241** | **.224** | **.001** | **.225** | **22.466** |
| **1999 Total** | **-1.298** | **.058** | **3.500** | **18.686** | **2.493** | **.092** | **23.530** | **.207** | **.001** | **.208** | **23.738** |
| **2000** January | -.098 | .004 | .316 | 1.415 | .244 | E .009 | 1.889 | E .021 | .000 | E .021 | 1.910 |
| February | -.081 | .007 | .286 | 1.432 | .285 | E .011 | 1.941 | E .024 | .000 | E .024 | 1.965 |
| March | -.106 | .006 | .293 | 1.598 | .203 | E .007 | 2.001 | E .021 | .000 | E .021 | 2.021 |
| April | -.071 | .006 | .284 | 1.648 | .190 | E .006 | 2.063 | E .020 | .000 | E .020 | 2.084 |
| May | -.125 | .008 | .274 | 1.672 | .248 | E .007 | 2.084 | E .024 | .000 | E .024 | 2.108 |
| June | -.111 | .004 | .287 | 1.703 | .252 | E .006 | 2.141 | E .024 | .000 | E .024 | 2.165 |
| July | -.099 | .006 | .310 | 1.733 | .214 | E .014 | 2.178 | E .032 | .000 | E .032 | 2.209 |
| August | -.132 | .008 | .305 | 1.833 | .191 | E .014 | 2.219 | E .033 | .000 | E .033 | 2.251 |
| September | -.092 | .007 | .291 | 1.692 | .218 | E .009 | 2.124 | E .025 | .000 | E .025 | 2.149 |
| October | -.081 | .006 | .309 | 1.655 | .166 | E .003 | 2.057 | E .014 | .000 | E .014 | 2.071 |
| November | -.134 | .004 | .312 | 1.593 | .203 | E .006 | 1.984 | E .020 | .000 | E .020 | 2.004 |
| December | -.084 | .000 | .357 | 1.702 | .287 | E -.007 | 2.255 | E .012 | .000 | E .012 | 2.266 |
| **Total** | **-1.215** | **.065** | **3.623** | **19.676** | **2.701** | **.083** | **24.935** | **.269** | **.000** | **.269** | **25.204** |
| **2001** January | -.111 | .003 | R .357 | 1.625 | .395 | E .004 | R 2.273 | E .014 | .000 | E .014 | R 2.287 |
| February | -.053 | .002 | R .310 | 1.416 | .296 | E -.004 | R 1.968 | E .007 | .000 | E .007 | R 1.975 |
| March | -.047 | .003 | R .336 | 1.749 | .256 | E .003 | R 2.299 | E .013 | .000 | E .013 | R 2.312 |
| April | -.089 | .005 | .304 | 1.760 | .245 | E .006 | R 2.232 | E .017 | .000 | E .017 | R 2.249 |
| May | -.094 | .004 | R .308 | 1.772 | .257 | E .008 | 2.254 | E .020 | .000 | E .020 | 2.274 |
| June | -.066 | .003 | .307 | 1.593 | .256 | E .007 | 2.100 | E .017 | .000 | E .017 | 2.117 |
| July | -.025 | .000 | R .344 | 1.740 | .212 | E .007 | R 2.278 | E .016 | .000 | E .016 | R 2.294 |
| August | -.070 | .004 | R .335 | 1.679 | .189 | E .008 | R 2.145 | E .018 | .000 | E .018 | R 2.162 |
| September | -.058 | .001 | R .291 | 1.622 | .257 | E -.001 | R 2.112 | E .005 | .000 | E .005 | 2.117 |
| October | -.063 | .004 | RE .301 | 1.679 | .182 | E .002 | R 2.105 | E .007 | .000 | E .007 | R 2.112 |
| November | -.064 | .002 | RE .263 | 1.641 | .198 | E .002 | R 2.042 | E .008 | .000 | E .008 | R 2.050 |
| December | -.035 | .001 | RE .282 | 1.624 | .177 | E .009 | R 2.058 | E .017 | .000 | E .017 | R 2.075 |
| **Total** | **-.776** | **.032** | RE **3.737** | **19.901** | **2.921** | **.051** | R **25.866** | **.159** | **.000** | **.159** | R **26.025** |
| **2002** January | -.073 | -.001 | E .268 | 1.600 | .221 | E .008 | 2.023 | E .017 | .000 | E .017 | 2.040 |

[a] Through 1988, all electricity imports and exports are included in "Hydropower." From 1989, includes only electricity imports and exports derived from hydroelectric power or geothermal energy.

[b] Crude oil, lease condensate, and imports of crude oil for the Strategic Petroleum Reserve.

[c] Petroleum products, unfinished oils, pentanes plus, and gasoline blending components.

[d] Electricity net imports from fossil fuels. May include some nuclear-generated electricity.

[e] Conventional hydroelectric power.

[f] Included in "Hydropower."

R=Revised. E=Estimate. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

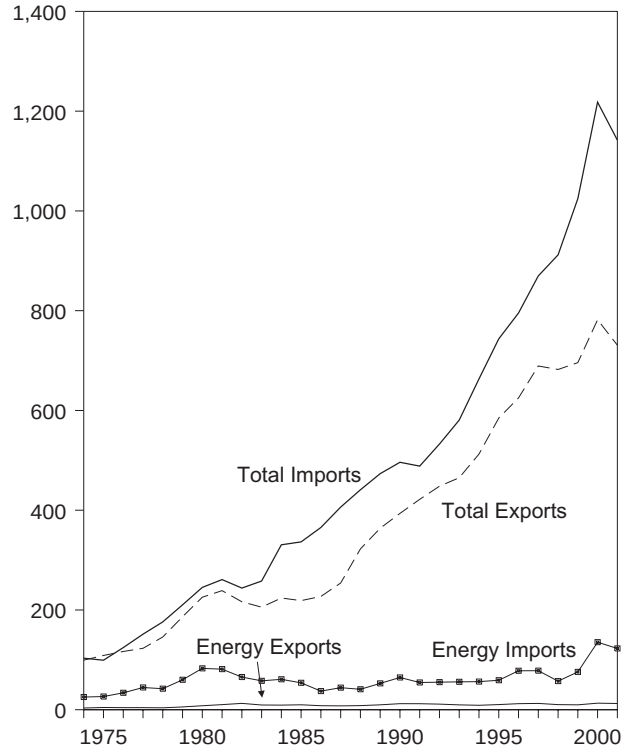
Notes: See Notes 3 and 4 at end of section. Net imports equal imports minus exports. Minus sign indicates exports are greater than imports. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Coal:** Tables 6.1 and A5. **Coal Coke:** Section 2, "Energy Consumption Notes and Sources," Note 5, and Table A5. **Natural Gas:** Tables 4.1 and A4. **Crude Oil and Petroleum Products:** Tables 3.1b, A2, and A3. **Fossil Fuel Electricity:** Derived from Table 7.1 sources and Table A6. **Renewable Energy:** Table 10.3b.

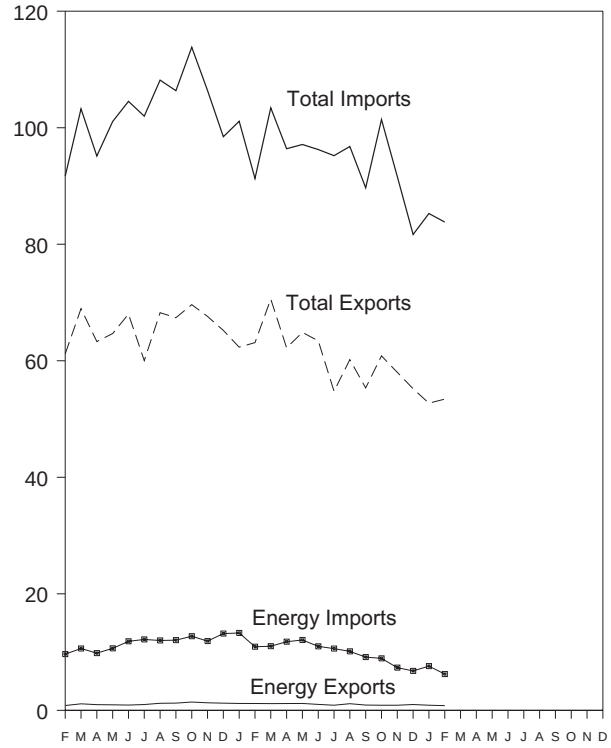
## Figure 1.5 Merchandise Trade Value

(Billion Dollars)

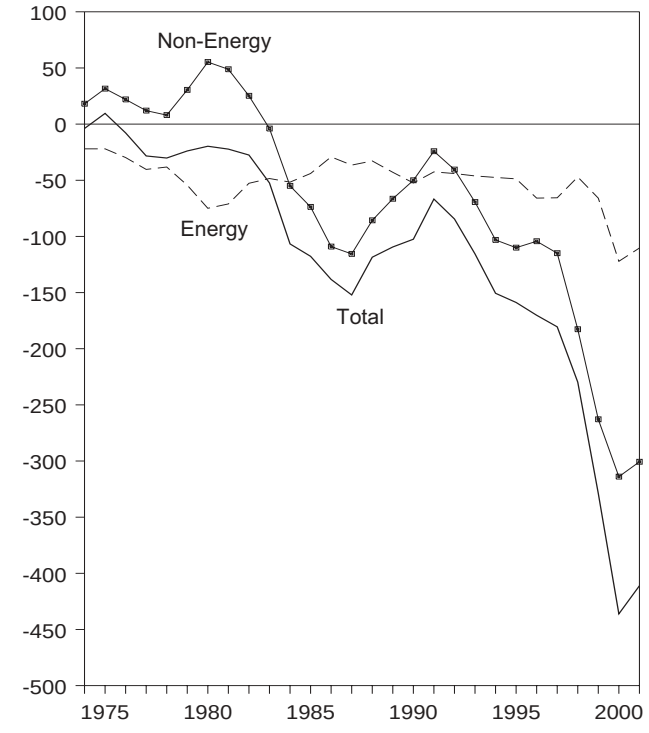
Imports and Exports, 1974-2001



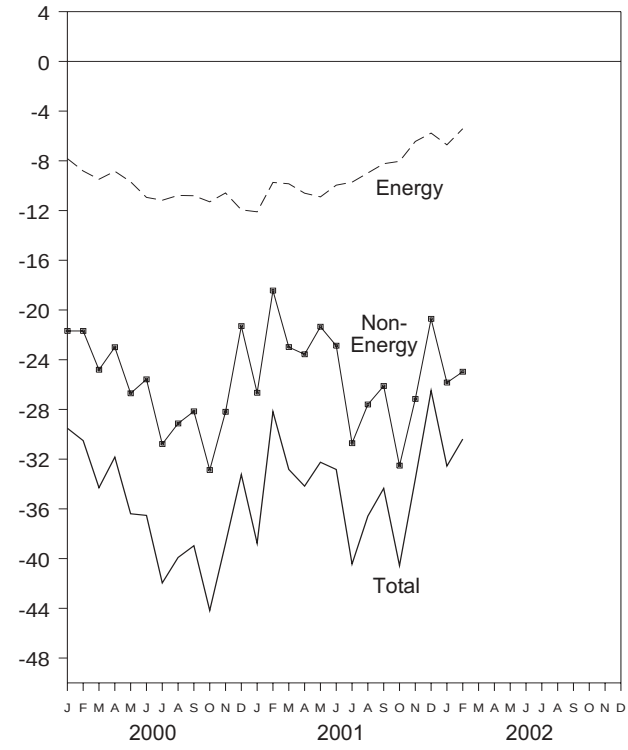

Imports and Exports, Monthly




Trade Balance, 1974-2001




Trade Balance, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.6.

# Table 1.6 Merchandise Trade Value

(Million Dollars)

| | Petroleum[a] | | | Energy[b] | | | Non-Energy Balance | Total Merchandise | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Exports | Imports | Balance | Exports | Imports | Balance | | Exports | Imports | Balance |
| **1974 Total** | **792** | **24,668** | **-23,876** | **3,444** | **25,454** | **-22,010** | **18,126** | **99,437** | **103,321** | **-3,884** |
| **1975 Total** | **907** | **25,197** | **-24,289** | **4,470** | **26,476** | **-22,006** | **31,557** | **108,856** | **99,305** | **9,551** |
| **1976 Total** | **998** | **32,226** | **-31,228** | **4,226** | **33,996** | **-29,770** | **21,950** | **116,794** | **124,614** | **-7,820** |
| **1977 Total** | **1,276** | **42,368** | **-41,093** | **4,184** | **44,537** | **-40,354** | **12,001** | **123,182** | **151,534** | **-28,353** |
| **1978 Total** | **1,561** | **39,526** | **-37,965** | **3,881** | **42,096** | **-38,215** | **8,010** | **145,847** | **176,052** | **-30,205** |
| **1979 Total** | **1,914** | **56,715** | **-54,801** | **5,621** | **59,998** | **-54,377** | **30,455** | **186,363** | **210,285** | **-23,922** |
| **1980 Total** | **2,833** | **78,637** | **-75,803** | **7,982** | **82,924** | **-74,942** | **55,246** | **225,566** | **245,262** | **-19,696** |
| **1981 Total** | **3,696** | **76,659** | **-72,963** | **10,279** | **81,360** | **-71,081** | **48,814** | **238,715** | **260,982** | **-22,267** |
| **1982 Total** | **5,947** | **60,458** | **-54,511** | **12,729** | **65,409** | **-52,680** | **25,170** | **216,442** | **243,952** | **-27,510** |
| **1983 Total** | **4,557** | **53,217** | **-48,659** | **9,500** | **57,952** | **-48,452** | **-3,957** | **205,639** | **258,048** | **-52,409** |
| **1984 Total** | **4,470** | **56,924** | **-52,454** | **9,311** | **60,980** | **-51,669** | **-55,033** | **223,976** | **330,678** | **-106,703** |
| **1985 Total** | **4,707** | **50,475** | **-45,768** | **9,971** | **53,917** | **-43,946** | **-73,765** | **218,815** | **336,526** | **-117,712** |
| **1986 Total** | **3,640** | **35,142** | **-31,503** | **8,115** | **37,310** | **-29,195** | **-109,084** | **227,159** | **365,438** | **-138,279** |
| **1987 Total** | **3,922** | **42,285** | **-38,363** | **7,713** | **44,220** | **-36,506** | **-115,613** | **254,122** | **406,241** | **-152,119** |
| **1988 Total** | **3,693** | **38,787** | **-35,094** | **8,235** | **41,042** | **-32,806** | **-85,720** | **322,426** | **440,952** | **-118,526** |
| **1989 Total** | **5,021** | **49,704** | **-44,683** | **9,869** | **52,779** | **-42,910** | **-66,490** | **363,812** | **473,211** | **-109,399** |
| **1990 Total** | **6,901** | **61,583** | **-54,682** | **12,233** | **64,661** | **-52,428** | **-50,068** | **393,592** | **496,088** | **-102,496** |
| **1991 Total** | **6,954** | **51,350** | **-44,396** | **12,081** | **54,629** | **-42,548** | **-24,175** | **421,730** | **488,453** | **-66,723** |
| **1992 Total** | **6,412** | **51,217** | **-44,805** | **11,254** | **55,256** | **-44,002** | **-40,500** | **448,164** | **532,665** | **-84,501** |
| **1993 Total** | **6,215** | **51,046** | **-44,831** | **9,756** | **55,900** | **-46,144** | **-69,425** | **465,091** | **580,659** | **-115,568** |
| **1994 Total** | **5,659** | **50,835** | **-45,176** | **8,911** | **56,391** | **-47,480** | **-103,149** | **512,626** | **663,256** | **-150,629** |
| **1995 Total** | **6,321** | **54,368** | **-48,047** | **10,358** | **59,109** | **-48,751** | **-110,050** | **584,742** | **743,543** | **-158,801** |
| **1996 Total** | **7,984** | **72,022** | **-64,038** | **12,181** | **78,086** | **-65,905** | **-104,309** | **625,075** | **795,289** | **-170,214** |
| **1997 Total** | **8,592** | **71,152** | **-62,560** | **12,682** | **78,277** | **-65,595** | **-114,927** | **689,182** | **869,704** | **-180,522** |
| **1998 Total** | **6,574** | **50,264** | **-43,690** | **10,251** | **57,323** | **-47,072** | **-182,686** | **682,138** | **911,896** | **-229,758** |
| **1999 Total** | **7,118** | **67,173** | **-60,055** | **9,880** | **75,803** | **-65,923** | **-262,898** | **695,797** | **1,024,618** | **-328,821** |
| **2000** January | 804 | 7,976 | -7,172 | 1,004 | 8,825 | -7,821 | -21,689 | 57,679 | 87,188 | -29,510 |
| February | 659 | 8,807 | -8,148 | 827 | 9,646 | -8,819 | -21,689 | 61,179 | 91,688 | -30,508 |
| March | 867 | 9,737 | -8,870 | 1,119 | 10,604 | -9,485 | -24,811 | 68,948 | 103,244 | -34,296 |
| April | 795 | 8,962 | -8,167 | 973 | 9,815 | -8,842 | -22,996 | 63,302 | 95,141 | -31,838 |
| May | 696 | 9,621 | -8,925 | 949 | 10,638 | -9,689 | -26,705 | 64,673 | 101,067 | -36,394 |
| June | 673 | 10,512 | -9,839 | 907 | 11,849 | -10,942 | -25,583 | 68,002 | 104,527 | -36,525 |
| July | 726 | 10,707 | -9,981 | 998 | 12,169 | -11,171 | -30,786 | 60,029 | 101,986 | -41,957 |
| August | 929 | 10,527 | -9,598 | 1,209 | 11,990 | -10,781 | -29,130 | 68,255 | 108,166 | -39,911 |
| September | 970 | 10,642 | -9,672 | 1,241 | 12,050 | -10,809 | -28,156 | 67,391 | 106,355 | -38,965 |
| October | 1,166 | 11,206 | -10,040 | 1,424 | 12,722 | -11,298 | -32,879 | 69,635 | 113,812 | -44,177 |
| November | 992 | 10,197 | -9,205 | 1,296 | 11,882 | -10,586 | -28,195 | 67,614 | 106,395 | -38,781 |
| December | 915 | 10,356 | -9,441 | 1,232 | 13,175 | -11,943 | -21,299 | 65,211 | 98,452 | -33,242 |
| **Total** | **10,192** | **119,251** | **-109,059** | **13,179** | **135,367** | **-122,188** | **-313,916** | **781,918** | **1,218,022** | **-436,104** |
| **2001** January | 791 | 10,703 | -9,912 | 1,177 | 13,276 | -12,099 | -26,667 | 62,340 | 101,106 | -38,766 |
| February | 720 | 8,939 | -8,219 | 1,171 | 10,909 | -9,738 | -18,440 | 63,115 | 91,294 | -28,178 |
| March | 746 | 9,102 | -8,356 | 1,158 | 11,002 | -9,844 | -22,984 | 70,586 | 103,414 | -32,828 |
| April | 764 | 9,483 | -8,719 | 1,170 | 11,775 | -10,605 | -23,566 | 62,224 | 96,395 | -34,171 |
| May | 791 | 9,691 | -8,900 | 1,176 | 12,076 | -10,900 | -21,349 | 64,873 | 97,122 | -32,249 |
| June | 760 | 9,173 | -8,413 | 1,019 | 10,976 | -9,957 | -22,875 | 63,421 | 96,252 | -32,832 |
| July | 674 | 8,643 | -7,969 | 878 | 10,596 | -9,718 | -30,719 | 54,772 | 95,209 | -40,437 |
| August | 843 | 8,620 | -7,777 | 1,141 | 10,119 | -8,978 | -27,605 | 60,191 | 96,774 | -36,583 |
| September | 647 | 8,230 | -7,583 | 907 | 9,140 | -8,233 | -26,117 | 55,334 | 89,684 | -34,350 |
| October | 653 | 8,002 | -7,349 | 876 | 8,916 | -8,040 | -32,524 | 60,842 | 101,406 | -40,564 |
| November | 645 | 6,394 | -5,749 | 881 | 7,323 | -6,442 | -27,158 | 58,014 | 91,614 | -33,600 |
| December | 810 | 5,886 | -5,076 | 997 | 6,765 | -5,768 | -20,716 | 55,200 | 81,684 | -26,484 |
| **Total** | **R 8,844** | **R 102,866** | **R -94,022** | **12,550** | **R 122,874** | **R -110,324** | **R -300,718** | **730,912** | **1,141,954** | **-411,042** |
| **2002** January | 636 | 6,490 | -5,854 | 877 | 7,589 | -6,712 | R -25,844 | R 52,720 | R 85,276 | R -32,556 |
| February | 664 | 5,392 | -4,728 | 809 | 6,224 | -5,415 | -24,970 | 53,418 | 83,802 | -30,385 |
| **2-Month Total** | **1,301** | **11,881** | **-10,580** | **1,686** | **13,814** | **-12,128** | **-50,813** | **106,137** | **169,078** | **-62,941** |
| **2001 2-Month Total** | **1,511** | **19,642** | **-18,131** | **2,348** | **24,185** | **-21,837** | **-45,107** | **125,455** | **192,400** | **-66,944** |
| **2000 2-Month Total** | **1,463** | **16,783** | **-15,320** | **1,831** | **18,471** | **-16,640** | **-43,378** | **118,858** | **178,876** | **-60,018** |

[a] Crude oil, petroleum preparations, liquefied propane and butane, and other mineral fuels.

[b] Petroleum, coal, natural gas, and electricity.

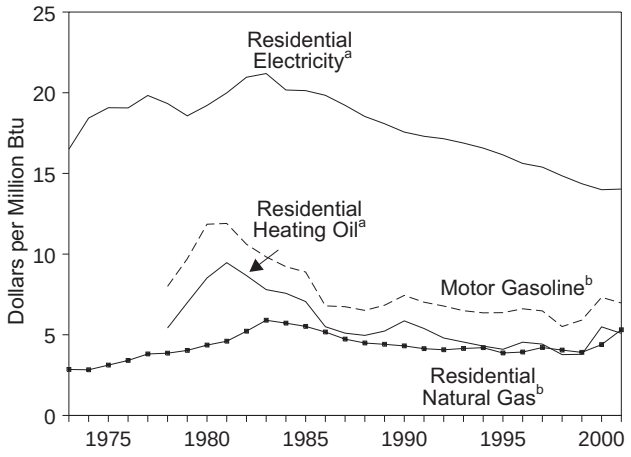
R=Revised.

Notes: Monthly data are not adjusted for seasonal variations. See Note 5 at end of section. Totals may not equal sum of components due to independent rounding. 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, Puerto Rico, and the Virgin Islands.

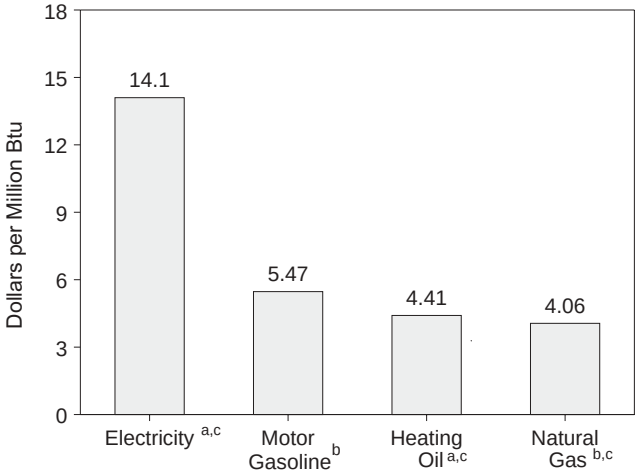
Source: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

## Figure 1.6 Cost of Fuels to End Users in Constant (1982-1984) Dollars

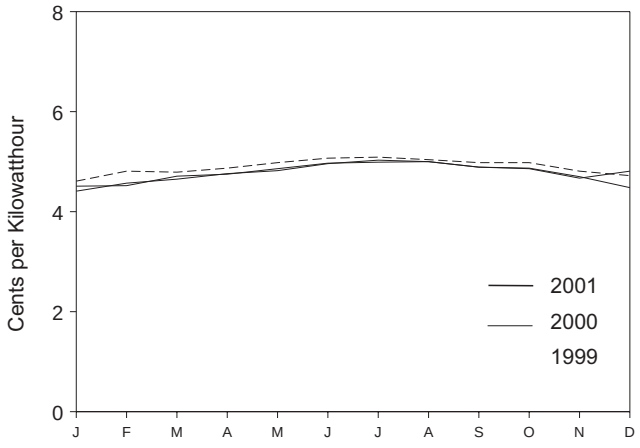
### Costs, 1973-2001



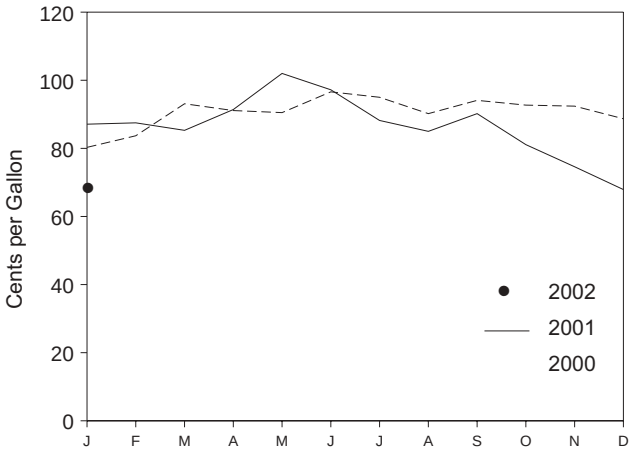

### Costs, December 2001



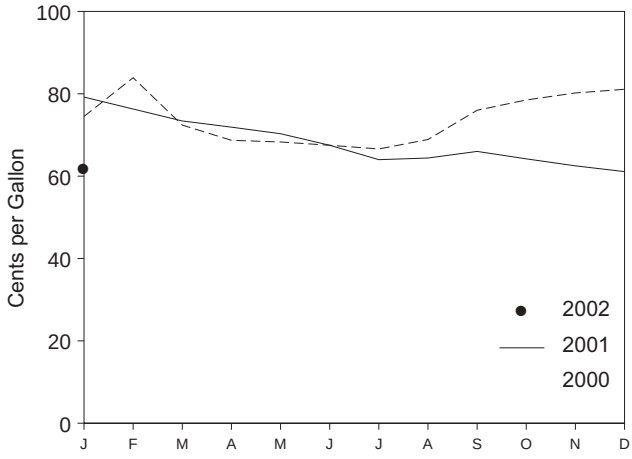

### Residential Electricity[a], Monthly



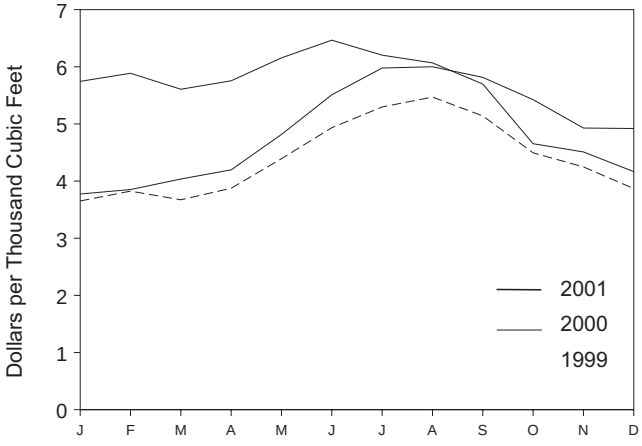

### Motor Gasoline[a], Monthly




### Residential Heating Oil[a], Monthly




### Residential Natural Gas[b], Monthly



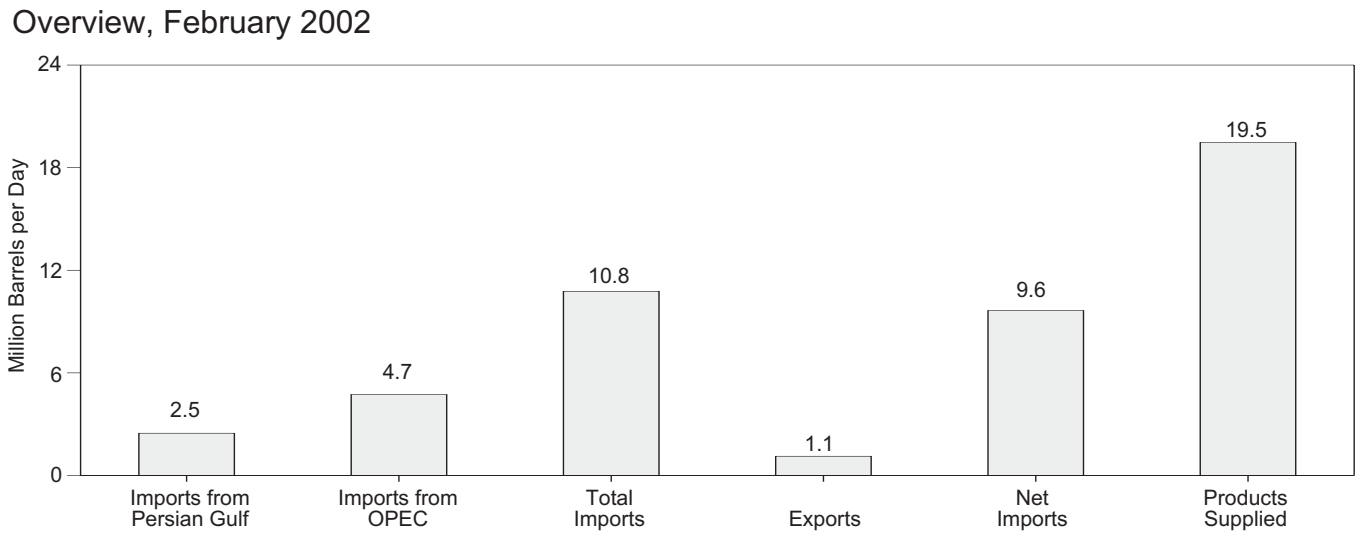

[a]Includes taxes.
[b]Excludes taxes.
[c]Residential.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.7.

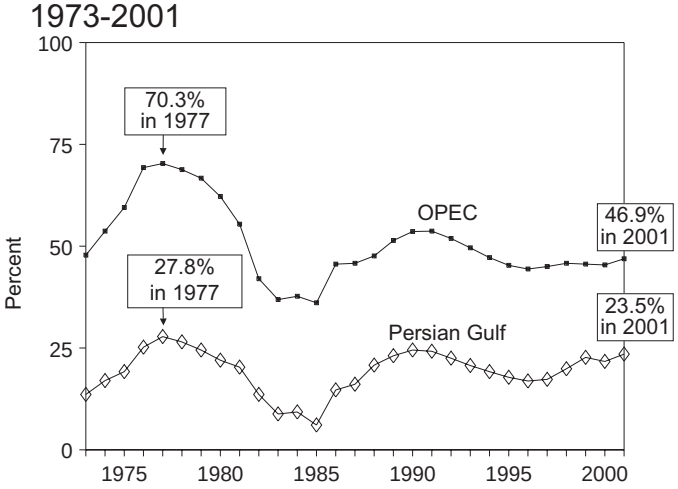
# Table 1.7 Cost of Fuels to End Users in Constant (1982-84) Dollars

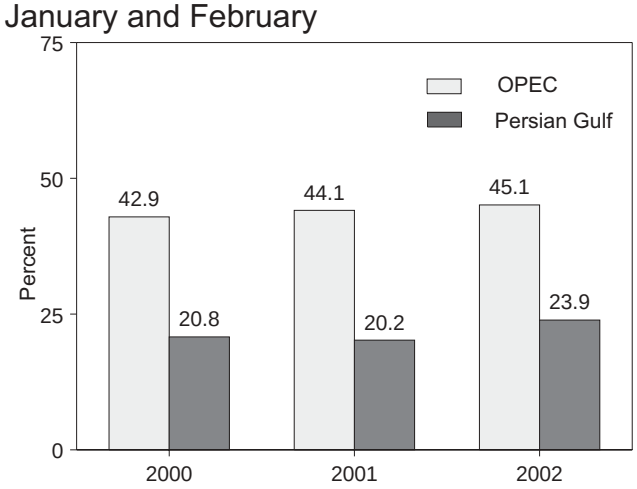
| | Consumer Price Index (Urban)[a] | Motor Gasoline[b] | | Residential Heating Oil[c] | | Residential Natural Gas[b] | | Residential Electricity[c] | |
|---|---|---|---|---|---|---|---|---|---|
| | Index 1982-1984=100 | Cents per Gallon | Dollars per Million Btu | Cents per Gallon | Dollars per Million Btu | Cents per Thousand Cubic Feet | Dollars per Million Btu | Cents per Kilowatthour | Dollars per Million Btu |
| **1973 Average** | **44.4** | **NA** | **NA** | **NA** | **NA** | **290.5** | **2.85** | **5.6** | **16.50** |
| **1974 Average** | **49.3** | **NA** | **NA** | **NA** | **NA** | **290.1** | **2.83** | **6.3** | **18.43** |
| **1975 Average** | **53.8** | **NA** | **NA** | **NA** | **NA** | **317.8** | **3.12** | **6.5** | **19.07** |
| **1976 Average** | **56.9** | **NA** | **NA** | **NA** | **NA** | **348.0** | **3.41** | **6.5** | **19.06** |
| **1977 Average** | **60.6** | **NA** | **NA** | **NA** | **NA** | **387.8** | **3.81** | **6.8** | **19.83** |
| **1978 Average** | **65.2** | **100.0** | **8.00** | **75.2** | **5.42** | **392.6** | **3.86** | **6.6** | **19.33** |
| **1979 Average** | **72.6** | **121.5** | **9.71** | **97.0** | **6.99** | **410.5** | **4.03** | **6.3** | **18.57** |
| **1980 Average** | **82.4** | **148.2** | **11.85** | **118.2** | **8.52** | **446.6** | **4.36** | **6.6** | **19.21** |
| **1981 Average** | **90.9** | **148.8** | **11.90** | **131.4** | **9.47** | **471.9** | **4.60** | **6.8** | **19.99** |
| **1982 Average** | **96.5** | **132.7** | **10.61** | **120.2** | **8.67** | **535.8** | **5.22** | **7.2** | **20.96** |
| **1983 Average** | **99.6** | **123.0** | **9.83** | **108.2** | **7.80** | **608.4** | **5.90** | **7.2** | **21.19** |
| **1984 Average** | **103.9** | **115.3** | **9.22** | **105.0** | **7.57** | **589.0** | **5.72** | **6.88** | **20.17** |
| **1985 Average** | **107.6** | **111.2** | **8.89** | **97.9** | **7.06** | **568.8** | **5.52** | **6.87** | **20.13** |
| **1986 Average** | **109.6** | **84.9** | **6.79** | **76.3** | **5.50** | **531.9** | **5.17** | **6.77** | **19.84** |
| **1987 Average** | **113.6** | **84.2** | **6.74** | **70.7** | **5.10** | **487.7** | **4.73** | **6.56** | **19.22** |
| **1988 Average** | **118.3** | **81.4** | **6.51** | **68.7** | **4.96** | **462.4** | **4.49** | **6.32** | **18.53** |
| **1989 Average** | **124.0** | **85.5** | **6.83** | **72.6** | **5.23** | **454.8** | **4.41** | **6.17** | **18.08** |
| **1990 Average** | **130.7** | **93.1** | **7.44** | **81.3** | **5.86** | **443.8** | **4.31** | **5.99** | **17.56** |
| **1991 Average** | **136.2** | **87.8** | **7.02** | **74.8** | **5.39** | **427.3** | **4.14** | **5.90** | **17.30** |
| **1992 Average** | **140.3** | **84.8** | **6.78** | **66.6** | **4.80** | **419.8** | **4.07** | **5.85** | **17.15** |
| **1993 Average** | **144.5** | **81.2** | **6.49** | **63.0** | **4.55** | **426.3** | **4.15** | **5.76** | **16.88** |
| **1994 Average** | **148.2** | **79.2** | **6.36** | **59.6** | **4.30** | **432.5** | **4.20** | **5.65** | **16.57** |
| **1995 Average** | **152.4** | **79.1** | **6.37** | **56.9** | **4.10** | **397.6** | **3.87** | **5.51** | **16.15** |
| **1996 Average** | **156.9** | **82.1** | **6.61** | **63.0** | **4.54** | **404.1** | **3.93** | **5.33** | **15.62** |
| **1997 Average** | **160.5** | **80.4** | **6.48** | **61.3** | **4.42** | **432.4** | **4.21** | **5.25** | **15.39** |
| **1998 Average** | **163.0** | **68.4** | **5.51** | **52.3** | **3.77** | **418.4** | **4.05** | **5.07** | **14.85** |
| **1999 Average** | **166.6** | **73.3** | **5.91** | **52.6** | **3.79** | **401.6** | **3.91** | **4.90** | **14.36** |
| **2000** January | 168.8 | 80.3 | 6.47 | 74.5 | 5.37 | 377.4 | 3.67 | 4.51 | 13.23 |
| February | 169.8 | 83.7 | 6.75 | 83.9 | 6.05 | 385.2 | 3.75 | 4.52 | 13.26 |
| March | 171.2 | 93.1 | 7.51 | 72.4 | 5.22 | 403.6 | 3.93 | 4.71 | 13.80 |
| April | 171.3 | 91.1 | 7.35 | 68.7 | 4.95 | 419.7 | 4.08 | 4.75 | 13.91 |
| May | 171.5 | 90.5 | 7.30 | 68.3 | 4.93 | 481.6 | 4.69 | 4.86 | 14.25 |
| June | 172.4 | 96.6 | 7.79 | 67.5 | 4.86 | 551.0 | 5.36 | 4.97 | 14.55 |
| July | 172.8 | 95.0 | 7.66 | 66.6 | 4.80 | 597.8 | 5.82 | 4.99 | 14.64 |
| August | 172.8 | 90.2 | 7.27 | 68.9 | 4.97 | 600.1 | 5.84 | 5.00 | 14.65 |
| September | 173.7 | 94.1 | 7.59 | 76.0 | 5.48 | 581.5 | 5.66 | 4.89 | 14.34 |
| October | 174.0 | 92.7 | 7.47 | 78.5 | 5.66 | 542.5 | 5.28 | 4.87 | 14.27 |
| November | 174.1 | 92.4 | 7.45 | 80.2 | 5.79 | 492.8 | 4.79 | 4.70 | 13.79 |
| December | 174.0 | 88.7 | 7.15 | 81.1 | 5.85 | 492.0 | 4.79 | 4.48 | 13.12 |
| **Average** | **172.2** | **90.8** | **7.32** | **76.1** | **5.49** | **450.6** | **4.39** | **4.77** | **13.99** |
| **2001** January | 175.1 | 87.1 | 7.02 | 79.2 | 5.71 | R 574.5 | R 5.60 | 4.41 | 12.94 |
| February | 175.8 | 87.5 | 7.05 | 76.3 | 5.50 | R 588.7 | R 5.74 | 4.57 | 13.39 |
| March | 176.2 | 85.3 | 6.88 | 73.4 | 5.30 | R 560.7 | R 5.47 | 4.65 | 13.62 |
| April | 176.9 | 91.4 | 7.37 | 71.9 | 5.18 | R 575.5 | R 5.61 | 4.76 | 13.95 |
| May | 177.7 | 102.0 | 8.22 | 70.3 | 5.07 | 615.6 | 6.00 | 4.82 | 14.13 |
| June | 178.0 | 97.2 | 7.84 | 67.5 | 4.87 | 646.6 | 6.30 | 4.96 | 14.52 |
| July | 177.5 | 88.2 | 7.11 | 64.0 | 4.61 | 620.3 | 6.05 | 5.03 | 14.74 |
| August | 177.5 | 85.0 | 6.85 | 64.4 | 4.64 | 606.8 | 5.91 | 5.00 | 14.66 |
| September | 178.3 | 90.2 | 7.27 | 66.0 | 4.76 | 569.8 | 5.55 | 4.89 | 14.33 |
| October | 177.7 | 81.1 | 6.54 | 64.2 | 4.63 | R 465.4 | R 4.54 | 4.86 | 14.23 |
| November | 177.4 | 74.6 | 6.02 | 62.5 | 4.51 | 451.0 | 4.40 | 4.67 | 13.68 |
| December | 176.7 | 67.9 | 5.47 | R 61.1 | R 4.41 | 416.5 | 4.06 | 4.81 | 14.10 |
| **Average** | **177.1** | **86.4** | **6.97** | R **70.6** | **5.09** | **544.3** | **5.31** | **4.79** | **14.03** |
| **2002** January | 177.1 | 68.3 | 5.50 | 61.9 | 4.47 | NA | NA | NA | NA |

[a] Consumer Price Index, All Urban Consumers, All Items, 1982-1984 = 100.0.
[b] Includes taxes.
[c] Excludes taxes.
R=Revised. NA=Not available.
Notes: Fuel costs are calculated by using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. Annual averages may not equal average of months due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: **Fuel Prices:** Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. **CPI: 1973-1997**—*Economic Report of the President,* February 2002, Table B-60. **1998 forward**—Council of Economic Advisers, *Economic Indicators,* March 2002, "Consumer Prices - All Urban Consumers."
**Conversion Factors:** Tables A1, A3, A4, and A6.

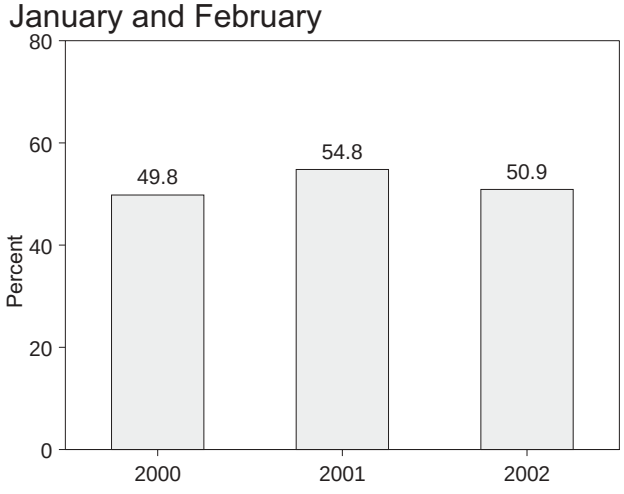
## Figure 1.7 Overview of U.S. Petroleum Trade








OPEC=Organization of Petroleum Exporting Countries.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.8, 3.1a, and 3.1b.

# Table 1.8 Overview of U.S. Petroleum Trade

| | Imports from Persian Gulf[a] | Imports from OPEC[b] | Imports | Exports | Net Imports | Products Supplied | As Share of Products Supplied: Imports from Persian Gulf[a] | As Share of Products Supplied: Imports from OPEC[b] | As Share of Products Supplied: Imports | As Share of Products Supplied: Net Imports | As Share of Total Imports: Imports from Persian Gulf[a] | As Share of Total Imports: Imports from OPEC[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Thousand Barrels per Day | | | | | | Percent | | | | | |
| **1973 Average** | **848** | **2,993** | **6,256** | **231** | **6,025** | **17,308** | **4.9** | **17.3** | **36.1** | **34.8** | **13.6** | **47.8** |
| **1974 Average** | **1,039** | **3,280** | **6,112** | **221** | **5,892** | **16,653** | **6.2** | **19.7** | **36.7** | **35.4** | **17.0** | **53.7** |
| **1975 Average** | **1,165** | **3,601** | **6,056** | **209** | **5,846** | **16,322** | **7.1** | **22.1** | **37.1** | **35.8** | **19.2** | **59.5** |
| **1976 Average** | **1,840** | **5,066** | **7,313** | **223** | **7,090** | **17,461** | **10.5** | **29.0** | **41.9** | **40.6** | **25.2** | **69.3** |
| **1977 Average** | **2,448** | **6,193** | **8,807** | **243** | **8,565** | **18,431** | **13.3** | **33.6** | **47.8** | **46.5** | **27.8** | **70.3** |
| **1978 Average** | **2,219** | **5,751** | **8,363** | **362** | **8,002** | **18,847** | **11.8** | **30.5** | **44.4** | **42.5** | **26.5** | **68.8** |
| **1979 Average** | **2,069** | **5,637** | **8,456** | **471** | **7,985** | **18,513** | **11.2** | **30.5** | **45.7** | **43.1** | **24.5** | **66.7** |
| **1980 Average** | **1,519** | **4,300** | **6,909** | **544** | **6,365** | **17,056** | **8.9** | **25.2** | **40.5** | **37.3** | **22.0** | **62.2** |
| **1981 Average** | **1,219** | **3,323** | **5,996** | **595** | **5,401** | **16,058** | **7.6** | **20.7** | **37.3** | **33.6** | **20.3** | **55.4** |
| **1982 Average** | **696** | **2,146** | **5,113** | **815** | **4,298** | **15,296** | **4.5** | **14.0** | **33.4** | **28.1** | **13.6** | **42.0** |
| **1983 Average** | **442** | **1,862** | **5,051** | **739** | **4,312** | **15,231** | **2.9** | **12.2** | **33.2** | **28.3** | **8.8** | **36.9** |
| **1984 Average** | **506** | **2,049** | **5,437** | **722** | **4,715** | **15,726** | **3.2** | **13.0** | **34.6** | **30.0** | **9.3** | **37.7** |
| **1985 Average** | **311** | **1,830** | **5,067** | **781** | **4,286** | **15,726** | **2.0** | **11.6** | **32.2** | **27.3** | **6.1** | **36.1** |
| **1986 Average** | **912** | **2,837** | **6,224** | **785** | **5,439** | **16,281** | **5.6** | **17.4** | **38.2** | **33.4** | **14.7** | **45.6** |
| **1987 Average** | **1,077** | **3,060** | **6,678** | **764** | **5,914** | **16,665** | **6.5** | **18.4** | **40.1** | **35.5** | **16.1** | **45.8** |
| **1988 Average** | **1,541** | **3,520** | **7,402** | **815** | **6,587** | **17,283** | **8.9** | **20.4** | **42.8** | **38.1** | **20.8** | **47.6** |
| **1989 Average** | **1,861** | **4,140** | **8,061** | **859** | **7,202** | **17,325** | **10.7** | **23.9** | **46.5** | **41.6** | **23.1** | **51.4** |
| **1990 Average** | **1,966** | **4,296** | **8,018** | **857** | **7,161** | **16,988** | **11.6** | **25.3** | **47.2** | **42.2** | **24.5** | **53.6** |
| **1991 Average** | **1,845** | **4,092** | **7,627** | **1,001** | **6,626** | **16,714** | **11.0** | **24.5** | **45.6** | **39.6** | **24.2** | **53.7** |
| **1992 Average** | **1,778** | **4,092** | **7,888** | **950** | **6,938** | **17,033** | **10.4** | **24.0** | **46.3** | **40.7** | **22.5** | **51.9** |
| **1993 Average** | **1,782** | **4,273** | **8,620** | **1,003** | **7,618** | **17,237** | **10.3** | **24.8** | **50.0** | **44.2** | **20.7** | **49.6** |
| **1994 Average** | **1,728** | **4,247** | **8,996** | **942** | **8,054** | **17,718** | **9.8** | **24.0** | **50.8** | **45.5** | **19.2** | **47.2** |
| **1995 Average** | **1,573** | **4,002** | **8,835** | **949** | **7,886** | **17,725** | **8.9** | **22.6** | **49.8** | **44.5** | **17.8** | **45.3** |
| **1996 Average** | **1,604** | **4,211** | **9,478** | **981** | **8,498** | **18,309** | **8.8** | **23.0** | **51.8** | **46.4** | **16.9** | **44.4** |
| **1997 Average** | **1,755** | **4,569** | **10,162** | **1,003** | **9,158** | **18,620** | **9.4** | **24.5** | **54.6** | **49.2** | **17.3** | **45.0** |
| **1998 Average** | **2,136** | **4,905** | **10,708** | **945** | **9,764** | **18,917** | **11.3** | **25.9** | **56.6** | **51.6** | **19.9** | **45.8** |
| **1999 Average** | **2,464** | **4,953** | **10,852** | **940** | **9,912** | **19,519** | **12.6** | **25.4** | **55.6** | **50.8** | **22.7** | **45.6** |
| **2000** January | 2,048 | 4,169 | 10,140 | 1,006 | 9,134 | 19,026 | 10.8 | 21.9 | 53.3 | 48.0 | 20.2 | 41.1 |
| February | 2,362 | 4,907 | 11,003 | 870 | 10,133 | 19,635 | 12.0 | 25.0 | 56.0 | 51.6 | 21.5 | 44.6 |
| March | 2,204 | 5,054 | 11,052 | 1,159 | 9,893 | 19,218 | 11.5 | 26.3 | 57.5 | 51.5 | 19.9 | 45.7 |
| April | 2,400 | 5,171 | 11,558 | 1,131 | 10,427 | 18,816 | 12.8 | 27.5 | 61.4 | 55.4 | 20.8 | 44.7 |
| May | 2,218 | 4,904 | 11,415 | 856 | 10,559 | 19,605 | 11.3 | 25.0 | 58.2 | 53.9 | 19.4 | 43.0 |
| June | 2,586 | 5,558 | 12,032 | 925 | 11,107 | 20,054 | 12.9 | 27.7 | 60.0 | 55.4 | 21.5 | 46.2 |
| July | 2,612 | 5,178 | 11,588 | 900 | 10,688 | 19,696 | 13.3 | 26.3 | 58.8 | 54.3 | 22.5 | 44.7 |
| August | 2,825 | 5,904 | 12,173 | 1,073 | 11,099 | 20,496 | 13.8 | 28.8 | 59.4 | 54.2 | 23.2 | 48.5 |
| September | 2,827 | 5,470 | 11,900 | 1,059 | 10,841 | 19,899 | 14.2 | 27.5 | 59.8 | 54.5 | 23.8 | 46.0 |
| October | 2,504 | 5,307 | 11,290 | 1,292 | 9,998 | 19,798 | 12.6 | 26.8 | 57.0 | 50.5 | 22.2 | 47.0 |
| November | 2,482 | 5,236 | 11,309 | 1,108 | 10,201 | 19,328 | 12.8 | 27.1 | 58.5 | 52.8 | 21.9 | 46.3 |
| December | 2,791 | 5,575 | 12,053 | 1,095 | 10,958 | 20,814 | 13.4 | 26.8 | 57.9 | 52.6 | 23.2 | 46.3 |
| **Average** | **2,488** | **5,203** | **11,459** | **1,040** | **10,419** | **19,701** | **12.6** | **26.4** | **58.2** | **52.9** | **21.7** | **45.4** |
| **2001** January | 2,438 | 5,405 | 12,118 | 965 | 11,154 | 19,900 | 12.3 | 27.2 | 60.9 | 56.0 | 20.1 | 44.6 |
| February | 2,339 | 4,999 | 11,462 | 1,015 | 10,447 | 19,597 | 11.9 | 25.5 | 58.5 | 53.3 | 20.4 | 43.6 |
| March | 2,679 | 5,783 | 11,942 | 947 | 10,996 | 19,892 | 13.5 | 29.1 | 60.0 | 55.3 | 22.4 | 48.4 |
| April | 2,865 | 5,983 | 12,311 | 950 | 11,361 | 19,591 | 14.6 | 30.5 | 62.8 | 58.0 | 23.3 | 48.6 |
| May | 3,076 | 5,960 | 12,243 | 1,114 | 11,130 | 19,491 | 15.8 | 30.6 | 62.8 | 57.1 | 25.1 | 48.7 |
| June | 2,829 | 5,515 | 11,499 | 998 | 10,501 | 19,608 | 14.4 | 28.1 | 58.6 | 53.6 | 24.6 | 48.0 |
| July | 2,718 | 5,466 | 11,576 | 886 | 10,690 | 19,884 | 13.7 | 27.5 | 58.2 | 53.8 | 23.5 | 47.2 |
| August | 2,680 | 5,234 | 11,318 | 1,084 | 10,234 | 20,085 | 13.3 | 26.1 | 56.4 | 51.0 | 23.7 | 46.2 |
| September | 3,011 | 5,520 | 11,498 | 838 | 10,659 | 19,082 | 15.8 | 28.9 | 60.3 | 55.9 | 26.2 | 48.0 |
| October | 2,841 | 5,406 | 11,149 | 958 | 10,191 | 19,651 | 14.5 | 27.5 | 56.7 | 51.9 | 25.5 | 48.5 |
| November | 2,637 | 5,052 | 11,384 | 973 | 10,410 | 19,252 | 13.7 | 26.2 | 59.1 | 54.1 | 23.2 | 44.4 |
| December | 2,639 | 5,012 | 10,918 | 1,051 | 9,867 | 19,062 | 13.8 | 26.3 | 57.3 | 51.8 | 24.2 | 45.9 |
| **Average** | **2,731** | **5,447** | **11,619** | **982** | **10,637** | **19,593** | **13.9** | **27.8** | **59.3** | **54.3** | **23.5** | **46.9** |
| **2002** January | 2,694 | 5,001 | 10,847 | 861 | 9,986 | 19,170 | 14.1 | 26.1 | 56.6 | 52.1 | 24.8 | 46.1 |
| February | 2,470 | 4,733 | 10,769 | 1,123 | 9,646 | 19,475 | 12.7 | 24.3 | 55.3 | 49.5 | 22.9 | 43.9 |
| **2-Month Average** | **2,588** | **4,874** | **10,810** | **985** | **9,825** | **19,315** | **13.4** | **25.2** | **56.0** | **50.9** | **23.9** | **45.1** |
| **2001 2-Month Average** | **2,391** | **5,212** | **11,807** | **989** | **10,818** | **19,756** | **12.1** | **26.4** | **59.8** | **54.8** | **20.2** | **44.1** |
| **2000 2-Month Average** | **2,200** | **4,526** | **10,557** | **940** | **9,617** | **19,320** | **11.4** | **23.4** | **54.6** | **49.8** | **20.8** | **42.9** |

[a] Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates.

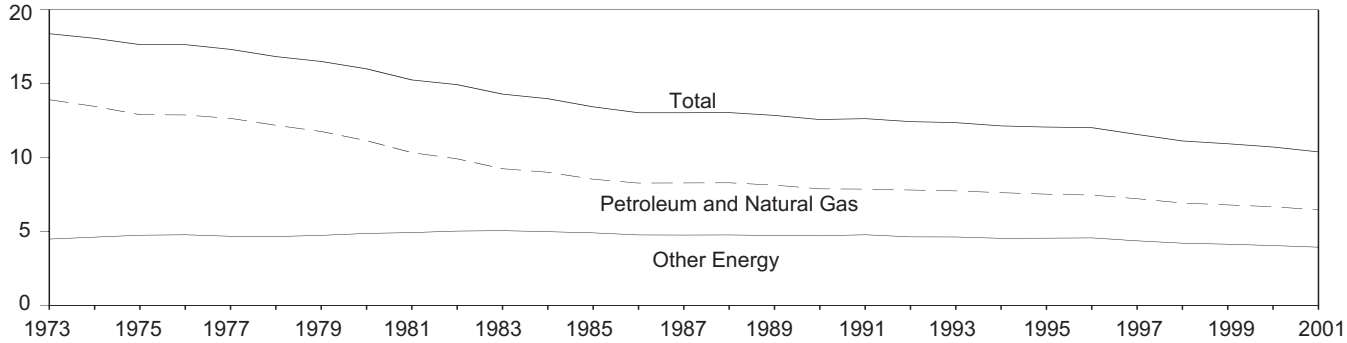
[b] Organization of Petroleum Exporting Countries. See Glossary.

Notes: Readers of Table 1.8 may be interested in a feature article, "Measuring Dependence on Imported Oil," that was published in the August 1995 *Monthly Energy Review.* Petroleum is crude oil, lease condensate, unfinished oils, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products. Beginning in October 1977, petroleum imported for the Strategic Petroleum Reserves is included. Annual averages may not equal average of months due to independent rounding. U.S. geographic coverage is 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.

Sources: **Column 1:** Table 3.3b. **Column 2:** Table 3.3d. **Columns 3-5:** Table 3.1b. **Column 6:** Table 3.1a. **Columns 7-12:** Calculated by Energy Information Administration.

## Figure 1.8 Energy Consumption per Dollar of Gross Domestic Product

(Thousand Btu per Chained (1996) Dollar)




## Table 1.9 Energy Consumption per Dollar of Gross Domestic Product

(Seasonally Adjusted at Annual Rates)

| | Energy Consumption | | | Gross Domestic Product (GDP) | Energy Consumption per Dollar of GDP | | |
|---|---|---|---|---|---|---|---|
| | Petroleum and Natural Gas | Other Energy[a] | Total | | Petroleum and Natural Gas | Other Energy[a] | Total |
| | Quadrillion Btu | | | Billion Chained (1996) Dollars | Thousand Btu per Chained (1996) Dollar | | |
| **1973 Year** | **57.352** | **18.456** | **75.808** | **4,123.4** | **13.91** | **4.48** | **18.38** |
| **1974 Year** | **55.187** | **18.893** | **74.080** | **4,099.0** | **13.46** | **4.61** | **18.07** |
| **1975 Year** | **52.678** | **19.364** | **72.042** | **4,084.4** | **12.90** | **4.74** | **17.64** |
| **1976 Year** | **55.520** | **20.552** | **76.072** | **4,311.7** | **12.88** | **4.77** | **17.64** |
| **1977 Year** | **57.053** | **21.069** | **78.122** | **4,511.8** | **12.65** | **4.67** | **17.32** |
| **1978 Year** | **57.966** | **22.158** | **80.123** | **4,760.6** | **12.18** | **4.65** | **16.83** |
| **1979 Year** | **57.789** | **23.255** | **81.044** | **4,912.1** | **11.76** | **4.73** | **16.50** |
| **1980 Year** | **54.596** | **23.839** | **78.435** | **4,900.9** | **11.14** | **4.86** | **16.00** |
| **1981 Year** | **51.859** | **24.710** | **76.569** | **5,021.0** | **10.33** | **4.92** | **15.25** |
| **1982 Year** | **48.736** | **24.704** | **73.440** | **4,919.3** | **9.91** | **5.02** | **14.93** |
| **1983 Year** | **47.411** | **25.906** | **73.317** | **5,132.3** | **9.24** | **5.05** | **14.29** |
| **1984 Year** | **49.558** | **27.413** | **76.972** | **5,505.2** | **9.00** | **4.98** | **13.98** |
| **1985 Year** | **48.756** | **28.022** | **76.778** | **5,717.1** | **8.53** | **4.90** | **13.43** |
| **1986 Year** | **48.904** | **28.161** | **77.065** | **5,912.4** | **8.27** | **4.76** | **13.03** |
| **1987 Year** | **50.609** | **29.024** | **79.633** | **6,113.3** | **8.28** | **4.75** | **13.03** |
| **1988 Year** | **52.774** | **30.294** | **83.068** | **6,368.4** | **8.29** | **4.76** | **13.04** |
| **1989 Year** | **53.595** | [b c] **31.121** | [b c] **84.716** | **6,591.8** | **8.13** | **4.72** | **12.85** |
| **1990 Year** | **52.849** | **31.495** | **84.344** | **6,707.9** | **7.88** | **4.70** | **12.57** |
| **1991 Year** | **52.452** | **31.846** | **84.298** | **6,676.4** | **7.86** | **4.77** | **12.63** |
| **1992 Year** | **53.657** | **31.855** | **85.513** | **6,880.0** | **7.80** | **4.63** | **12.43** |
| **1993 Year** | **54.668** | **32.632** | **87.300** | **7,062.6** | **7.74** | **4.62** | **12.36** |
| **1994 Year** | **55.958** | **33.255** | **89.213** | **7,347.7** | **7.62** | **4.53** | **12.14** |
| **1995 Year** | **56.717** | **34.226** | **90.943** | **7,543.8** | **7.52** | **4.54** | **12.06** |
| **1996 Year** | **58.316** | **35.615** | **93.931** | **7,813.2** | **7.46** | **4.56** | **12.02** |
| **1997 Year** | **58.795** | **35.545** | **94.340** | **8,159.5** | **7.21** | **4.36** | **11.56** |
| **1998 Year** | **58.870** | **35.753** | **94.623** | **8,508.9** | **6.92** | **4.20** | **11.12** |
| **1999 Year** | **60.163** | **36.604** | **96.767** | **8,856.5** | **6.79** | **4.13** | **10.93** |
| **2000** 1st Quarter | 60.261 | NA | NA | 9,102.5 | 6.62 | NA | NA |
| 2nd Quarter | 61.807 | NA | NA | 9,229.4 | 6.70 | NA | NA |
| 3rd Quarter | 60.819 | NA | NA | 9,260.1 | 6.57 | NA | NA |
| 4th Quarter | 62.409 | NA | NA | 9,303.9 | 6.71 | NA | NA |
| **Year** | **61.514** | **37.260** | **98.774** | **9,224.0** | **6.67** | **4.04** | **10.71** |
| **2001** 1st Quarter | [R] 62.951 | NA | NA | 9,334.5 | 6.74 | NA | NA |
| 2nd Quarter | [R] 60.632 | NA | NA | 9,341.7 | 6.49 | NA | NA |
| 3rd Quarter | [R] 59.404 | NA | NA | 9,310.4 | 6.38 | NA | NA |
| 4th Quarter | [R] 58.033 | NA | NA | [R] 9,348.6 | [R] 6.21 | NA | NA |
| **Year** | [R] **60.239** | [R] **36.641** | [R] **96.880** | [R] **9,333.8** | [R] **6.45** | [R] **3.93** | [R] **10.38** |

[a] Coal, nuclear electric power, renewable energy, and pumped-storage hydroelectric power.

[b] Beginning in 1989, includes electricity generated by nonutility nuclear units.

[c] Beginning in 1989, includes coal consumed by "Other Power Producers." See Table 6.2.

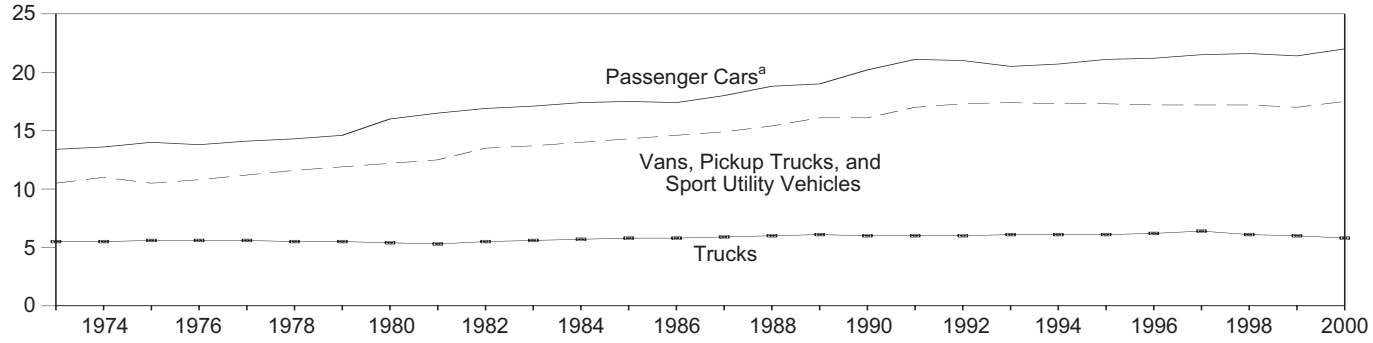
R=Revised. NA=Not available.

Notes: Quarterly data are seasonally adjusted and shown at annual rates. Yearly data may not equal average of quarters due to seasonality adjustments and independent rounding. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **Energy Consumption:** Table 1.4. **Gross Domestic Product: 1973-1998**—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* August 2001, Table 2A. **1999 forward**—U.S. Department of Commerce, Bureau of Economic Analysis, *BEA News Release,* April 26, 2002, Table 3, which is available at website www.bea.doc.gov/bea/newsrel/gdp400p.htm.

## Figure 1.9 Motor Vehicle Fuel Rates

(Miles per Gallon)




[a] Motorcycles are included through 1989.

## Table 1.10 Motor Vehicle Mileage, Fuel Consumption, and Fuel Rates

| | Passenger Cars[a] | | | Vans, Pickup Trucks, and Sport Utility Vehicles[b] | | | Trucks[c] | | | All Motor Vehicles[d] | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mileage (miles per vehicle) | Fuel Consumption (gallons per vehicle) | Fuel Rate (miles per gallon) | Mileage (miles per vehicle) | Fuel Consumption (gallons per vehicle) | Fuel Rate (miles per gallon) | Mileage (miles per vehicle) | Fuel Consumption (gallons per vehicle) | Fuel Rate (miles per gallon) | Mileage (miles per vehicle) | Fuel Consumption (gallons per vehicle) | Fuel Rate (miles per gallon) |
| 1973 | 9,884 | 737 | 13.4 | 9,779 | 931 | 10.5 | 15,370 | 2,775 | 5.5 | 10,099 | 850 | 11.9 |
| 1974 | 9,221 | 677 | 13.6 | 9,452 | 862 | 11.0 | 14,995 | 2,708 | 5.5 | 9,493 | 788 | 12.0 |
| 1975 | 9,309 | 665 | 14.0 | 9,829 | 934 | 10.5 | 15,167 | 2,722 | 5.6 | 9,627 | 790 | 12.2 |
| 1976 | 9,418 | 681 | 13.8 | 10,127 | 934 | 10.8 | 15,438 | 2,764 | 5.6 | 9,774 | 806 | 12.1 |
| 1977 | 9,517 | 676 | 14.1 | 10,607 | 947 | 11.2 | 16,700 | 3,002 | 5.6 | 9,978 | 814 | 12.3 |
| 1978 | 9,500 | 665 | 14.3 | 10,968 | 948 | 11.6 | 18,045 | 3,263 | 5.5 | 10,077 | 816 | 12.4 |
| 1979 | 9,062 | 620 | 14.6 | 10,802 | 905 | 11.9 | 18,502 | 3,380 | 5.5 | 9,722 | 776 | 12.5 |
| 1980 | 8,813 | 551 | 16.0 | 10,437 | 854 | 12.2 | 18,736 | 3,447 | 5.4 | 9,458 | 712 | 13.3 |
| 1981 | 8,873 | 538 | 16.5 | 10,244 | 819 | 12.5 | 19,016 | 3,565 | 5.3 | 9,477 | 697 | 13.6 |
| 1982 | 9,050 | 535 | 16.9 | 10,276 | 762 | 13.5 | 19,931 | 3,647 | 5.5 | 9,644 | 686 | 14.1 |
| 1983 | 9,118 | 534 | 17.1 | 10,497 | 767 | 13.7 | 21,083 | 3,769 | 5.6 | 9,760 | 686 | 14.2 |
| 1984 | 9,248 | 530 | 17.4 | 11,151 | 797 | 14.0 | 22,550 | 3,967 | 5.7 | 10,017 | 691 | 14.5 |
| 1985 | 9,419 | 538 | 17.5 | 10,506 | 735 | 14.3 | 20,597 | 3,570 | 5.8 | 10,020 | 685 | 14.6 |
| 1986 | 9,464 | 543 | 17.4 | 10,764 | 738 | 14.6 | 22,143 | 3,821 | 5.8 | 10,143 | 692 | 14.7 |
| 1987 | 9,720 | 539 | 18.0 | 11,114 | 744 | 14.9 | 23,349 | 3,937 | 5.9 | 10,453 | 694 | 15.1 |
| 1988 | 9,972 | 531 | 18.8 | 11,465 | 745 | 15.4 | 22,485 | 3,736 | 6.0 | 10,721 | 688 | 15.6 |
| 1989 | 10,157 | 533 | 19.0 | 11,676 | 724 | 16.1 | 22,926 | 3,776 | 6.1 | 10,932 | 688 | 15.9 |
| 1990 | [a]10,504 | [a]520 | [a]20.2 | 11,902 | 738 | 16.1 | 23,603 | 3,953 | 6.0 | 11,107 | 677 | 16.4 |
| 1991 | 10,571 | 501 | 21.1 | 12,245 | 721 | 17.0 | 24,229 | 4,047 | 6.0 | 11,294 | 669 | 16.9 |
| 1992 | 10,857 | 517 | 21.0 | 12,381 | 717 | 17.3 | 25,373 | 4,210 | 6.0 | 11,558 | 683 | 16.9 |
| 1993 | 10,804 | 527 | 20.5 | 12,430 | 714 | 17.4 | 26,262 | 4,309 | 6.1 | 11,595 | 693 | 16.7 |
| 1994 | 10,992 | 531 | 20.7 | 12,156 | 701 | 17.3 | 25,838 | 4,202 | 6.1 | 11,683 | 698 | 16.7 |
| 1995 | 11,203 | 530 | 21.1 | 12,018 | 694 | 17.3 | 26,514 | 4,315 | 6.1 | 11,793 | 700 | 16.8 |
| 1996 | 11,330 | 534 | 21.2 | 11,811 | 685 | 17.2 | 26,092 | 4,221 | 6.2 | 11,813 | 700 | 16.9 |
| 1997 | 11,581 | 539 | 21.5 | 12,115 | 703 | 17.2 | 27,032 | 4,218 | 6.4 | 12,107 | 711 | 17.0 |
| 1998 | 11,754 | 544 | 21.6 | 12,173 | 707 | 17.2 | 25,397 | 4,135 | 6.1 | 12,211 | 721 | 16.9 |
| 1999 | 11,848 | 553 | 21.4 | 11,957 | 701 | 17.0 | 26,014 | 4,352 | 6.0 | 12,206 | 732 | 16.7 |
| 2000[e] | 11,988 | 546 | 22.0 | 11,684 | 668 | 17.5 | 25,651 | 4,387 | 5.8 | 12,177 | 719 | 16.9 |

[a] Motorcycles are included through 1989.
[b] Includes a small number of trucks with 2 axles and 4 tires, such as step vans.
[c] Single-unit trucks with 2 axles and 6 or more tires, and combination trucks.
[d] Includes buses and motorcycles, which are not shown separately.
[e] Preliminary.
Notes: Geographic coverage is the 50 States and the District of Columbia.
Web Page: http://www.fhwa.dot.gov/ohim.

Sources: **Passenger Cars: 1990-1994:** U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1998,* Table 4-13. **All Other Data: 1973-1994:** Federal Highway Administration (FHWA), *Highway Statistics Summary to 1995,* Table VM-201A. **1995 forward:** FHWA, *Highway Statistics,* annual, Table VM-1.

# Table 1.11 Heating Degree-Days by Census Division

| Census Divisions | March 1 through March 31 | | | | | Cumulative July 1 through March 31 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[a] | 2001 | 2002 | Normal to 2002 | 2001 to 2002 | Normal[a] | 2001 | 2002 | Normal to 2002 | 2001 to 2002 |
| **New England** | | | | | | | | | | |
| Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont | 919 | 992 | 865 | -6 | -13 | 5,706 | 5,886 | 4,876 | -14 | -17 |
| **Middle Atlantic** | | | | | | | | | | |
| New Jersey, New York, Pennsylvania | 821 | 901 | 762 | -7 | -15 | 5,124 | 5,252 | 4,169 | -19 | -21 |
| **East North Central** | | | | | | | | | | |
| Illinois, Indiana, Michigan, Ohio, Wisconsin | 868 | 936 | 911 | 5 | -3 | 5,678 | 5,881 | 4,804 | -15 | -18 |
| **West North Central** | | | | | | | | | | |
| Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota | 865 | 960 | 1,008 | 16 | 5 | 5,965 | 6,394 | 5,175 | -13 | -19 |
| **South Atlantic** | | | | | | | | | | |
| Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia | 379 | 431 | 353 | -7 | -18 | 2,670 | 2,855 | 2,278 | -15 | -20 |
| **East South Central** | | | | | | | | | | |
| Alabama, Kentucky, Mississippi, Tennessee | 455 | 556 | 466 | 2 | -16 | 3,335 | 3,632 | 2,971 | -11 | -18 |
| **West South Central** | | | | | | | | | | |
| Arkansas, Louisiana, Oklahoma, Texas | 277 | 360 | 318 | 15 | -12 | 2,221 | 2,559 | 2,091 | -6 | -18 |
| **Mountain** | | | | | | | | | | |
| Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming | 677 | 612 | 730 | 8 | 19 | 4,578 | 4,695 | 4,336 | -5 | -8 |
| **Pacific**[b] | | | | | | | | | | |
| California, Oregon, Washington | 432 | 376 | 448 | 4 | 19 | 2,671 | 2,727 | 2,544 | -5 | -7 |
| **U.S. Average**[b] | **611** | **658** | **623** | **2** | **-5** | **4,051** | **4,248** | **3,518** | **-13** | **-17** |

[a] "Normal" is based on calculations of data from 1961 through 1990.
[b] Excludes Alaska and Hawaii.
(s)=Less than 0.5 percent and greater than -0.5 percent.

Notes: Degree-days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, a weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days). If a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 (and 0 heating degree days).

Sources: See end of section.

# Table 1.12 Cooling Degree-Days by Census Division

| Census Divisions | March 1 through March 31 | | | | | Cumulative January 1 through March 31 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Percent Change | | | | | Percent Change | |
| | Normal[a] | 2001 | 2002 | Normal to 2002 | 2001 to 2002 | Normal[a] | 2001 | 2002 | Normal to 2002 | 2001 to 2002 |
| **New England** | | | | | | | | | | |
| Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont | 0 | 0 | 0 | (c) | (c) | 0 | 0 | 0 | (c) | (c) |
| **Middle Atlantic** | | | | | | | | | | |
| New Jersey, New York, Pennsylvania | 0 | 0 | 0 | (c) | (c) | 0 | 0 | 0 | (c) | (c) |
| **East North Central** | | | | | | | | | | |
| Illinois, Indiana, Michigan, Ohio, Wisconsin | 1 | 0 | 0 | (c) | (c) | 1 | 0 | 0 | (c) | (c) |
| **West North Central** | | | | | | | | | | |
| Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota | 3 | 0 | 0 | (c) | (c) | 3 | 0 | 0 | (c) | (c) |
| **South Atlantic** | | | | | | | | | | |
| Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia | 47 | 44 | 64 | (c) | (c) | 104 | 100 | 116 | (c) | (c) |
| **East South Central** | | | | | | | | | | |
| Alabama, Kentucky, Mississippi, Tennessee | 19 | 1 | 19 | (c) | (c) | 30 | 7 | 28 | (c) | (c) |
| **West South Central** | | | | | | | | | | |
| Arkansas, Louisiana, Oklahoma, Texas | 47 | 7 | 44 | (c) | (c) | 70 | 30 | 63 | (c) | (c) |
| **Mountain** | | | | | | | | | | |
| Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming | 8 | 13 | 9 | (c) | (c) | 10 | 14 | 11 | (c) | (c) |
| **Pacific**[b] | | | | | | | | | | |
| California, Oregon, Washington | 3 | 7 | 5 | (c) | (c) | 6 | 7 | 6 | (c) | (c) |
| **U.S. Average**[b] | **16** | **10** | **18** | (c) | (c) | **30** | **24** | **31** | (c) | (c) |

[a] "Normal" is based on calculations of data from 1961 through 1990.
[b] Excludes Alaska and Hawaii.
[c] Percent change is not meaningful: normal is less than 100 or ratio is incalculable.
(s)=Less than 0.5 percent and greater than -0.5 percent.
Notes: Degree-days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, if a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 (and 0 heating degree-days). A weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days).
Sources: See end of section.

# Energy Overview Notes

**1. Energy Production:** Includes production of fossil fuels (coal, dry natural gas, crude oil and lease condensate, and natural gas plant liquids), nuclear electric power, pumped-storage hydroelectric power, and renewable energy. Renewable energy production is assumed to be equivalent to: end-use consumption of wood, waste, alcohol fuels, geothermal heat pump and direct use energy, and solar thermal direct use and photovoltaic energy; and electric utility and nonutility net electricity generation from conventional hydroelectric power, wood, waste, geothermal, solar, and wind. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. See Section 10 for further information on renewable energy.

**2. Energy Consumption:** Includes consumption of fossil fuels (coal, natural gas, and petroleum), some secondary energy derived from fossil fuels (supplemental gaseous fuels, coal coke net imports, and electricity net imports from fossil fuels), nuclear electric power, pumped-storage hydroelectric power, and renewable energy. Renewable energy consumption includes: end-use consumption of wood, waste, alcohol fuels, geothermal heat pump and direct use energy, and solar thermal direct use and photovoltaic energy; electric utility and nonutility net electricity generation from conventional hydroelectric power, wood, waste, geothermal, solar, and wind; and net imports of electricity from hydroelectric power and geothermal energy. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. See Section 10 for further information on renewable energy.

**3. Energy Imports:** Includes imports of fossil fuels (coal, natural gas, and petroleum, including crude oil imported for the Strategic Petroleum Reserve), some secondary energy derived from fossil fuels (coal coke imports, and electricity imports from fossil fuels), and renewable energy (electricity imports derived from hydroelectric power and geothermal energy). Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. See Section 10 for further information on renewable energy.

**4. Energy Exports:** Includes exports of fossil fuels (coal, natural gas, and petroleum), some secondary energy derived from fossil fuels (coal coke exports, and electricity exports from fossil fuels), and renewable energy (electricity exports derived from hydroelectric power). Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. See Section 10 for further information on renewable energy.

**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.

"Balance" is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. "Energy" includes mineral fuels, lubricants, and related material. "Non-Energy Balance" and "Total Merchandise" include foreign exports (i.e., re-exports) and nonmonetary gold and Department of Defense Grant-Aid shipments. The "Non-Energy Balance" is calculated by subtracting the "Energy" from the "Total Merchandise Balance."

"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.

## Sources for Table 1.6

U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division:

**Petroleum Exports**
1974-1987: "U.S. Exports," FT410, December issues.
1988: "Report on U.S. Merchandise Trade, 1988 Final Revisions."
1989: "Report on U.S. Merchandise Trade, 1989 Revisions."
1990: "U.S. Merchandise Trade, 1990 Final Report."
1991: "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992.
1992: "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
1993: "U.S. International Trade in Goods and Services, Annual Revision for 1993."
1994: "U.S. International Trade in Goods and Services, Annual Revision for 1994."
1995: "U.S. International Trade in Goods and Services, Annual Revision for 1995."
1996: "U.S. International Trade in Goods and Services, Annual Revision for 1996."
1997: "U.S. International Trade in Goods and Services, Annual Revision for 1997."
1998: "U.S. International Trade in Goods and Services, Annual Revision for 1998."

1999: "U.S. International Trade in Goods and Services, Annual Revision for 1999."
2000: "U.S. International Trade in Goods and Services, Annual Revision for 2000."
2001: "U.S. International Trade in Goods and Services," FT-900, monthly.

**Petroleum Imports**
1974-1987: "U.S. Merchandise Trade," FT900, December issues, 1975-1988.
1988: "Report on U.S. Merchandise Trade, 1988 Final Revisions."
1989: "Report on U.S. Merchandise Trade, 1989 Revisions."
1990: "U.S. Merchandise Trade, 1990 Final Report."
1991: "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992, and "U.S. Merchandise Trade, October 1992," December 17, 1992, page 3.
1992: "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
1993: "U.S. Merchandise Trade, 1992 Final Report," May 12, 1994.
1994: "U.S. International Trade in Goods and Services, Annual Revision for 1994."
1995: "U.S. International Trade in Goods and Services, Annual Revision for 1995."
1996: "U.S. International Trade in Goods and Services, Annual Revision for 1996."
1997: "U.S. International Trade in Goods and Services, Annual Revision for 1997."
1998: "U.S. International Trade in Goods and Services, Annual Revision for 1998."
1999: "U.S. International Trade in Goods and Services, Annual Revision for 1999."
2000: "U.S. International Trade in Goods and Services, Annual Revision for 2000."
2001: "U.S. International Trade in Goods and Services," FT-900, monthly.

**Energy Exports and Imports**
1974-1987: U.S. merchandise trade press releases and database printouts for adjustments.
1988: January-July, monthly FT-900 supplement, 1989 issues. August-December, monthly FT-900, 1989 issues.
1989: Monthly FT-900, 1990 issues.
1990: "U.S. Merchandise Trade, 1990 Final Report."
1991: "U.S. Merchandise Trade, 1991 Final Report," May 13, 1992, and "U.S. Merchandise Trade, October 1992," December 17, 1992, page 3.
1992: "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
1993: "U.S. International Trade in Goods and Services, Annual Revision for 1993."
1994: "U.S. International Trade in Goods and Services, Annual Revision for 1994."
1995: "U.S. International Trade in Goods and Services, Annual Revision for 1995."
1996: "U.S. International Trade in Goods and Services, Annual Revision for 1996."
1997: "U.S. International Trade in Goods and Services, Annual Revision for 1997."
1998: "U.S. International Trade in Goods and Services, Annual Revision for 1998."
1999: "U.S. International Trade in Goods and Services, Annual Revision for 1999."
2000: "U.S. International Trade in Goods and Services, Annual Revision for 2000."
2001: "U.S. International Trade in Goods and Services," FT-900, monthly.

**Petroleum, Energy, and Non-Energy Balances**
Calculated by the Energy Information Administration.

**Total Merchandise**
1974-1987: U.S. merchandise trade press releases and database printouts for adjustments.
1988: "Report on U.S. Merchandise Trade, 1988 Final Revisions," August 18, 1989.
1989: "Report on U.S. Merchandise Trade, 1989 Revisions," July 10, 1990.
1990: "U.S. Merchandise Trade, 1990 Final Report," May 10, 1991, and "U.S. Merchandise Trade, December 1992," February 18, 1993, page 3.
1991: "U.S. Merchandise Trade, 1992 Final Report," May 12, 1993.
1992: "U.S. International Trade in Goods and Services, Annual Revision for 1994."
1993 and 1994: "U.S. International Trade in Goods and Services, Annual Revision for 1995."
1995 and 1996: "U.S. International Trade in Goods and Services, Annual Revision for 1996."
1997 and 1998: "U.S. International Trade in Goods and Services, Annual Revision for 1998."
1999 and 2000: "U.S. International Trade in Goods and Services, Annual Revision for 2000."
2001: "U.S. International Trade in Goods and Services," FT-900, monthly.

## Sources for Tables 1.11 and 1.12

There are several degree-day databases maintained by the National Oceanic and Atmospheric Administration. The information published here 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 1990 by the U.S. Department of Commerce, Bureau of the Census. The data provided here are available sooner than the Historical Climatology Series 5-1 (heating degree-days) and 5-2 (cooling degree-days) developed by the National Climatic Data Center, Asheville, NC, which compiles data from some 8,000 weather stations.

# Section 2. Energy Consumption by Sector

U.S. total energy consumption in January 2002 was 8.8 quadrillion Btu, 5 percent lower than in January 2001.

Residential sector total consumption was 2.1 quadrillion Btu in January 2002, 14 percent lower than the January 2001 level. The sector accounted for 24 percent of total energy consumption.

Commercial sector total consumption was 1.5 quadrillion Btu in January 2002, 4 percent lower than the January 2001 level. The sector accounted for 18 percent of total energy consumption.

Industrial sector total consumption was 2.9 quadrillion Btu in January 2002, 2 percent higher than the January 2001 level. The sector accounted for 34 percent of total energy consumption.

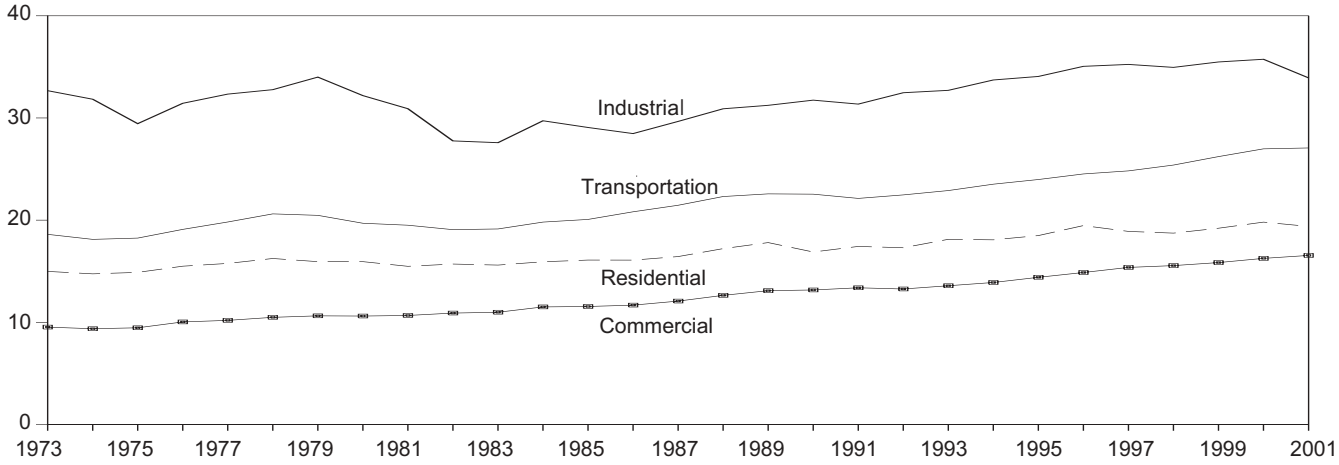
Transportation sector total consumption was 2.2 quadrillion Btu in January 2002, 3 percent lower than the January 2001 level. The sector accounted for 25 percent of total energy consumption.

Electric power sector primary consumption was 2.9 quadrillion Btu in January 2002, 7 percent lower than the January 2001 level. Fossil fuels accounted for 63 percent of all primary energy consumed by the electric power sector; nuclear electric power 26 percent; and renewable energy 11 percent.

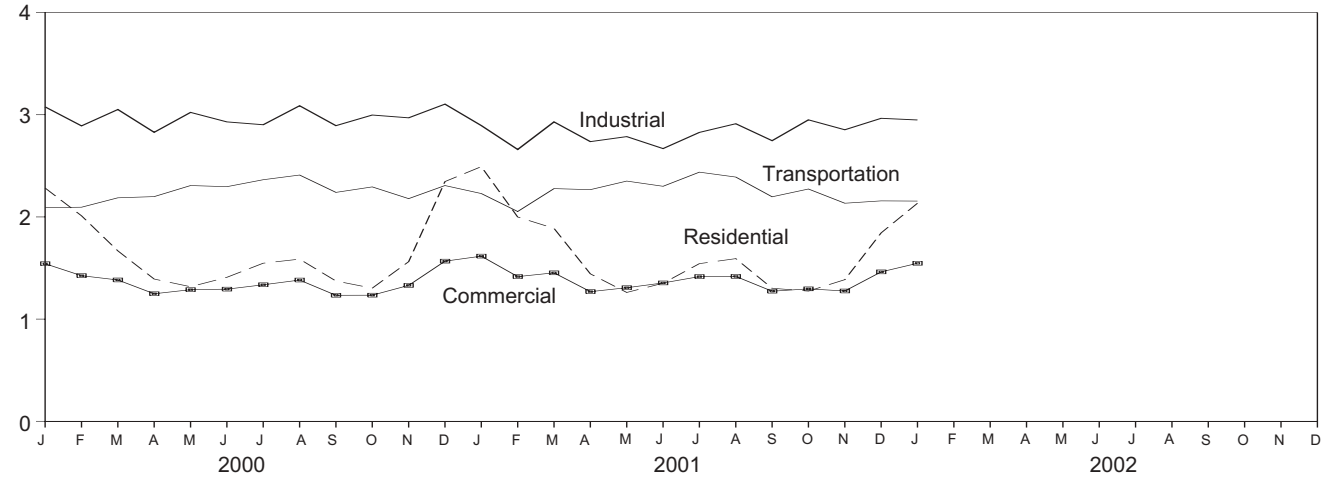
## Figure 2.1 Energy Consumption by Sector

(Quadrillion Btu)

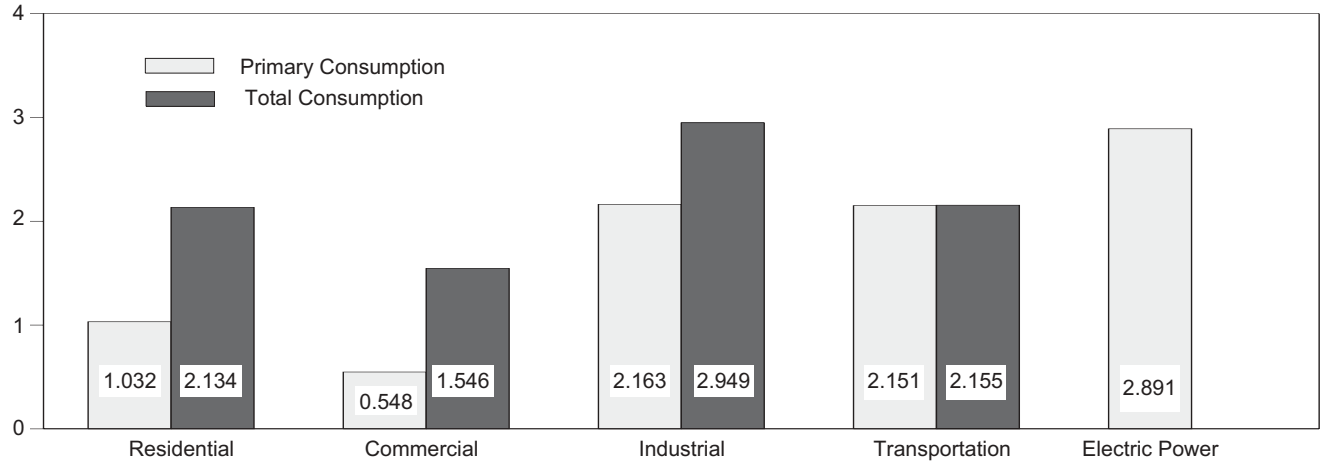
### Total Consumption End Use, 1973-2001




### Total Consumption End Use, Monthly




### By Sector, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.1.

# Table 2.1 Energy Consumption by Sector

(Quadrillion Btu)

| | End-Use Sectors[a] | | | | | | | | Electric Power Sector[a] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Residential | | Commercial | | Industrial | | Transportation | | | |
| | Primary | Total | Primary | Total | Primary | Total | Primary | Total | Primary | Total[b] |
| **1973 Total** | **8.258** | **14.983** | **4.373** | **9.534** | **24.706** | **32.672** | **18.576** | **18.612** | **19.887** | **75.808** |
| **1974 Total** | **7.948** | **14.745** | **4.201** | **9.374** | **23.783** | **31.835** | **18.086** | **18.119** | **20.055** | **74.080** |
| **1975 Total** | **8.027** | **14.888** | **4.002** | **9.465** | **21.422** | **29.445** | **18.209** | **18.244** | **20.382** | **72.042** |
| **1976 Total** | **8.431** | **15.493** | **4.310** | **10.038** | **22.652** | **31.434** | **19.065** | **19.099** | **21.607** | **76.072** |
| **1977 Total** | **8.232** | **15.765** | **4.193** | **10.194** | **23.160** | **32.336** | **19.784** | **19.820** | **22.746** | **78.122** |
| **1978 Total** | **8.309** | **16.249** | **4.233** | **10.489** | **23.245** | **32.770** | **20.580** | **20.615** | **23.755** | **80.123** |
| **1979 Total** | **7.971** | **15.937** | **4.296** | **10.635** | **24.177** | **33.999** | **20.436** | **20.471** | **24.162** | **81.044** |
| **1980 Total** | **7.533** | **15.938** | **4.068** | **10.613** | **22.640** | **32.189** | **19.658** | **19.696** | **24.538** | **78.435** |
| **1981 Total** | **7.142** | **15.482** | **3.791** | **10.672** | **21.371** | **30.906** | **19.469** | **19.506** | **24.793** | **76.569** |
| **1982 Total** | **7.206** | **15.704** | **3.816** | **10.906** | **19.079** | **27.756** | **19.032** | **19.070** | **24.303** | **73.440** |
| **1983 Total** | **6.879** | **15.603** | **3.783** | **10.989** | **18.565** | **27.580** | **19.098** | **19.141** | **24.989** | **73.317** |
| **1984 Total** | **7.036** | **15.927** | **3.945** | **11.510** | **20.175** | **29.724** | **19.761** | **19.809** | **26.053** | **76.972** |
| **1985 Total** | **7.024** | **16.095** | **3.676** | **11.550** | **19.507** | **29.067** | **20.023** | **20.071** | **26.552** | **76.778** |
| **1986 Total** | **6.842** | **16.087** | **3.617** | **11.684** | **19.100** | **28.474** | **20.768** | **20.818** | **26.735** | **77.065** |
| **1987 Total** | **6.874** | **16.437** | **3.710** | **12.078** | **20.013** | **29.664** | **21.405** | **21.456** | **27.633** | **79.633** |
| **1988 Total** | **7.280** | **17.213** | **3.918** | **12.640** | **20.926** | **30.899** | **22.261** | **22.313** | **28.681** | **83.068** |
| **1989 Total** | **7.522** | **17.805** | **3.892** | **13.099** | **20.727** | **31.238** | **22.517** | **22.571** | **30.055** | **84.716** |
| **1990 Total** | **6.494** | **16.884** | **3.742** | **13.168** | **21.111** | **31.743** | **22.488** | **22.541** | **30.502** | **84.344** |
| **1991 Total** | **6.723** | **17.427** | **3.800** | **13.382** | **20.754** | **31.359** | **22.077** | **22.130** | **30.943** | **84.298** |
| **1992 Total** | **6.916** | **17.300** | **3.834** | **13.264** | **21.679** | **32.472** | **22.419** | **22.471** | **30.660** | **85.513** |
| **1993 Total** | **7.156** | **18.124** | **3.828** | **13.583** | **21.928** | **32.702** | **22.844** | **22.896** | **31.550** | **87.300** |
| **1994 Total** | **6.991** | **18.074** | **3.865** | **13.899** | **22.640** | **33.717** | **23.467** | **23.522** | **32.249** | **89.213** |
| **1995 Total** | **7.063** | **18.492** | **3.958** | **14.406** | **22.962** | **34.063** | **23.921** | **23.975** | **33.033** | **90.943** |
| **1996 Total** | **7.598** | **19.471** | **4.127** | **14.876** | **23.716** | **35.053** | **24.469** | **24.523** | **34.013** | **93.931** |
| **1997 Total** | **7.136** | **18.899** | **4.150** | **15.375** | **23.890** | **35.241** | **24.770** | **24.823** | **34.393** | **94.340** |
| **1998 Total** | **6.497** | **18.732** | **3.883** | **15.553** | **23.570** | **34.951** | **25.336** | **25.390** | **35.340** | **94.623** |
| **1999 Total** | **6.847** | **19.210** | **3.929** | **15.849** | **24.053** | **35.481** | **26.164** | **26.219** | **35.766** | **96.767** |
| **2000** January | 1.105 | 2.283 | .561 | 1.542 | 2.142 | 3.077 | 2.087 | 2.091 | 3.098 | 8.991 |
| February | 1.001 | 2.011 | .526 | 1.425 | 2.010 | 2.891 | 2.091 | 2.095 | 2.795 | 8.419 |
| March | .747 | 1.668 | .438 | 1.383 | 2.090 | 3.051 | 2.182 | 2.187 | 2.832 | 8.285 |
| April | .567 | 1.392 | .331 | 1.248 | 1.897 | 2.828 | 2.195 | 2.199 | 2.677 | 7.662 |
| May | .383 | 1.317 | .244 | 1.288 | 2.019 | 3.023 | 2.302 | 2.307 | 2.986 | 7.932 |
| June | .302 | 1.409 | .213 | 1.293 | 1.957 | 2.930 | 2.292 | 2.296 | 3.165 | 7.929 |
| July | .272 | 1.547 | .207 | 1.336 | 1.937 | 2.902 | 2.359 | 2.364 | 3.374 | 8.151 |
| August | .276 | 1.587 | .215 | 1.382 | 2.087 | 3.088 | 2.405 | 2.410 | 3.484 | 8.470 |
| September | .295 | 1.373 | .213 | 1.233 | 1.986 | 2.893 | 2.236 | 2.240 | 3.011 | 7.740 |
| October | .404 | 1.303 | .255 | 1.234 | 2.069 | 2.997 | 2.289 | 2.294 | 2.812 | 7.827 |
| November | .663 | 1.562 | .370 | 1.330 | 2.015 | 2.970 | 2.174 | 2.179 | 2.819 | 8.039 |
| December | 1.142 | 2.346 | .572 | 1.567 | 2.185 | 3.104 | 2.302 | 2.307 | 3.123 | 9.322 |
| **Total** | **7.157** | **19.807** | **4.143** | **16.261** | **24.394** | **35.745** | **26.921** | **26.978** | **36.176** | **98.774** |
| **2001** January | R 1.221 | R 2.492 | .636 | 1.616 | R 2.055 | 2.894 | 2.224 | R 2.229 | R 3.094 | R 9.229 |
| February | R 1.008 | R 1.999 | R .551 | 1.416 | 1.855 | R 2.660 | 2.049 | 2.053 | 2.663 | R 8.123 |
| March | R .905 | R 1.888 | R .488 | 1.453 | R 2.064 | R 2.930 | R 2.272 | 2.277 | 2.817 | R 8.543 |
| April | R .583 | R 1.443 | R .348 | 1.269 | R 1.892 | R 2.737 | 2.262 | R 2.267 | R 2.631 | R 7.710 |
| May | .366 | 1.261 | .254 | 1.307 | 1.873 | 2.786 | 2.347 | 2.351 | 2.865 | 7.703 |
| June | .296 | R 1.351 | R .227 | R 1.354 | R 1.779 | R 2.669 | R 2.294 | 2.300 | 3.077 | R 7.676 |
| July | .274 | 1.543 | R .217 | R 1.416 | R 1.960 | R 2.827 | 2.432 | 2.438 | 3.340 | 8.223 |
| August | .277 | R 1.592 | R .217 | R 1.418 | 2.038 | 2.912 | 2.385 | 2.390 | R 3.396 | R 8.311 |
| September | .279 | R 1.302 | .222 | 1.273 | 1.962 | 2.746 | 2.191 | 2.197 | 2.863 | R 7.513 |
| October | R .402 | R 1.274 | R .273 | R 1.296 | R 2.117 | R 2.950 | 2.268 | 2.273 | 2.733 | R 7.788 |
| November | R .544 | R 1.386 | R .312 | R 1.275 | R 2.040 | R 2.853 | R 2.129 | R 2.134 | R 2.623 | R 7.641 |
| December | R .803 | R 1.844 | R .432 | R 1.462 | R 2.133 | R 2.965 | R 2.153 | R 2.157 | 2.906 | R 8.421 |
| **Total** | R **6.958** | R **19.388** | R **4.179** | R **16.547** | R **23.768** | R **33.922** | R **27.008** | R **27.065** | R **35.009** | R **96.880** |
| **2002** January | 1.032 | 2.134 | .548 | 1.546 | 2.163 | 2.949 | 2.151 | 2.155 | 2.891 | 8.777 |

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.

[b] The sum of primary consumption in the five energy-use sectors equals the sum of total consumption in the four end-use sectors. However, total energy consumption does not exactly equal the sum of the sectoral components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal.

R=Revised.

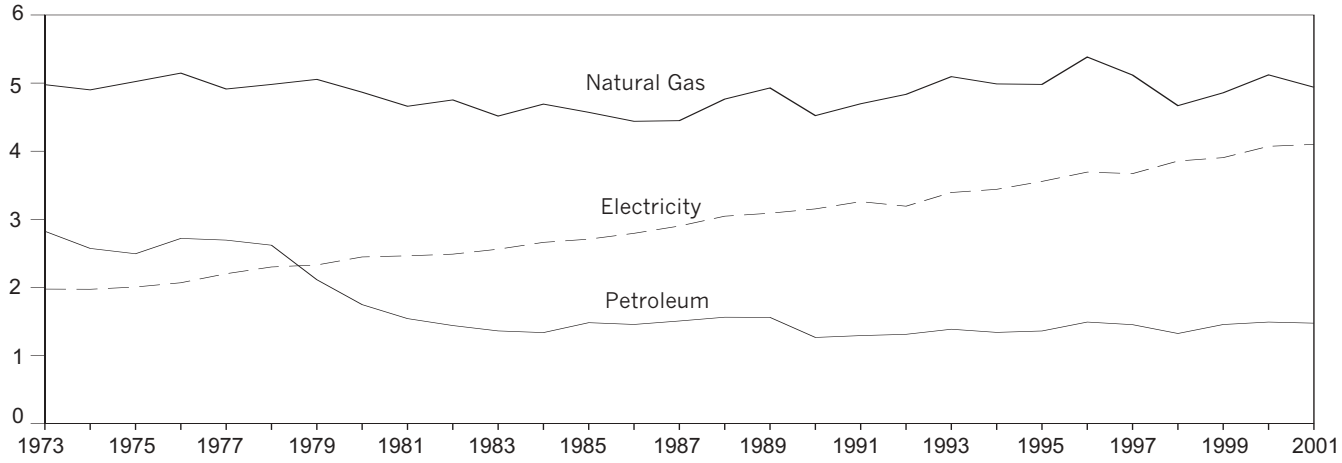
Notes: Primary consumption includes coal, natural gas, petroleum, nuclear electric power, hydroelectric power, wood, waste, alcohol fuels, geothermal, solar, wind, net imports of coal coke, and net imports of electricity. Total consumption includes primary consumption; electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; and electrical system energy losses. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

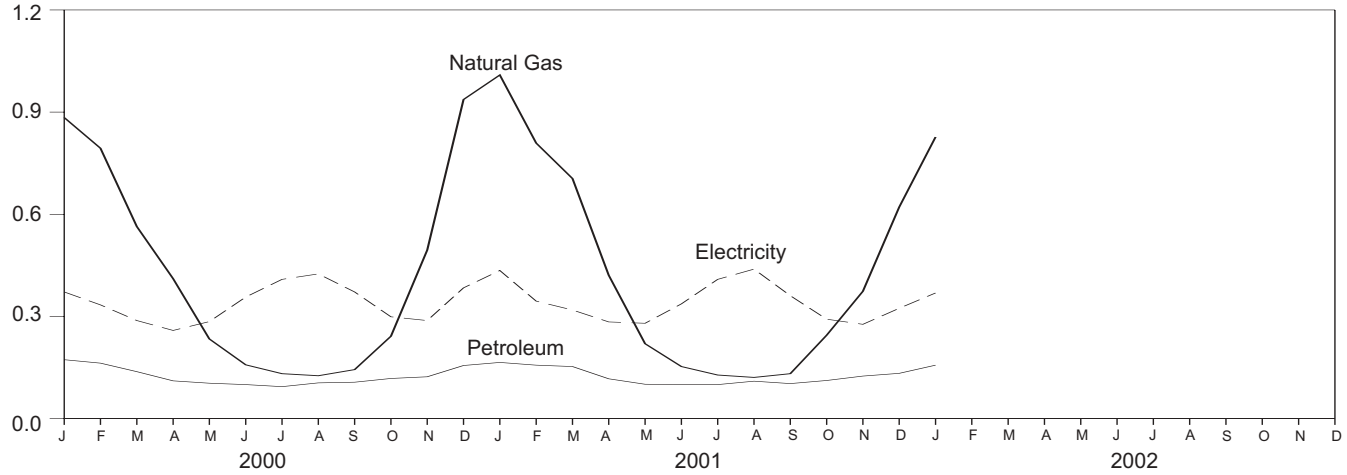
## Figure 2.2 Residential Sector Energy Consumption

(Quadrillion Btu)

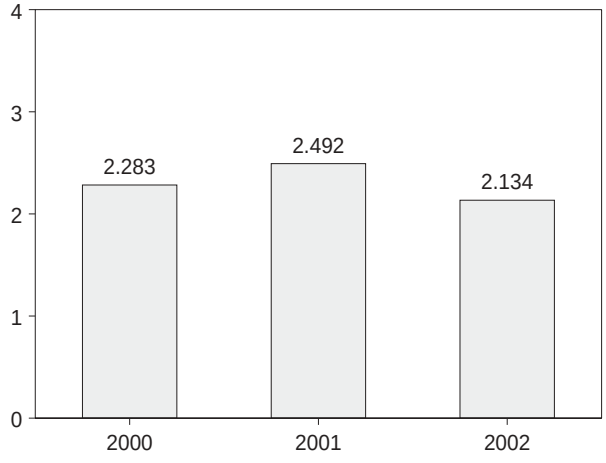
### By Major Sources, 1973-2001



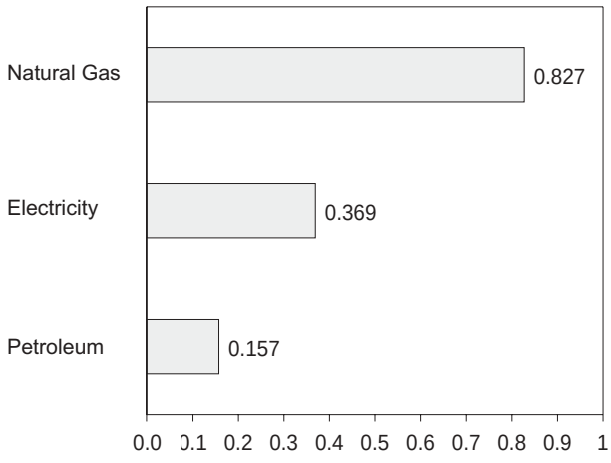

### By Major Sources, Monthly




### Total, January




### By Major Sources, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.2.

# Table 2.2 Residential Sector Energy Consumption

(Quadrillion Btu)

| | Primary Consumption | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fossil Fuels[a] | | | | Renewable Energy | | | | | | | |
| | Coal | Natural Gas[b] | Petroleum | Total | Wood[c] | Geo-thermal[d] | Solar[e] | Total | Total Primary | Electricity[f] | Electrical System Energy Losses[g] | Total |
| **1973 Total** | **0.102** | **4.977** | **2.825** | **7.904** | **0.354** | **NA** | **NA** | **0.354** | **8.258** | **1.976** | **4.749** | **14.983** |
| **1974 Total** | **.103** | **4.901** | **2.573** | **7.577** | **.371** | **NA** | **NA** | **.371** | **7.948** | **1.973** | **4.824** | **14.745** |
| **1975 Total** | **.084** | **5.023** | **2.495** | **7.601** | **.425** | **NA** | **NA** | **.425** | **8.027** | **2.007** | **4.855** | **14.888** |
| **1976 Total** | **.081** | **5.147** | **2.720** | **7.949** | **.482** | **NA** | **NA** | **.482** | **8.431** | **2.069** | **4.994** | **15.493** |
| **1977 Total** | **.082** | **4.913** | **2.695** | **7.690** | **.542** | **NA** | **NA** | **.542** | **8.232** | **2.202** | **5.331** | **15.765** |
| **1978 Total** | **.085** | **4.981** | **2.620** | **7.687** | **.622** | **NA** | **NA** | **.622** | **8.309** | **2.301** | **5.639** | **16.249** |
| **1979 Total** | **.075** | **5.055** | **2.114** | **7.243** | **.728** | **NA** | **NA** | **.728** | **7.971** | **2.330** | **5.636** | **15.937** |
| **1980 Total** | **.060** | **4.866** | **1.748** | **6.674** | **.859** | **NA** | **NA** | **.859** | **7.533** | **2.448** | **5.958** | **15.938** |
| **1981 Total** | **.070** | **4.660** | **1.543** | **6.273** | **.869** | **NA** | **NA** | **.869** | **7.142** | **2.464** | **5.876** | **15.482** |
| **1982 Total** | **.075** | **4.753** | **1.441** | **6.269** | **.937** | **NA** | **NA** | **.937** | **7.206** | **2.489** | **6.008** | **15.704** |
| **1983 Total** | **.075** | **4.516** | **1.362** | **5.954** | **.925** | **NA** | **NA** | **.925** | **6.879** | **2.562** | **6.162** | **15.603** |
| **1984 Total** | **.083** | **4.692** | **1.337** | **6.113** | **.923** | **NA** | **NA** | **.923** | **7.036** | **2.662** | **6.229** | **15.927** |
| **1985 Total** | **.070** | **4.571** | **1.483** | **6.125** | **.899** | **NA** | **NA** | **.899** | **7.024** | **2.709** | **6.362** | **16.095** |
| **1986 Total** | **.070** | **4.439** | **1.457** | **5.966** | **.876** | **NA** | **NA** | **.876** | **6.842** | **2.795** | **6.450** | **16.087** |
| **1987 Total** | **.065** | **4.449** | **1.508** | **6.022** | **.852** | **NA** | **NA** | **.852** | **6.874** | **2.902** | **6.662** | **16.437** |
| **1988 Total** | **.067** | **4.765** | **1.563** | **6.395** | **.885** | **NA** | **NA** | **.885** | **7.280** | **3.046** | **6.887** | **17.213** |
| **1989 Total** | **.058** | **4.929** | **1.560** | **6.547** | **.918** | **.005** | **.053** | **.976** | **7.522** | **3.090** | **7.193** | **17.805** |
| **1990 Total** | **.062** | **4.523** | **1.266** | **5.852** | **.581** | **.006** | **.056** | **.642** | **6.494** | **3.153** | **7.238** | **16.884** |
| **1991 Total** | **.056** | **4.697** | **1.293** | **6.047** | **.613** | **.006** | **.058** | **.677** | **6.723** | **3.260** | **7.444** | **17.427** |
| **1992 Total** | **.057** | **4.835** | **1.312** | **6.205** | **.645** | **.006** | **.060** | **.711** | **6.916** | **3.193** | **7.191** | **17.300** |
| **1993 Total** | **.057** | **5.095** | **1.387** | **6.540** | **.548** | **.007** | **.062** | **.616** | **7.156** | **3.394** | **7.574** | **18.124** |
| **1994 Total** | **.056** | **4.988** | **1.340** | **6.384** | **.537** | **.006** | **.064** | **.607** | **6.991** | **3.441** | **7.642** | **18.074** |
| **1995 Total** | **.054** | **4.981** | **1.361** | **6.396** | **.596** | **.007** | **.065** | **.667** | **7.063** | **3.557** | **7.871** | **18.492** |
| **1996 Total** | **.055** | **5.383** | **1.492** | **6.930** | **.595** | **.007** | **.066** | **.668** | **7.598** | **3.694** | **8.179** | **19.471** |
| **1997 Total** | **.058** | **5.118** | **1.454** | **6.630** | **.433** | **.007** | **.065** | **.506** | **7.136** | **3.671** | **8.092** | **18.899** |
| **1998 Total** | **.044** | **4.669** | **1.324** | **6.037** | **.387** | **.008** | **.065** | **.459** | **6.497** | **3.856** | **8.379** | **18.732** |
| **1999 Total** | **.047** | **4.858** | **1.456** | **6.361** | **.414** | **.008** | **.064** | **.486** | **6.847** | **3.906** | **8.457** | **19.210** |
| **2000** January | .005 | .884 | .173 | 1.062 | A .037 | A .001 | A .005 | A .043 | 1.105 | .372 | .805 | 2.283 |
| February | .004 | .794 | .163 | .961 | A .034 | A .001 | A .005 | A .040 | 1.001 | .334 | .676 | 2.011 |
| March | .003 | .564 | .138 | .705 | A .037 | A .001 | A .005 | A .043 | .747 | .288 | .633 | 1.668 |
| April | .003 | .411 | .111 | .525 | A .036 | A .001 | A .005 | A .041 | .567 | .259 | .566 | 1.392 |
| May | .002 | .234 | .104 | .340 | A .037 | A .001 | A .005 | A .043 | .383 | .285 | .650 | 1.317 |
| June | .002 | .158 | .100 | .261 | A .036 | A .001 | A .005 | A .041 | .302 | .357 | .750 | 1.409 |
| July | .003 | .132 | .094 | .229 | A .037 | A .001 | A .005 | A .043 | .272 | .409 | .866 | 1.547 |
| August | .003 | .126 | .105 | .234 | A .037 | A .001 | A .005 | A .043 | .276 | .425 | .886 | 1.587 |
| September | .002 | .144 | .107 | .254 | A .036 | A .001 | A .005 | A .041 | .295 | .372 | .706 | 1.373 |
| October | .002 | .242 | .118 | .361 | A .037 | A .001 | A .005 | A .043 | .404 | .299 | .600 | 1.303 |
| November | .004 | .495 | .123 | .622 | A .036 | A .001 | A .005 | A .041 | .663 | .288 | .611 | 1.562 |
| December | .006 | .937 | .156 | 1.099 | A .037 | A .001 | A .005 | A .043 | 1.142 | .384 | .820 | 2.346 |
| **Total** | **.039** | **5.121** | **1.492** | **6.653** | E **.433** | E **.009** | E **.062** | E **.503** | **7.157** | **4.072** | **8.578** | **19.807** |
| **2001** January | .005 | R 1.009 | .165 | R 1.179 | A .037 | A .001 | A .005 | A .043 | R 1.221 | .435 | R .836 | R 2.492 |
| February | .004 | R .809 | .157 | R .969 | A .033 | A .001 | A .005 | A .039 | R 1.008 | .345 | .646 | R 1.999 |
| March | .003 | R .705 | .153 | R .862 | A .037 | A .001 | A .005 | A .043 | R .905 | .319 | .664 | R 1.888 |
| April | .003 | R .421 | .117 | R .541 | A .036 | A .001 | A .005 | A .041 | R .583 | .284 | .576 | R 1.443 |
| May | .002 | .220 | .101 | R .324 | A .037 | A .001 | A .005 | A .043 | .366 | .280 | .615 | 1.261 |
| June | .002 | .153 | .100 | .255 | A .036 | A .001 | A .005 | A .041 | .296 | .337 | .717 | R 1.351 |
| July | .003 | .128 | .100 | .231 | A .037 | A .001 | A .005 | A .043 | .274 | .409 | R .860 | 1.543 |
| August | .003 | .121 | .110 | .234 | A .037 | A .001 | A .005 | A .043 | .277 | .439 | .876 | R 1.592 |
| September | .002 | .132 | .103 | R .238 | A .036 | A .001 | A .005 | A .041 | .279 | .361 | .662 | R 1.302 |
| October | R .002 | R .245 | .112 | R .359 | A .037 | A .001 | A .005 | A .043 | R .402 | .292 | .580 | R 1.274 |
| November | .004 | R .374 | .125 | R .503 | A .036 | A .001 | A .005 | A .041 | R .544 | .277 | R .565 | R 1.386 |
| December | .006 | R .621 | .133 | R .760 | A .037 | A .001 | A .005 | A .043 | R .803 | .324 | .717 | R 1.844 |
| **Total** | **.040** | R **4.939** | **1.476** | R **6.455** | E **.433** | E **.009** | E **.062** | E **.503** | R **6.958** | **4.101** | R **8.329** | R **19.388** |
| **2002** January | .005 | F .827 | .157 | .989 | A .037 | A .001 | A .005 | A .043 | 1.032 | .369 | .734 | 2.134 |

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.
[b] Includes supplemental gaseous fuels.
[c] Wood only.
[d] Geothermal heat pump and direct use energy.
[e] Solar thermal direct use and photovoltaic energy. Includes small amounts of commercial sector use.
[f] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.
[g] See Note 12 at end of section.

R=Revised. NA=Not available. E=Estimate. F=Forecast. A=Apportioned data: monthly estimates for 1999 and 2000 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2001 monthly estimates are created by dividing the 2000 annual value by 365 and multiplying by the number of days in the month.

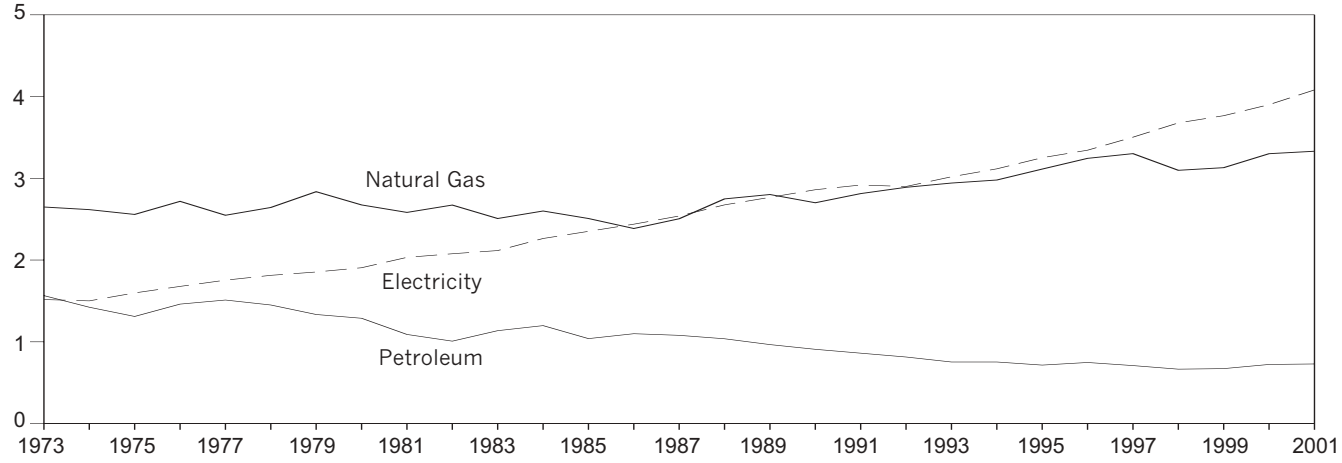
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

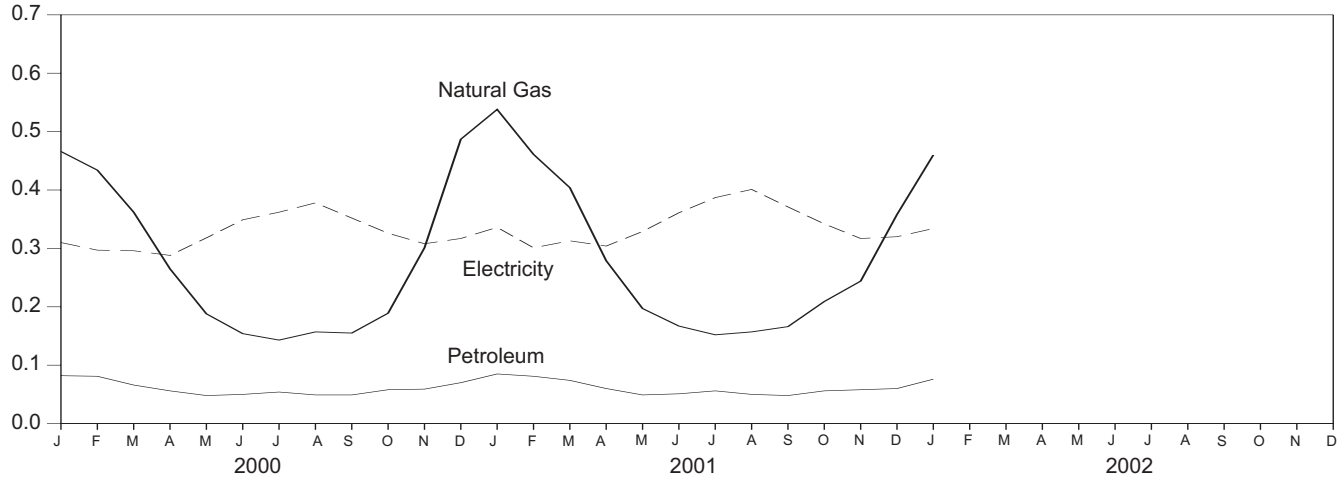
## Figure 2.3 Commercial Sector Energy Consumption

(Quadrillion Btu)

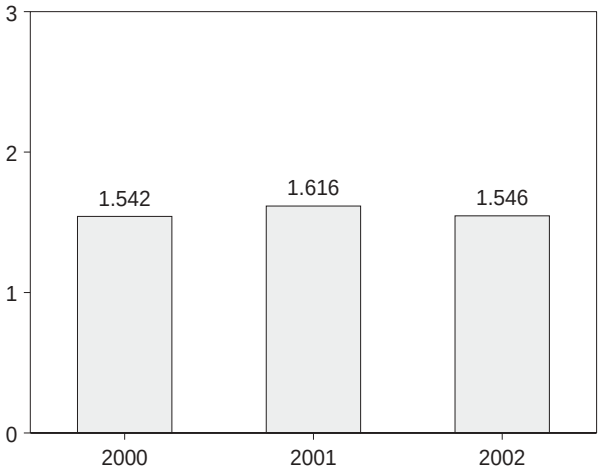
### By Major Sources, 1973-2001



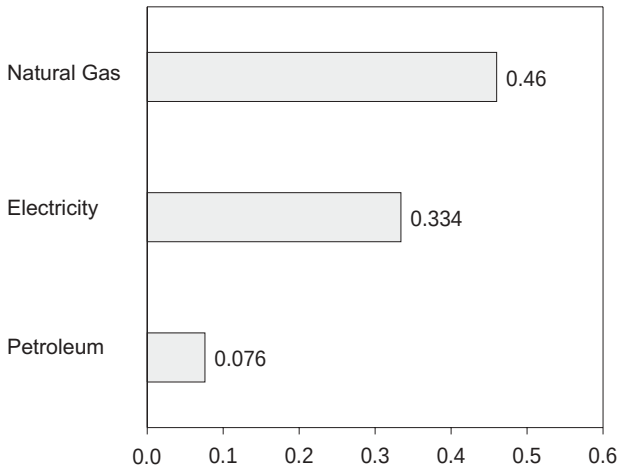

### By Major Sources, Monthly




### Total, January




### By Major Sources, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.3.

# Table 2.3 Commercial Sector Energy Consumption

(Quadrillion Btu)

| | Primary Consumption | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fossil Fuels[a] | | | | Renewable Energy | | | | | | |
| | Coal | Natural Gas[b] | Petroleum | Total | Wood[c] | Geo-thermal[d] | Total | Total Primary | Electricity[e] | Electrical System Energy Losses[f] | Total |
| **1973 Total** | **0.152** | **2.649** | **1.565** | **4.367** | **0.007** | **NA** | **0.007** | **4.373** | **1.517** | **3.644** | **9.534** |
| **1974 Total** | **.154** | **2.617** | **1.423** | **4.194** | **.007** | **NA** | **.007** | **4.201** | **1.501** | **3.672** | **9.374** |
| **1975 Total** | **.126** | **2.558** | **1.310** | **3.994** | **.008** | **NA** | **.008** | **4.002** | **1.598** | **3.865** | **9.465** |
| **1976 Total** | **.122** | **2.718** | **1.461** | **4.301** | **.009** | **NA** | **.009** | **4.310** | **1.678** | **4.049** | **10.038** |
| **1977 Total** | **.123** | **2.548** | **1.511** | **4.182** | **.010** | **NA** | **.010** | **4.193** | **1.754** | **4.247** | **10.194** |
| **1978 Total** | **.128** | **2.643** | **1.450** | **4.221** | **.012** | **NA** | **.012** | **4.233** | **1.813** | **4.443** | **10.489** |
| **1979 Total** | **.112** | **2.836** | **1.334** | **4.282** | **.014** | **NA** | **.014** | **4.296** | **1.854** | **4.485** | **10.635** |
| **1980 Total** | **.086** | **2.674** | **1.288** | **4.047** | **.021** | **NA** | **.021** | **4.068** | **1.906** | **4.639** | **10.613** |
| **1981 Total** | **.097** | **2.583** | **1.090** | **3.770** | **.021** | **NA** | **.021** | **3.791** | **2.033** | **4.848** | **10.672** |
| **1982 Total** | **.112** | **2.673** | **1.008** | **3.794** | **.022** | **NA** | **.022** | **3.816** | **2.077** | **5.014** | **10.906** |
| **1983 Total** | **.117** | **2.508** | **1.136** | **3.761** | **.022** | **NA** | **.022** | **3.783** | **2.116** | **5.090** | **10.989** |
| **1984 Total** | **.125** | **2.600** | **1.198** | **3.923** | **.022** | **NA** | **.022** | **3.945** | **2.264** | **5.300** | **11.510** |
| **1985 Total** | **.106** | **2.508** | **1.039** | **3.652** | **.024** | **NA** | **.024** | **3.676** | **2.351** | **5.522** | **11.550** |
| **1986 Total** | **.106** | **2.386** | **1.099** | **3.590** | **.027** | **NA** | **.027** | **3.617** | **2.439** | **5.628** | **11.684** |
| **1987 Total** | **.097** | **2.505** | **1.079** | **3.681** | **.029** | **NA** | **.029** | **3.710** | **2.539** | **5.829** | **12.078** |
| **1988 Total** | **.101** | **2.748** | **1.037** | **3.886** | **.032** | **NA** | **.032** | **3.918** | **2.675** | **6.047** | **12.640** |
| **1989 Total** | **.088** | **2.802** | **.966** | **3.855** | **.034** | **.003** | **.037** | **3.892** | **2.767** | **6.441** | **13.099** |
| **1990 Total** | **.093** | **2.701** | **.908** | **3.702** | **.037** | **.003** | **.040** | **3.742** | **2.860** | **6.566** | **13.168** |
| **1991 Total** | **.085** | **2.813** | **.861** | **3.758** | **.039** | **.003** | **.042** | **3.800** | **2.918** | **6.663** | **13.382** |
| **1992 Total** | **.085** | **2.890** | **.814** | **3.788** | **.042** | **.003** | **.045** | **3.834** | **2.900** | **6.531** | **13.264** |
| **1993 Total** | **.086** | **2.942** | **.753** | **3.780** | **.044** | **.003** | **.047** | **3.828** | **3.019** | **6.736** | **13.583** |
| **1994 Total** | **.083** | **2.979** | **.753** | **3.816** | **.045** | **.004** | **.049** | **3.865** | **3.116** | **6.919** | **13.899** |
| **1995 Total** | **.081** | **3.113** | **.715** | **3.908** | **.045** | **.005** | **.050** | **3.958** | **3.252** | **7.196** | **14.406** |
| **1996 Total** | **.083** | **3.244** | **.747** | **4.073** | **.049** | **.005** | **.054** | **4.127** | **3.344** | **7.405** | **14.876** |
| **1997 Total** | **.087** | **3.302** | **.709** | **4.098** | **.047** | **.006** | **.053** | **4.150** | **3.503** | **7.722** | **15.375** |
| **1998 Total** | **.066** | **3.098** | **.665** | **3.829** | **.047** | **.007** | **.054** | **3.883** | **3.678** | **7.993** | **15.553** |
| **1999 Total** | **.070** | **3.130** | **.672** | **3.871** | **.051** | **.007** | **.058** | **3.929** | **3.766** | **8.154** | **15.849** |
| **2000** January | .008 | .466 | .082 | .556 | A .004 | A .001 | A .005 | .561 | .310 | .671 | 1.542 |
| February | .006 | .434 | .081 | .521 | A .004 | A .001 | A .005 | .526 | .297 | .602 | 1.425 |
| March | .004 | .362 | .066 | .432 | A .004 | A .001 | A .005 | .438 | .296 | .650 | 1.383 |
| April | .005 | .265 | .056 | .326 | A .004 | A .001 | A .005 | .331 | .288 | .629 | 1.248 |
| May | .003 | .188 | .048 | .239 | A .004 | A .001 | A .005 | .244 | .318 | .726 | 1.288 |
| June | .003 | .154 | .050 | .208 | A .004 | A .001 | A .005 | .213 | .349 | .732 | 1.293 |
| July | .004 | .143 | .054 | .202 | A .004 | A .001 | A .005 | .207 | .362 | .767 | 1.336 |
| August | .004 | .157 | .049 | .210 | A .004 | A .001 | A .005 | .215 | .378 | .789 | 1.382 |
| September | .003 | .155 | .049 | .208 | A .004 | A .001 | A .005 | .213 | .352 | .669 | 1.233 |
| October | .003 | .189 | .058 | .250 | A .004 | A .001 | A .005 | .255 | .326 | .654 | 1.234 |
| November | .006 | .301 | .059 | .365 | A .004 | A .001 | A .005 | .370 | .308 | .652 | 1.330 |
| December | .009 | .487 | .070 | .566 | A .004 | A .001 | A .005 | .572 | .317 | .678 | 1.567 |
| **Total** | **.059** | **3.301** | **.723** | **4.083** | E **.052** | E **.008** | E **.060** | **4.143** | **3.901** | **8.218** | **16.261** |
| **2001** January | .007 | .538 | .085 | .631 | A .004 | A .001 | A .005 | .636 | .336 | .645 | 1.616 |
| February | .006 | .461 | .081 | R .547 | A .004 | A .001 | A .005 | R .551 | .301 | R .564 | 1.416 |
| March | .005 | R .404 | .074 | R .483 | A .004 | A .001 | A .005 | R .488 | .313 | .651 | 1.453 |
| April | .005 | .279 | .060 | R .343 | A .004 | A .001 | A .005 | R .348 | .304 | .616 | 1.269 |
| May | .003 | .197 | .049 | .249 | A .004 | A .001 | A .005 | .254 | .329 | .724 | 1.307 |
| June | .004 | R .167 | .051 | R .222 | A .004 | A .001 | A .005 | R .227 | .361 | R .767 | R 1.354 |
| July | .004 | R .152 | .056 | R .212 | A .004 | A .001 | A .005 | R .217 | .387 | .812 | R 1.416 |
| August | .004 | R .157 | .050 | R .212 | A .004 | A .001 | A .005 | R .217 | .401 | .800 | R 1.418 |
| September | .003 | .166 | .048 | .217 | A .004 | A .001 | A .005 | .222 | .371 | .680 | 1.273 |
| October | R .003 | R .209 | .056 | R .268 | A .004 | A .001 | A .005 | R .273 | .342 | .681 | R 1.296 |
| November | .006 | .244 | .058 | R .307 | A .004 | A .001 | A .005 | R .312 | .317 | R .647 | R 1.275 |
| December | .009 | R .358 | .060 | R .427 | A .004 | A .001 | A .005 | R .432 | .320 | .709 | R 1.462 |
| **Total** | **.060** | R **3.331** | **.729** | R **4.119** | E **.052** | E **.008** | E **.060** | R **4.179** | **4.081** | R **8.287** | R **16.547** |
| **2002** January | .007 | F .460 | .076 | E .543 | A .004 | A .001 | A .005 | .548 | .334 | .664 | 1.546 |

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.
[b] Includes supplemental gaseous fuels.
[c] Wood only.
[d] Geothermal heat pump and direct use energy.
[e] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.
[f] See Note 12 at end of section.

R=Revised. NA=Not available. E=Estimate. F=Forecast. A=Apportioned data: monthly estimates for 2000 and 2001 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2002 monthly estimates are created by dividing the 2001 annual value by 365 and multiplying by the number of days in the month.

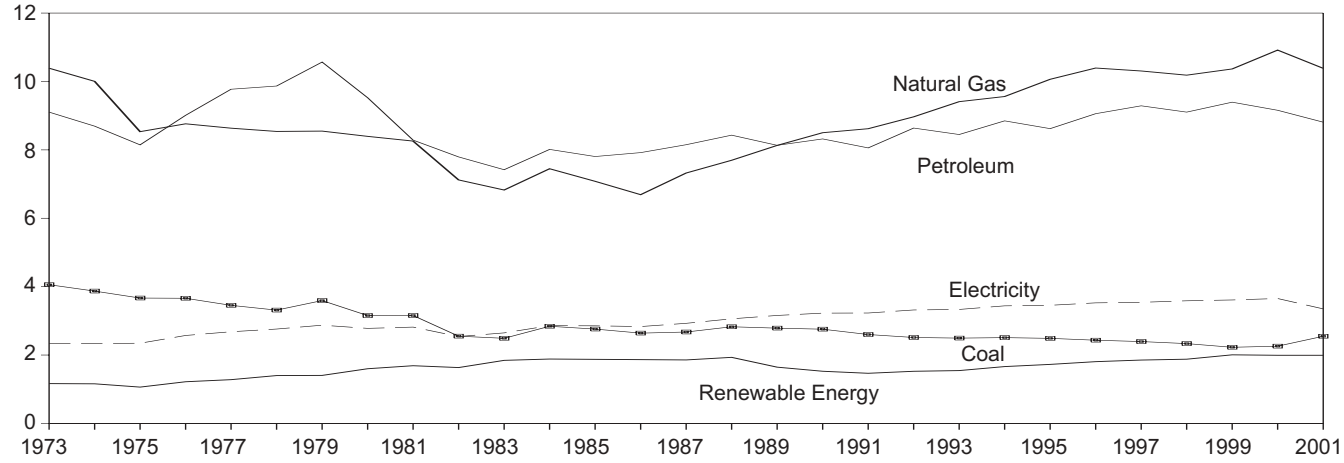
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

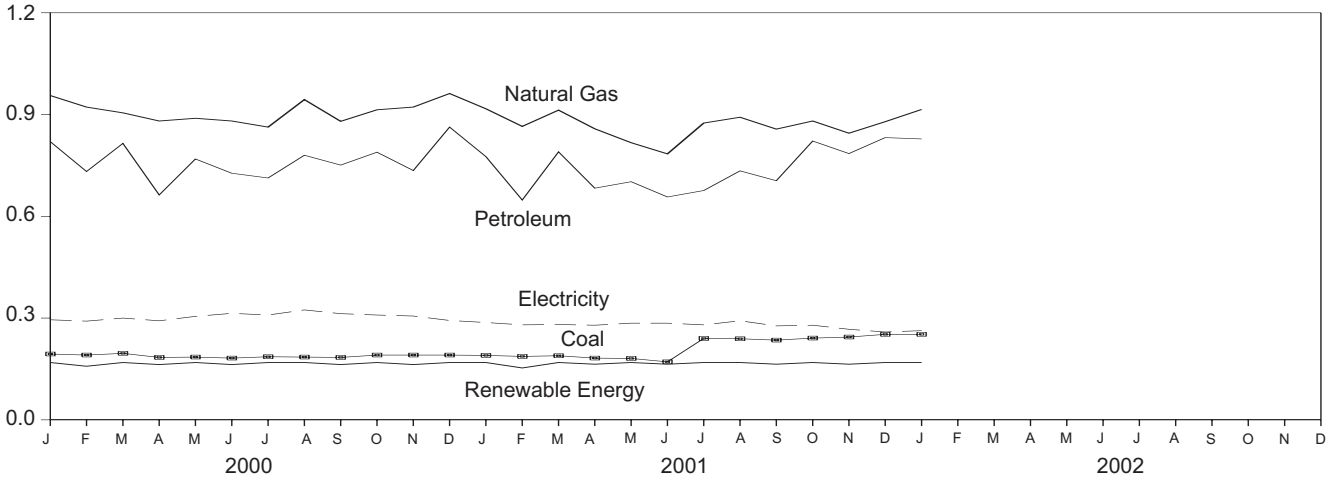
## Figure 2.4 Industrial Sector Energy Consumption

(Quadrillion Btu)

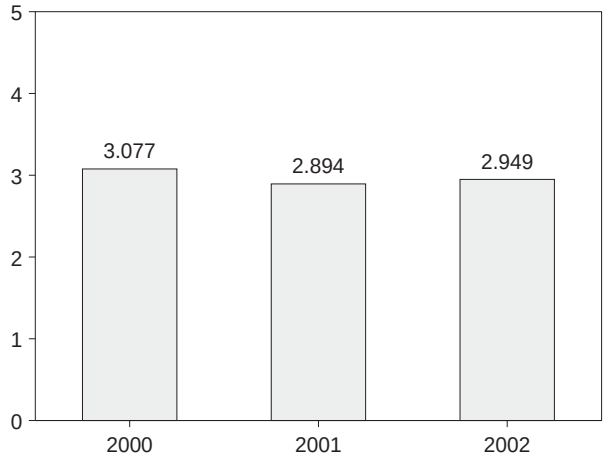
### By Major Sources, 1973-2001



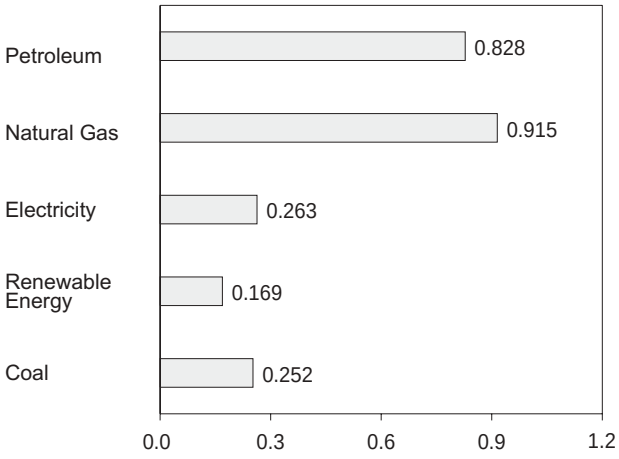

### By Major Sources, Monthly




### Total, January




### By Major Sources, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.4.

# Table 2.4 Industrial Sector Energy Consumption

(Quadrillion Btu)

| | Primary Consumption | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fossil Fuels[a] | | | | | Renewable Energy | | | | | | |
| | Coal | Coal Coke Net Imports | Natural Gas[b] | Petroleum | Total | Wood[c] and Waste[d] | Geo-thermal[e] | Total | Total Primary | Electricity[f] | Electrical System Energy Losses[g] | Total |
| **1973 Total** | **4.057** | **-0.007** | **10.388** | **9.104** | **23.541** | **1.165** | **NA** | **1.165** | **24.706** | **2.341** | **5.625** | **32.672** |
| **1974 Total** | **3.870** | **.056** | **10.004** | **8.694** | **22.624** | **1.159** | **NA** | **1.159** | **23.783** | **2.337** | **5.715** | **31.835** |
| **1975 Total** | **3.667** | **.014** | **8.532** | **8.146** | **20.359** | **1.063** | **NA** | **1.063** | **21.422** | **2.346** | **5.676** | **29.445** |
| **1976 Total** | **3.661** | **(s)** | **8.762** | **9.010** | **21.432** | **1.220** | **NA** | **1.220** | **22.652** | **2.573** | **6.209** | **31.434** |
| **1977 Total** | **3.454** | **.015** | **8.635** | **9.774** | **21.879** | **1.281** | **NA** | **1.281** | **23.160** | **2.682** | **6.494** | **32.336** |
| **1978 Total** | **3.314** | **.125** | **8.539** | **9.867** | **21.845** | **1.400** | **NA** | **1.400** | **23.245** | **2.761** | **6.764** | **32.770** |
| **1979 Total** | **3.593** | **.063** | **8.549** | **10.568** | **22.773** | **1.405** | **NA** | **1.405** | **24.177** | **2.873** | **6.949** | **33.999** |
| **1980 Total** | **3.155** | **-.035** | **8.395** | **9.525** | **21.040** | **1.600** | **NA** | **1.600** | **22.640** | **2.781** | **6.768** | **32.189** |
| **1981 Total** | **3.157** | **-.016** | **8.257** | **8.285** | **19.682** | **1.689** | **NA** | **1.689** | **21.371** | **2.817** | **6.717** | **30.906** |
| **1982 Total** | **2.552** | **-.022** | **7.121** | **7.794** | **17.446** | **1.634** | **NA** | **1.634** | **19.079** | **2.542** | **6.135** | **27.756** |
| **1983 Total** | **2.490** | **-.016** | **6.826** | **7.420** | **16.720** | **1.845** | **NA** | **1.845** | **18.565** | **2.648** | **6.368** | **27.580** |
| **1984 Total** | **2.842** | **-.011** | **7.448** | **8.014** | **18.292** | **1.883** | **NA** | **1.883** | **20.175** | **2.859** | **6.691** | **29.724** |
| **1985 Total** | **2.760** | **-.013** | **7.080** | **7.805** | **17.632** | **1.875** | **NA** | **1.875** | **19.507** | **2.855** | **6.705** | **29.067** |
| **1986 Total** | **2.641** | **-.017** | **6.690** | **7.920** | **17.234** | **1.866** | **NA** | **1.866** | **19.100** | **2.834** | **6.540** | **28.474** |
| **1987 Total** | **2.673** | **.009** | **7.323** | **8.151** | **18.155** | **1.858** | **NA** | **1.858** | **20.013** | **2.928** | **6.723** | **29.664** |
| **1988 Total** | **2.828** | **.040** | **7.696** | **8.430** | **18.993** | **1.933** | **NA** | **1.933** | **20.926** | **3.059** | **6.915** | **30.899** |
| **1989 Total** | **2.787** | **.030** | **8.131** | **8.133** | **19.081** | **1.644** | **.002** | **1.646** | **20.727** | **3.158** | **7.353** | **31.238** |
| **1990 Total** | **2.756** | **.005** | **8.502** | **8.320** | **19.583** | **1.525** | **.002** | **1.527** | **21.111** | **3.226** | **7.406** | **31.743** |
| **1991 Total** | **2.601** | **.010** | **8.619** | **8.057** | **19.287** | **1.465** | **.002** | **1.467** | **20.754** | **3.230** | **7.375** | **31.359** |
| **1992 Total** | **2.515** | **.035** | **8.967** | **8.638** | **20.154** | **1.523** | **.002** | **1.525** | **21.679** | **3.319** | **7.473** | **32.472** |
| **1993 Total** | **2.496** | **.027** | **9.410** | **8.449** | **20.382** | **1.543** | **.002** | **1.546** | **21.928** | **3.334** | **7.440** | **32.702** |
| **1994 Total** | **2.510** | **.058** | **9.560** | **8.849** | **20.977** | **1.661** | **.003** | **1.663** | **22.640** | **3.439** | **7.638** | **33.717** |
| **1995 Total** | **2.488** | **.061** | **10.064** | **8.621** | **21.234** | **1.725** | **.003** | **1.727** | **22.962** | **3.455** | **7.646** | **34.063** |
| **1996 Total** | **2.434** | **.023** | **10.393** | **9.058** | **21.909** | **1.804** | **.003** | **1.807** | **23.716** | **3.527** | **7.810** | **35.053** |
| **1997 Total** | **2.395** | **.046** | **10.307** | **9.288** | **22.036** | **1.851** | **.003** | **1.854** | **23.890** | **3.542** | **7.809** | **35.241** |
| **1998 Total** | **2.335** | **.067** | **10.184** | **9.104** | **21.691** | **1.876** | **.003** | **1.879** | **23.570** | **3.587** | **7.794** | **34.951** |
| **1999 Total** | **2.227** | **.058** | **10.367** | **9.395** | **22.046** | **2.003** | **.004** | **2.007** | **24.053** | **3.611** | **7.817** | **35.481** |
| **2000** January | .194 | .004 | .956 | .820 | 1.973 | A .168 | A (s) | A .169 | 2.142 | .295 | .640 | 3.077 |
| February | .191 | .007 | .922 | .732 | 1.852 | A .158 | A (s) | A .158 | 2.010 | .291 | .590 | 2.891 |
| March | .196 | .006 | .905 | .815 | 1.921 | A .168 | A (s) | A .169 | 2.090 | .300 | .661 | 3.051 |
| April | .184 | .006 | .881 | .663 | 1.734 | A .163 | A (s) | A .163 | 1.897 | .292 | .639 | 2.828 |
| May | .185 | .008 | .889 | .769 | 1.851 | A .168 | A (s) | A .169 | 2.019 | .305 | .698 | 3.023 |
| June | .182 | .004 | .881 | .727 | 1.794 | A .163 | A (s) | A .163 | 1.957 | .314 | .659 | 2.930 |
| July | .186 | .006 | .863 | .713 | 1.769 | A .168 | A (s) | A .169 | 1.937 | .309 | .655 | 2.902 |
| August | .185 | .008 | .944 | .780 | 1.918 | A .168 | A (s) | A .169 | 2.087 | .324 | .677 | 3.088 |
| September | .184 | .007 | .880 | .751 | 1.823 | A .163 | A (s) | A .163 | 1.986 | .313 | .594 | 2.893 |
| October | .191 | .006 | .914 | .789 | 1.900 | A .168 | A (s) | A .169 | 2.069 | .309 | .620 | 2.997 |
| November | .191 | .004 | .922 | .735 | 1.851 | A .163 | A (s) | A .163 | 2.015 | .306 | .649 | 2.970 |
| December | .191 | (s) | .962 | .863 | 2.016 | A .168 | A (s) | A .169 | 2.185 | .293 | .626 | 3.104 |
| **Total** | **2.260** | **.065** | **10.918** | **9.158** | **22.402** | E **1.988** | E **.004** | E **1.993** | **24.394** | **3.654** | **7.697** | **35.745** |
| **2001** January | .190 | .003 | .917 | .776 | 1.886 | A .169 | A (s) | A .169 | R 2.055 | .287 | .551 | 2.894 |
| February | .187 | .002 | R .865 | .648 | R 1.703 | A .153 | A (s) | A .153 | 1.855 | .280 | .525 | R 2.660 |
| March | .189 | .003 | R .913 | .790 | R 1.895 | A .169 | A (s) | A .169 | R 2.064 | .281 | R .585 | R 2.930 |
| April | .182 | .005 | R .858 | .683 | R 1.728 | A .163 | A (s) | A .164 | R 1.892 | .279 | .566 | R 2.737 |
| May | .181 | .004 | .817 | .702 | 1.704 | A .169 | A (s) | A .169 | 1.873 | .285 | .628 | 2.786 |
| June | .171 | .003 | R .784 | .657 | R 1.615 | A .163 | A (s) | A .164 | R 1.779 | .285 | .605 | R 2.669 |
| July | .240 | (s) | .875 | .676 | R 1.791 | A .169 | A (s) | A .169 | R 1.960 | .280 | .587 | R 2.827 |
| August | .239 | .004 | R .892 | .734 | R 1.868 | A .169 | A (s) | A .169 | 2.038 | .292 | .582 | 2.912 |
| September | .235 | .001 | .857 | .705 | 1.798 | A .163 | A (s) | A .164 | 1.962 | .277 | .507 | 2.746 |
| October | R .241 | .004 | R .881 | .822 | R 1.948 | A .169 | A (s) | A .169 | R 2.117 | .279 | .555 | R 2.950 |
| November | .244 | .002 | R .845 | .785 | R 1.876 | A .163 | A (s) | A .164 | R 2.040 | .267 | R .546 | R 2.853 |
| December | .252 | .001 | R .879 | .832 | R 1.964 | A .169 | A (s) | A .169 | R 2.133 | .259 | .573 | R 2.965 |
| **Total** | R **2.549** | **.032** | R **10.384** | **8.810** | R **21.775** | E **1.988** | E **.004** | E **1.993** | R **23.768** | **3.350** | R **6.804** | R **33.922** |
| **2002** January | .252 | -.001 | F .915 | .828 | E 1.994 | A .169 | A (s) | A .169 | 2.163 | .263 | .523 | 2.949 |

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.

[b] Includes supplemental gaseous fuels.

[c] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[d] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

[e] Geothermal heat pump and direct use energy.

[f] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.

[g] See Note 12 at end of section.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu. A=Apportioned data: monthly estimates for 2000 and 2001 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2002 monthly estimates are created by dividing the 2001 annual value by 365 and multiplying by the number of days in the month.

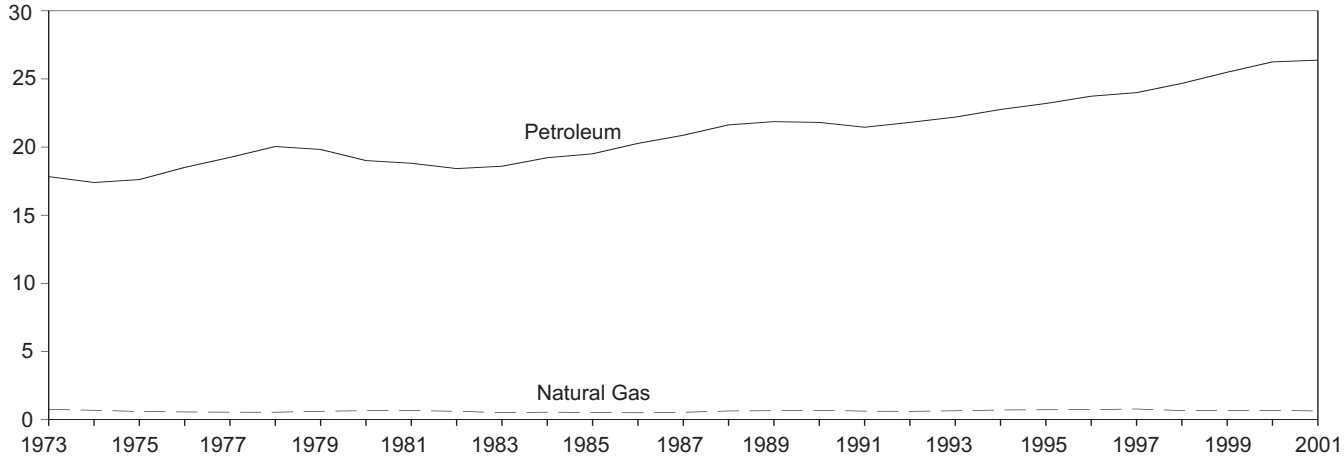
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

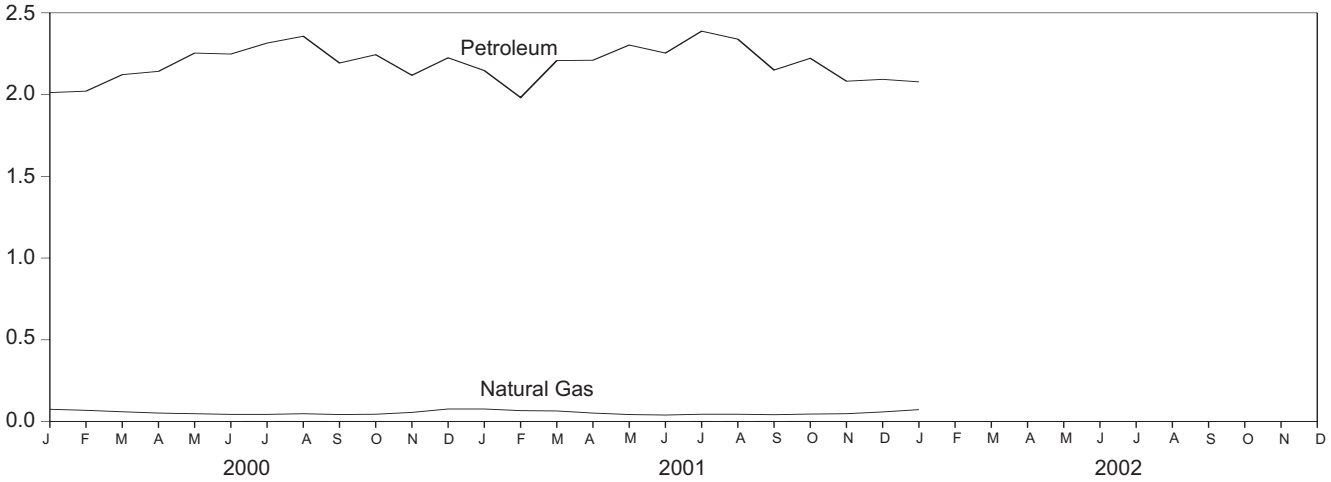
## Figure 2.5 Transportation Sector Energy Consumption

(Quadrillion Btu)

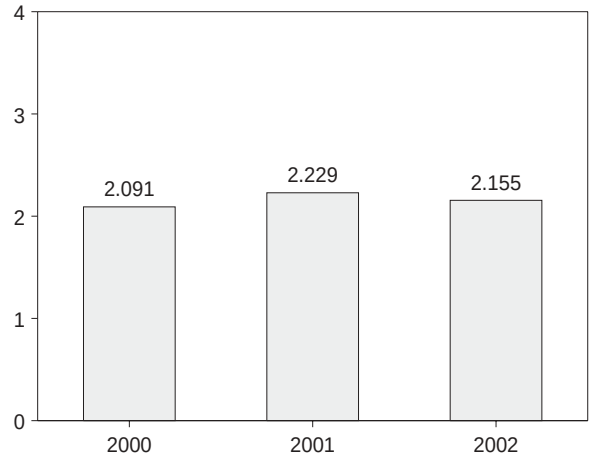
### By Major Sources, 1973-2001



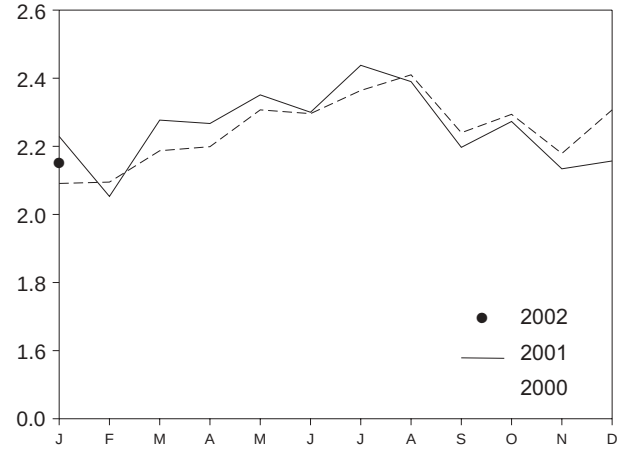

### By Major Sources, Monthly




### Total, January




### Total, Monthly




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.5.

# Table 2.5 Transportation Sector Energy Consumption

(Quadrillion Btu)

| | Primary Consumption | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Fossil Fuels[a] | | | | Renewable Energy | | | | |
| | Coal | Natural Gas[b] | Petroleum | Total | Alcohol Fuels[c] | Total Primary[c] | Electricity[d] | Electrical System Energy Losses[e] | Total[c] |
| **1973 Total** | **0.003** | **0.743** | **17.831** | **18.576** | **NA** | **18.576** | **0.011** | **0.025** | **18.612** |
| **1974 Total** | **.002** | **.685** | **17.399** | **18.086** | **NA** | **18.086** | **.010** | **.024** | **18.119** |
| **1975 Total** | **.001** | **.595** | **17.614** | **18.209** | **NA** | **18.209** | **.010** | **.025** | **18.244** |
| **1976 Total** | **(s)** | **.559** | **18.506** | **19.065** | **NA** | **19.065** | **.010** | **.024** | **19.099** |
| **1977 Total** | **(s)** | **.543** | **19.241** | **19.784** | **NA** | **19.784** | **.010** | **.025** | **19.820** |
| **1978 Total** | **(f)** | **.539** | **20.041** | **20.580** | **NA** | **20.580** | **.010** | **.025** | **20.615** |
| **1979 Total** | **(f)** | **.612** | **19.825** | **20.436** | **NA** | **20.436** | **.010** | **.024** | **20.471** |
| **1980 Total** | **(f)** | **.650** | **19.008** | **19.658** | **NA** | **19.658** | **.011** | **.027** | **19.696** |
| **1981 Total** | **(f)** | **.658** | **18.811** | **19.469** | **.007** | **19.469** | **.011** | **.026** | **19.506** |
| **1982 Total** | **(f)** | **.612** | **18.420** | **19.032** | **.019** | **19.032** | **.011** | **.027** | **19.070** |
| **1983 Total** | **(f)** | **.505** | **18.593** | **19.098** | **.035** | **19.098** | **.013** | **.030** | **19.141** |
| **1984 Total** | **(f)** | **.545** | **19.216** | **19.761** | **.043** | **19.761** | **.014** | **.033** | **19.809** |
| **1985 Total** | **(f)** | **.519** | **19.504** | **20.023** | **.052** | **20.023** | **.014** | **.033** | **20.071** |
| **1986 Total** | **(f)** | **.499** | **20.269** | **20.768** | **.060** | **20.768** | **.015** | **.035** | **20.818** |
| **1987 Total** | **(f)** | **.535** | **20.870** | **21.405** | **.069** | **21.405** | **.016** | **.036** | **21.456** |
| **1988 Total** | **(f)** | **.632** | **21.629** | **22.261** | **.070** | **22.261** | **.016** | **.036** | **22.313** |
| **1989 Total** | **(f)** | **.649** | **21.868** | **22.517** | **.071** | **22.517** | **.016** | **.038** | **22.571** |
| **1990 Total** | **(f)** | **.680** | **21.808** | **22.488** | **.063** | **22.488** | **.016** | **.037** | **22.541** |
| **1991 Total** | **(f)** | **.620** | **21.456** | **22.077** | **.073** | **22.077** | **.016** | **.037** | **22.130** |
| **1992 Total** | **(f)** | **.606** | **21.812** | **22.419** | **.083** | **22.419** | **.016** | **.036** | **22.471** |
| **1993 Total** | **(f)** | **.643** | **22.201** | **22.844** | **.097** | **22.844** | **.016** | **.036** | **22.896** |
| **1994 Total** | **(f)** | **.707** | **22.760** | **23.467** | **.109** | **23.467** | **.017** | **.038** | **23.522** |
| **1995 Total** | **(f)** | **.722** | **23.199** | **23.921** | **.117** | **23.921** | **.017** | **.038** | **23.975** |
| **1996 Total** | **(f)** | **.734** | **23.735** | **24.469** | **.084** | **24.469** | **.017** | **.037** | **24.523** |
| **1997 Total** | **(f)** | **.776** | **23.993** | **24.770** | **.106** | **24.770** | **.017** | **.037** | **24.823** |
| **1998 Total** | **(f)** | **.662** | **24.675** | **25.336** | **.117** | **25.336** | **.017** | **.037** | **25.390** |
| **1999 Total** | **(f)** | **.669** | **25.494** | **26.164** | **.122** | **26.164** | **.017** | **.038** | **26.219** |
| **2000** January | (f) | .075 | 2.012 | 2.087 | .012 | 2.087 | .001 | .003 | 2.091 |
| February | (f) | .069 | 2.021 | 2.091 | .010 | 2.091 | .001 | .003 | 2.095 |
| March | (f) | .060 | 2.122 | 2.182 | .012 | 2.182 | .001 | .003 | 2.187 |
| April | (f) | .052 | 2.142 | 2.195 | .010 | 2.195 | .001 | .003 | 2.199 |
| May | (f) | .048 | 2.254 | 2.302 | .012 | 2.302 | .001 | .003 | 2.307 |
| June | (f) | .044 | 2.248 | 2.292 | .009 | 2.292 | .002 | .003 | 2.296 |
| July | (f) | .044 | 2.315 | 2.359 | .011 | 2.359 | .002 | .003 | 2.364 |
| August | (f) | .048 | 2.357 | 2.405 | .012 | 2.405 | .002 | .003 | 2.410 |
| September | (f) | .043 | 2.193 | 2.236 | .011 | 2.236 | .002 | .003 | 2.240 |
| October | (f) | .045 | 2.244 | 2.289 | .013 | 2.289 | .002 | .003 | 2.294 |
| November | (f) | .056 | 2.118 | 2.174 | .013 | 2.174 | .001 | .003 | 2.179 |
| December | (f) | .077 | 2.225 | 2.302 | .014 | 2.302 | .001 | .003 | 2.307 |
| **Total** | **(f)** | **.670** | **26.252** | **26.921** | **.139** | **26.921** | **.018** | **.038** | **26.978** |
| **2001** January | (f) | .077 | 2.147 | 2.224 | .015 | 2.224 | .001 | .003 | R 2.229 |
| February | (f) | .067 | 1.982 | 2.049 | .012 | 2.049 | .001 | .003 | 2.053 |
| March | (f) | .065 | 2.208 | R 2.272 | .012 | R 2.272 | .001 | .003 | 2.277 |
| April | (f) | .052 | 2.210 | 2.262 | .011 | 2.262 | .001 | .003 | R 2.267 |
| May | (f) | .043 | 2.303 | 2.347 | .011 | 2.347 | .001 | .003 | 2.351 |
| June | (f) | .040 | 2.254 | R 2.294 | .012 | R 2.294 | .002 | .004 | 2.300 |
| July | (f) | .045 | 2.388 | 2.432 | .011 | 2.432 | .002 | .004 | 2.438 |
| August | (f) | .045 | 2.339 | 2.385 | .010 | 2.385 | .002 | .004 | 2.390 |
| September | (f) | .042 | 2.150 | 2.191 | .012 | 2.191 | .002 | .003 | 2.197 |
| October | (f) | .046 | 2.222 | 2.268 | .016 | 2.268 | .002 | .003 | 2.273 |
| November | (f) | R .048 | 2.082 | R 2.129 | .013 | R 2.129 | .001 | .003 | R 2.134 |
| December | (f) | R .059 | 2.093 | R 2.153 | .013 | R 2.153 | .001 | .003 | R 2.157 |
| **Total** | **(f)** | **R .630** | **26.379** | **R 27.008** | **.147** | **R 27.008** | **.019** | **.038** | **R 27.065** |
| **2002** January | (f) | F .073 | 2.078 | E 2.151 | .013 | 2.151 | .002 | .003 | 2.155 |

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.

[b] Includes natural gas consumed in the operation of pipelines (primarily in compressors). For 1990-1999, annual values also include natural gas used by vehicles, whereas monthly values do not. See Table 4.4.

[c] Alcohol (ethanol blended into motor gasoline) is included in both "Petroleum" and "Alcohol Fuels," but is counted only once in both total primary consumption and total consumption.

[d] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.

[e] See Note 12 at end of Section.

[f] Since 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu.

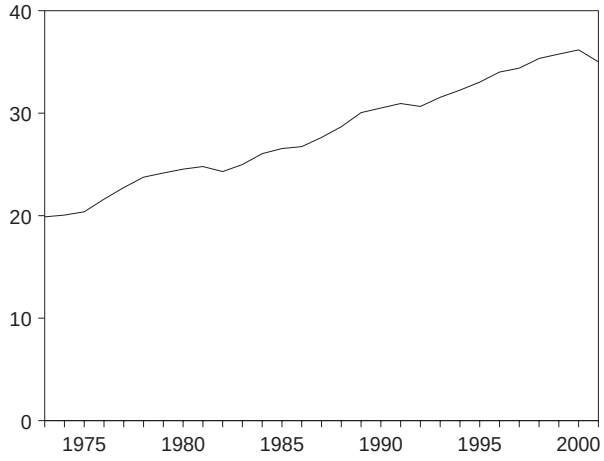
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

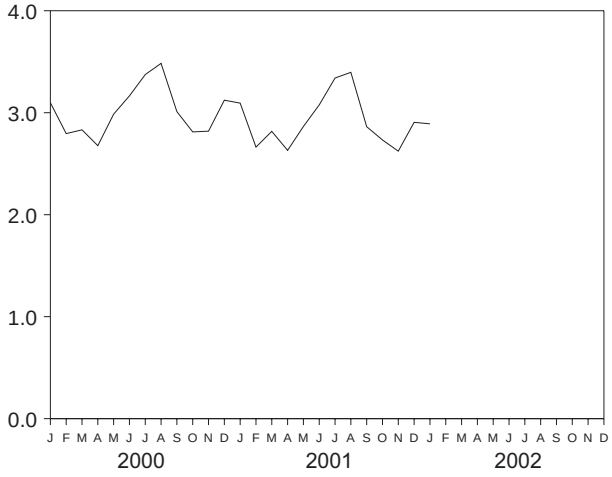
## Figure 2.6 Electric Power Sector Energy Consumption

(Quadrillion Btu)

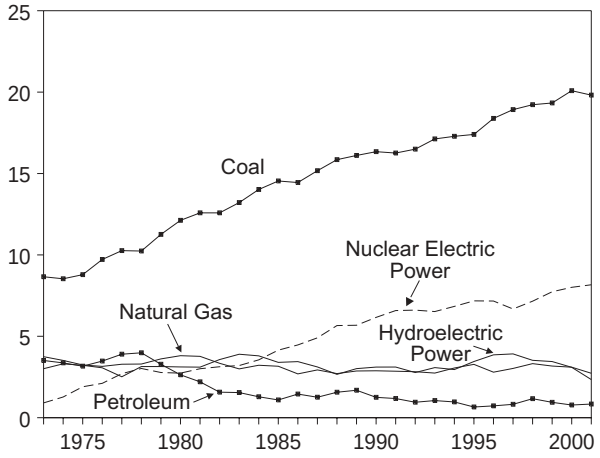
Total, 1973-2001



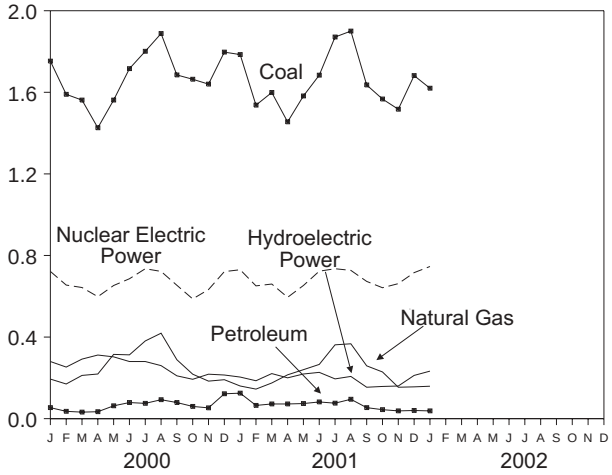

Total, Monthly



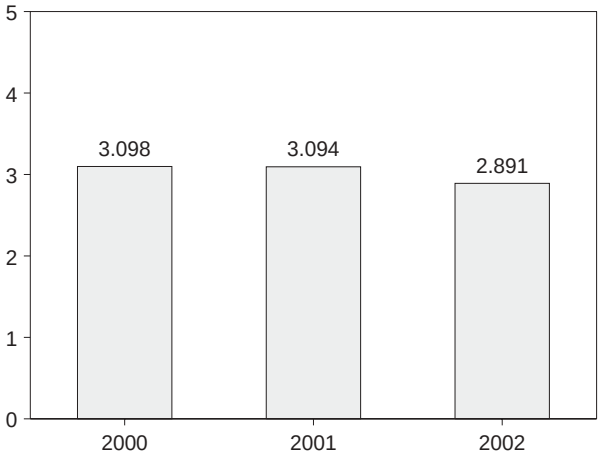

By Major Sources, 1973-2001



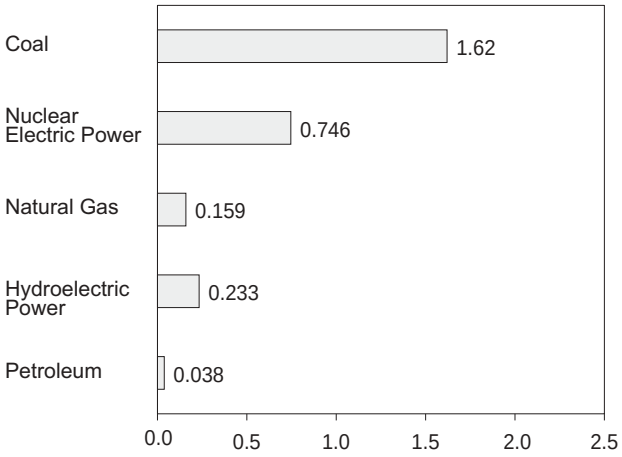

By Major Sources, Monthly




Total, January




By Major Sources, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 2.6.

# Table 2.6 Electric Power Sector Energy Consumption

(Quadrillion Btu)

| | Primary Consumption | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Fossil Fuels[a] | | | | | Nuclear Electric Power | Hydroelectric Pumped Storage[d] | Renewable Energy | | | | | Total Primary |
| | Coal | Natural Gas[b] | Petroleum | Other[c] | Total | | | Conventional Hydroelectric Power[e] | Wood[f] and Waste[g] | Geothermal[h] | Solar[i] and Wind[j] | Total | |
| **1973 Total** | **8.658** | **3.748** | **3.515** | **( k )** | **15.921** | **0.910** | **( k )** | **3.010** | **0.003** | **0.043** | **NA** | **3.056** | **19.887** |
| **1974 Total** | **8.534** | **3.519** | **3.365** | **( k )** | **15.418** | **1.272** | **( k )** | **3.309** | **.003** | **.053** | **NA** | **3.365** | **20.055** |
| **1975 Total** | **8.786** | **3.240** | **3.166** | **( k )** | **15.191** | **1.900** | **( k )** | **3.219** | **.002** | **.070** | **NA** | **3.291** | **20.382** |
| **1976 Total** | **9.720** | **3.152** | **3.477** | **( k )** | **16.349** | **2.111** | **( k )** | **3.066** | **.003** | **.078** | **NA** | **3.146** | **21.607** |
| **1977 Total** | **10.262** | **3.284** | **3.901** | **( k )** | **17.446** | **2.702** | **( k )** | **2.515** | **.005** | **.077** | **NA** | **2.597** | **22.746** |
| **1978 Total** | **10.238** | **3.297** | **3.987** | **( k )** | **17.522** | **3.024** | **( k )** | **3.141** | **.003** | **.064** | **NA** | **3.209** | **23.755** |
| **1979 Total** | **11.260** | **3.613** | **3.283** | **( k )** | **18.156** | **2.776** | **( k )** | **3.141** | **.005** | **.084** | **NA** | **3.230** | **24.162** |
| **1980 Total** | **12.123** | **3.810** | **2.634** | **( k )** | **18.567** | **2.739** | **( k )** | **3.118** | **.005** | **.110** | **NA** | **3.232** | **24.538** |
| **1981 Total** | **12.583** | **3.768** | **2.202** | **( k )** | **18.553** | **3.008** | **( k )** | **3.105** | **.004** | **.123** | **NA** | **3.232** | **24.793** |
| **1982 Total** | **12.582** | **3.342** | **1.568** | **( k )** | **17.491** | **3.131** | **( k )** | **3.572** | **.003** | **.105** | **NA** | **3.680** | **24.303** |
| **1983 Total** | **13.213** | **2.998** | **1.544** | **( k )** | **17.754** | **3.203** | **( k )** | **3.899** | **.004** | **.129** | **(s)** | **4.032** | **24.989** |
| **1984 Total** | **14.019** | **3.220** | **1.286** | **( k )** | **18.526** | **3.553** | **( k )** | **3.800** | **.009** | **.165** | **(s)** | **3.974** | **26.053** |
| **1985 Total** | **14.542** | **3.160** | **1.090** | **( k )** | **18.792** | **4.149** | **( k )** | **3.398** | **.014** | **.198** | **(s)** | **3.611** | **26.552** |
| **1986 Total** | **14.444** | **2.691** | **1.452** | **( k )** | **18.586** | **4.471** | **( k )** | **3.446** | **.012** | **.219** | **(s)** | **3.678** | **26.735** |
| **1987 Total** | **15.173** | **2.935** | **1.257** | **( k )** | **19.365** | **4.906** | **( k )** | **3.117** | **.015** | **.229** | **(s)** | **3.362** | **27.633** |
| **1988 Total** | **15.850** | **2.709** | **1.563** | **( k )** | **20.123** | **5.661** | **( k )** | **2.662** | **.017** | **.217** | **(s)** | **2.897** | **28.681** |
| **1989 Total** | **16.110** | **2.871** | **1.685** | **-.050** | **20.615** | **5.677** | **( k )** | **3.014** | **.393** | **.325** | **.030** | **3.763** | **30.055** |
| **1990 Total** | **16.342** | **2.882** | **1.250** | **-.080** | **20.395** | **6.162** | **-.036** | **3.146** | **.453** | **.344** | **.038** | **3.982** | **30.502** |
| **1991 Total** | **16.257** | **2.856** | **1.178** | **.059** | **20.349** | **6.580** | **-.047** | **3.159** | **.510** | **.352** | **.039** | **4.061** | **30.943** |
| **1992 Total** | **16.495** | **2.826** | **.951** | **.053** | **20.325** | **6.608** | **-.043** | **2.818** | **.552** | **.362** | **.037** | **3.769** | **30.660** |
| **1993 Total** | **17.124** | **2.741** | **1.052** | **.050** | **20.968** | **6.520** | **-.042** | **3.119** | **.570** | **.374** | **.040** | **4.104** | **31.550** |
| **1994 Total** | **17.284** | **3.053** | **.968** | **.140** | **21.445** | **6.838** | **-.035** | **2.993** | **.587** | **.378** | **.044** | **4.002** | **32.249** |
| **1995 Total** | **17.402** | **3.276** | **.658** | **.121** | **21.458** | **7.177** | **-.028** | **3.481** | **.584** | **.319** | **.041** | **4.426** | **33.033** |
| **1996 Total** | **18.385** | **2.798** | **.725** | **.109** | **22.016** | **7.168** | **-.032** | **3.892** | **.594** | **.331** | **.044** | **4.861** | **34.013** |
| **1997 Total** | **18.924** | **3.025** | **.822** | **.109** | **22.880** | **6.678** | **-.042** | **3.961** | **.568** | **.306** | **.042** | **4.877** | **34.393** |
| **1998 Total** | **19.227** | **3.320** | **1.166** | **.048** | **23.761** | **7.157** | **-.046** | **3.569** | **.549** | **.310** | **.040** | **4.468** | **35.340** |
| **1999 Total** | **19.333** | **3.173** | **.943** | **.092** | **23.540** | **7.736** | **-.063** | **3.512** | **E .669** | **.316** | **.055** | **4.553** | **35.766** |
| **2000** January | E 1.753 | .194 | .054 | .009 | 2.010 | .722 | -.005 | E .285 | E .056 | .025 | .004 | .371 | 3.098 |
| February | E 1.590 | .170 | .036 | .011 | 1.806 | .655 | -.004 | E .257 | E .054 | .023 | .004 | .338 | 2.795 |
| March | E 1.562 | .212 | .032 | .007 | 1.813 | .643 | -.006 | E .298 | E .056 | .022 | .005 | .382 | 2.832 |
| April | E 1.426 | .219 | .034 | .006 | 1.684 | .598 | -.004 | E .316 | E .054 | .023 | .006 | .399 | 2.677 |
| May | E 1.562 | .315 | .063 | .007 | 1.947 | .653 | -.005 | E .308 | E .054 | .024 | .006 | .391 | 2.986 |
| June | E 1.716 | .313 | .079 | .006 | 2.114 | .686 | -.006 | E .286 | E .054 | .024 | .005 | .370 | 3.165 |
| July | E 1.801 | .381 | .075 | .014 | 2.271 | .735 | -.003 | E .283 | E .058 | .026 | .005 | .372 | 3.374 |
| August | E 1.888 | .419 | .093 | .014 | 2.414 | .722 | -.004 | E .264 | E .056 | .026 | .005 | .352 | 3.484 |
| September | E 1.685 | .289 | .079 | .009 | 2.063 | .654 | -.007 | E .217 | E .054 | .025 | .005 | .301 | 3.011 |
| October | E 1.664 | .218 | .060 | .003 | 1.945 | .587 | -.004 | E .197 | E .057 | .026 | .005 | .285 | 2.812 |
| November | E 1.640 | .184 | .053 | .006 | 1.883 | .633 | -.004 | E .221 | E .055 | .026 | .005 | .307 | 2.819 |
| December | E 1.797 | .191 | .122 | -.007 | 2.102 | .721 | -.005 | E .219 | E .055 | .027 | .004 | .306 | 3.123 |
| **Total** | **20.086** | **3.104** | **.779** | **.083** | **24.051** | **8.009** | **-.057** | **3.152** | **E .663** | **.298** | **.060** | **4.173** | **36.176** |
| **2001** January | E 1.785 | .160 | .125 | .004 | 2.074 | R .730 | -.004 | E .209 | E .055 | .027 | E .004 | .295 | R 3.094 |
| February | E 1.537 | .145 | .065 | -.004 | 1.744 | R .651 | -.005 | E .191 | E .053 | .025 | E .005 | .274 | 2.663 |
| March | E 1.599 | .175 | .072 | .003 | 1.848 | .660 | -.006 | E .227 | E .056 | .025 | E .007 | .314 | 2.817 |
| April | E 1.455 | .215 | .072 | .006 | 1.749 | R .595 | -.006 | E .206 | E .056 | .023 | E .008 | .293 | R 2.631 |
| May | E 1.582 | .240 | .074 | .008 | 1.905 | R .653 | -.003 | E .222 | E .057 | .023 | E .009 | .311 | 2.865 |
| June | E 1.684 | .266 | .082 | .007 | 2.039 | R .723 | -.004 | E .231 | E .057 | .023 | E .009 | .320 | 3.077 |
| July | E 1.871 | .362 | .076 | .007 | 2.315 | R .735 | -.005 | E .201 | E .062 | .025 | E .008 | .296 | 3.340 |
| August | E 1.900 | .367 | .095 | .008 | 2.371 | R .727 | -.004 | E .210 | E .059 | .025 | E .008 | .302 | R 3.396 |
| September | E 1.636 | .259 | .054 | -.001 | 1.949 | .673 | -.007 | E .161 | E .056 | .024 | E .007 | .248 | 2.863 |
| October | E 1.567 | .229 | .044 | .002 | 1.842 | .642 | -.005 | E .163 | E .058 | .024 | E .007 | .253 | 2.733 |
| November | E 1.517 | .154 | .038 | .002 | 1.712 | R .662 | -.007 | E .167 | E .058 | .024 | E .006 | .256 | R 2.623 |
| December | E 1.682 | .156 | .040 | .009 | 1.887 | .716 | -.005 | E .217 | E .059 | .025 | E .006 | .308 | 2.906 |
| **Total** | **19.816** | **2.729** | **.839** | **.051** | **23.434** | **R 8.167** | **-.062** | **2.407** | **E .685** | **.294** | **.084** | **3.470** | **R 35.009** |
| **2002** January | E 1.620 | .159 | .038 | .008 | 1.825 | .746 | -.006 | E .238 | E .058 | .024 | E .005 | .325 | 2.891 |

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.
[b] Includes supplemental gaseous fuels.
[c] Electricity net imports from fossil fuels; may include some nuclear-generated electricity.
[d] Pumped storage facility production minus energy used for pumping.
[e] Conventional hydroelectric net generation. Through 1988, also includes all electricity net imports; from 1989, includes only the portion of electricity net imports derived from hydroelectric power.
[f] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.
[g] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw. For 1999 forward, data also include electricity net generation from batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam.
[h] Geothermal electricity net generation. From 1989, also includes electricity imports derived from geothermal energy.
[i] Solar thermal and photovoltaic electricity net generation.
[j] Wind electricity net generation.
[k] Included in conventional hydroelectric power.
R=Revised. NA=Not available. E=Estimate. (s)=Less than 0.5 trillion Btu.
Notes: Totals may not equal sum of components due to independent rounding.
Geographic coverage is the 50 States and the District of Columbia.
Additional Notes and Sources: See end of section.

# Energy Consumption by Sector Notes and Sources

Most of the data in this section of the *Monthly Energy Review* (*MER*) are developed from a group of energy-related surveys, typically called "supply surveys," conducted by the Energy Information Administration (EIA). Supply surveys are directed to suppliers and marketers of specific energy sources. They measure the quantities of specific energy sources produced, or the quantities supplied to the market, or both. The data obtained from EIA's supply surveys are integrated to yield the summary consumption statistics published in this section (and in Section 1) of the *MER*.

Users of EIA's energy consumption statistics should be aware of a second group of energy-related surveys, typically called "consumption surveys." Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the Manufacturing Energy Consumption Survey belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on those differences, see *Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys,* DOE/EIA-0533, Energy Information Administration, Washington, DC, April 6, 1990.

The following notes provide details about the data in Section 2.

**1. Energy Consumption:**

**Primary Consumption:** Includes consumption in the five energy-use sectors (residential, commercial, industrial, transportation, and electric power) of fossil fuels (coal, natural gas, and petroleum), some secondary energy derived from fossil fuels (supplemental gaseous fuels, coal coke net imports, and electricity net imports from fossil fuels), nuclear electric power, pumped-storage hydroelectric power, and renewable energy. Renewable energy consumption includes: end-use consumption of wood, waste, alcohol fuels, geothermal heat pump and direct use energy, and solar thermal direct use and photovoltaic energy; electric utility and nonutility net electricity generation from conventional hydroelectric power, wood, waste, geothermal, solar, and wind; and net imports of electricity from hydroelectric power and geothermal energy.

**Total Consumption:** In addition to primary consumption in the four end-use sectors (residential, commercial, industrial, and transportation), includes: electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; and electrical system energy losses (see Note 12).

**2. Energy-Use Sectors:** Energy use is assigned to the five major economic sectors, as closely as possible, following the guidelines below.

Note: Most consumption of fossil fuels at nonutility power producers is included in the end-use sectors, mainly industrial. For further information on nonutility consumption of fossil fuels, see Note 4 ("Coal"), Note 6 ("Natural Gas"), and Note 7 ("Petroleum").

**Residential Sector**—An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters.

**Commercial Sector**—An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment.

**Industrial Sector**—An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing; agriculture, forestry, and fisheries; mining; and construction. Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products.

**Transportation Sector**—An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use.

**Electric Power Sector**—An energy-consuming sector that consists of all utility and nonutility facilities and equipment used to generate, transmit, and/or distribute electricity.

Although the energy-use allocations are made according to these aggregations as closely as possible, some data are collected by using different classifications. For example, electric utilities may classify commercial and industrial users by the quantity of electricity purchased rather than by the business activity of the purchaser. Natural gas used in agriculture, forestry, and fisheries was collected and reported in the commercial sector through 1995. Beginning with 1996 data, deliveries of natural gas for agriculture, forestry, and fisheries are reported in the industrial sector instead. Another example is master-metered condominiums and apartments, and buildings with a combination of residential and commercial units. In many cases, the metering and billing practices cause residential energy usage of electricity, natural gas, or fuel oil to be included in the commercial sector. No adjustments for these discrepancies were made.

**3. Conversion Factors:** See Appendix A.

**4. Coal:** See Tables 6.2 and A5.

Note: Coal consumed by "Other Power Producers" (nonutility wholesale producers of electricity, and some nonutility cogeneration plants), is included in the electric power sector (see Table 6.2). Coal consumed by nonutilities not included in "Other Power Producers" is included in the end-use sectors, mainly industrial.

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

Note: Coal coke net imports are included in the industrial sector.

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

**6. Natural Gas:** See Tables 4.4 and A4.

Note: Natural gas consumed by nonutility power produces is included in the end-use sectors, mainly industrial.

For Section 2 calculations, lease and plant fuel consumption are included in the industrial sector, and pipeline fuel use of natural gas is included in the transportation sector.

Residential and commercial monthly sales data for 1973-1979, which are used to estimate monthly consumption values from EIA annual consumption values, are from the American Gas Association, "Monthly Gas Utility Statistical Report."

**7. Petroleum:** Petroleum consumption in this section of the *Monthly Energy Review (MER)* is the series called "petroleum product supplied" from Section 3.

Note: Petroleum consumed by nonutility power producers is included in the end-use sectors, mainly industrial.

The sources for petroleum product supplied by product are:
1973-1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
1976-1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
1981-2000: EIA, *Petroleum Supply Annual*.
2001 forward: EIA, *Petroleum Supply Monthly*.

Energy-use allocation procedures by individual product are described below.

**Aviation Gasoline**—All aviation gasoline use is assigned to the transportation sector.

**Asphalt**—All asphalt use is assigned to the industrial sector.

**Distillate Fuel**—Distillate fuel use is assigned to the energy-use sectors as described below.

**Distillate Fuel Used by Electric Utilities, All Time Periods**—For 1973-1979, consumption of distillate fuel is assumed to be the amount of petroleum (minus small amounts of kerosene and kerosene-type jet fuel deliveries) consumed in gas turbine and internal combustion plants. For 1980 forward, consumption of distillate fuel is assumed to be the amount of light oil (minus small amounts of kerosene deliveries through 1982) consumed at electric utilities. Source: Table 7.7.

**Distillate Fuel Used by Sectors Other Than Electric Utilities, Annually Through 1997**—The aggregate nonutility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The nonutility annual consumption totals are allocated to the individual nonutility sectors (residential, commercial, industrial, and transportation) in proportion to the share of "adjusted sales" of each end-use sector, as reported in EIA's *Fuel Oil and Kerosene Sales* report series (DOE/EIA-0535), which is based primarily on data collected by Form EIA-821, previously Form EIA-172. "Adjusted sales" are sales that have been adjusted at the PAD district level to equal EIA volume estimates of petroleum products supplied in the U.S. market. Following are notes on the individual sector groupings:

Since 1979, the residential sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is

split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

Since 1979, the commercial sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

Since 1979, the industrial sector adjusted sales total is the sum of the adjusted sales for industrial, farm, oil company, off-highway diesel, and all other uses. Prior to 1979, each year's sales 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.

The transportation sector adjusted sales total is the sum of the adjusted sales for railroad, vessel bunkering, on-highway diesel, and military uses for all years.

**Distillate Fuel Used by Sectors Other Than Electric Utilities, Monthly Through 1997**—Residential and commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973-1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales;* for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales;* and for 1983-1997, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

The transportation 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." After 1993, the sales-for-highway-use data are no longer available as a monthly series; the 1993 data are used for allocating succeeding year's totals into 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 monthly estimates are made by subtracting the residential and commercial, transportation, and electric utility sector estimates from each month's total distillate fuel consumption.

**Distillate Fuel Used by Sectors Other Than Electric Utilities, 1998 Forward**—Each month's nonutility consumption subtotal is disaggregated into sectors in proportion to the shares each sector held of the nonutility subtotal in the same month in 1997.

**Jet Fuel**—Through 1982, small amounts of kerosene-type jet fuel were consumed by electric utilities. 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**—Kerosene use is allocated to the sectors in proportion to annual sales grouped into sectors from EIA's *Fuel Oil and Kerosene Sales* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172).

Residential deliveries are taken directly from the *Sales* reports for 1979-1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

Commercial sales are directly from the *Sales* reports for 1979-1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

Industrial sales are directly from the *Sales* reports for 1979-1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales 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 used by each sector are applied to each month's total LPG consumption to create monthly sector consumption estimates. The annual sector shares are calculated as described below.

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 on the basis of 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 low of 28 percent (in 1997) to a high of 73 percent (in 1994).

LPG consumed annually by the industrial sector is estimated as the difference between LPG total supplied and the estimated consumption of LPG by the sum of the resi-

dential and commercial sector and the transportation sector. The industrial sector includes LPG used by chemical plants as raw materials or solvents and used 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.

Sources of the annual sales data for creating annual energy shares are:
1973-1982: 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-forward: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," which is based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association. EIA adjusts the data to remove quantities of pentanes plus and to estimate withheld values.

**Lubricants**—The consumption of lubricants is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the 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**—The total monthly consumption of motor gasoline is allocated to the sectors in proportion to aggregations of annual sales categories created on the basis of 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*.

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**—A portion of petroleum coke is consumed by electric utilities, as reported on Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4). The remaining petroleum coke is assigned to the industrial sector.

**Residual Fuel**—Residual fuel use is assigned to the sectors as described below.

**Residual Fuel Used by Electric Utilities, All Time Periods**—For 1973-1979, consumption of residual fuel is assumed to be the amount of petroleum consumed in steam-electric power plants. For 1980 forward, consumption of residual fuel is assumed to be the amount of heavy oil consumed at electric utilities. Source: Table 7.7.

**Residual Fuel Used by Sectors Other Than Electric Utilities, Annually Through 1997**—The aggregate nonutility use of residual fuel is total residual fuel consumption minus the electric utility consumption. The nonutility annual totals are allocated into the individual nonutility sectors in proportion to the amount of residual fuel sold to end users, grouped into sectors from EIA's *Fuel Oil and Kerosene Sales* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

Since 1979, commercial sales data are directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares.

Since 1979, industrial sales data are the sum of sales for industrial, oil company, and all other uses. Prior to 1979, each year's sales 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.

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

**Residual Fuel Used by Sectors Other Than Electric Utilities, Monthly Through 1997**—Commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973-1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales;* and for 1983-1996, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

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

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

**Residual Fuel Used by Sectors Other Than Electric Utilities, 1998 Forward**—Each month's nonutility consumption subtotal is disaggregated into the sectors in proportion to the shares each sector held of the nonutility subtotal in the same month in 1997.

**Road Oil**—Road oil use is assigned to the industrial sector.

**All Other Petroleum Products**—Consumption of all remaining petroleum products is assigned to the industrial sector.

**8. Nuclear Electric Power**—See Tables 8.1 and A6**.**

Note: Nuclear electric power is included in the electric power sector**.**

**9. Hydroelectric Pumped Storage**—See Tables 7.2 and A6**.**

Note: Pumped-storage hydroelectric power is included in the electric power sector.

**10. Renewable Energy**—See Tables 10.2, 10.3a, and 10.3b**.**

Note: End-use consumption of wood, waste, alcohol fuels, geothermal heat pump and direct use energy, and solar thermal direct use and photovoltaic energy is included in the end-use sectors. Included in the electric power sector are: electric utility and nonutility net electricity generation from conventional hydroelectric power, wood, waste, geothermal, solar, and wind; and net imports of electricity from hydroelectric power and geothermal energy.

**11. Electricity:** End-use consumption of electricity is based on data from Table 7.5 for electric utility retail sales of electricity (which include nonutility sales of electricity to utilities for distribution to end users, but do not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users). "Other," which is primarily for use in government buildings, is added to the commercial sector, except for approximately 5 percent used by railroads and railways and attributed to the transportation sector. Kilowatthours are converted to Btu at the rate of 3,412 Btu per kilowatthour.

**12. Electrical System Energy Losses:** Electrical system energy losses are calculated as the difference between total primary consumption by the electric power sector-see Table 2.6-and the total energy content of electric utility retail sales of electricity (which include nonutility sales of electricity to utilities for distribution to end users, but do not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users)--see Tables 7.5 and A6. Most of these 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 is 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 is lost 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[1] averaged 10.6 million barrels per day in March 2002, 1 percent lower than the previous month's rate and 11 percent lower than the March 2001 rate.

In March 2002, 19.1 million barrels per day of petroleum products were supplied for domestic use, 4 percent lower than the March 2001 rate. Motor gasoline accounted for 45 percent of the total; distillate fuel oil, 20 percent; and kerosene-type jet fuel, 8 percent.

Motor gasoline product supplied during March 2002 averaged 8.5 million barrels per day, 1 percent lower than the previous month's rate but 1 percent higher than the March 2001 rate. Total motor gasoline stocks were 212 million barrels at the end of March 2002, 6 million barrels below the stock level in the previous month but 18 million barrels above the level 1 year earlier.

Distillate fuel oil product supplied during March 2002 averaged 3.8 million barrels per day, 1 percent higher than the previous month's rate but 9 percent lower than the March 2001 rate. Distillate fuel oil ending stocks for March 2002 were 120 million barrels, 10 million barrels below the stock level in the previous month but 15 million barrels above the level 1 year earlier.

Kerosene-type jet fuel product supplied in March 2002 averaged 1.5 million barrels per day, slightly higher than the previous month's rate but 10 percent lower than the March 2001 rate. Kerosene-type jet fuel stocks measured 41 million barrels at the end of March 2002, the same as the stock level in the previous month and 1 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 December 2001.

[1]Total import data include imports into the Strategic Petroleum Reserve.

# Table 3.1a Petroleum Overview: Field Production, Stock Change, Petroleum Products Supplied, and Stocks

| | Field Production | | | Stock Change[a] | | | Stocks[b] |
|---|---|---|---|---|---|---|---|
| | Total Domestic[c] | Crude Oil | Natural Gas Plant Liquids | Crude Oil[d] | Petroleum Products | Petroleum Products Supplied | Crude Oil[d] 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** | [e]**1,074** |
| **1975 Average** | **10,045** | **8,375** | **1,633** | [e]**17** | [e]**15** | **16,322** | **1,133** |
| **1976 Average** | **9,774** | **8,132** | [f]**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** | [e]**1,392** |
| **1981 Average** | **10,230** | **8,572** | **1,609** | [e]**290** | [e]**-130** | **16,058** | **1,484** |
| **1982 Average** | **10,252** | **8,649** | **1,550** | **136** | **-283** | **15,296** | [e]**1,430** |
| **1983 Average** | **10,299** | **8,688** | **1,559** | [e]**214** | [e]**-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 Average** | **9,818** | **8,140** | **1,625** | **1** | **-29** | **17,283** | **1,597** |
| **1989 Average** | **9,219** | **7,613** | **1,546** | **86** | **-129** | **17,325** | **1,581** |
| **1990 Average** | **8,994** | **7,355** | **1,559** | **-35** | **142** | **16,988** | **1,621** |
| **1991 Average** | **9,168** | **7,417** | **1,659** | **-42** | **32** | **16,714** | **1,617** |
| **1992 Average** | **8,996** | **7,171** | **1,697** | **-1** | **-68** | **17,033** | [e]**1,592** |
| **1993 Average** | [g]**8,836** | **6,847** | **1,736** | **81** | [e]**70** | **17,237** | [e]**1,647** |
| **1994 Average** | **8,645** | **6,662** | **1,727** | **18** | **-2** | **17,718** | **1,653** |
| **1995 Average** | **8,626** | **6,560** | **1,762** | **-93** | **-153** | **17,725** | **1,563** |
| **1996 Average** | [E]**8,607** | [E]**6,465** | **1,830** | **-124** | **-28** | **18,309** | **1,507** |
| **1997 Average** | **8,611** | **6,452** | **1,817** | **51** | **93** | **18,620** | **1,560** |
| **1998 Average** | **8,392** | **6,252** | **1,759** | **74** | **165** | **18,917** | **1,647** |
| **1999 Average** | **8,107** | **5,881** | **1,850** | **-118** | **-304** | **19,519** | **1,493** |
| **2000** January | 8,096 | 5,784 | 1,956 | 21 | -520 | 19,026 | 1,477 |
| February | 8,227 | 5,852 | 1,987 | 98 | -486 | 19,635 | 1,466 |
| March | 8,256 | 5,918 | 1,987 | 364 | -38 | 19,218 | 1,476 |
| April | 8,232 | 5,854 | 1,968 | 225 | 746 | 18,816 | 1,505 |
| May | 8,196 | 5,847 | 1,943 | -294 | 691 | 19,605 | 1,518 |
| June | 8,106 | 5,823 | 1,922 | -154 | 427 | 20,054 | 1,526 |
| July | 8,073 | 5,739 | 1,934 | -225 | 666 | 19,696 | 1,540 |
| August | 8,087 | 5,789 | 1,941 | 197 | -450 | 20,496 | 1,532 |
| September | 8,066 | 5,758 | 1,923 | -347 | 184 | 19,899 | 1,527 |
| October | 8,151 | 5,809 | 1,919 | -189 | -464 | 19,798 | 1,507 |
| November | 8,089 | 5,833 | 1,876 | -281 | 240 | 19,328 | 1,505 |
| December | 7,750 | 5,855 | 1,583 | -250 | -971 | 20,814 | 1,468 |
| **Average** | **8,110** | **5,822** | **1,911** | **-70** | **0** | **19,701** | **1,468** |
| **2001** January | [E]7,552 | [E]5,836 | 1,381 | 211 | -52 | 19,900 | 1,477 |
| February | [E]7,951 | [E]5,840 | 1,728 | -492 | 254 | 19,597 | 1,471 |
| March | [E]8,102 | [E]5,878 | 1,830 | 795 | -581 | 19,892 | 1,477 |
| April | [E]8,042 | [E]5,854 | 1,836 | 700 | 619 | 19,591 | 1,517 |
| May | [E]8,171 | [E]5,859 | 1,921 | 37 | 1,116 | 19,491 | 1,553 |
| June | [E]8,095 | [E]5,799 | 1,910 | -668 | 859 | 19,608 | 1,559 |
| July | [E]8,108 | [E]5,806 | 1,892 | 189 | 11 | 19,884 | 1,565 |
| August | [E]8,137 | [E]5,823 | 1,946 | -165 | -463 | 20,085 | 1,545 |
| September | [E]8,270 | [E]5,829 | 2,027 | 73 | 916 | 19,082 | 1,575 |
| October | [E]8,224 | [E]5,812 | 2,016 | 158 | -135 | 19,651 | 1,576 |
| November | [E]8,340 | [E]5,946 | 1,994 | 11 | 322 | 19,252 | 1,586 |
| December | [E]8,180 | [E]5,948 | 1,880 | 163 | -169 | 19,062 | 1,585 |
| **Average** | [E]**8,098** | [E]**5,853** | **1,864** | **90** | **220** | **19,593** | **1,585** |
| **2002** January | [E]8,155 | [E]5,934 | 1,834 | 414 | -207 | 19,170 | 1,592 |
| February | [RE]8,190 | [RE]5,938 | [R]1,898 | [R]424 | [R]-979 | [R]19,475 | [R]1,576 |
| March | [E]8,183 | [PE]5,953 | [E]1,876 | [E]192 | [E]-271 | [E]19,074 | [E]1,559 |
| **3-Month Average** | [E]**8,176** | [PE]**5,942** | [E]**1,868** | [E]**340** | [E]**-469** | [E]**19,232** | [E]**1,559** |
| **2001 3-Month Average** | [E]**7,866** | [E]**5,852** | **1,644** | **193** | **-139** | **19,803** | **1,477** |
| **2000 3-Month Average** | **8,192** | **5,851** | **1,976** | **162** | **-345** | **19,285** | **1,476** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase. Distillate stocks in the "Northeast Heating Oil Reserve" are not included.

[b] Stocks are at end of period. Distillate stocks in the "Northeast Heating Oil Reserve" are not included.

[c] Includes crude oil, natural gas plant liquids, and other liquids.

[d] Includes stocks located in the Strategic Petroleum Reserve.

[e] See Note 4 at end of section.

[f] See Note 6 at end of section.

[g] Beginning in 1993, includes fuel ethanol blended into finished motor gasoline and oxygenate production from merchant MTBE (methyl tertiary butyl ether) plants.

PE=Preliminary estimate. R=Revised. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

Notes: Crude oil includes lease condensate. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S1. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S1.

# Table 3.1b Petroleum Overview: Imports, Exports, and Net Imports

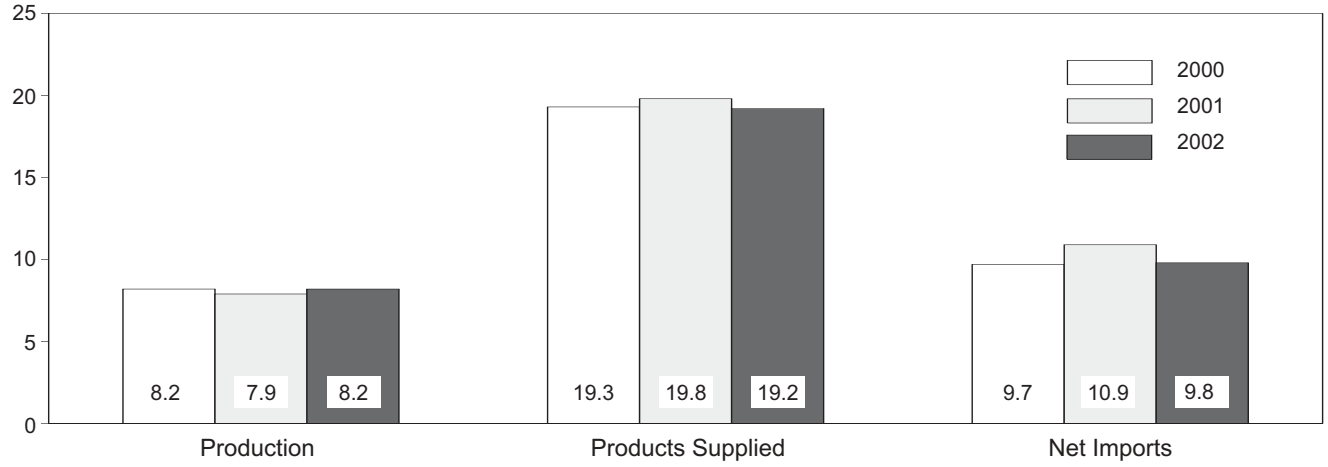
| | Imports | | | Exports | | | |
|---|---|---|---|---|---|---|---|
| | Total | Crude Oil[a] | Petroleum Products | Total | Crude Oil | Petroleum Products | Net Imports[b] |
| | Thousand Barrels per Day | | | | | | |
| **1973 Average** | **6,256** | **3,244** | **3,012** | **231** | **2** | **229** | **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** | [c] **471** | **235** | [c] **236** | [c] **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 Average** | **7,402** | **5,107** | **2,295** | **815** | **155** | **661** | **6,587** |
| **1989 Average** | **8,061** | **5,843** | **2,217** | **859** | **142** | **717** | **7,202** |
| **1990 Average** | **8,018** | **5,894** | **2,123** | **857** | **109** | **748** | **7,161** |
| **1991 Average** | **7,627** | **5,782** | **1,844** | **1,001** | **116** | **885** | **6,626** |
| **1992 Average** | **7,888** | **6,083** | **1,805** | **950** | **89** | **861** | **6,938** |
| **1993 Average** | **8,620** | **6,787** | **1,833** | **1,003** | **98** | **904** | **7,618** |
| **1994 Average** | **8,996** | **7,063** | **1,933** | **942** | **99** | **843** | **8,054** |
| **1995 Average** | **8,835** | **7,230** | **1,605** | **949** | **95** | **855** | **7,886** |
| **1996 Average** | **9,478** | **7,508** | **1,971** | **981** | **110** | **871** | **8,498** |
| **1997 Average** | **10,162** | **8,225** | **1,936** | **1,003** | **108** | **896** | **9,158** |
| **1998 Average** | **10,708** | **8,706** | **2,002** | **945** | **110** | **835** | **9,764** |
| **1999 Average** | **10,852** | **8,731** | **2,122** | **940** | **118** | **822** | **9,912** |
| **2000** January | 10,140 | 7,829 | 2,311 | 1,006 | 176 | 830 | 9,134 |
| February | 11,003 | 8,318 | 2,684 | 870 | 30 | 840 | 10,133 |
| March | 11,052 | 8,790 | 2,261 | 1,159 | 144 | 1,015 | 9,893 |
| April | 11,558 | 9,341 | 2,217 | 1,131 | 124 | 1,007 | 10,427 |
| May | 11,415 | 9,085 | 2,331 | 856 | 34 | 822 | 10,559 |
| June | 12,032 | 9,533 | 2,499 | 925 | 9 | 915 | 11,107 |
| July | 11,588 | 9,398 | 2,190 | 900 | 15 | 885 | 10,688 |
| August | 12,173 | 9,939 | 2,234 | 1,073 | 17 | 1,056 | 11,099 |
| September | 11,900 | 9,484 | 2,416 | 1,059 | 23 | 1,036 | 10,841 |
| October | 11,290 | 8,969 | 2,321 | 1,292 | 9 | 1,283 | 9,998 |
| November | 11,309 | 8,913 | 2,396 | 1,108 | 2 | 1,106 | 10,201 |
| December | 12,053 | 9,229 | 2,824 | 1,095 | 16 | 1,079 | 10,958 |
| **Average** | **11,459** | **9,071** | **2,389** | **1,040** | **50** | **990** | **10,419** |
| **2001** January | 12,118 | 8,791 | 3,327 | 965 | 18 | 947 | 11,154 |
| February | 11,462 | 8,484 | 2,978 | 1,015 | 24 | 991 | 10,447 |
| March | 11,942 | 9,477 | 2,465 | 947 | 37 | 910 | 10,996 |
| April | 12,311 | 9,821 | 2,491 | 950 | 5 | 945 | 11,361 |
| May | 12,243 | 9,655 | 2,588 | 1,114 | 95 | 1,018 | 11,130 |
| June | 11,499 | 8,901 | 2,598 | 998 | 15 | 983 | 10,501 |
| July | 11,576 | 9,406 | 2,170 | 886 | 13 | 873 | 10,690 |
| August | 11,318 | 9,092 | 2,225 | 1,084 | 28 | 1,056 | 10,234 |
| September | 11,498 | 9,054 | 2,444 | 838 | 8 | 830 | 10,659 |
| October | 11,149 | 9,077 | 2,073 | 958 | 11 | 947 | 10,191 |
| November | 11,384 | 9,165 | 2,219 | 973 | 9 | 965 | 10,410 |
| December | 10,918 | 8,779 | 2,139 | 1,051 | 12 | 1,039 | 9,867 |
| **Average** | **11,619** | **9,146** | **2,473** | **982** | **23** | **959** | **10,637** |
| **2002** January | 10,847 | 8,646 | 2,201 | 861 | 11 | 850 | 9,986 |
| February | [R] 10,769 | [R] 8,642 | [R] 2,127 | [R] 1,123 | [R] 4 | [R] 1,118 | [R] 9,646 |
| March | [E] 10,634 | [E] 8,442 | [E] 2,192 | [E] 933 | [E] 33 | [E] 900 | [E] 9,701 |
| **3-Month Average** | [E] **10,749** | [E] **8,574** | [E] **2,175** | [E] **967** | [E] **17** | [E] **951** | [E] **9,782** |
| **2001 3-Month Average** | **11,854** | **8,932** | **2,922** | **974** | **26** | **948** | **10,879** |
| **2000 3-Month Average** | **10,725** | **8,312** | **2,413** | **1,015** | **118** | **896** | **9,711** |

[a] Includes crude oil for storage in the Strategic Petroleum Reserve.
[b] Net imports equals imports minus exports.
[c] See Note 6 at end of section.
R=Revised. E=Estimate.
Notes: Crude oil includes lease condensate. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S1. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S1.

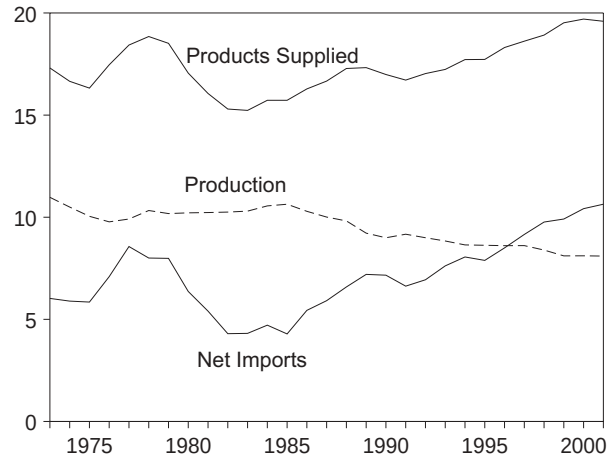
## Figure 3.1a Petroleum Overview

(Million Barrels per Day)

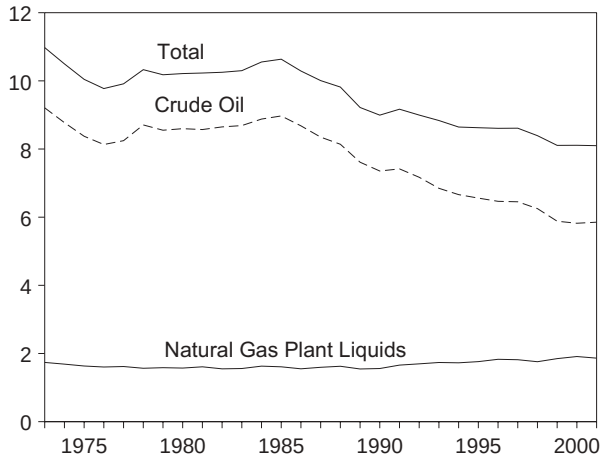
### Overview, January-March



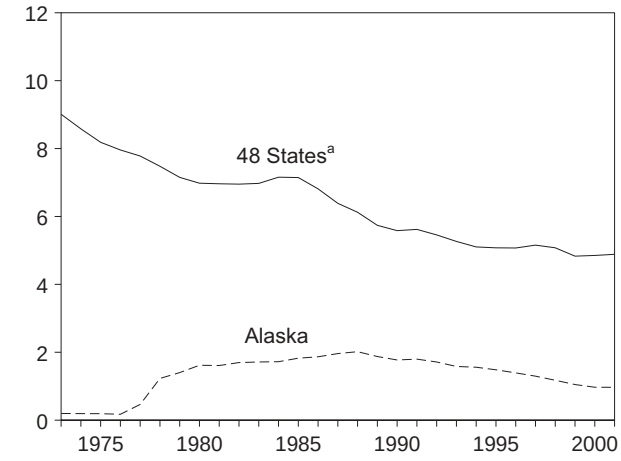

### Overview, 1973-2001



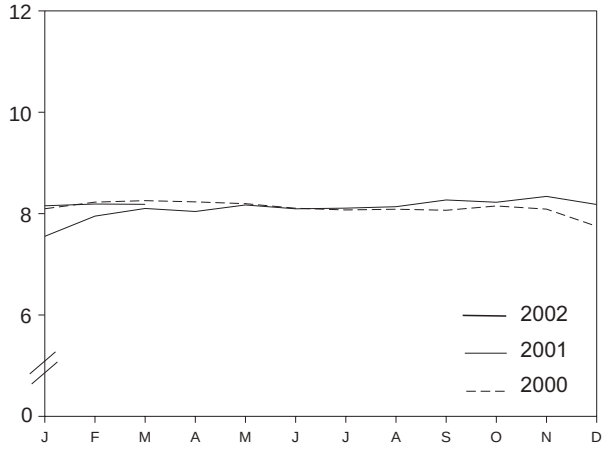

### Production, 1973-2001




### Crude Oil Production, 1973-2001




### Total Production, Monthly

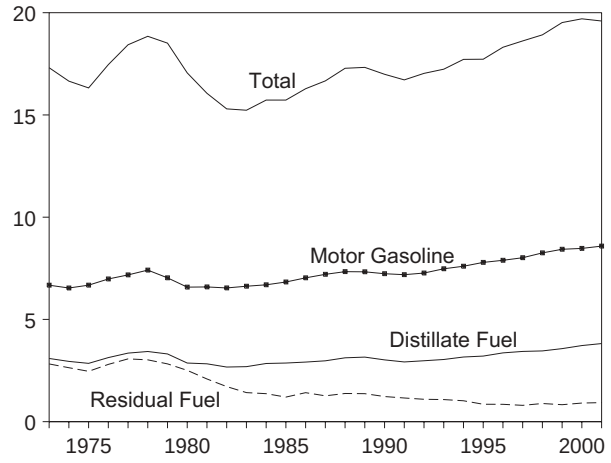



[a]United States excluding Alaska and Hawaii.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.1b, and 3.2a.

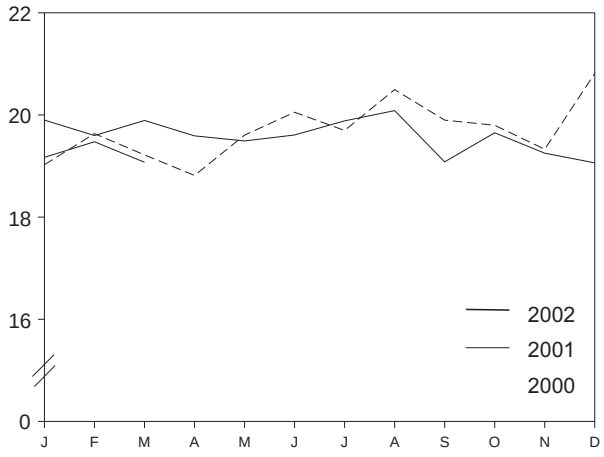
## Figure 3.1b Petroleum Overview

(Million Barrels per Day, Except as Noted)

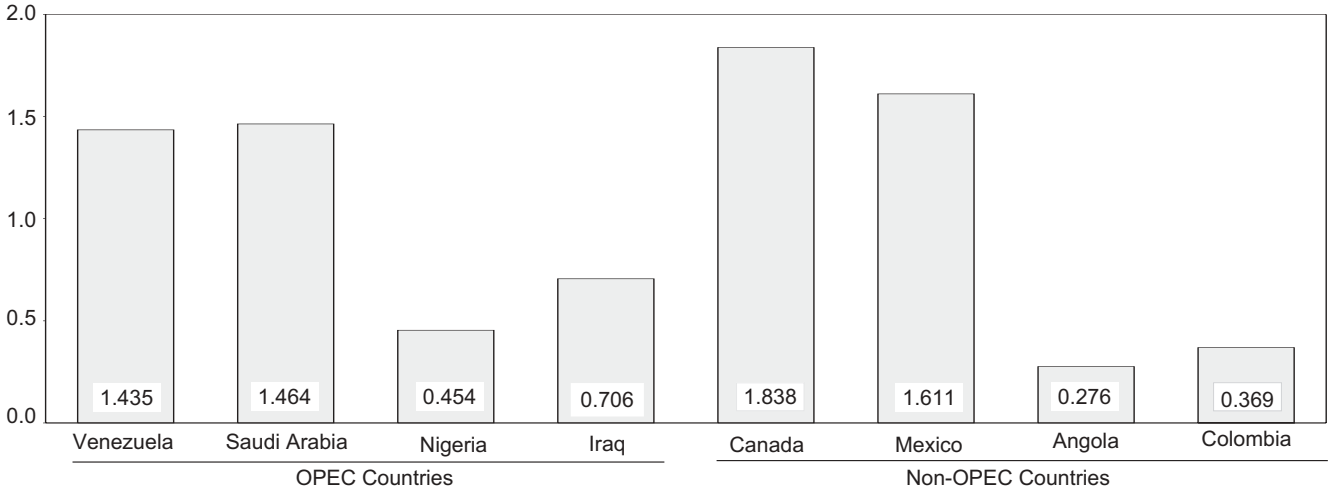
### Products Supplied, 1973-2001



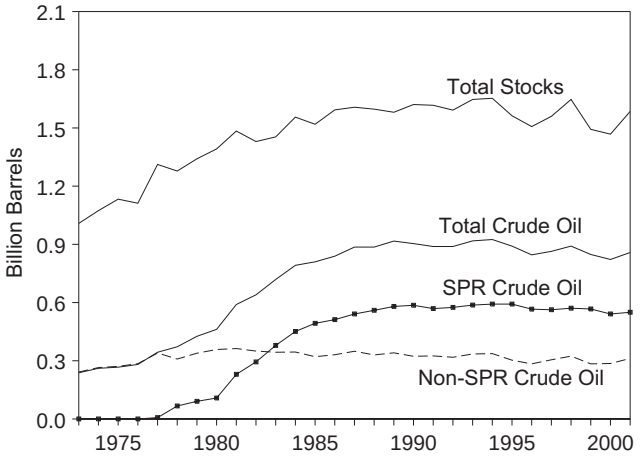

### Products Supplied, Monthly



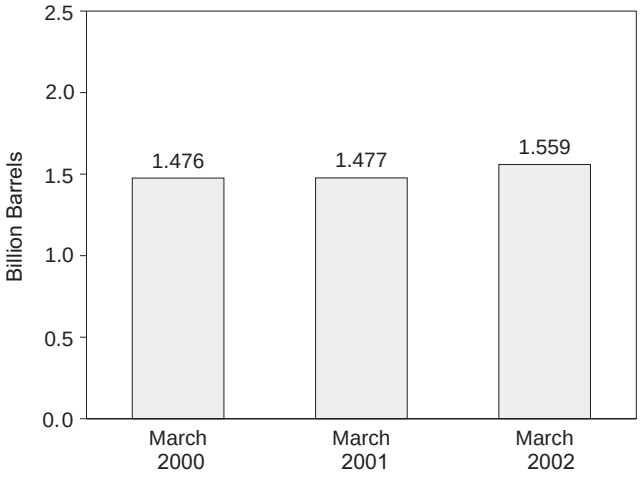

### Imports from Selected Countries, February 2002




### Stocks, End of Year, 1973-2001




### Total Stocks, End of Month




Notes: • OPEC = Organization of Petroleum Exporting Countries. • SPR = Strategic Petroleum Reserve. • Because vertical scales differ, graphs should not be compared.

Sources: Tables 3.1a, 3.2b, 3.3a, 3.3b, 3.3d ,3.3e, 3.3f, 3.3h, 3.4, 3.5, and 3.6.

# Table 3.2a Crude Oil Supply and Disposition: Supply

| | Supply | | | | | | |
|---|---|---|---|---|---|---|---|
| | Field Production | | Imports | | | Unaccounted-for Crude Oil[b] | Crude Oil Used Directly[c] |
| | Total Domestic | Alaskan | Total | SPR[a] | Other | | |
| | Thousand Barrels per Day | | | | | | |
| **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** | [d] **-19** |
| **1977 Average** | **8,245** | **464** | **6,615** | **21** | **6,594** | **-6** | **-14** |
| **1978 Average** | **8,707** | **1,229** | **6,356** | [d] **161** | **6,195** | **-57** | [d] **-15** |
| **1979 Average** | **8,552** | **1,401** | **6,519** | **67** | **6,452** | **-11** | [d] **-14** |
| **1980 Average** | **8,597** | **1,617** | **5,263** | **44** | **5,219** | **34** | [d] **-14** |
| **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** | **–** |
| **1984 Average** | **8,879** | **1,722** | **3,426** | **197** | **3,229** | **185** | **–** |
| **1985 Average** | **8,971** | **1,825** | **3,201** | **118** | **3,083** | **145** | **–** |
| **1986 Average** | **8,680** | **1,867** | **4,178** | **48** | **4,130** | **139** | **–** |
| **1987 Average** | **8,349** | **1,962** | **4,674** | **73** | **4,601** | **145** | **–** |
| **1988 Average** | **8,140** | **2,017** | **5,107** | **51** | **5,055** | **196** | **–** |
| **1989 Average** | **7,613** | **1,874** | **5,843** | **56** | **5,787** | **200** | **–** |
| **1990 Average** | **7,355** | **1,773** | **5,894** | **27** | **5,867** | **258** | **–** |
| **1991 Average** | **7,417** | **1,798** | **5,782** | **0** | **5,782** | **195** | **–** |
| **1992 Average** | **7,171** | **1,714** | **6,083** | **10** | **6,073** | **258** | **–** |
| **1993 Average** | **6,847** | **1,582** | **6,787** | **15** | **6,772** | **168** | **–** |
| **1994 Average** | **6,662** | **1,559** | **7,063** | **12** | **7,051** | **266** | **–** |
| **1995 Average** | **6,560** | **1,484** | **7,230** | **0** | **7,230** | **193** | **–** |
| **1996 Average** | **6,465** | **1,393** | **7,508** | **0** | **7,508** | **215** | **–** |
| **1997 Average** | **6,452** | **1,296** | **8,225** | **0** | **8,225** | **145** | **–** |
| **1998 Average** | **6,252** | **1,175** | **8,706** | **0** | **8,706** | **115** | **–** |
| **1999 Average** | **5,881** | **1,050** | **8,731** | **8** | **8,722** | **191** | **–** |
| **2000** January | 5,784 | 1,024 | 7,829 | 3 | 7,826 | 362 | – |
| February | 5,852 | 1,031 | 8,318 | 17 | 8,301 | -14 | – |
| March | 5,918 | 1,013 | 8,790 | 0 | 8,790 | 412 | – |
| April | 5,854 | 1,008 | 9,341 | 0 | 9,341 | 206 | – |
| May | 5,847 | 966 | 9,085 | 0 | 9,085 | 303 | – |
| June | 5,823 | 925 | 9,533 | 16 | 9,518 | 143 | – |
| July | 5,739 | 913 | 9,398 | 15 | 9,383 | 471 | – |
| August | 5,789 | 914 | 9,939 | 0 | 9,939 | 127 | – |
| September | 5,758 | 892 | 9,484 | 0 | 9,484 | -159 | – |
| October | 5,809 | 966 | 8,969 | 32 | 8,938 | 70 | – |
| November | 5,833 | 986 | 8,913 | 17 | 8,896 | -1 | – |
| December | 5,855 | 1,010 | 9,229 | 0 | 9,229 | -86 | – |
| **Average** | **5,822** | **970** | **9,071** | **8** | **9,062** | **155** | **–** |
| **2001** January | [E] 5,836 | [E] 980 | 8,791 | 32 | 8,759 | 398 | – |
| February | [E] 5,840 | [E] 977 | 8,484 | 0 | 8,484 | 22 | – |
| March | [E] 5,878 | [E] 1,009 | 9,477 | 15 | 9,462 | 121 | – |
| April | [E] 5,854 | [E] 986 | 9,821 | 0 | 9,821 | 566 | – |
| May | [E] 5,859 | [E] 957 | 9,655 | 30 | 9,625 | 384 | – |
| June | [E] 5,799 | [E] 935 | 8,901 | 0 | 8,901 | 298 | – |
| July | [E] 5,806 | [E] 927 | 9,406 | 15 | 9,391 | 354 | – |
| August | [E] 5,823 | [E] 963 | 9,092 | 0 | 9,092 | 214 | – |
| September | [E] 5,829 | [E] 925 | 9,054 | 0 | 9,054 | 254 | – |
| October | [E] 5,812 | [E] 895 | 9,077 | 0 | 9,077 | 282 | – |
| November | [E] 5,946 | [E] 1,023 | 9,165 | 17 | 9,147 | -123 | – |
| December | [E] 5,948 | [E] 1,046 | 8,779 | 18 | 8,762 | 137 | – |
| **Average** | [E] **5,853** | [E] **968** | **9,146** | **11** | **9,135** | **244** | **–** |
| **2002** January | [E] 5,934 | [E] 1,036 | 8,646 | 33 | 8,613 | 298 | – |
| February | [RE] 5,938 | [RE] 1,031 | [R] 8,642 | 59 | [R] 8,583 | [R] 123 | – |
| March | [PE] 5,953 | [PE] 1,044 | [E] 8,442 | [E] 0 | [E] 8,442 | [E] 231 | – |
| **3-Month Average** | [PE] **5,942** | [PE] **1,037** | [E] **8,574** | [E] **30** | [E] **8,545** | [E] **220** | **–** |
| **2001 3-Month Average** | [E] **5,852** | [E] **989** | **8,932** | **16** | **8,916** | **185** | **–** |
| **2000 3-Month Average** | **5,851** | **1,023** | **8,312** | **6** | **8,306** | **259** | **–** |

[a] Strategic Petroleum Reserve.
[b] A balancing item.
[c] Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.
[d] See Note 6 at end of section.
PE=Preliminary estimate. R=Revised. – =Not applicable. E=Estimate.

Notes: Crude oil includes lease condensate. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S2. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S2.

# Table 3.2b Crude Oil Supply and Disposition: Disposition and Stocks

| | Disposition | | | | | | Stocks[a] | | |
|---|---|---|---|---|---|---|---|---|---|
| | Crude Losses | Stock Change[b] SPR[c] | Stock Change[b] Other | Refinery Inputs | Exports | Product Supplied[d] | Total | SPR[c] | 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** | [e] **14** | – | **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** | [e] **14** | **45** | **52** | **13,481** | **287** | – | [f] **466** | **108** | [f] **358** |
| **1981 Average** | **5** | **336** | [f] **-46** | **12,470** | **228** | – | **594** | **230** | **363** |
| **1982 Average** | **3** | **174** | **-38** | **11,774** | **236** | – | [g] **644** | **294** | [g] **350** |
| **1983 Average** | **2** | **234** | [g] **-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 Average** | **(s)** | **52** | **-51** | **13,246** | **155** | **40** | **890** | **560** | **330** |
| **1989 Average** | **(s)** | **56** | **30** | **13,401** | **142** | **28** | **921** | **580** | **341** |
| **1990 Average** | **(s)** | **16** | **-51** | **13,409** | **109** | **24** | **908** | **586** | **323** |
| **1991 Average** | **(s)** | **-47** | **5** | **13,301** | **116** | **18** | **893** | **569** | **325** |
| **1992 Average** | **(s)** | **17** | **-18** | **13,411** | **89** | **13** | **893** | **575** | **318** |
| **1993 Average** | **(s)** | **34** | **47** | **13,613** | **98** | **10** | **922** | **587** | **335** |
| **1994 Average** | **(s)** | **13** | **5** | **13,866** | **99** | **9** | **929** | **592** | **337** |
| **1995 Average** | **(s)** | **(s)** | **-93** | **13,973** | **95** | **7** | **895** | **592** | **303** |
| **1996 Average** | **(s)** | **-71** | **-53** | **14,195** | **110** | **6** | **850** | **566** | **284** |
| **1997 Average** | **0** | **-7** | **57** | **14,662** | **108** | **2** | **868** | **563** | **305** |
| **1998 Average** | **(s)** | **22** | **52** | **14,889** | **110** | **0** | **895** | **571** | **324** |
| **1999 Average** | **(s)** | **-11** | **-107** | **14,804** | **118** | **0** | **852** | **567** | **284** |
| **2000** January | (s) | 41 | -20 | 13,779 | 176 | 0 | 852 | 568 | 284 |
| February | (s) | 30 | 68 | 14,028 | 30 | 0 | 855 | 569 | 286 |
| March | 0 | 1 | 363 | 14,613 | 144 | 0 | 867 | 569 | 297 |
| April | 0 | 0 | 225 | 15,053 | 124 | 0 | 873 | 569 | 304 |
| May | 0 | 0 | -294 | 15,494 | 34 | 0 | 864 | 569 | 295 |
| June | 0 | -17 | -136 | 15,643 | 9 | 0 | 860 | 569 | 291 |
| July | 0 | 47 | -272 | 15,819 | 15 | 0 | 853 | 570 | 282 |
| August | 0 | 33 | 164 | 15,640 | 17 | 0 | 859 | 571 | 287 |
| September | 0 | -34 | -313 | 15,407 | 23 | 0 | 848 | 570 | 278 |
| October | 0 | -189 | (s) | 15,029 | 9 | 0 | 842 | 564 | 278 |
| November | 0 | -566 | 285 | 15,023 | 2 | 0 | 834 | 548 | 286 |
| December | **(s)** | -220 | -30 | 15,232 | 16 | 0 | 826 | 541 | 286 |
| **Average** | **0** | **-73** | **3** | **15,067** | **50** | **0** | **826** | **541** | **286** |
| **2001** January | 0 | 32 | 179 | 14,797 | 18 | 0 | 836 | 542 | 294 |
| February | 0 | (s) | -492 | 14,813 | 24 | 0 | 822 | 542 | 280 |
| March | 0 | 20 | 775 | 14,643 | 37 | 0 | 847 | 542 | 304 |
| April | 0 | 2 | 698 | 15,537 | 5 | 0 | 868 | 542 | 325 |
| May | 0 | 30 | 8 | 15,766 | 95 | 0 | 869 | 543 | 326 |
| June | 0 | 0 | -668 | 15,651 | 15 | 0 | 849 | 543 | 306 |
| July | 0 | 15 | 174 | 15,364 | 13 | 0 | 855 | 544 | 311 |
| August | 0 | 0 | -165 | 15,267 | 28 | 0 | 850 | 544 | 306 |
| September | 0 | 34 | (s) | 15,055 | 8 | 0 | 852 | 545 | 307 |
| October | 0 | 14 | 144 | 15,001 | 11 | 0 | 857 | 545 | 311 |
| November | 0 | 71 | -59 | 14,968 | 9 | 0 | 857 | 547 | 310 |
| December | 0 | 94 | 69 | 14,689 | 12 | 0 | 862 | 550 | 312 |
| **Average** | **0** | **26** | **64** | **15,130** | **23** | **0** | **862** | **550** | **312** |
| **2002** January | 0 | 141 | 273 | 14,453 | 11 | 0 | 875 | 555 | 320 |
| February | 0 | [R] 191 | [R] 233 | [R] 14,274 | [R] 4 | 0 | [R] 887 | 560 | [R] 327 |
| March | [E] 0 | [E] 46 | [E] 145 | [E] 14,401 | [E] 33 | [E] 0 | [E] 886 | [E] 561 | [E] 325 |
| **3-Month Average** | [E] **0** | [E] **124** | [E] **217** | [E] **14,379** | [E] **17** | [E] **0** | [E] **886** | [E] **561** | [E] **325** |
| **2001 3-Month Average** | **0** | **18** | **176** | **14,749** | **26** | **0** | **847** | **542** | **304** |
| **2000 3-Month Average** | **0** | **24** | **139** | **14,142** | **118** | **0** | **867** | **569** | **297** |

[a] Stocks are at end of period.
[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[c] Strategic Petroleum Reserve. Crude oil stocks in the SPR include non-U.S. stocks held under foreign or commercial storage agreements.
[d] Beginning in January 1983, crude oil used directly as fuel is shown as product supplied.
[e] See Note 6 at end of section.
[f] Stocks of Alaskan crude oil in transit are included from January 1981 forward. See Note 5 at end of section.
[g] See Note 4 at end of section.

R=Revised. – =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

Notes: Crude oil includes lease condensate. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S2. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S2.

# Table 3.3a Petroleum Imports From Bahrain, Iran, Iraq, and Kuwait

(Thousand Barrels per Day)

| | Persian Gulf[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Bahrain | | Iran | | Iraq | | Kuwait[b] | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **11** | **0** | **223** | **216** | **4** | **4** | **47** | **42** |
| **1974 Average** | **12** | **0** | **469** | **463** | **0** | **0** | **5** | **5** |
| **1975 Average** | **16** | **0** | **280** | **278** | **2** | **2** | **16** | **4** |
| **1976 Average** | **3** | **0** | **298** | **298** | **26** | **26** | **5** | **1** |
| **1977 Average** | **10** | **0** | **535** | **530** | **74** | **74** | **48** | **42** |
| **1978 Average** | **3** | **0** | **555** | **554** | **62** | **62** | **6** | **5** |
| **1979 Average** | **1** | **0** | **304** | **297** | **88** | **88** | **8** | **5** |
| **1980 Average** | **(s)** | **0** | **9** | **8** | **28** | **28** | **27** | **27** |
| **1981 Average** | **1** | **0** | **0** | **0** | **(s)** | **0** | **0** | **0** |
| **1982 Average** | **1** | **0** | **35** | **35** | **3** | **3** | **5** | **2** |
| **1983 Average** | **2** | **0** | **48** | **48** | **10** | **10** | **14** | **7** |
| **1984 Average** | **1** | **0** | **10** | **10** | **12** | **12** | **36** | **24** |
| **1985 Average** | **4** | **0** | **27** | **27** | **46** | **46** | **21** | **4** |
| **1986 Average** | **2** | **0** | **19** | **19** | **81** | **81** | **68** | **28** |
| **1987 Average** | **0** | **0** | **98** | **98** | **83** | **82** | **84** | **70** |
| **1988 Average** | **2** | **0** | [c] **(s)** | [c] **(s)** | **345** | **343** | **92** | **80** |
| **1989 Average** | **0** | **0** | **0** | **0** | **449** | **441** | **157** | **155** |
| **1990 Average** | **1** | **0** | **0** | **0** | **518** | **514** | **86** | **79** |
| **1991 Average** | **2** | **0** | **32** | **32** | **0** | **0** | **6** | **6** |
| **1992 Average** | **0** | **0** | **0** | **0** | **0** | **0** | **51** | **39** |
| **1993 Average** | **1** | **0** | **0** | **0** | **0** | **0** | **353** | **344** |
| **1994 Average** | **1** | **0** | **0** | **0** | **0** | **0** | **312** | **307** |
| **1995 Average** | **1** | **0** | **0** | **0** | **0** | **0** | **218** | **213** |
| **1996 Average** | **1** | **0** | **0** | **0** | **1** | **1** | **236** | **235** |
| **1997 Average** | **0** | **0** | **0** | **0** | **89** | **89** | **253** | **253** |
| **1998 Average** | **1** | **0** | **0** | **0** | **336** | **336** | **301** | **300** |
| **1999 Average** | **0** | **0** | **0** | **0** | **725** | **725** | **248** | **246** |
| **2000** January | 0 | 0 | 0 | 0 | 254 | 254 | 239 | 218 |
| February | 0 | 0 | 0 | 0 | 750 | 750 | 267 | 264 |
| March | 0 | 0 | 0 | 0 | 468 | 468 | 162 | 162 |
| April | 0 | 0 | 0 | 0 | 657 | 657 | 264 | 247 |
| May | 0 | 0 | 0 | 0 | 438 | 438 | 170 | 166 |
| June | 0 | 0 | 0 | 0 | 830 | 830 | 210 | 210 |
| July | 0 | 0 | 0 | 0 | 762 | 762 | 264 | 264 |
| August | 0 | 0 | 0 | 0 | 765 | 765 | 405 | 405 |
| September | 0 | 0 | 0 | 0 | 765 | 765 | 352 | 338 |
| October | 0 | 0 | 0 | 0 | 653 | 653 | 337 | 337 |
| November | 0 | 0 | 0 | 0 | 585 | 585 | 248 | 237 |
| December | 10 | 0 | 0 | 0 | 528 | 528 | 344 | 311 |
| **Average** | **1** | **0** | **0** | **0** | **620** | **620** | **272** | **263** |
| **2001** January | (s) | 0 | 0 | 0 | 294 | 294 | 242 | 206 |
| February | 0 | 0 | 0 | 0 | 236 | 236 | 280 | 251 |
| March | 0 | 0 | 0 | 0 | 566 | 566 | 302 | 302 |
| April | 0 | 0 | 0 | 0 | 862 | 862 | 242 | 221 |
| May | 0 | 0 | 0 | 0 | 973 | 973 | 251 | 240 |
| June | 6 | 0 | 0 | 0 | 740 | 740 | 255 | 255 |
| July | 0 | 0 | 0 | 0 | 697 | 697 | 287 | 287 |
| August | 0 | 0 | 0 | 0 | 562 | 562 | 256 | 256 |
| September | 0 | 0 | 0 | 0 | 1,192 | 1,192 | 243 | 220 |
| October | 0 | 0 | 0 | 0 | 1,166 | 1,166 | 221 | 221 |
| November | 0 | 0 | 0 | 0 | 889 | 889 | 196 | 196 |
| December | 0 | 0 | 0 | 0 | 1,120 | 1,120 | 140 | 140 |
| **Average** | **(s)** | **0** | **0** | **0** | **778** | **778** | **243** | **233** |
| **2002** January | 0 | 0 | 0 | 0 | 988 | 988 | 207 | 207 |
| February | 0 | 0 | 0 | 0 | 706 | 706 | 290 | 279 |
| **2-Month Average** | **0** | **0** | **0** | **0** | **854** | **854** | **247** | **241** |
| **2001 2-Month Average** | **0** | **0** | **0** | **0** | **266** | **266** | **260** | **227** |
| **2000 2-Month Average** | **0** | **0** | **0** | **0** | **494** | **494** | **253** | **240** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Imports from the Neutral Zone are reported as originating in either Saudi Arabia or Kuwait depending on the country reported to U.S. Customs.

[c] A small amount of Iranian crude oil entered the United States 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 November 29, 1987.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **Bahrain:** Energy Information Administration (EIA), Form EIA-814, "Monthly Imports Report." **All Other Data: 1973-1991—**EIA, *Petroleum Supply Annual 1992, Volume 1,* May, 1993, Table S3. **1992 forward—**EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3b Petroleum Imports From Qatar, Saudi Arabia, U.A.E., and Total Persian Gulf

(Thousand Barrels per Day)

| | Persian Gulf[a] | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Qatar | | Saudi Arabia[b] | | United Arab Emirates | | Total[a] | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **7** | **7** | **486** | **462** | **71** | **71** | **848** | **802** |
| **1974 Average** | **17** | **17** | **461** | **438** | **74** | **69** | **1,039** | **992** |
| **1975 Average** | **18** | **18** | **715** | **701** | **117** | **117** | **1,165** | **1,121** |
| **1976 Average** | **24** | **24** | **1,230** | **1,222** | **254** | **254** | **1,840** | **1,825** |
| **1977 Average** | **67** | **67** | **1,380** | **1,373** | **335** | **333** | **2,448** | **2,418** |
| **1978 Average** | **64** | **64** | **1,144** | **1,142** | **385** | **385** | **2,219** | **2,212** |
| **1979 Average** | **31** | **31** | **1,356** | **1,347** | **281** | **281** | **2,069** | **2,049** |
| **1980 Average** | **22** | **22** | **1,261** | **1,250** | **172** | **172** | **1,519** | **1,508** |
| **1981 Average** | **7** | **7** | **1,129** | **1,112** | **81** | **77** | **1,219** | **1,196** |
| **1982 Average** | **7** | **7** | **552** | **530** | **92** | **81** | **696** | **659** |
| **1983 Average** | **(s)** | **0** | **337** | **321** | **30** | **18** | **442** | **405** |
| **1984 Average** | **5** | **4** | **325** | **309** | **117** | **90** | **506** | **450** |
| **1985 Average** | **(s)** | **0** | **168** | **132** | **45** | **35** | **311** | **244** |
| **1986 Average** | **13** | **12** | **685** | **618** | **44** | **38** | **912** | **796** |
| **1987 Average** | **0** | **0** | **751** | **642** | **61** | **56** | **1,077** | **949** |
| **1988 Average** | **0** | **0** | **1,073** | **911** | **29** | **23** | **1,541** | **1,357** |
| **1989 Average** | **2** | **2** | **1,224** | **1,116** | **28** | **21** | **1,861** | **1,734** |
| **1990 Average** | **4** | **4** | **1,339** | **1,195** | **17** | **9** | **1,966** | **1,801** |
| **1991 Average** | **0** | **0** | **1,802** | **1,703** | **3** | **2** | **1,845** | **1,743** |
| **1992 Average** | **1** | **0** | **1,720** | **1,597** | **6** | **0** | **1,778** | **1,636** |
| **1993 Average** | **1** | **0** | **1,414** | **1,282** | **14** | **12** | **1,782** | **1,637** |
| **1994 Average** | **0** | **0** | **1,402** | **1,297** | **13** | **11** | **1,728** | **1,615** |
| **1995 Average** | **0** | **0** | **1,344** | **1,260** | **10** | **5** | **1,573** | **1,479** |
| **1996 Average** | **0** | **0** | **1,363** | **1,248** | **3** | **3** | **1,604** | **1,488** |
| **1997 Average** | **4** | **0** | **1,407** | **1,293** | **2** | **0** | **1,755** | **1,635** |
| **1998 Average** | **4** | **1** | **1,491** | **1,404** | **3** | **3** | **2,136** | **2,044** |
| **1999 Average** | **10** | **1** | **1,478** | **1,387** | **2** | **0** | **2,464** | **2,360** |
| **2000** January | 12 | 0 | 1,543 | 1,483 | 0 | 0 | 2,048 | 1,955 |
| February | 2 | 0 | 1,317 | 1,265 | 25 | 18 | 2,362 | 2,297 |
| March | 9 | 0 | 1,548 | 1,490 | 17 | 0 | 2,204 | 2,120 |
| April | 13 | 0 | 1,466 | 1,452 | 0 | 0 | 2,400 | 2,356 |
| May | 9 | 0 | 1,566 | 1,510 | 34 | 0 | 2,218 | 2,115 |
| June | 10 | 0 | 1,512 | 1,436 | 24 | 0 | 2,586 | 2,476 |
| July | 8 | 0 | 1,554 | 1,486 | 24 | 15 | 2,612 | 2,528 |
| August | 6 | 0 | 1,649 | 1,587 | 0 | 0 | 2,825 | 2,756 |
| September | 10 | 0 | 1,669 | 1,645 | 31 | 0 | 2,827 | 2,748 |
| October | 7 | 0 | 1,499 | 1,462 | 9 | 0 | 2,504 | 2,451 |
| November | 15 | 0 | 1,624 | 1,567 | 9 | 0 | 2,482 | 2,389 |
| December | 3 | 0 | 1,897 | 1,882 | 9 | 0 | 2,791 | 2,721 |
| **Average** | **9** | **0** | **1,572** | **1,523** | **15** | **3** | **2,488** | **2,409** |
| **2001** January | 7 | 0 | 1,758 | 1,629 | 138 | 79 | 2,438 | 2,207 |
| February | 0 | 0 | 1,779 | 1,723 | 44 | 0 | 2,339 | 2,210 |
| March | 20 | 0 | 1,787 | 1,728 | 4 | 0 | 2,679 | 2,597 |
| April | 19 | 0 | 1,657 | 1,625 | 84 | 76 | 2,865 | 2,785 |
| May | 30 | 0 | 1,770 | 1,724 | 52 | 35 | 3,076 | 2,972 |
| June | 23 | 2 | 1,777 | 1,707 | 28 | 0 | 2,829 | 2,704 |
| July | 11 | 0 | 1,713 | 1,683 | 10 | 0 | 2,718 | 2,667 |
| August | 10 | 0 | 1,826 | 1,816 | 26 | 17 | 2,680 | 2,651 |
| September | 14 | 0 | 1,478 | 1,439 | 84 | 32 | 3,011 | 2,884 |
| October | 6 | 0 | 1,432 | 1,384 | 16 | 16 | 2,841 | 2,786 |
| November | 10 | 0 | 1,543 | 1,514 | 0 | 0 | 2,637 | 2,598 |
| December | 10 | 0 | 1,370 | 1,357 | 0 | 0 | 2,639 | 2,617 |
| **Average** | **13** | **(s)** | **1,657** | **1,610** | **40** | **21** | **2,731** | **2,642** |
| **2002** January | 9 | 0 | 1,490 | 1,464 | 0 | 0 | 2,694 | 2,660 |
| February | 11 | 0 | 1,464 | 1,436 | 0 | 0 | 2,470 | 2,420 |
| **2-Month Average** | **10** | **0** | **1,477** | **1,451** | **0** | **0** | **2,588** | **2,546** |
| **2001 2-Month Average** | **3** | **0** | **1,768** | **1,674** | **93** | **42** | **2,391** | **2,209** |
| **2000 2-Month Average** | **7** | **0** | **1,434** | **1,377** | **12** | **9** | **2,200** | **2,120** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Imports from the Neutral Zone are reported as originating in either Saudi Arabia or Kuwait depending on the country reported to U.S. Customs.

(s)=Less than 500 barrels per day.

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

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3c Petroleum Imports From Algeria, Ecuador, Gabon, Indonesia, and Libya

(Thousand Barrels per Day)

| | Other OPEC[a] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Algeria | | Ecuador[b] | | Gabon[c] | | Indonesia | | Libya | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **136** | **120** | **48** | **47** | **0** | **0** | **213** | **200** | **164** | **133** |
| **1974 Average** | **190** | **180** | **42** | **42** | **23** | **23** | **300** | **284** | **4** | **4** |
| **1975 Average** | **282** | **264** | **57** | **57** | **27** | **27** | **390** | **379** | **232** | **223** |
| **1976 Average** | **432** | **408** | **51** | **51** | **28** | **26** | **539** | **537** | **453** | **444** |
| **1977 Average** | **559** | **544** | **57** | **55** | **42** | **35** | **541** | **507** | **723** | **704** |
| **1978 Average** | **649** | **634** | **54** | **38** | **41** | **38** | **573** | **533** | **654** | **638** |
| **1979 Average** | **636** | **608** | **42** | **30** | **42** | **42** | **420** | **380** | **658** | **642** |
| **1980 Average** | **488** | **456** | **27** | **17** | **26** | **25** | **348** | **314** | **554** | **548** |
| **1981 Average** | **311** | **261** | **48** | **38** | **35** | **35** | **366** | **318** | **319** | **317** |
| **1982 Average** | **170** | **90** | **42** | **32** | **40** | **40** | **248** | **226** | **26** | **23** |
| **1983 Average** | **240** | **176** | **61** | **56** | **59** | **59** | **338** | **315** | **0** | **0** |
| **1984 Average** | **323** | **194** | **55** | **47** | **58** | **57** | **343** | **304** | **1** | **0** |
| **1985 Average** | **187** | **84** | **67** | **56** | **52** | **51** | **314** | **292** | **4** | **0** |
| **1986 Average** | **271** | **78** | **77** | **64** | **26** | **25** | **318** | **297** | **0** | **0** |
| **1987 Average** | **295** | **115** | **29** | **23** | **35** | **35** | **285** | **262** | **0** | **0** |
| **1988 Average** | **300** | **58** | **47** | **33** | **16** | **15** | **205** | **186** | **0** | **0** |
| **1989 Average** | **269** | **60** | **89** | **80** | **50** | **49** | **183** | **158** | **0** | **0** |
| **1990 Average** | **280** | **63** | **49** | **38** | **64** | **64** | **114** | **98** | **0** | **0** |
| **1991 Average** | **253** | **44** | **63** | **53** | **84** | **84** | **111** | **102** | **0** | **0** |
| **1992 Average** | **196** | **24** | **65** | **62** | **124** | **123** | **78** | **70** | **0** | **0** |
| **1993 Average** | **220** | **24** | **( [b] )** | **( [b] )** | **152** | **151** | **81** | **65** | **0** | **0** |
| **1994 Average** | **243** | **21** | **( [b] )** | **( [b] )** | **194** | **194** | **111** | **92** | **0** | **0** |
| **1995 Average** | **234** | **27** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **88** | **64** | **0** | **0** |
| **1996 Average** | **256** | **8** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **59** | **44** | **0** | **0** |
| **1997 Average** | **285** | **6** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **58** | **51** | **0** | **0** |
| **1998 Average** | **290** | **10** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **66** | **50** | **0** | **0** |
| **1999 Average** | **259** | **25** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **81** | **70** | **0** | **0** |
| **2000** January | 240 | 7 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 31 | 22 | 0 | 0 |
| February | 256 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 32 | 28 | 0 | 0 |
| March | 199 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 45 | 45 | 0 | 0 |
| April | 195 | (s) | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 91 | 70 | 0 | 0 |
| May | 270 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 35 | 30 | 0 | 0 |
| June | 222 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 46 | 42 | 0 | 0 |
| July | 205 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 20 | 14 | 0 | 0 |
| August | 236 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 61 | 55 | 0 | 0 |
| September | 216 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 28 | 28 | 0 | 0 |
| October | 210 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 37 | 34 | 0 | 0 |
| November | 212 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 60 | 29 | 0 | 0 |
| December | 240 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 92 | 41 | 0 | 0 |
| **Average** | **225** | **1** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **48** | **36** | **0** | **0** |
| **2001** January | 286 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 48 | 20 | 0 | 0 |
| February | 223 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 76 | 42 | 0 | 0 |
| March | 279 | 19 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 74 | 57 | 0 | 0 |
| April | 326 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 58 | 52 | 0 | 0 |
| May | 379 | 54 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 78 | 73 | 0 | 0 |
| June | 265 | 20 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 65 | 57 | 0 | 0 |
| July | 190 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 29 | 28 | 0 | 0 |
| August | 243 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 38 | 37 | 0 | 0 |
| September | 200 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 26 | 25 | 0 | 0 |
| October | 269 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 39 | 29 | 0 | 0 |
| November | 308 | 37 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 22 | 21 | 0 | 0 |
| December | 326 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 51 | 42 | 0 | 0 |
| **Average** | **275** | **11** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **50** | **40** | **0** | **0** |
| **2002** January | 253 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 80 | 67 | 0 | 0 |
| February | 269 | 0 | ( [b] ) | ( [b] ) | ( [c] ) | ( [c] ) | 104 | 84 | 0 | 0 |
| **2-Month Average** | **261** | **0** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **91** | **75** | **0** | **0** |
| **2001 2-Month Average** | **256** | **0** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **61** | **30** | **0** | **0** |
| **2000 2-Month Average** | **248** | **3** | **( [b] )** | **( [b] )** | **( [c] )** | **( [c] )** | **31** | **25** | **0** | **0** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Ecuador withdrew from OPEC on December 31, 1992. As of January 1993, imports from Ecuador appear on Table 3.3f under "Non-OPEC."

[c] Gabon withdrew from OPEC on December 31, 1994. As of January 1995, imports from Gabon appear on Table 3.3f under "Non-OPEC."

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3d Petroleum Imports From Nigeria, Venezuela, Total Other OPEC, and Total OPEC

(Thousand Barrels per Day)

| | Other OPEC[a] | | | | | | Total OPEC[b] | |
|---|---|---|---|---|---|---|---|---|
| | Nigeria | | Venezuela | | Total | | | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **459** | **448** | **1,135** | **344** | **2,156** | **1,293** | **2,993** | **2,095** |
| **1974 Average** | **713** | **697** | **979** | **319** | **2,253** | **1,549** | **3,280** | **2,540** |
| **1975 Average** | **762** | **746** | **702** | **395** | **2,452** | **2,091** | **3,601** | **3,211** |
| **1976 Average** | **1,025** | **1,014** | **700** | **241** | **3,229** | **2,721** | **5,066** | **4,545** |
| **1977 Average** | **1,143** | **1,130** | **690** | **250** | **3,754** | **3,225** | **6,193** | **5,643** |
| **1978 Average** | **919** | **910** | **646** | **181** | **3,536** | **2,972** | **5,751** | **5,184** |
| **1979 Average** | **1,080** | **1,069** | **690** | **293** | **3,569** | **3,063** | **5,637** | **5,112** |
| **1980 Average** | **857** | **841** | **481** | **156** | **2,781** | **2,356** | **4,300** | **3,864** |
| **1981 Average** | **620** | **611** | **406** | **147** | **2,106** | **1,726** | **3,323** | **2,922** |
| **1982 Average** | **514** | **510** | **412** | **155** | **1,451** | **1,075** | **2,146** | **1,734** |
| **1983 Average** | **302** | **301** | **422** | **164** | **1,422** | **1,072** | **1,862** | **1,477** |
| **1984 Average** | **216** | **207** | **548** | **253** | **1,544** | **1,062** | **2,049** | **1,512** |
| **1985 Average** | **293** | **280** | **605** | **306** | **1,522** | **1,069** | **1,830** | **1,312** |
| **1986 Average** | **440** | **437** | **793** | **416** | **1,926** | **1,317** | **2,837** | **2,113** |
| **1987 Average** | **535** | **529** | **804** | **488** | **1,983** | **1,451** | **3,060** | **2,400** |
| **1988 Average** | **618** | **607** | **794** | **439** | **1,981** | **1,339** | **3,520** | **2,696** |
| **1989 Average** | **815** | **800** | **873** | **495** | **2,279** | **1,642** | **4,140** | **3,376** |
| **1990 Average** | **800** | **784** | **1,025** | **666** | **2,332** | **1,713** | **4,296** | **3,514** |
| **1991 Average** | **703** | **683** | **1,035** | **668** | **2,249** | **1,634** | **4,092** | **3,377** |
| **1992 Average** | **681** | **665** | **1,170** | **826** | **2,313** | **1,770** | **4,092** | **3,406** |
| **1993 Average** | **740** | **722** | **1,300** | **1,010** | **2,493** | **1,972** | **4,273** | **3,609** |
| **1994 Average** | **637** | **624** | **1,334** | **1,034** | **2,520** | **1,965** | **4,247** | **3,580** |
| **1995 Average** | **627** | **621** | **1,480** | **1,151** | **2,430** | **1,862** | **4,002** | **3,341** |
| **1996 Average** | **617** | **595** | **1,676** | **1,303** | **2,609** | **1,950** | **4,211** | **3,438** |
| **1997 Average** | **698** | **689** | **1,773** | **1,394** | **2,814** | **2,140** | **4,569** | **3,775** |
| **1998 Average** | **696** | **689** | **1,719** | **1,377** | **2,771** | **2,125** | **4,905** | **4,169** |
| **1999 Average** | **657** | **623** | **1,493** | **1,150** | **2,489** | **1,869** | **4,953** | **4,228** |
| **2000** January | 490 | 439 | 1,360 | 1,051 | 2,121 | 1,519 | 4,169 | 3,474 |
| February | 657 | 636 | 1,600 | 1,198 | 2,545 | 1,863 | 4,907 | 4,160 |
| March | 1,038 | 1,005 | 1,567 | 1,209 | 2,850 | 2,260 | 5,054 | 4,379 |
| April | 948 | 931 | 1,537 | 1,176 | 2,771 | 2,176 | 5,171 | 4,533 |
| May | 913 | 902 | 1,468 | 1,102 | 2,686 | 2,035 | 4,904 | 4,150 |
| June | 1,189 | 1,136 | 1,516 | 1,207 | 2,972 | 2,385 | 5,558 | 4,861 |
| July | 895 | 876 | 1,446 | 1,159 | 2,566 | 2,049 | 5,178 | 4,577 |
| August | 1,122 | 1,108 | 1,661 | 1,429 | 3,080 | 2,591 | 5,904 | 5,348 |
| September | 1,020 | 1,008 | 1,378 | 1,075 | 2,643 | 2,112 | 5,470 | 4,859 |
| October | 946 | 943 | 1,610 | 1,293 | 2,803 | 2,270 | 5,307 | 4,721 |
| November | 851 | 836 | 1,632 | 1,358 | 2,755 | 2,222 | 5,236 | 4,612 |
| December | 686 | 673 | 1,776 | 1,419 | 2,794 | 2,132 | 5,575 | 4,854 |
| **Average** | **896** | **875** | **1,546** | **1,223** | **2,716** | **2,135** | **5,203** | **4,544** |
| **2001** January | 873 | 842 | 1,761 | 1,416 | 2,967 | 2,278 | 5,405 | 4,486 |
| February | 894 | 859 | 1,467 | 1,234 | 2,660 | 2,135 | 4,999 | 4,345 |
| March | 983 | 963 | 1,769 | 1,463 | 3,104 | 2,503 | 5,783 | 5,100 |
| April | 1,122 | 1,078 | 1,611 | 1,322 | 3,118 | 2,452 | 5,983 | 5,237 |
| May | 949 | 877 | 1,477 | 1,264 | 2,884 | 2,268 | 5,960 | 5,240 |
| June | 765 | 706 | 1,597 | 1,280 | 2,692 | 2,063 | 5,515 | 4,767 |
| July | 847 | 813 | 1,682 | 1,445 | 2,748 | 2,286 | 5,466 | 4,953 |
| August | 720 | 682 | 1,553 | 1,342 | 2,554 | 2,062 | 5,234 | 4,713 |
| September | 1,007 | 944 | 1,276 | 1,041 | 2,509 | 2,009 | 5,520 | 4,893 |
| October | 784 | 755 | 1,473 | 1,257 | 2,566 | 2,041 | 5,406 | 4,827 |
| November | 696 | 662 | 1,390 | 1,113 | 2,416 | 1,832 | 5,052 | 4,431 |
| December | 614 | 579 | 1,382 | 1,178 | 2,373 | 1,799 | 5,012 | 4,416 |
| **Average** | **854** | **813** | **1,538** | **1,281** | **2,717** | **2,145** | **5,447** | **4,787** |
| **2002** January | 537 | 513 | 1,437 | 1,247 | 2,307 | 1,826 | 5,001 | 4,486 |
| February | 454 | 438 | 1,435 | 1,212 | 2,262 | 1,734 | 4,733 | 4,154 |
| **2-Month Average** | **498** | **477** | **1,436** | **1,230** | **2,286** | **1,782** | **4,874** | **4,328** |
| **2001 2-Month Average** | **883** | **850** | **1,621** | **1,330** | **2,821** | **2,210** | **5,212** | **4,419** |
| **2000 2-Month Average** | **571** | **535** | **1,476** | **1,122** | **2,326** | **1,685** | **4,526** | **3,805** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] OPEC includes the Persian Gulf nations that are displayed on Tables 3.3a and 3.3b except Bahrain, which is not a member of OPEC, and the nations displayed under "Other OPEC" on Tables 3.3c and 3.3d. Ecuador withdrew from OPEC on December 31, 1992; as of January 1993, imports from Ecuador appear on Table 3.3f under "Non-OPEC." Gabon withdrew on December 31, 1994; as of January 1995, imports from Gabon appear on Table 3.3f under "Non-OPEC." Imports from Bahrain are accounted for under "Other Non-OPEC" on Table 3.3h.

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

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3e Petroleum Imports From Angola, Australia, Bahamas, Brazil, Canada, and China

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | | Australia | | Bahamas | | Brazil | | Canada | | China | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **49** | **49** | **2** | **0** | **174** | **0** | **9** | **0** | **1,325** | **1,001** | **(s)** | **0** |
| **1974 Average** | **49** | **48** | **1** | **0** | **164** | **0** | **2** | **0** | **1,070** | **791** | **0** | **0** |
| **1975 Average** | **75** | **71** | **5** | **0** | **152** | **0** | **5** | **0** | **846** | **600** | **0** | **0** |
| **1976 Average** | **12** | **7** | **2** | **0** | **118** | **0** | **0** | **0** | **599** | **371** | **0** | **0** |
| **1977 Average** | **24** | **17** | **3** | **0** | **171** | **0** | **0** | **0** | **517** | **279** | **0** | **0** |
| **1978 Average** | **20** | **6** | **5** | **0** | **160** | **0** | **0** | **0** | **467** | **248** | **0** | **0** |
| **1979 Average** | **43** | **39** | **6** | **0** | **147** | **0** | **1** | **0** | **538** | **271** | **13** | **13** |
| **1980 Average** | **42** | **37** | **1** | **0** | **78** | **0** | **3** | **1** | **455** | **199** | **(s)** | **0** |
| **1981 Average** | **49** | **45** | **5** | **0** | **74** | **0** | **23** | **14** | **447** | **164** | **18** | **0** |
| **1982 Average** | **44** | **42** | **5** | **(s)** | **65** | **0** | **47** | **19** | **482** | **214** | **40** | **8** |
| **1983 Average** | **78** | **71** | **4** | **0** | **125** | **0** | **41** | **2** | **547** | **274** | **34** | **6** |
| **1984 Average** | **90** | **85** | **38** | **25** | **88** | **0** | **60** | **(s)** | **630** | **341** | **46** | **15** |
| **1985 Average** | **110** | **104** | **37** | **21** | **40** | **0** | **61** | **0** | **770** | **468** | **59** | **36** |
| **1986 Average** | **112** | **102** | **41** | **30** | **37** | **0** | **50** | **0** | **807** | **570** | **90** | **68** |
| **1987 Average** | **192** | **180** | **58** | **49** | **37** | **0** | **84** | **0** | **848** | **608** | **82** | **63** |
| **1988 Average** | **212** | **203** | **64** | **59** | **32** | **0** | **98** | **0** | **999** | **681** | **88** | **82** |
| **1989 Average** | **284** | **279** | **36** | **31** | **34** | **0** | **82** | **0** | **931** | **630** | **80** | **76** |
| **1990 Average** | **237** | **236** | **53** | **47** | **37** | **0** | **49** | **0** | **934** | **643** | **80** | **77** |
| **1991 Average** | **254** | **254** | **26** | **21** | **35** | **0** | **22** | **0** | **1,033** | **743** | **91** | **87** |
| **1992 Average** | **336** | **336** | **19** | **17** | **36** | **0** | **20** | **0** | **1,069** | **797** | **90** | **84** |
| **1993 Average** | **336** | **336** | **19** | **18** | **28** | **0** | **33** | **0** | **1,181** | **900** | **51** | **50** |
| **1994 Average** | **331** | **322** | **17** | **16** | **29** | **0** | **31** | **1** | **1,272** | **983** | **65** | **64** |
| **1995 Average** | **367** | **360** | **16** | **16** | **2** | **0** | **8** | **0** | **1,332** | **1,040** | **53** | **53** |
| **1996 Average** | **351** | **344** | **31** | **25** | **1** | **0** | **9** | **0** | **1,424** | **1,075** | **57** | **57** |
| **1997 Average** | **427** | **425** | **48** | **31** | **1** | **0** | **5** | **0** | **1,563** | **1,198** | **49** | **48** |
| **1998 Average** | **468** | **465** | **57** | **31** | **4** | **0** | **26** | **0** | **1,598** | **1,266** | **42** | **42** |
| **1999 Average** | **361** | **357** | **42** | **31** | **3** | **0** | **26** | **0** | **1,539** | **1,178** | **21** | **13** |
| **2000** January | 249 | 247 | 43 | 43 | 0 | 0 | 59 | 0 | 1,869 | 1,378 | 7 | 0 |
| February | 186 | 177 | 58 | 50 | 0 | 0 | 21 | 0 | 1,904 | 1,350 | 22 | 21 |
| March | 312 | 308 | 44 | 44 | 0 | 0 | 10 | 0 | 1,673 | 1,261 | 91 | 37 |
| April | 348 | 335 | 97 | 70 | 0 | 0 | 57 | 0 | 1,750 | 1,323 | 61 | 18 |
| May | 378 | 366 | 94 | 65 | 0 | 0 | 33 | 0 | 1,907 | 1,488 | 39 | 28 |
| June | 376 | 359 | 56 | 56 | 0 | 0 | 102 | 19 | 1,830 | 1,430 | 55 | 54 |
| July | 310 | 310 | 87 | 84 | 0 | 0 | 88 | 11 | 1,775 | 1,376 | 44 | 39 |
| August | 279 | 279 | 45 | 45 | 0 | 0 | 72 | 17 | 1,790 | 1,318 | 33 | 32 |
| September | 266 | 266 | 42 | 22 | 0 | 0 | 22 | 0 | 1,789 | 1,321 | 40 | 40 |
| October | 266 | 254 | 42 | 42 | 0 | 0 | 37 | 0 | 1,716 | 1,262 | 70 | 69 |
| November | 341 | 329 | 22 | 22 | 0 | 0 | 80 | 13 | 1,736 | 1,283 | 21 | 20 |
| December | 301 | 301 | 42 | 42 | 0 | 0 | 36 | 0 | 1,948 | 1,380 | 45 | 39 |
| **Average** | **301** | **295** | **56** | **49** | **0** | **0** | **51** | **5** | **1,807** | **1,348** | **44** | **33** |
| **2001** January | 312 | 300 | 74 | 65 | 0 | 0 | 105 | 35 | 1,827 | 1,297 | 33 | 33 |
| February | 499 | 485 | 27 | 20 | 0 | 0 | 88 | 0 | 1,828 | 1,313 | 2 | 0 |
| March | 374 | 374 | 47 | 20 | 6 | 0 | 80 | 21 | 1,893 | 1,378 | 32 | 14 |
| April | 303 | 303 | 111 | 68 | 14 | 0 | 80 | 31 | 1,812 | 1,355 | 24 | 14 |
| May | 336 | 336 | 16 | 15 | 0 | 0 | 120 | 16 | 1,736 | 1,325 | 31 | 21 |
| June | 283 | 283 | 22 | 22 | 14 | 0 | 67 | 0 | 1,848 | 1,425 | 26 | 0 |
| July | 310 | 298 | 65 | 65 | 0 | 0 | 78 | 0 | 1,659 | 1,225 | 23 | 20 |
| August | 323 | 311 | 20 | 20 | 19 | 0 | 54 | 0 | 1,674 | 1,226 | 57 | 28 |
| September | 349 | 339 | 46 | 46 | 10 | 0 | 80 | 17 | 1,691 | 1,245 | 21 | 0 |
| October | 242 | 222 | 30 | 21 | 26 | 0 | 84 | 32 | 1,697 | 1,283 | 21 | 21 |
| November | 267 | 267 | 21 | 21 | 31 | 0 | 53 | 0 | 1,866 | 1,405 | 0 | 0 |
| December | 263 | 263 | 46 | 46 | 10 | 0 | 33 | 0 | 1,902 | 1,370 | 9 | 0 |
| **Average** | **321** | **314** | **44** | **36** | **11** | **0** | **77** | **13** | **1,786** | **1,320** | **24** | **13** |
| **2002** January | 294 | 282 | 41 | 41 | 10 | 0 | 63 | 31 | 1,866 | 1,299 | 12 | 12 |
| February | 276 | 262 | 69 | 69 | 26 | 0 | 67 | 35 | 1,838 | 1,305 | 45 | 42 |
| **2-Month Average** | **285** | **272** | **54** | **54** | **18** | **0** | **65** | **33** | **1,853** | **1,302** | **28** | **26** |
| **2001 2-Month Average** | **400** | **388** | **52** | **44** | **0** | **0** | **97** | **19** | **1,827** | **1,305** | **18** | **17** |
| **2000 2-Month Average** | **219** | **213** | **51** | **46** | **0** | **0** | **41** | **0** | **1,886** | **1,365** | **14** | **10** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3f Petroleum Imports From Colombia, Ecuador, Gabon, Italy, Malaysia, and Mexico

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Colombia | | Ecuador[b] | | Gabon[c] | | Italy | | Malaysia | | Mexico | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **9** | **2** | **–** | **–** | **–** | **–** | **125** | **0** | **12** | **1** | **16** | **1** |
| **1974 Average** | **5** | **0** | **–** | **–** | **–** | **–** | **74** | **0** | **12** | **1** | **8** | **2** |
| **1975 Average** | **9** | **0** | **–** | **–** | **–** | **–** | **27** | **0** | **8** | **5** | **71** | **70** |
| **1976 Average** | **21** | **6** | **–** | **–** | **–** | **–** | **39** | **0** | **18** | **16** | **87** | **87** |
| **1977 Average** | **17** | **0** | **–** | **–** | **–** | **–** | **51** | **0** | **66** | **55** | **179** | **177** |
| **1978 Average** | **20** | **0** | **–** | **–** | **–** | **–** | **38** | **0** | **42** | **37** | **318** | **316** |
| **1979 Average** | **18** | **0** | **–** | **–** | **–** | **–** | **30** | **0** | **66** | **52** | **439** | **437** |
| **1980 Average** | **4** | **0** | **–** | **–** | **–** | **–** | **4** | **0** | **70** | **61** | **533** | **507** |
| **1981 Average** | **1** | **0** | **–** | **–** | **–** | **–** | **11** | **0** | **36** | **33** | **522** | **469** |
| **1982 Average** | **5** | **0** | **–** | **–** | **–** | **–** | **18** | **(s)** | **20** | **18** | **685** | **645** |
| **1983 Average** | **10** | **0** | **–** | **–** | **–** | **–** | **18** | **(s)** | **4** | **3** | **826** | **766** |
| **1984 Average** | **8** | **0** | **–** | **–** | **–** | **–** | **45** | **(s)** | **1** | **0** | **748** | **659** |
| **1985 Average** | **23** | **0** | **–** | **–** | **–** | **–** | **60** | **(s)** | **3** | **1** | **816** | **715** |
| **1986 Average** | **87** | **57** | **–** | **–** | **–** | **–** | **76** | **0** | **12** | **11** | **699** | **621** |
| **1987 Average** | **148** | **115** | **–** | **–** | **–** | **–** | **54** | **1** | **13** | **12** | **655** | **602** |
| **1988 Average** | **134** | **106** | **–** | **–** | **–** | **–** | **65** | **5** | **19** | **19** | **747** | **674** |
| **1989 Average** | **172** | **136** | **–** | **–** | **–** | **–** | **34** | **3** | **39** | **39** | **767** | **716** |
| **1990 Average** | **182** | **140** | **–** | **–** | **–** | **–** | **58** | **2** | **41** | **40** | **755** | **689** |
| **1991 Average** | **163** | **123** | **–** | **–** | **–** | **–** | **47** | **3** | **24** | **24** | **807** | **759** |
| **1992 Average** | **126** | **102** | **–** | **–** | **–** | **–** | **55** | **0** | **10** | **10** | **830** | **787** |
| **1993 Average** | **171** | **141** | **81** | **78** | **–** | **–** | **31** | **0** | **11** | **10** | **919** | **863** |
| **1994 Average** | **161** | **146** | **91** | **91** | **–** | **–** | **22** | **0** | **10** | **6** | **984** | **939** |
| **1995 Average** | **219** | **207** | **97** | **96** | **229** | **229** | **5** | **0** | **8** | **6** | **1,068** | **1,027** |
| **1996 Average** | **234** | **226** | **104** | **96** | **184** | **184** | **8** | **0** | **11** | **6** | **1,244** | **1,207** |
| **1997 Average** | **271** | **270** | **115** | **114** | **230** | **230** | **7** | **0** | **23** | **8** | **1,385** | **1,360** |
| **1998 Average** | **354** | **349** | **101** | **98** | **207** | **207** | **12** | **0** | **35** | **26** | **1,351** | **1,321** |
| **1999 Average** | **468** | **452** | **118** | **114** | **168** | **168** | **10** | **0** | **35** | **21** | **1,324** | **1,254** |
| **2000** January | 452 | 426 | 83 | 83 | 150 | 150 | 16 | 0 | 84 | 65 | 1,340 | 1,266 |
| February | 355 | 335 | 102 | 102 | 155 | 155 | 48 | 0 | 71 | 36 | 1,237 | 1,150 |
| March | 464 | 460 | 122 | 122 | 136 | 128 | 29 | 0 | 34 | 15 | 1,382 | 1,286 |
| April | 402 | 370 | 114 | 114 | 172 | 172 | 20 | 0 | 34 | 25 | 1,417 | 1,359 |
| May | 346 | 338 | 91 | 91 | 155 | 155 | 13 | 0 | 35 | 20 | 1,362 | 1,314 |
| June | 283 | 265 | 106 | 96 | 88 | 88 | 36 | 0 | 29 | 14 | 1,499 | 1,431 |
| July | 237 | 199 | 112 | 112 | 105 | 105 | 18 | 0 | 55 | 42 | 1,311 | 1,241 |
| August | 313 | 299 | 190 | 184 | 106 | 106 | 20 | 0 | 21 | 0 | 1,426 | 1,381 |
| September | 360 | 332 | 205 | 202 | 182 | 182 | 24 | 0 | 15 | 0 | 1,494 | 1,437 |
| October | 207 | 180 | 166 | 160 | 164 | 164 | 23 | 0 | 86 | 66 | 1,263 | 1,248 |
| November | 324 | 283 | 141 | 136 | 181 | 181 | 49 | 0 | 21 | 11 | 1,340 | 1,290 |
| December | 359 | 327 | 104 | 96 | 129 | 129 | 69 | 0 | 59 | 55 | 1,405 | 1,348 |
| **Average** | **342** | **318** | **128** | **125** | **143** | **143** | **30** | **0** | **45** | **29** | **1,373** | **1,313** |
| **2001** January | 360 | 326 | 97 | 94 | 94 | 94 | 43 | 0 | 37 | 0 | 1,403 | 1,363 |
| February | 321 | 294 | 90 | 90 | 177 | 177 | 44 | 0 | 18 | 0 | 1,088 | 1,026 |
| March | 210 | 186 | 80 | 80 | 152 | 152 | 64 | 0 | 87 | 54 | 1,433 | 1,351 |
| April | 276 | 232 | 111 | 108 | 177 | 177 | 24 | 0 | 38 | 22 | 1,558 | 1,533 |
| May | 296 | 233 | 155 | 149 | 127 | 127 | 49 | 0 | 30 | 0 | 1,305 | 1,258 |
| June | 293 | 233 | 111 | 84 | 155 | 155 | 32 | 0 | 24 | 13 | 1,234 | 1,214 |
| July | 211 | 187 | 105 | 105 | 149 | 149 | 55 | 0 | 13 | 0 | 1,343 | 1,317 |
| August | 338 | 314 | 113 | 101 | 98 | 98 | 19 | 0 | 26 | 10 | 1,452 | 1,403 |
| September | 269 | 231 | 123 | 122 | 86 | 86 | 63 | 0 | 29 | 21 | 1,473 | 1,420 |
| October | 231 | 224 | 184 | 178 | 136 | 136 | 18 | 0 | 59 | 34 | 1,432 | 1,399 |
| November | 278 | 236 | 97 | 97 | 155 | 155 | 38 | 0 | 25 | 12 | 1,746 | 1,698 |
| December | 283 | 242 | 80 | 80 | 159 | 159 | 8 | 0 | 47 | 15 | 1,588 | 1,543 |
| **Average** | **280** | **245** | **112** | **108** | **138** | **138** | **38** | **0** | **36** | **15** | **1,423** | **1,379** |
| **2002** January | 245 | 213 | 104 | 83 | 212 | 212 | 30 | 0 | 33 | 14 | 1,352 | 1,309 |
| February | 369 | 348 | 82 | 77 | 52 | 52 | 37 | 0 | 22 | 0 | 1,611 | 1,579 |
| **2-Month Average** | **304** | **277** | **93** | **80** | **136** | **136** | **33** | **0** | **28** | **7** | **1,475** | **1,437** |
| **2001 2-Month Average** | **341** | **311** | **94** | **92** | **133** | **133** | **43** | **0** | **28** | **0** | **1,254** | **1,203** |
| **2000 2-Month Average** | **405** | **382** | **92** | **92** | **152** | **152** | **32** | **0** | **78** | **51** | **1,290** | **1,210** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Through 1992, Ecuador was a member of OPEC. See Table 3.3c.

[c] Through December 1994, Gabon was a member of OPEC. See Table 3.3c.

– =Not applicable. (s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3g Petroleum Imports From Netherlands, Netherlands Antilles, Norway, Puerto Rico, Russia, and Spain

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Netherlands | | Netherlands Antilles | | Norway | | Puerto Rico | | Russia[b] | | Spain | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **53** | **0** | **585** | **0** | **1** | **0** | **99** | **0** | **26** | **0** | **26** | **0** |
| **1974 Average** | **43** | **0** | **511** | **0** | **1** | **1** | **90** | **0** | **20** | **0** | **12** | **0** |
| **1975 Average** | **19** | **4** | **332** | **0** | **17** | **12** | **90** | **0** | **14** | **0** | **1** | **0** |
| **1976 Average** | **8** | **0** | **275** | **0** | **36** | **35** | **88** | **0** | **11** | **2** | **1** | **0** |
| **1977 Average** | **31** | **4** | **211** | **0** | **50** | **48** | **105** | **0** | **12** | **2** | **10** | **0** |
| **1978 Average** | **5** | **2** | **229** | **0** | **104** | **104** | **94** | **0** | **8** | **1** | **3** | **0** |
| **1979 Average** | **23** | **7** | **231** | **0** | **75** | **75** | **92** | **0** | **1** | **0** | **4** | **0** |
| **1980 Average** | **2** | **(s)** | **225** | **0** | **144** | **144** | **88** | **0** | **1** | **0** | **1** | **0** |
| **1981 Average** | **30** | **(s)** | **197** | **0** | **119** | **114** | **62** | **0** | **5** | **(s)** | **1** | **(s)** |
| **1982 Average** | **35** | **(s)** | **175** | **0** | **102** | **102** | **50** | **0** | **1** | **0** | **3** | **(s)** |
| **1983 Average** | **65** | **3** | **189** | **0** | **66** | **65** | **40** | **0** | **1** | **(s)** | **2** | **(s)** |
| **1984 Average** | **65** | **3** | **188** | **0** | **114** | **112** | **42** | **0** | **13** | **(s)** | **11** | **0** |
| **1985 Average** | **58** | **0** | **40** | **0** | **32** | **31** | **28** | **0** | **8** | **(s)** | **29** | **1** |
| **1986 Average** | **54** | **0** | **25** | **0** | **60** | **53** | **21** | **0** | **18** | **(s)** | **53** | **0** |
| **1987 Average** | **60** | **0** | **29** | **0** | **80** | **70** | **21** | **0** | **11** | **0** | **55** | **0** |
| **1988 Average** | **61** | **0** | **36** | **0** | **67** | **62** | **22** | **0** | **29** | **0** | **68** | **0** |
| **1989 Average** | **49** | **0** | **42** | **0** | **138** | **127** | **32** | **0** | **48** | **0** | **67** | **0** |
| **1990 Average** | **55** | **0** | **31** | **0** | **102** | **96** | **32** | **0** | **45** | **1** | **47** | **0** |
| **1991 Average** | **29** | **0** | **81** | **0** | **82** | **74** | **27** | **0** | **29** | **1** | **33** | **0** |
| **1992 Average** | **26** | **0** | **65** | **0** | **127** | **119** | **26** | **0** | **18** | **5** | **32** | **0** |
| **1993 Average** | **10** | **0** | **82** | **0** | **142** | **137** | **29** | **0** | **55** | **36** | **37** | **0** |
| **1994 Average** | **32** | **0** | **98** | **0** | **202** | **190** | **22** | **0** | **30** | **27** | **37** | **0** |
| **1995 Average** | **15** | **0** | **52** | **0** | **273** | **258** | **15** | **0** | **25** | **14** | **16** | **1** |
| **1996 Average** | **19** | **0** | **64** | **0** | **313** | **293** | **20** | **0** | **25** | **18** | **29** | **1** |
| **1997 Average** | **25** | **0** | **74** | **0** | **309** | **288** | **16** | **0** | **13** | **3** | **21** | **0** |
| **1998 Average** | **31** | **0** | **82** | **0** | **236** | **221** | **15** | **0** | **24** | **9** | **18** | **0** |
| **1999 Average** | **27** | **0** | **65** | **0** | **304** | **263** | **13** | **0** | **89** | **21** | **10** | **0** |
| **2000** January | 12 | 0 | 110 | 0 | 314 | 262 | 14 | 0 | 29 | 0 | 37 | 0 |
| February | 45 | 0 | 60 | 0 | 381 | 328 | 15 | 0 | 120 | 0 | 35 | 0 |
| March | 39 | 0 | 74 | 0 | 346 | 305 | 13 | 0 | 63 | 17 | 23 | 0 |
| April | 21 | 0 | 41 | 0 | 397 | 348 | 14 | 0 | 83 | 25 | 31 | 0 |
| May | 16 | 0 | 75 | 0 | 307 | 295 | 20 | 0 | 44 | 13 | 8 | 0 |
| June | 43 | 0 | 95 | 0 | 274 | 240 | 17 | 0 | 75 | 0 | 28 | 0 |
| July | 8 | 0 | 63 | 0 | 545 | 482 | 13 | 0 | 78 | 0 | 23 | 0 |
| August | 22 | 8 | 138 | 0 | 377 | 334 | 11 | 0 | 73 | 6 | 47 | 0 |
| September | 39 | 0 | 56 | 0 | 363 | 323 | 16 | 0 | 89 | 8 | 21 | 0 |
| October | 40 | 0 | 142 | 0 | 306 | 283 | 16 | 0 | 111 | 13 | 20 | 0 |
| November | 34 | 0 | 103 | 0 | 293 | 241 | 8 | 0 | 50 | 0 | 6 | 0 |
| December | 41 | 0 | 119 | 0 | 220 | 186 | 21 | 0 | 55 | 0 | 16 | 0 |
| **Average** | **30** | **1** | **90** | **0** | **343** | **302** | **15** | **0** | **72** | **7** | **25** | **0** |
| **2001** January | 77 | 0 | 141 | 0 | 319 | 226 | 11 | 0 | 188 | 0 | 50 | 0 |
| February | 48 | 0 | 101 | 0 | 395 | 299 | 8 | 0 | 183 | 0 | 47 | 0 |
| March | 48 | 0 | 125 | 0 | 400 | 313 | 5 | 0 | 53 | 0 | 35 | 0 |
| April | 23 | 0 | 105 | 0 | 382 | 325 | 6 | 0 | 115 | 0 | 19 | 0 |
| May | 50 | 0 | 44 | 0 | 411 | 376 | 3 | 0 | 88 | 0 | 31 | 0 |
| June | 56 | 0 | 66 | 0 | 284 | 254 | 12 | 0 | 47 | 0 | 33 | 0 |
| July | 25 | 0 | 70 | 0 | 448 | 363 | 0 | 0 | 81 | 0 | 25 | 0 |
| August | 40 | 0 | 67 | 0 | 262 | 202 | 0 | 0 | 118 | 0 | 11 | 0 |
| September | 34 | 0 | 39 | 0 | 303 | 265 | 3 | 0 | 124 | 0 | 27 | 0 |
| October | 50 | 0 | 63 | 0 | 259 | 211 | 0 | 0 | 34 | 0 | 22 | 0 |
| November | 22 | 0 | 65 | 0 | 325 | 269 | 0 | 0 | 22 | 0 | 16 | 0 |
| December | 33 | 0 | 46 | 0 | 140 | 106 | 0 | 0 | 30 | 0 | 43 | 0 |
| **Average** | **42** | **0** | **78** | **0** | **327** | **267** | **4** | **0** | **90** | **0** | **30** | **0** |
| **2002** January | 7 | 0 | 114 | 0 | 187 | 168 | 0 | 0 | 49 | 0 | 16 | 0 |
| February | 34 | 0 | 106 | 0 | 243 | 204 | 0 | 0 | 51 | 0 | 10 | 0 |
| **2-Month Average** | **20** | **0** | **111** | **0** | **214** | **185** | **0** | **0** | **50** | **0** | **13** | **0** |
| **2001 2-Month Average** | **63** | **0** | **122** | **0** | **355** | **261** | **10** | **0** | **186** | **0** | **49** | **0** |
| **2000 2-Month Average** | **28** | **0** | **86** | **0** | **346** | **294** | **14** | **0** | **73** | **0** | **36** | **0** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Imports from other States in the former U.S.S.R. may be included in imports from Russia for the years 1973 through 1992.

(s)=Less than 500 barrels per day.

Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

# Table 3.3h Petroleum Imports From Trinidad and Tobago, United Kingdom, U.S. Virgin Islands, Other Non-OPEC, Total Non-OPEC, and Total Imports

(Thousand Barrels per Day)

| | Non-OPEC[a] | | | | | | | | | | Total Imports | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trinidad and Tobago | | United Kingdom | | U.S. Virgin Islands | | Other Non-OPEC[b] | | Total | | | |
| | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil | Total | Crude Oil |
| **1973 Average** | **255** | **60** | **15** | **0** | **329** | **0** | **153** | **36** | **3,263** | **1,149** | **6,256** | **3,244** |
| **1974 Average** | **251** | **63** | **8** | **0** | **391** | **0** | **122** | **30** | **2,832** | **937** | **6,112** | **3,477** |
| **1975 Average** | **242** | **115** | **14** | **(s)** | **406** | **0** | **120** | **14** | **2,454** | **893** | **6,056** | **4,105** |
| **1976 Average** | **274** | **104** | **31** | **13** | **422** | **0** | **203** | **101** | **2,247** | **742** | **7,313** | **5,287** |
| **1977 Average** | **289** | **134** | **126** | **97** | **466** | **0** | **287** | **157** | **2,614** | **971** | **8,807** | **6,615** |
| **1978 Average** | **253** | **142** | **180** | **169** | **428** | **0** | **239** | **146** | **2,612** | **1,172** | **8,363** | **6,356** |
| **1979 Average** | **190** | **123** | **202** | **197** | **431** | **0** | **269** | **192** | **2,819** | **1,407** | **8,456** | **6,519** |
| **1980 Average** | **176** | **115** | **176** | **173** | **388** | **0** | **219** | **162** | **2,609** | **1,399** | **6,909** | **5,263** |
| **1981 Average** | **133** | **102** | **375** | **369** | **327** | **0** | **236** | **163** | **2,672** | **1,474** | **5,996** | **4,396** |
| **1982 Average** | **112** | **92** | **456** | **441** | **316** | **0** | **306** | **174** | **2,968** | **1,754** | **5,113** | **3,488** |
| **1983 Average** | **96** | **83** | **382** | **365** | **282** | **0** | **378** | **215** | **3,189** | **1,853** | **5,051** | **3,329** |
| **1984 Average** | **94** | **87** | **402** | **378** | **294** | **0** | **411** | **210** | **3,388** | **1,914** | **5,437** | **3,426** |
| **1985 Average** | **113** | **98** | **310** | **278** | **247** | **0** | **394** | **137** | **3,237** | **1,888** | **5,067** | **3,201** |
| **1986 Average** | **125** | **93** | **350** | **317** | **244** | **0** | **426** | **144** | **3,387** | **2,065** | **6,224** | **4,178** |
| **1987 Average** | **106** | **75** | **352** | **304** | **272** | **0** | **459** | **196** | **3,617** | **2,274** | **6,678** | **4,674** |
| **1988 Average** | **97** | **71** | **315** | **254** | **242** | **0** | **487** | **196** | **3,882** | **2,411** | **7,402** | **5,107** |
| **1989 Average** | **94** | **73** | **215** | **160** | **321** | **0** | **457** | **197** | **3,921** | **2,467** | **8,061** | **5,843** |
| **1990 Average** | **96** | **76** | **189** | **155** | **282** | **0** | **417** | **180** | **3,721** | **2,381** | **8,018** | **5,894** |
| **1991 Average** | **88** | **72** | **138** | **106** | **243** | **0** | **282** | **137** | **3,535** | **2,405** | **7,627** | **5,782** |
| **1992 Average** | **95** | **70** | **230** | **200** | **249** | **0** | **335** | **149** | **3,796** | **2,676** | **7,888** | **6,083** |
| **1993 Average** | **74** | **55** | **350** | **312** | **254** | **0** | **452** | **240** | [c]**4,347** | [c]**3,178** | **8,620** | **6,787** |
| **1994 Average** | **77** | **62** | **458** | **396** | **328** | **0** | **450** | **239** | **4,749** | **3,483** | **8,996** | **7,063** |
| **1995 Average** | **70** | **62** | **383** | **341** | **278** | **0** | **302** | **181** | **4,833** | **3,889** | **8,835** | **7,230** |
| **1996 Average** | **76** | **58** | **308** | **216** | **313** | **0** | **440** | **265** | **5,267** | **4,070** | **9,478** | **7,508** |
| **1997 Average** | **61** | **56** | **226** | **169** | **300** | **0** | **422** | **250** | **5,593** | **4,450** | **10,162** | **8,225** |
| **1998 Average** | **66** | **53** | **250** | **161** | **293** | **0** | **531** | **288** | **5,803** | **4,537** | **10,708** | **8,706** |
| **1999 Average** | **58** | **40** | **365** | **284** | **280** | **1** | **575** | **304** | **5,899** | **4,502** | **10,852** | **8,731** |
| **2000** January | 89 | 71 | 273 | 171 | 255 | 0 | 486 | 194 | 5,971 | 4,355 | 10,140 | 7,829 |
| February | 71 | 52 | 241 | 149 | 306 | 0 | 660 | 255 | 6,095 | 4,159 | 11,003 | 8,318 |
| March | 60 | 37 | 283 | 240 | 226 | 0 | 574 | 150 | 5,997 | 4,411 | 11,052 | 8,790 |
| April | 96 | 70 | 444 | 348 | 312 | 0 | 476 | 232 | 6,387 | 4,808 | 11,558 | 9,341 |
| May | 77 | 51 | 560 | 449 | 307 | 0 | 645 | 262 | 6,512 | 4,935 | 11,415 | 9,085 |
| June | 107 | 52 | 349 | 282 | 356 | 0 | 671 | 286 | 6,474 | 4,672 | 12,032 | 9,533 |
| July | 93 | 54 | 476 | 458 | 267 | 0 | 703 | 307 | 6,410 | 4,821 | 11,588 | 9,398 |
| August | 80 | 55 | 405 | 343 | 297 | 0 | 526 | 184 | 6,268 | 4,591 | 12,173 | 9,939 |
| September | 97 | 58 | 291 | 248 | 323 | 0 | 695 | 186 | 6,430 | 4,625 | 11,900 | 9,484 |
| October | 95 | 56 | 381 | 275 | 237 | 0 | 593 | 175 | 5,983 | 4,248 | 11,290 | 8,969 |
| November | 80 | 56 | 332 | 263 | 299 | 0 | 613 | 174 | 6,073 | 4,301 | 11,309 | 8,913 |
| December | 75 | 55 | 342 | 252 | 318 | 0 | 775 | 164 | 6,478 | 4,376 | 12,053 | 9,229 |
| **Average** | **85** | **56** | **366** | **291** | **291** | **0** | **618** | **214** | **6,257** | **4,526** | **11,459** | **9,071** |
| **2001** January | 95 | 55 | 376 | 253 | 339 | 0 | 730 | 164 | 6,714 | 4,306 | 12,118 | 8,791 |
| February | 45 | 16 | 361 | 232 | 273 | 0 | 820 | 186 | 6,463 | 4,138 | 11,462 | 8,484 |
| March | 67 | 57 | 253 | 167 | 263 | 0 | 452 | 211 | 6,159 | 4,377 | 11,942 | 9,477 |
| April | 85 | 60 | 239 | 140 | 195 | 0 | 633 | 216 | 6,329 | 4,584 | 12,311 | 9,821 |
| May | 49 | 38 | 417 | 358 | 212 | 0 | 780 | 164 | 6,283 | 4,415 | 12,243 | 9,655 |
| June | 70 | 59 | 241 | 192 | 339 | 0 | 728 | 202 | 5,985 | 4,134 | 11,499 | 8,901 |
| July | 83 | 58 | 344 | 286 | 310 | 0 | 714 | 380 | 6,110 | 4,453 | 11,576 | 9,406 |
| August | 86 | 51 | 237 | 197 | 202 | 0 | 865 | 418 | 6,084 | 4,380 | 11,318 | 9,092 |
| September | 90 | 51 | 196 | 132 | 283 | 0 | 639 | 188 | 5,978 | 4,161 | 11,498 | 9,054 |
| October | 45 | 39 | 365 | 265 | 265 | 0 | 480 | 182 | 5,743 | 4,249 | 11,149 | 9,077 |
| November | 68 | 56 | 351 | 262 | 259 | 0 | 629 | 257 | 6,332 | 4,734 | 11,384 | 9,165 |
| December | 69 | 69 | 286 | 225 | 247 | 0 | 585 | 246 | 5,906 | 4,363 | 10,918 | 8,779 |
| **Average** | **71** | **51** | **306** | **226** | **265** | **0** | **670** | **235** | **6,172** | **4,359** | **11,619** | **9,146** |
| **2002** January | 71 | 71 | 327 | 245 | 266 | 0 | 546 | 181 | 5,846 | 4,160 | 10,847 | 8,646 |
| February | 63 | 63 | 378 | 297 | 242 | 0 | 416 | 155 | 6,037 | 4,488 | 10,769 | 8,642 |
| **2-Month Average** | **68** | **68** | **351** | **270** | **254** | **0** | **484** | **168** | **5,936** | **4,316** | **10,810** | **8,644** |
| **2001 2-Month Average** | **71** | **37** | **369** | **243** | **308** | **0** | **773** | **175** | **6,595** | **4,226** | **11,807** | **8,645** |
| **2000 2-Month Average** | **80** | **62** | **258** | **160** | **280** | **0** | **570** | **223** | **6,031** | **4,260** | **10,557** | **8,066** |

[a] The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil.

[b] Includes Bahrain, which is shown on Table 3.3a.

[c] As of January 1993, includes petroleum imported from Ecuador, which withdrew from OPEC on December 31, 1992. As of January 1995, includes petroleum imported from Gabon, which withdrew from OPEC on December 31, 1994.

(s)=Less than 500 barrels per day.

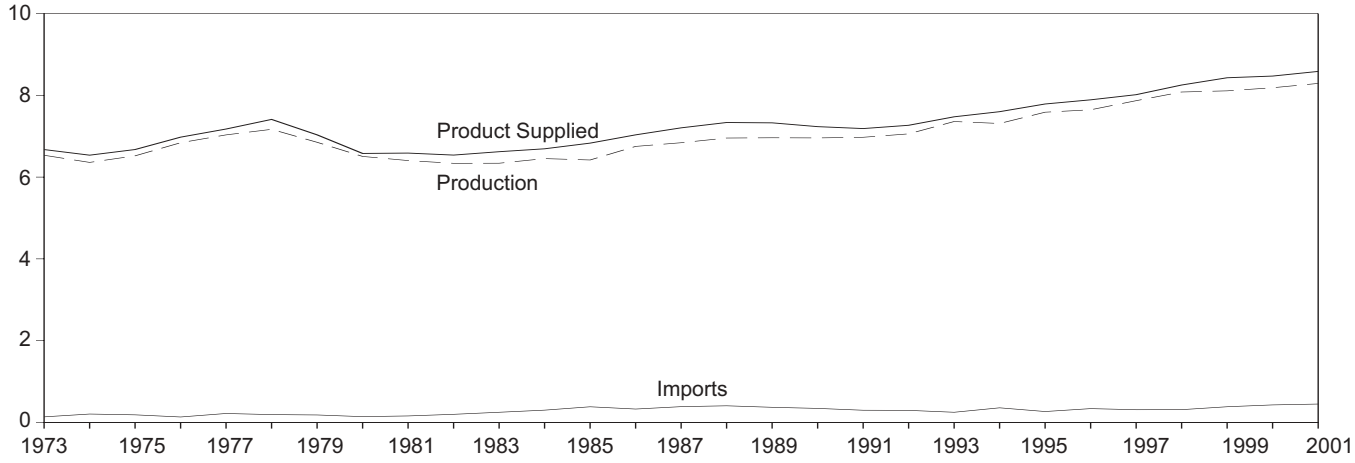
Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S3. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S3.

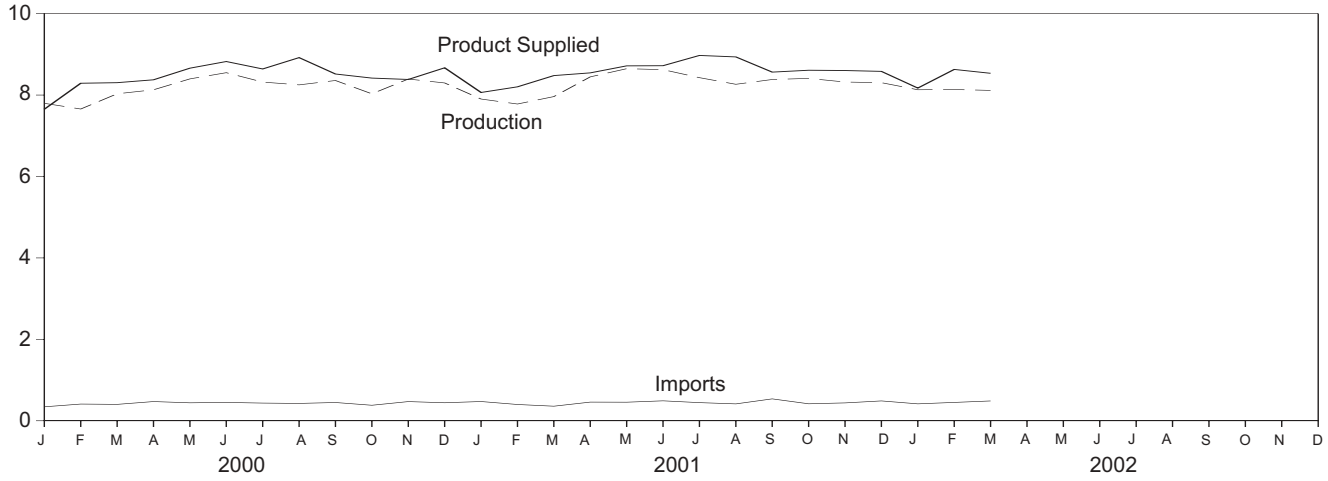
## Figure 3.2 Finished Motor Gasoline

(Million Barrels per Day, Except as Noted)

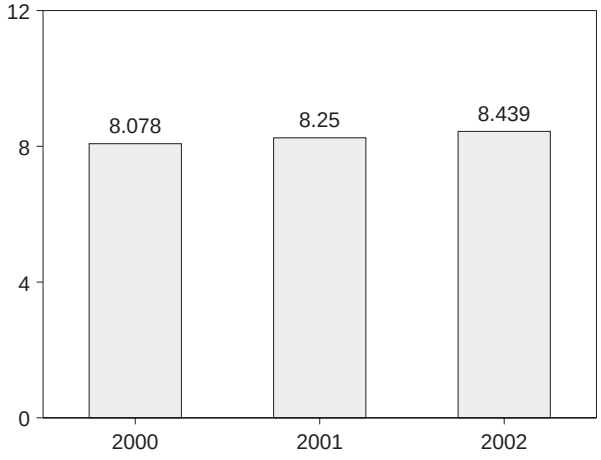
### Overview, 1973-2001



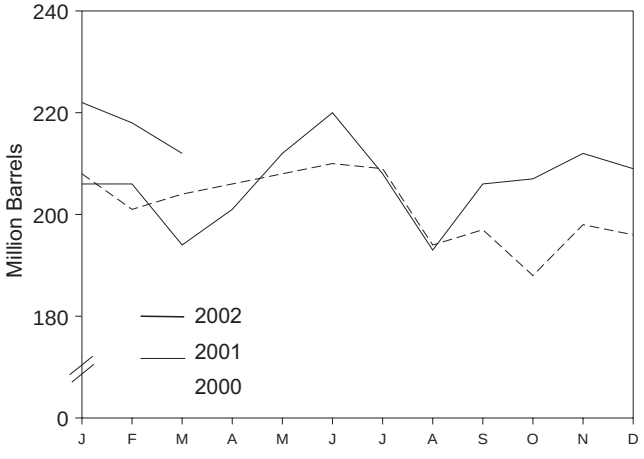

### Overview, Monthly




### Product Supplied, January-March




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Tables 3.4

# Table 3.4 Finished Motor Gasoline Supply and Disposition

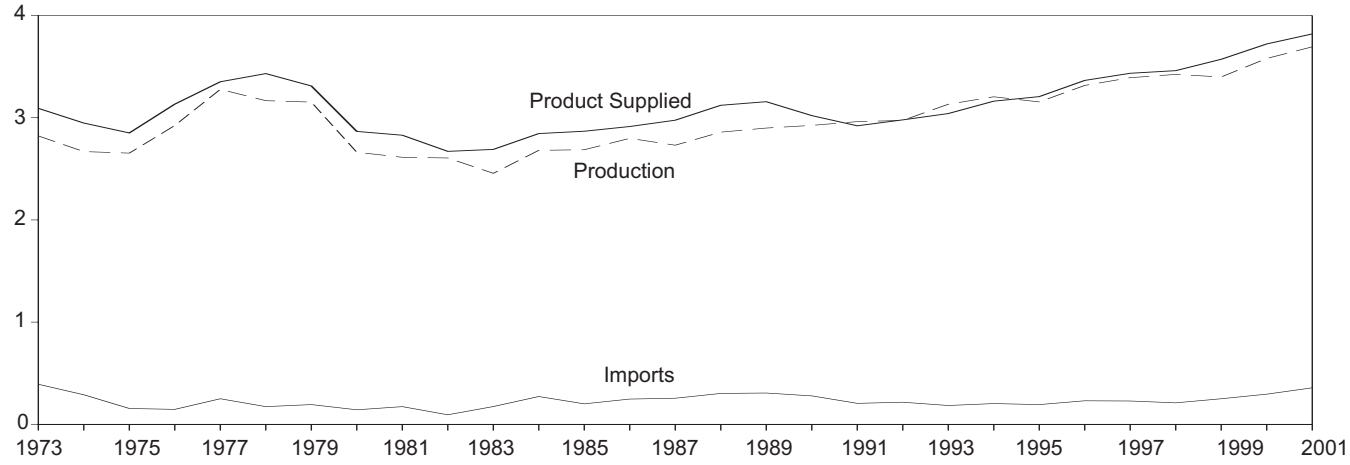
| | Supply | | Disposition | | | Motor Gasoline Stocks[a] | | Oxygenates Stocks[a] |
|---|---|---|---|---|---|---|---|---|
| | Total Production | Imports[b] | Stock Change[b,c] | Exports | Product Supplied | Total[d] | Finished | |
| | Thousand Barrels per Day | | | | | Million Barrels | | |
| **1973 Average** | **6,535** | **134** | **-9** | **4** | **6,674** | **209** | **NA** | **NA** |
| **1974 Average** | **6,360** | **204** | **24** | **2** | **6,537** | **[e]218** | **NA** | **NA** |
| **1975 Average** | **6,520** | **184** | **[e]28** | **2** | **6,675** | **235** | **NA** | **NA** |
| **1976 Average** | **6,841** | **131** | **-10** | **3** | **6,978** | **231** | **NA** | **NA** |
| **1977 Average** | **7,033** | **217** | **72** | **2** | **7,177** | **258** | **NA** | **NA** |
| **1978 Average** | **7,169** | **190** | **-54** | **1** | **7,412** | **238** | **NA** | **NA** |
| **1979 Average** | **6,852** | **181** | **-2** | **(s)** | **7,034** | **237** | **NA** | **NA** |
| **1980 Average** | **6,506** | **140** | **66** | **1** | **6,579** | **[e]261** | **NA** | **NA** |
| **1981 Average[f]** | **6,405** | **157** | **[e]-28** | **2** | **6,588** | **253** | **203** | **NA** |
| **1982 Average** | **6,338** | **197** | **-25** | **20** | **6,539** | **[e]235** | **[e]194** | **NA** |
| **1983 Average** | **6,340** | **247** | **[e]-45** | **10** | **6,622** | **222** | **186** | **NA** |
| **1984 Average** | **6,453** | **299** | **54** | **6** | **6,693** | **243** | **205** | **NA** |
| **1985 Average** | **6,419** | **381** | **-41** | **10** | **6,831** | **223** | **190** | **NA** |
| **1986 Average** | **6,752** | **326** | **11** | **33** | **7,034** | **233** | **194** | **NA** |
| **1987 Average** | **6,841** | **384** | **-15** | **35** | **7,206** | **226** | **189** | **NA** |
| **1988 Average** | **6,956** | **405** | **3** | **22** | **7,336** | **228** | **190** | **NA** |
| **1989 Average** | **6,963** | **369** | **-35** | **39** | **7,328** | **213** | **177** | **NA** |
| **1990 Average** | **6,959** | **342** | **10** | **55** | **7,235** | **220** | **181** | **NA** |
| **1991 Average** | **6,975** | **297** | **3** | **82** | **7,188** | **219** | **182** | **NA** |
| **1992 Average** | **7,058** | **294** | **-11** | **96** | **7,268** | **216** | **178** | **NA** |
| **1993 Average** | **[g]7,360** | **247** | **26** | **105** | **[g]7,476** | **226** | **187** | **[h]13** |
| **1994 Average** | **7,312** | **356** | **-31** | **97** | **7,601** | **215** | **176** | **17** |
| **1995 Average** | **7,588** | **265** | **-40** | **104** | **7,789** | **202** | **161** | **12** |
| **1996 Average** | **7,647** | **336** | **-12** | **104** | **7,891** | **195** | **157** | **13** |
| **1997 Average** | **7,870** | **309** | **26** | **137** | **8,017** | **210** | **166** | **12** |
| **1998 Average** | **8,082** | **311** | **15** | **125** | **8,253** | **216** | **172** | **14** |
| **1999 Average** | **8,111** | **382** | **-49** | **111** | **8,431** | **193** | **154** | **14** |
| **2000** January | 7,798 | 343 | 362 | 127 | 7,653 | 208 | 165 | 14 |
| February | 7,658 | 410 | -306 | 83 | 8,291 | 201 | 156 | 15 |
| March | 8,032 | 403 | 22 | 108 | 8,305 | 204 | 157 | 14 |
| April | 8,130 | 472 | 117 | 111 | 8,375 | 206 | 161 | 13 |
| May | 8,398 | 441 | 52 | 126 | 8,661 | 208 | 162 | 14 |
| June | 8,550 | 451 | 76 | 100 | 8,824 | 210 | 165 | 14 |
| July | 8,320 | 435 | 3 | 110 | 8,642 | 209 | 165 | 14 |
| August | 8,251 | 426 | -438 | 194 | 8,921 | 194 | 151 | 13 |
| September | 8,358 | 449 | 106 | 184 | 8,518 | 197 | 154 | 13 |
| October | 8,031 | 381 | -221 | 217 | 8,417 | 188 | 147 | 14 |
| November | 8,394 | 471 | 311 | 170 | 8,384 | 198 | 157 | 14 |
| December | 8,298 | 443 | -120 | 190 | 8,670 | 196 | 153 | 12 |
| **Average** | **8,186** | **427** | **-3** | **144** | **8,472** | **196** | **153** | **12** |
| **2001** January | 7,903 | 473 | 188 | 125 | 8,064 | 206 | 159 | 12 |
| February | 7,781 | 400 | -151 | 128 | 8,203 | 206 | 155 | 12 |
| March | 7,963 | 358 | -302 | 145 | 8,479 | 194 | 146 | 12 |
| April | 8,447 | 458 | 216 | 143 | 8,546 | 201 | 152 | 12 |
| May | 8,648 | 456 | 284 | 102 | 8,718 | 212 | 161 | 12 |
| June | 8,625 | 490 | 266 | 127 | 8,722 | 220 | 169 | 12 |
| July | 8,428 | 446 | -230 | 129 | 8,974 | 208 | 162 | 13 |
| August | 8,265 | 415 | -375 | 117 | 8,938 | 193 | 150 | 13 |
| September | 8,383 | 538 | 242 | 115 | 8,564 | 206 | 158 | 14 |
| October | 8,410 | 417 | 61 | 156 | 8,610 | 207 | 160 | 13 |
| November | 8,321 | 439 | 50 | 107 | 8,603 | 212 | 161 | 14 |
| December | 8,305 | 488 | 11 | 200 | 8,582 | 209 | 161 | 13 |
| **Average** | **8,292** | **448** | **21** | **133** | **8,586** | **209** | **161** | **13** |
| **2002** January | 8,131 | 416 | 280 | 96 | 8,172 | 222 | 170 | 15 |
| February | [R]8,137 | [R]451 | [R]-144 | [R]102 | [R]8,630 | [R]218 | [R]166 | 14 |
| March | [E]8,115 | [E]487 | [E]-69 | [E]137 | [E]8,535 | [E]212 | [E]159 | NA |
| **3-Month Average** | **[E]8,128** | **[E]452** | **[E]28** | **[E]112** | **[E]8,439** | **[E]212** | **[E]159** | **NA** |
| **2001 3-Month Average** | **7,886** | **411** | **-86** | **133** | **8,250** | **194** | **146** | **12** |
| **2000 3-Month Average** | **7,833** | **385** | **33** | **107** | **8,078** | **204** | **157** | **14** |

[a] Stocks are at end of period.
[b] From 1981 forward, blending components are excluded.
[c] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[d] Includes motor gasoline blending components and gasohol, but excludes oxygenates, which are reported separately.
[e] See Note 4 at end of section.
[f] See Note 2 at end of section.
[g] Beginning in 1993, motor gasoline production and product supplied include blending of fuel ethanol and an adjustment to correct for the imbalance of motor gasoline blending components. See Note 2 at end of section.
[h] See Note 1 at end of section.
R=Revised. NA=Not available. E=Estimate. (s)=Less than 500 barrels per day.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1*, May 1993, Table S4. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S4.

## Figure 3.3 Distillate Fuel Oil

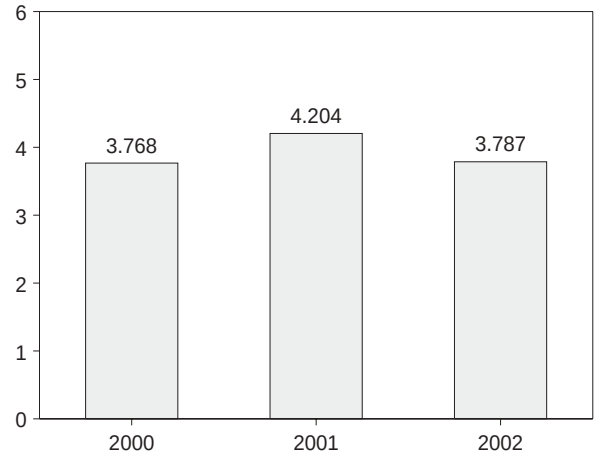
(Million Barrels per Day, Except as Noted)

### Overview, 1973-2001

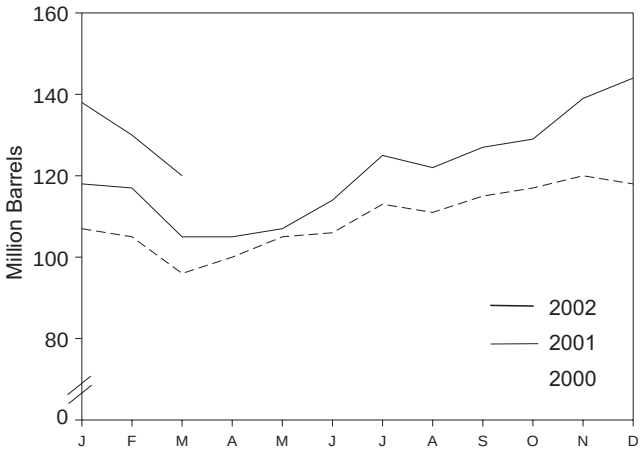



### Overview, Monthly


### Product Supplied, January-March




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.5.

# Table 3.5 Distillate Fuel Oil Supply and Disposition

| | Supply | | | Disposition | | | Stocks[a] | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Sulfur Content | |
| | Total Production | Imports | Crude Oil Used Directly[b] | Stock Change[c] | Exports | Product Supplied[b] | Total | 0.05 Percent or Less[d] | Greater Than 0.05 Percent[d] |
| | Thousand Barrels per Day | | | | | | Million Barrels | | |
| **1973 Average** | **2,822** | **392** | **2** | **115** | **9** | **3,092** | **196** | **NA** | **NA** |
| **1974 Average** | **2,669** | **289** | **2** | **[e] 10** | **2** | **2,948** | **[f] 200** | **NA** | **NA** |
| **1975 Average** | **2,654** | **155** | **2** | **[e,f] -41** | **1** | **2,851** | **209** | **NA** | **NA** |
| **1976 Average** | **2,924** | **146** | **1** | **-62** | **1** | **3,133** | **186** | **NA** | **NA** |
| **1977 Average** | **3,278** | **250** | **1** | **176** | **1** | **3,352** | **250** | **NA** | **NA** |
| **1978 Average** | **3,167** | **173** | **1** | **-93** | **3** | **3,432** | **216** | **NA** | **NA** |
| **1979 Average** | **3,153** | **193** | **1** | **34** | **3** | **3,311** | **229** | **NA** | **NA** |
| **1980 Average** | **2,662** | **142** | **1** | **-64** | **3** | **2,866** | **[f] 205** | **NA** | **NA** |
| **1981 Average**[g] | **2,613** | **173** | **10** | **[f] -38** | **5** | **2,829** | **192** | **NA** | **NA** |
| **1982 Average** | **2,606** | **93** | **10** | **-35** | **74** | **2,671** | **[f] 179** | **NA** | **NA** |
| **1983 Average** | **2,456** | **174** | **–** | **[f] -124** | **64** | **2,690** | **140** | **NA** | **NA** |
| **1984 Average** | **2,681** | **272** | **–** | **57** | **51** | **2,845** | **161** | **NA** | **NA** |
| **1985 Average** | **2,687** | **200** | **–** | **-48** | **67** | **2,868** | **144** | **NA** | **NA** |
| **1986 Average** | **2,798** | **247** | **–** | **31** | **100** | **2,914** | **155** | **NA** | **NA** |
| **1987 Average** | **2,731** | **255** | **–** | **-56** | **66** | **2,976** | **134** | **NA** | **NA** |
| **1988 Average** | **2,859** | **302** | **–** | **-30** | **69** | **3,122** | **124** | **NA** | **NA** |
| **1989 Average** | **2,899** | **306** | **–** | **-49** | **97** | **3,157** | **106** | **NA** | **NA** |
| **1990 Average** | **2,925** | **278** | **–** | **73** | **109** | **3,021** | **132** | **NA** | **NA** |
| **1991 Average** | **2,962** | **205** | **–** | **31** | **215** | **2,921** | **144** | **NA** | **NA** |
| **1992 Average** | **2,974** | **216** | **–** | **-8** | **219** | **2,979** | **141** | **NA** | **NA** |
| **1993 Average** | **3,132** | **184** | **–** | **1** | **274** | **3,041** | **141** | **[g] 64** | **[g] 77** |
| **1994 Average** | **3,205** | **203** | **–** | **12** | **234** | **3,162** | **145** | **73** | **73** |
| **1995 Average** | **3,155** | **193** | **–** | **-41** | **183** | **3,207** | **130** | **67** | **63** |
| **1996 Average** | **3,316** | **230** | **–** | **-10** | **190** | **3,365** | **127** | **68** | **58** |
| **1997 Average** | **3,392** | **228** | **–** | **32** | **152** | **3,435** | **138** | **68** | **70** |
| **1998 Average** | **3,424** | **210** | **–** | **48** | **124** | **3,461** | **156** | **77** | **79** |
| **1999 Average** | **3,399** | **250** | **–** | **-84** | **162** | **3,572** | **125** | **69** | **56** |
| **2000** January | 3,123 | 218 | – | -609 | 132 | 3,818 | 107 | 66 | 41 |
| February | 3,348 | 510 | – | -49 | 112 | 3,794 | 105 | 64 | 41 |
| March | 3,342 | 260 | – | -302 | 211 | 3,693 | 96 | 60 | 36 |
| April | 3,533 | 234 | – | 135 | 178 | 3,455 | 100 | 66 | 34 |
| May | 3,650 | 316 | – | 158 | 127 | 3,681 | 105 | 67 | 38 |
| June | 3,481 | 258 | – | 41 | 149 | 3,549 | 106 | 68 | 38 |
| July | 3,520 | 199 | – | 219 | 132 | 3,369 | 113 | 72 | 41 |
| August | 3,678 | 234 | – | -67 | 253 | 3,726 | 111 | 66 | 44 |
| September | 3,844 | 283 | – | 147 | 194 | 3,786 | 115 | 68 | 47 |
| October | 3,774 | 259 | – | 66 | 255 | 3,712 | 117 | 68 | 49 |
| November | 3,785 | 332 | – | 97 | 191 | 3,829 | 120 | 71 | 49 |
| December | 3,872 | 447 | – | -65 | 135 | 4,250 | 118 | 72 | 46 |
| **Average** | **3,580** | **295** | **–** | **-20** | **173** | **3,722** | **118** | **72** | **46** |
| **2001** January | 3,606 | 778 | – | 5 | 97 | 4,281 | 118 | 68 | 50 |
| February | 3,621 | 668 | – | -35 | 116 | 4,208 | 117 | 70 | 47 |
| March | 3,487 | 343 | – | -395 | 101 | 4,124 | 105 | 68 | 37 |
| April | 3,651 | 302 | – | 3 | 139 | 3,811 | 105 | 67 | 38 |
| May | 3,656 | 330 | – | 77 | 181 | 3,727 | 107 | 64 | 43 |
| June | 3,702 | 311 | – | 231 | 167 | 3,615 | 114 | 68 | 46 |
| July | 3,838 | 250 | – | 346 | 162 | 3,580 | 125 | 74 | 51 |
| August | 3,653 | 215 | – | -101 | 216 | 3,754 | 122 | 68 | 54 |
| September | 3,637 | 346 | – | 153 | 201 | 3,629 | 127 | 71 | 55 |
| October | 3,788 | 282 | – | 67 | 153 | 3,850 | 129 | 69 | 60 |
| November | 3,948 | 242 | – | 339 | 189 | 3,662 | 139 | 75 | 64 |
| December | 3,743 | 241 | – | 161 | 202 | 3,622 | 144 | 81 | 62 |
| **Average** | **3,694** | **357** | **–** | **71** | **161** | **3,820** | **144** | **81** | **62** |
| **2002** January | 3,501 | 292 | – | -192 | 109 | 3,875 | 138 | 81 | 57 |
| February | [R] 3,489 | [R] 231 | – | [R] -279 | [R] 279 | [R] 3,720 | [R] 130 | [R] 78 | 52 |
| March | [E] 3,354 | [E] 216 | – | [E] -340 | [E] 150 | [E] 3,760 | [E] 120 | [E] 72 | [E] 48 |
| **3-Month Average** | **[E] 3,446** | **[E] 247** | **–** | **[E] -270** | **[E] 176** | **[E] 3,787** | **[E] 120** | **[E] 72** | **[E] 48** |
| **2001 3-Month Average** | **3,569** | **594** | **–** | **-145** | **104** | **4,204** | **105** | **68** | **37** |
| **2000 3-Month Average** | **3,269** | **325** | **–** | **-326** | **153** | **3,768** | **96** | **60** | **36** |

[a] Stocks are at end of period. Distillate fuel oil stocks in the "Northeast Heating Oil Reserve" are not included.

[b] Beginning in January 1983, crude oil used directly as distillate fuel oil is reported as crude oil product supplied on Table 3.2b rather than as distillate fuel oil product supplied.

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

[d] By weight.

[e] See Note 6 at end of section.

[f] See Note 4 at end of section.

[g] See Note 3 at end of section.

R=Revised. NA=Not available. – =Not applicable. E=Estimate.

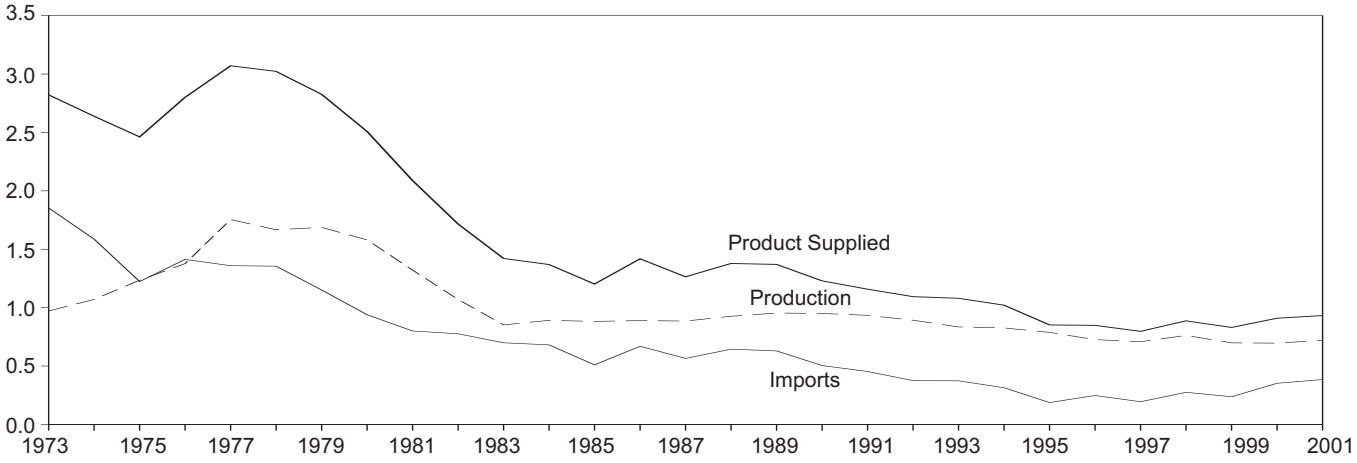
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S5. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S5.

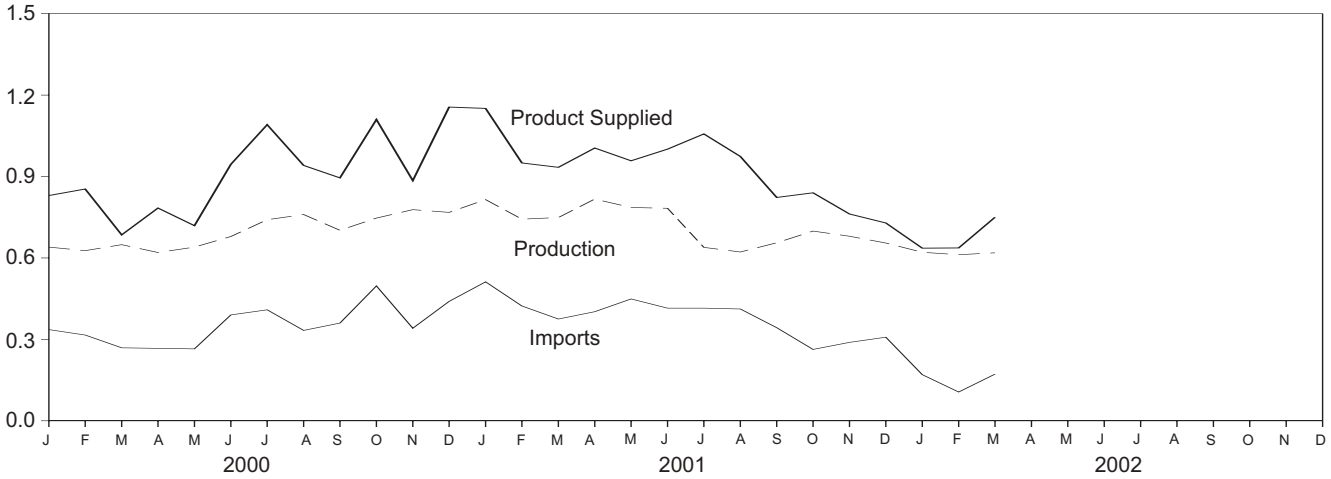
## Figure 3.4 Residual Fuel Oil

(Million Barrels per Day, Except as Noted)

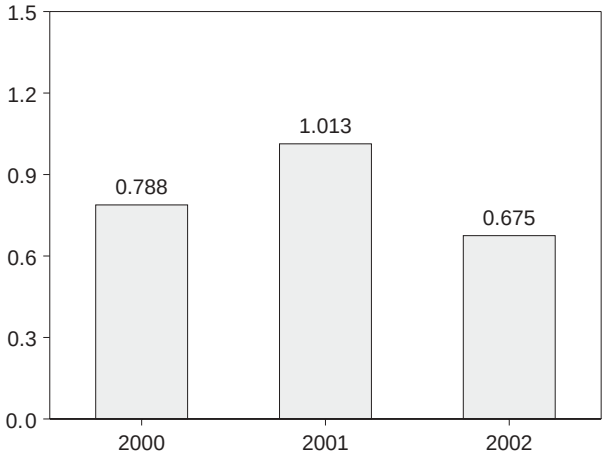
### Overview, 1973-2001



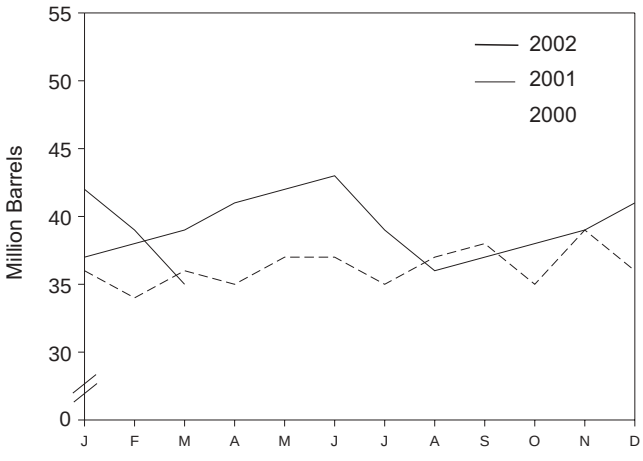

### Overview, Monthly




### Product Supplied, January-March




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.6.

# Table 3.6 Residual Fuel Oil Supply and Disposition

| | Supply | | | Disposition | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Crude Oil Used Directly[a] | Stock Change[b] | Exports | Product Supplied[a] | 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** | **–** | [d] **-55** | **185** | **1,421** | **49** |
| **1984 Average** | **891** | **681** | **–** | **12** | **190** | **1,369** | **53** |
| **1985 Average** | **882** | **510** | **–** | **-7** | **197** | **1,202** | **50** |
| **1986 Average** | **889** | **669** | **–** | **-8** | **147** | **1,418** | **47** |
| **1987 Average** | **885** | **565** | **–** | **(s)** | **186** | **1,264** | **47** |
| **1988 Average** | **926** | **644** | **–** | **-8** | **200** | **1,378** | **45** |
| **1989 Average** | **954** | **629** | **–** | **-2** | **215** | **1,370** | **44** |
| **1990 Average** | **950** | **504** | **–** | **13** | **211** | **1,229** | **49** |
| **1991 Average** | **934** | **453** | **–** | **4** | **226** | **1,158** | **50** |
| **1992 Average** | **892** | **375** | **–** | **-20** | **193** | **1,094** | **43** |
| **1993 Average** | **835** | **373** | **–** | **4** | **123** | **1,080** | **44** |
| **1994 Average** | **826** | **314** | **–** | **-6** | **125** | **1,021** | **42** |
| **1995 Average** | **788** | **187** | **–** | **-13** | **136** | **852** | **37** |
| **1996 Average** | **726** | **248** | **–** | **24** | **102** | **848** | **46** |
| **1997 Average** | **708** | **194** | **–** | **-15** | **120** | **797** | **40** |
| **1998 Average** | **762** | **275** | **–** | **12** | **138** | **887** | **45** |
| **1999 Average** | **698** | **237** | **–** | **-25** | **129** | **830** | **36** |
| **2000** January | 640 | 336 | – | 10 | 137 | 830 | 36 |
| February | 627 | 316 | – | -60 | 149 | 854 | 34 |
| March | 649 | 269 | – | 66 | 167 | 685 | 36 |
| April | 620 | 267 | – | -37 | 139 | 784 | 35 |
| May | 640 | 265 | – | 63 | 123 | 719 | 37 |
| June | 679 | 390 | – | -8 | 133 | 945 | 37 |
| July | 741 | 409 | – | -54 | 113 | 1,091 | 35 |
| August | 760 | 333 | – | 57 | 94 | 941 | 37 |
| September | 702 | 360 | – | 19 | 148 | 895 | 38 |
| October | 747 | 497 | – | -87 | 221 | 1,110 | 35 |
| November | 778 | 341 | – | 133 | 100 | 885 | 39 |
| December | 768 | 440 | – | -90 | 143 | 1,156 | 36 |
| **Average** | **696** | **352** | **–** | **1** | **139** | **909** | **36** |
| **2001** January | 815 | 512 | – | 35 | 141 | 1,151 | 37 |
| February | 743 | 423 | – | 46 | 171 | 950 | 38 |
| March | 749 | 375 | – | 24 | 166 | 934 | 39 |
| April | 817 | 402 | – | 54 | 160 | 1,005 | 41 |
| May | 786 | 449 | – | 54 | 224 | 958 | 42 |
| June | 783 | 415 | – | 12 | 185 | 1,001 | 43 |
| July | 639 | 415 | – | -117 | 113 | 1,057 | 39 |
| August | 622 | 412 | – | -114 | 174 | 974 | 36 |
| September | 656 | 343 | – | 51 | 125 | 823 | 37 |
| October | 699 | 263 | – | 26 | 97 | 840 | 38 |
| November | 680 | 289 | – | 41 | 166 | 762 | 39 |
| December | 655 | 308 | – | 61 | 173 | 729 | 41 |
| **Average** | **720** | **384** | **–** | **14** | **158** | **932** | **41** |
| **2002** January | 621 | 170 | – | 18 | 138 | 636 | 42 |
| February | 612 | [R] 106 | – | [R] -89 | [R] 171 | [R] 637 | [R] 39 |
| March | [E] 619 | [E] 172 | – | [E] -104 | [E] 146 | [E] 750 | [E] 35 |
| **3-Month Average** | [E] **618** | [E] **151** | **–** | [E] **-57** | [E] **151** | [E] **675** | [E] **35** |
| **2001 3-Month Average** | **770** | **437** | **–** | **35** | **159** | **1,013** | **39** |
| **2000 3-Month Average** | **639** | **307** | **–** | **7** | **151** | **788** | **36** |

[a] Beginning in January 1983, crude oil used directly as residual fuel oil is reported as crude oil product supplied on Table 3.2b rather than as residual fuel oil product supplied.

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

[c] Stocks are at end of period.

[d] See Note 4 at end of section.

[e] See Note 3 at end of section.

R=Revised. – =Not applicable. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.

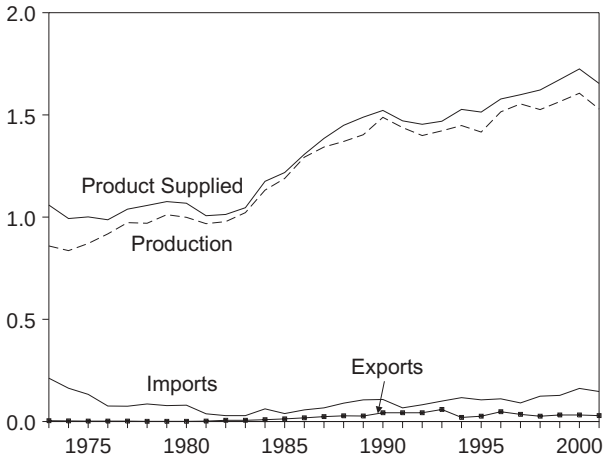
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S6. **1992 forward:** EIA, *Petroleum Supply Monthly,* March 2002, Table S6.

## Figure 3.5 Jet Fuel

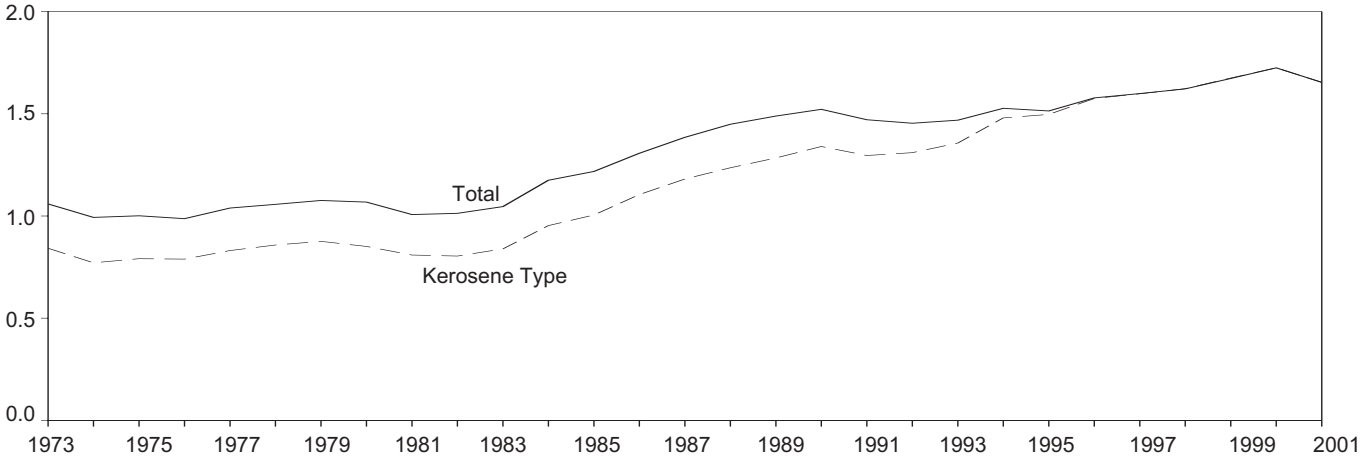
(Million Barrels per Day, Except as Noted)

### Overview, 1973-2001

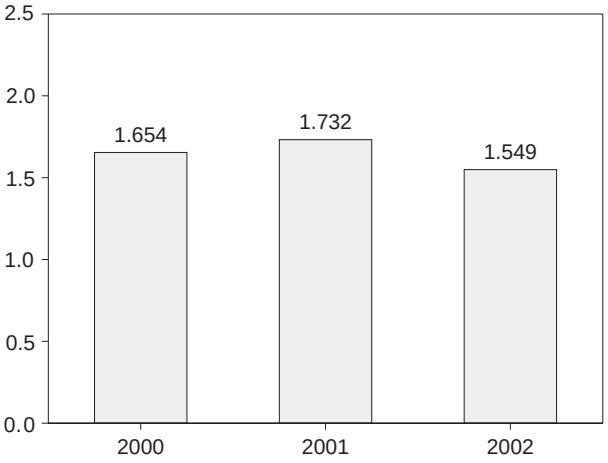



### Overview, Monthly

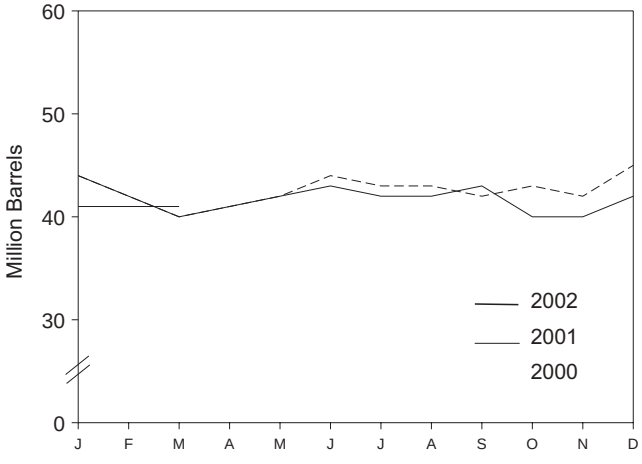

### Product Supplied by Type, 1973-2001




### Product Supplied, January-March




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.7.

# Table 3.7 Jet Fuel Supply and Disposition

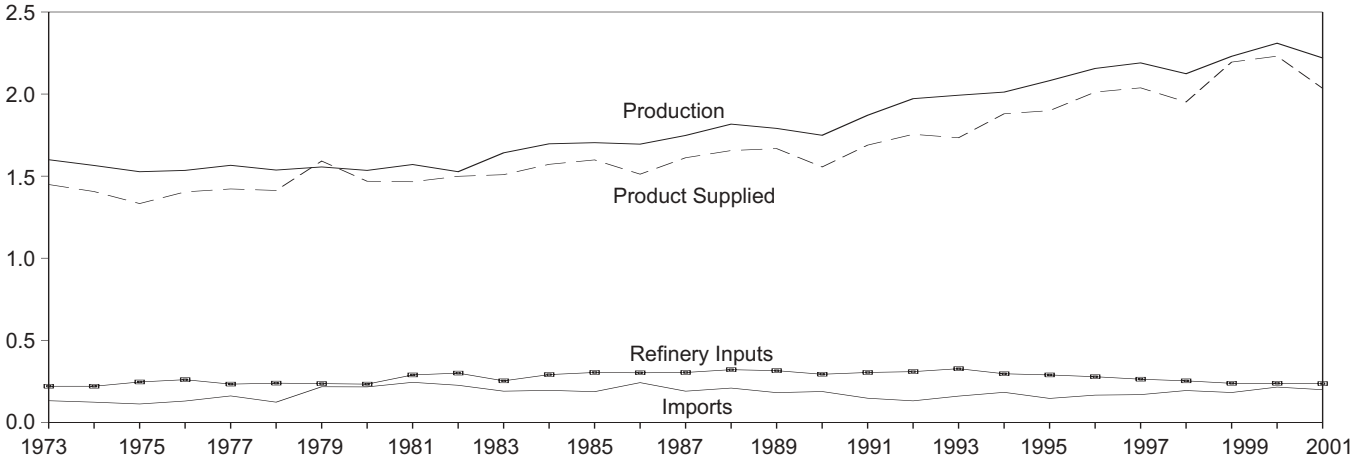
| | Supply | | | Disposition | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Production | | | | | Product Supplied | | Stocks[a] | |
| | Total | Kerosene Type | Imports | Stock Change[b] | Exports | Total | Kerosene Type | Total | Kerosene Type |
| | Thousand Barrels per Day | | | | | | | Million Barrels | |
| **1973 Average** | **859** | **679** | **212** | **8** | **4** | **1,059** | **842** | **29** | **23** |
| **1974 Average** | **836** | **641** | **163** | **2** | **3** | **993** | **771** | [c] **29** | [c] **24** |
| **1975 Average** | **871** | **691** | **133** | [c] **2** | **2** | **1,001** | **791** | **30** | **25** |
| **1976 Average** | **918** | **731** | **76** | **5** | **2** | **987** | **789** | **32** | **26** |
| **1977 Average** | **973** | **787** | **75** | **7** | **2** | **1,039** | **831** | **35** | **28** |
| **1978 Average** | **970** | **791** | **86** | **-2** | **1** | **1,057** | **858** | **34** | **28** |
| **1979 Average** | **1,012** | **835** | **78** | **13** | **1** | **1,076** | **876** | **39** | **33** |
| **1980 Average** | **999** | **811** | **80** | **10** | **1** | **1,068** | **851** | [c] **42** | [c] **36** |
| **1981 Average** | **968** | **775** | **38** | [c] **-4** | **2** | **1,007** | **809** | **41** | **34** |
| **1982 Average** | **978** | **778** | **29** | **-12** | **6** | **1,013** | **804** | [c] **37** | [c] **31** |
| **1983 Average** | **1,022** | **817** | **29** | [c] **(s)** | **6** | **1,046** | **839** | **39** | **32** |
| **1984 Average** | **1,132** | **919** | **62** | **9** | **9** | **1,175** | **953** | **42** | **35** |
| **1985 Average** | **1,189** | **983** | **39** | **-4** | **13** | **1,218** | **1,005** | **40** | **34** |
| **1986 Average** | **1,293** | **1,097** | **57** | **25** | **18** | **1,307** | **1,105** | **50** | **43** |
| **1987 Average** | **1,343** | **1,138** | **67** | **(s)** | **24** | **1,385** | **1,181** | **50** | **42** |
| **1988 Average** | **1,370** | **1,164** | **90** | **-17** | **28** | **1,449** | **1,236** | **44** | **38** |
| **1989 Average** | **1,403** | **1,197** | **106** | **-8** | **27** | **1,489** | **1,284** | **41** | **34** |
| **1990 Average** | **1,488** | **1,311** | **108** | **31** | **43** | **1,522** | **1,340** | **52** | **46** |
| **1991 Average** | **1,438** | **1,274** | **67** | **-9** | **43** | **1,471** | **1,296** | **49** | **44** |
| **1992 Average** | **1,399** | **1,254** | **82** | **-16** | **43** | **1,454** | **1,310** | **43** | **39** |
| **1993 Average** | **1,422** | **1,309** | **100** | **-7** | **59** | **1,469** | **1,357** | **40** | **38** |
| **1994 Average** | **1,448** | **1,410** | **117** | **18** | **20** | **1,527** | **1,480** | **47** | **46** |
| **1995 Average** | **1,416** | **1,407** | **106** | **-19** | **26** | **1,514** | **1,497** | **40** | **39** |
| **1996 Average** | **1,515** | **1,513** | **111** | **(s)** | **48** | **1,578** | **1,575** | **40** | **40** |
| **1997 Average** | **1,554** | **1,554** | **91** | **11** | **35** | **1,599** | **1,598** | **44** | **44** |
| **1998 Average** | **1,526** | **1,525** | **124** | **2** | **26** | **1,622** | **1,623** | **45** | **45** |
| **1999 Average** | **1,565** | **1,565** | **128** | **-11** | **32** | **1,673** | **1,675** | **41** | **40** |
| **2000** January | 1,595 | 1,595 | 122 | 99 | 13 | 1,604 | 1,604 | 44 | 44 |
| February | 1,450 | 1,450 | 173 | -70 | 17 | 1,676 | 1,677 | 42 | 41 |
| March | 1,561 | 1,561 | 120 | -35 | 33 | 1,683 | 1,682 | 40 | 40 |
| April | 1,615 | 1,615 | 127 | 28 | 37 | 1,677 | 1,677 | 41 | 41 |
| May | 1,589 | 1,589 | 144 | 28 | 35 | 1,669 | 1,669 | 42 | 42 |
| June | 1,600 | 1,600 | 194 | 52 | 27 | 1,715 | 1,715 | 44 | 44 |
| July | 1,650 | 1,649 | 125 | -25 | 21 | 1,779 | 1,779 | 43 | 43 |
| August | 1,636 | 1,636 | 221 | -8 | 19 | 1,846 | 1,846 | 43 | 43 |
| September | 1,644 | 1,643 | 128 | -13 | 34 | 1,750 | 1,750 | 42 | 42 |
| October | 1,645 | 1,645 | 186 | 12 | 42 | 1,778 | 1,778 | 43 | 43 |
| November | 1,620 | 1,620 | 162 | -11 | 64 | 1,729 | 1,729 | 42 | 42 |
| December | 1,665 | 1,665 | 239 | 71 | 39 | 1,794 | 1,796 | 45 | 44 |
| **Average** | **1,606** | **1,606** | **162** | **11** | **32** | **1,725** | **1,725** | **45** | **44** |
| **2001** January | 1,508 | 1,508 | 238 | -27 | 27 | 1,746 | 1,747 | 44 | 44 |
| February | 1,497 | 1,497 | 222 | -44 | 18 | 1,744 | 1,743 | 42 | 42 |
| March | 1,513 | 1,513 | 145 | -91 | 41 | 1,708 | 1,708 | 40 | 40 |
| April | 1,547 | 1,546 | 153 | 35 | 17 | 1,648 | 1,648 | 41 | 41 |
| May | 1,620 | 1,619 | 181 | 52 | 17 | 1,733 | 1,735 | 42 | 42 |
| June | 1,638 | 1,637 | 161 | 26 | 18 | 1,754 | 1,755 | 43 | 43 |
| July | 1,633 | 1,633 | 129 | -20 | 23 | 1,758 | 1,755 | 42 | 42 |
| August | 1,597 | 1,597 | 123 | -25 | 24 | 1,721 | 1,724 | 42 | 42 |
| September | 1,419 | 1,419 | 162 | 40 | 21 | 1,521 | 1,519 | 43 | 43 |
| October | 1,459 | 1,459 | 53 | -80 | 31 | 1,561 | 1,560 | 40 | 40 |
| November | 1,395 | 1,394 | 104 | -7 | 64 | 1,441 | 1,442 | 40 | 40 |
| December | 1,521 | 1,521 | 94 | 57 | 51 | 1,508 | 1,514 | 42 | 42 |
| **Average** | **1,529** | **1,529** | **147** | **-7** | **29** | **1,654** | **1,654** | **42** | **42** |
| **2002** January | 1,477 | 1,477 | 102 | -18 | 13 | 1,585 | 1,589 | 41 | 41 |
| February | [R] 1,451 | [R] 1,451 | [R] 99 | [R] -20 | [R] 40 | [R] 1,529 | [R] 1,529 | 41 | [R] 41 |
| March | [E] 1,481 | [E] 1,480 | [E] 84 | [E] 8 | [E] 27 | [E] 1,530 | [E] 1,530 | [E] 41 | [E] 41 |
| **3-Month Average** | [E] **1,470** | [E] **1,470** | [E] **95** | [E] **-10** | [E] **26** | [E] **1,549** | [E] **1,550** | [E] **41** | [E] **41** |
| **2001 3-Month Average** | **1,506** | **1,506** | **201** | **-54** | **29** | **1,732** | **1,732** | **40** | **40** |
| **2000 3-Month Average** | **1,537** | **1,537** | **137** | **-1** | **21** | **1,654** | **1,654** | **40** | **40** |

[a] Stocks are at end of period.
[b] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[c] See Note 4 at end of section.
R=Revised. E=Estimate. (s)=Less than +500 barrels per day and greater than -500 barrels per day.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S7. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S7.

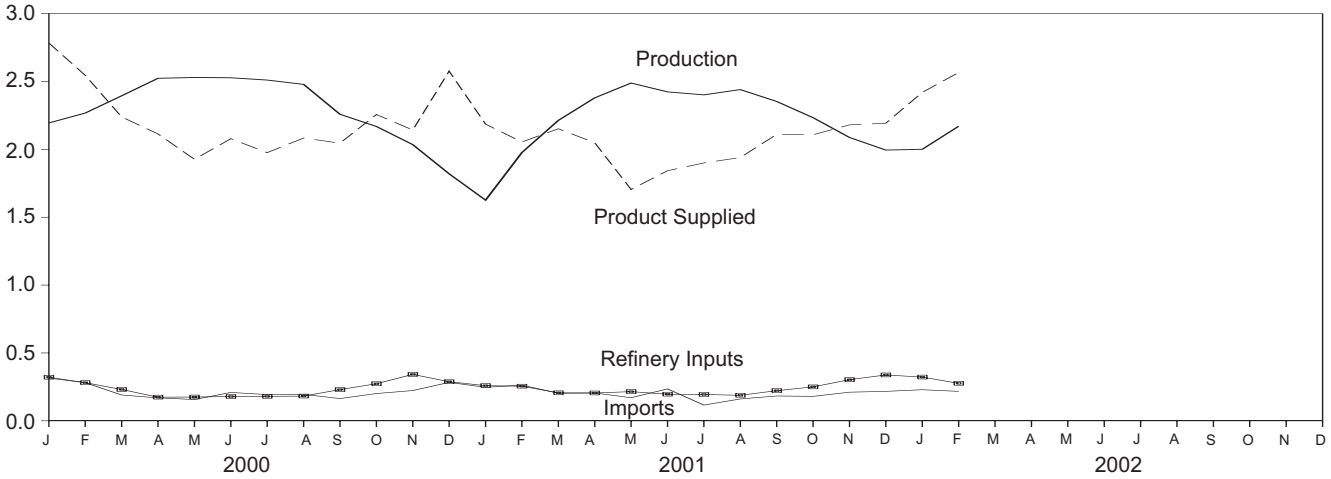
## Figure 3.6 Liquefied Petroleum Gases

(Million Barrels per Day, Except as Noted)

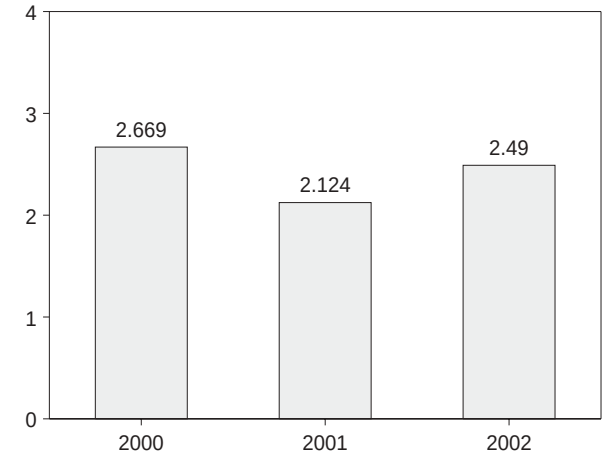
### Overview, 1973-2001



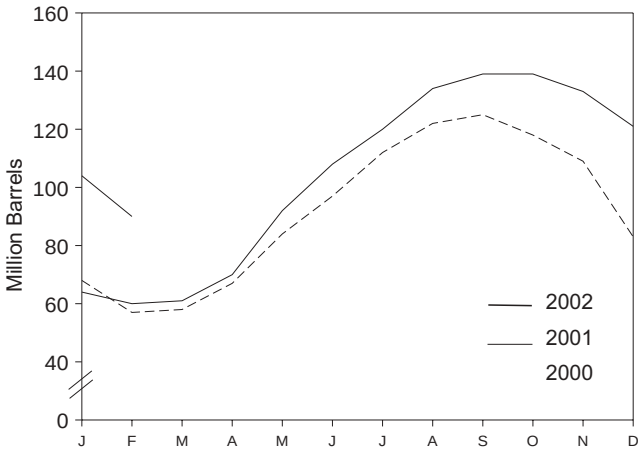

### Overview, Monthly




### Product Supplied, January and February




### Stocks, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Source: Table 3.8.

# Table 3.8 Liquefied Petroleum Gases Supply and Disposition

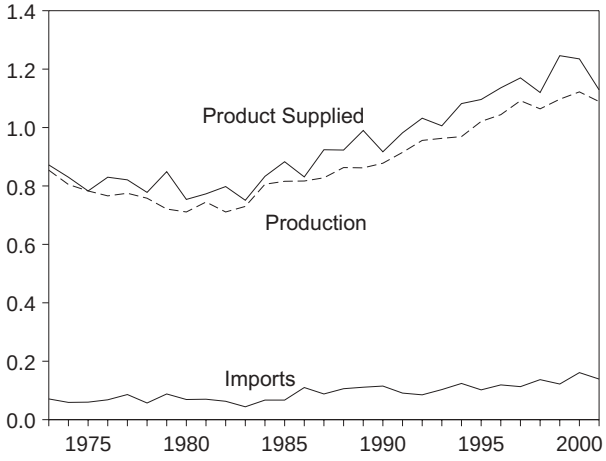
| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Product Supplied | Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **1,600** | **132** | **35** | **220** | **27** | **1,449** | **99** |
| **1974 Average** | **1,565** | **123** | **38** | **220** | **25** | **1,406** | [c] **113** |
| **1975 Average** | **1,527** | **112** | [c] **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** | [c] **132** |
| **1979 Average** | **1,556** | **217** | [c] **-70** | **236** | **15** | **1,592** | **111** |
| **1980 Average** | **1,535** | **216** | **27** | **233** | **21** | **1,469** | [c] **120** |
| **1981 Average** | **1,571** | **244** | [c] **18** | **289** | **42** | **1,466** | **135** |
| **1982 Average** | [d] **1,527** | **226** | **-111** | **300** | **65** | **1,499** | [c] **94** |
| **1983 Average** | **1,642** | **190** | [c] **-4** | **253** | **73** | **1,509** | [c] **101** |
| **1984 Average** | **1,697** | **195** | [c] **-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 Average** | **1,817** | **209** | **1** | **321** | **49** | **1,656** | **97** |
| **1989 Average** | **1,791** | **181** | **-47** | **315** | **35** | **1,668** | **80** |
| **1990 Average** | **1,749** | **188** | **48** | **293** | **40** | **1,556** | **98** |
| **1991 Average** | **1,871** | **147** | **-15** | **304** | **41** | **1,689** | **92** |
| **1992 Average** | **1,972** | **131** | **-10** | **309** | **49** | **1,755** | **89** |
| **1993 Average** | **1,993** | **160** | **49** | **327** | **43** | **1,734** | **106** |
| **1994 Average** | **2,012** | **183** | **-19** | **296** | **38** | **1,880** | **99** |
| **1995 Average** | **2,082** | **146** | **-17** | **289** | **58** | **1,899** | **93** |
| **1996 Average** | **2,156** | **166** | **-19** | **278** | **51** | **2,012** | **86** |
| **1997 Average** | **2,190** | **169** | **9** | **263** | **50** | **2,038** | **89** |
| **1998 Average** | **2,124** | **194** | **70** | **253** | **42** | **1,952** | **115** |
| **1999 Average** | **2,230** | **182** | **-71** | **238** | **50** | **2,195** | **89** |
| **2000** January | 2,195 | 315 | -696 | 321 | 101 | 2,784 | 68 |
| February | 2,268 | 281 | -359 | 281 | 81 | 2,546 | 57 |
| March | 2,395 | 190 | 6 | 231 | 109 | 2,239 | 58 |
| April | 2,524 | 169 | 330 | 174 | 75 | 2,114 | 67 |
| May | 2,530 | 157 | 548 | 175 | 38 | 1,927 | 84 |
| June | 2,528 | 209 | 410 | 179 | 69 | 2,079 | 97 |
| July | 2,511 | 193 | 486 | 180 | 63 | 1,976 | 112 |
| August | 2,479 | 195 | 333 | 182 | 76 | 2,084 | 122 |
| September | 2,259 | 164 | 84 | 230 | 62 | 2,046 | 125 |
| October | 2,169 | 201 | -225 | 273 | 65 | 2,257 | 118 |
| November | 2,035 | 223 | -299 | 342 | 72 | 2,143 | 109 |
| December | 1,820 | 283 | -843 | 288 | 81 | 2,577 | 83 |
| **Average** | **2,310** | **215** | **-19** | **238** | **74** | **2,231** | **83** |
| **2001** January | 1,626 | 247 | -647 | 259 | 75 | 2,186 | 64 |
| February | 1,977 | 263 | -129 | 255 | 59 | 2,055 | 60 |
| March | 2,214 | 203 | 27 | 206 | 33 | 2,152 | 61 |
| April | 2,380 | 205 | 296 | 205 | 35 | 2,049 | 70 |
| May | 2,489 | 170 | 707 | 215 | 31 | 1,705 | 92 |
| June | 2,424 | 235 | 564 | 196 | 56 | 1,843 | 108 |
| July | 2,402 | 116 | 373 | 194 | 51 | 1,900 | 120 |
| August | 2,441 | 161 | 440 | 188 | 34 | 1,940 | 134 |
| September | 2,353 | 183 | 167 | 222 | 35 | 2,111 | 139 |
| October | 2,234 | 180 | 19 | 250 | 37 | 2,108 | 139 |
| November | 2,088 | 211 | -221 | 303 | 37 | 2,181 | 133 |
| December | 1,995 | 217 | -362 | 338 | 43 | 2,193 | 121 |
| **Average** | **2,220** | **199** | **104** | **236** | **44** | **2,035** | **121** |
| **2002** January | 2,001 | 229 | -565 | 322 | 52 | 2,420 | 104 |
| February | 2,171 | 217 | -498 | 276 | 44 | 2,567 | 90 |
| **2-Month Average** | **2,082** | **223** | **-533** | **300** | **48** | **2,490** | **90** |
| **2001 2-Month Average** | **1,793** | **255** | **-401** | **257** | **67** | **2,124** | **60** |
| **2000 2-Month Average** | **2,231** | **298** | **-533** | **302** | **91** | **2,669** | **57** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are at end of period.
[c] See Note 4 at end of section.
[d] See Note 6 at end of section.
Notes: Liquefied petroleum gases include ethane, ethylene, propane, propylene, normal butane, butylene, isobutane and isobutylene. Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S8. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S9.

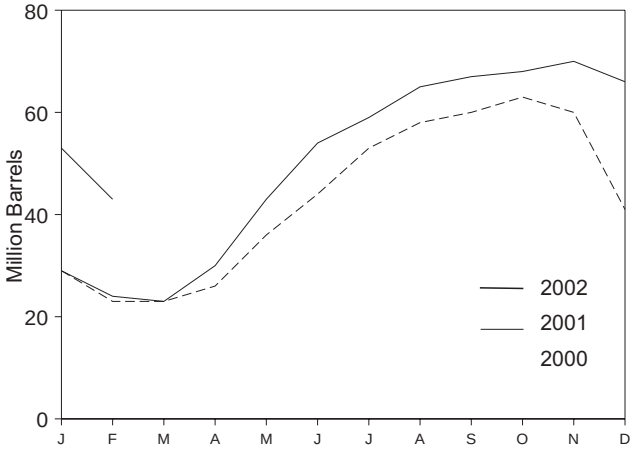
## Figure 3.7 Propane and Propylene

(Million Barrels per Day, Except as Noted)

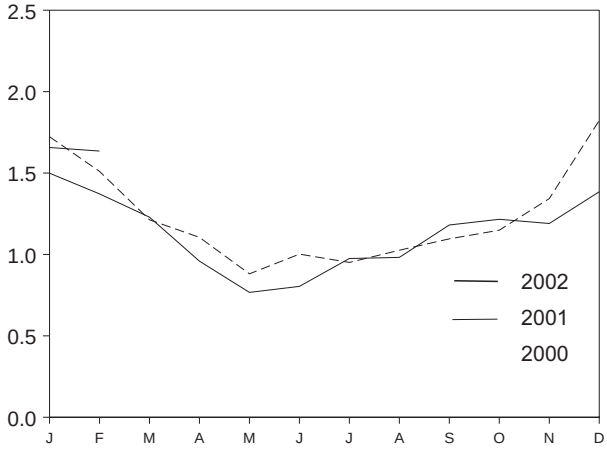
### Overview, 1973-2001



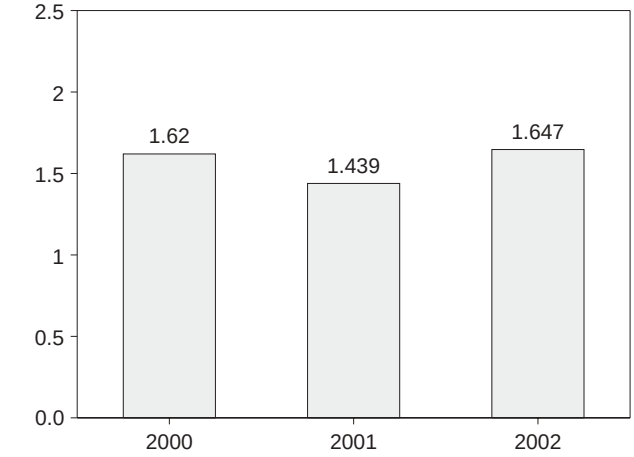

### Stocks, End of Month



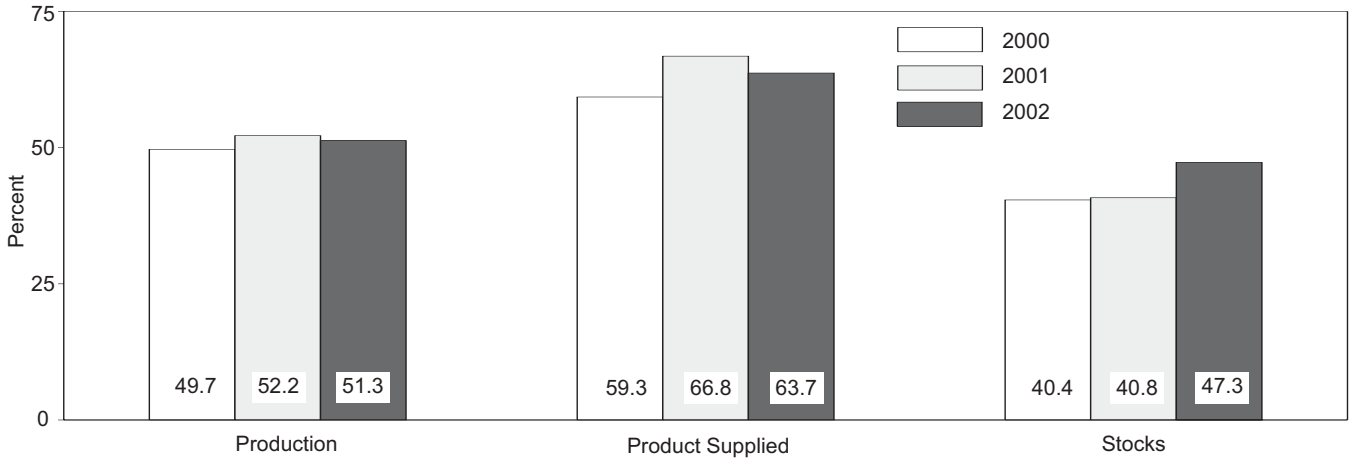

### Product Supplied, Monthly




### Product Supplied, January and February




### Share of Liquefied Petroleum Gases, February




Note: Because vertical scales differ, graphs should not be compared.
Sources: Table 3.9 and, for calculation of shares, data prior to rounding for publication in Tables 3.8 and 3.9.

## Table 3.9 Propane and Propylene Supply and Disposition (A Subset of Table 3.8)

| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Product Supplied | Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **854** | **71** | **30** | **8** | **15** | **872** | **65** |
| **1974 Average** | **805** | **59** | **11** | **9** | **14** | **830** | **69** |
| **1975 Average** | **783** | **60** | **36** | **11** | **13** | **783** | **82** |
| **1976 Average** | **766** | **68** | **-22** | **12** | **13** | **830** | **74** |
| **1977 Average** | **775** | **86** | **21** | **10** | **10** | **821** | **81** |
| **1978 Average** | **758** | **57** | **15** | **13** | **9** | **778** | [c] **87** |
| **1979 Average** | **721** | **88** | [c] **-61** | **14** | **8** | **849** | **64** |
| **1980 Average** | **711** | **69** | **4** | **12** | **10** | **754** | [c] **65** |
| **1981 Average** | **745** | **70** | [c] **18** | **5** | **18** | **773** | **76** |
| **1982 Average** | **711** | **63** | **-59** | **4** | **31** | **798** | [c] **54** |
| **1983 Average** | **730** | **44** | [c] **-24** | **4** | **43** | **751** | [c] **48** |
| **1984 Average** | **806** | **67** | [c] **7** | **4** | **30** | **833** | **58** |
| **1985 Average** | **816** | **67** | **-50** | **3** | **48** | **883** | **39** |
| **1986 Average** | **817** | **110** | **64** | **4** | **28** | **831** | **63** |
| **1987 Average** | **828** | **88** | **-41** | **8** | **24** | **924** | **48** |
| **1988 Average** | **863** | **106** | **7** | **8** | **31** | **923** | **50** |
| **1989 Average** | **862** | **111** | **-52** | **11** | **24** | **990** | **32** |
| **1990 Average** | **878** | **115** | **48** | **(s)** | **28** | **917** | **49** |
| **1991 Average** | **915** | **91** | **-3** | **(s)** | **28** | **982** | **48** |
| **1992 Average** | **956** | **85** | **-24** | **(s)** | **33** | **1,032** | **39** |
| **1993 Average** | **963** | **103** | **34** | **(s)** | **26** | **1,006** | **51** |
| **1994 Average** | **969** | **124** | **-13** | **0** | **24** | **1,082** | **46** |
| **1995 Average** | **1,021** | **102** | **-10** | **0** | **38** | **1,096** | **43** |
| **1996 Average** | **1,044** | **119** | **(s)** | **0** | **28** | **1,136** | **43** |
| **1997 Average** | **1,092** | **113** | **3** | **0** | **32** | **1,170** | **44** |
| **1998 Average** | **1,064** | **137** | **56** | **0** | **25** | **1,120** | **65** |
| **1999 Average** | **1,097** | **122** | **-59** | **0** | **33** | **1,246** | **43** |
| **2000** January | 1,133 | 244 | -439 | 0 | 94 | 1,723 | 29 |
| February | 1,127 | 221 | -215 | 0 | 53 | 1,510 | 23 |
| March | 1,136 | 142 | -19 | 0 | 84 | 1,213 | 23 |
| April | 1,143 | 125 | 101 | 0 | 62 | 1,105 | 26 |
| May | 1,153 | 102 | 347 | 0 | 27 | 881 | 36 |
| June | 1,163 | 132 | 252 | 0 | 40 | 1,002 | 44 |
| July | 1,133 | 125 | 278 | 0 | 28 | 951 | 53 |
| August | 1,123 | 124 | 166 | 0 | 55 | 1,026 | 58 |
| September | 1,110 | 114 | 87 | 0 | 41 | 1,096 | 60 |
| October | 1,103 | 167 | 80 | 0 | 41 | 1,149 | 63 |
| November | 1,112 | 189 | -97 | 0 | 55 | 1,343 | 60 |
| December | 1,031 | 248 | -603 | 0 | 58 | 1,823 | 41 |
| **Average** | **1,122** | **161** | **-5** | **0** | **53** | **1,235** | **41** |
| **2001** January | 945 | 213 | -403 | 0 | 62 | 1,499 | 29 |
| February | 1,031 | 222 | -160 | 0 | 41 | 1,372 | 24 |
| March | 1,069 | 151 | -31 | 0 | 22 | 1,229 | 23 |
| April | 1,106 | 105 | 234 | 0 | 18 | 959 | 30 |
| May | 1,117 | 80 | 415 | 0 | 15 | 767 | 43 |
| June | 1,088 | 103 | 355 | 0 | 32 | 804 | 54 |
| July | 1,098 | 89 | 170 | 0 | 42 | 975 | 59 |
| August | 1,110 | 95 | 195 | 0 | 27 | 982 | 65 |
| September | 1,149 | 115 | 56 | 0 | 27 | 1,181 | 67 |
| October | 1,131 | 146 | 34 | 0 | 26 | 1,216 | 68 |
| November | 1,123 | 174 | 81 | 0 | 26 | 1,190 | 70 |
| December | 1,099 | 176 | -144 | 0 | 35 | 1,385 | 66 |
| **Average** | **1,089** | **139** | **67** | **0** | **31** | **1,129** | **66** |
| **2002** January | 1,087 | 197 | -414 | 0 | 42 | 1,657 | 53 |
| February | 1,114 | 177 | -379 | 0 | 35 | 1,635 | 43 |
| **2-Month Average** | **1,100** | **188** | **-398** | **0** | **39** | **1,647** | **43** |
| **2001 2-Month Average** | **986** | **217** | **-288** | **0** | **52** | **1,439** | **24** |
| **2000 2-Month Average** | **1,130** | **233** | **-331** | **0** | **74** | **1,620** | **23** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are at end of period.
[c] See Note 4 at end of section.
(s)=Less than 500 barrels per day.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: **1973 through 1975:** U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys,* "Petroleum Statement, Annual." **1976 through 1980:** Energy Information Administration (EIA), *Energy Data Reports,* Petroleum Statement, Annual." **1981-1991:** EIA, *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S8. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S8.

# Table 3.10 Other Petroleum Products Supply and Disposition

| | Supply | | Disposition | | | | |
|---|---|---|---|---|---|---|---|
| | Total Production | Imports | Stock Change[a] | Refinery Inputs | Exports | Products Supplied | Stocks[b] |
| | Thousand Barrels per Day | | | | | | Million Barrels |
| **1973 Average** | **2,833** | **290** | **1** | **750** | **162** | **2,211** | **179** |
| **1974 Average** | **2,722** | **269** | **25** | **665** | **172** | **2,129** | [c] **188** |
| **1975 Average** | **2,547** | **144** | [c] **-6** | **537** | **158** | **2,001** | **188** |
| **1976 Average** | **2,725** | **129** | **(s)** | **524** | **172** | **2,158** | **188** |
| **1977 Average** | **2,939** | **130** | **20** | **514** | **164** | **2,371** | **195** |
| **1978 Average** | **3,076** | **80** | **-12** | **492** | **165** | **2,511** | **191** |
| **1979 Average** | **3,141** | **116** | **24** | **352** | **208** | **2,673** | **200** |
| **1980 Average** | **2,957** | **130** | **15** | **310** | **197** | **2,566** | [c] **205** |
| **1981 Average** | **2,771** | **188** | [c] **-42** | **723** | **197** | **2,081** | **241** |
| **1982 Average** | **2,475** | **305** | **-68** | **787** | **205** | [d] **1,857** | [c] **216** |
| **1983 Average** | **2,437** | **382** | [c] **-6** | **712** | **236** | **1,877** | [c] **217** |
| **1984 Average** | **2,500** | **503** | [c] **-32** | **791** | **236** | **2,007** | **198** |
| **1985 Average** | **2,532** | **550** | **22** | **886** | **227** | **1,947** | **206** |
| **1986 Average** | **2,704** | **504** | **-15** | **888** | **291** | **2,045** | **201** |
| **1987 Average** | **2,737** | **543** | **-1** | **829** | **264** | **2,187** | **200** |
| **1988 Average** | **2,773** | **645** | **22** | **799** | **294** | **2,303** | **208** |
| **1989 Average** | **2,771** | **627** | **12** | **797** | **305** | **2,285** | **213** |
| **1990 Average** | **2,842** | **705** | **-32** | **887** | **289** | **2,402** | **201** |
| **1991 Average** | **2,826** | **675** | **18** | **936** | **277** | **2,269** | **208** |
| **1992 Average** | **2,928** | **707** | **-3** | **906** | **263** | **2,470** | [c] **207** |
| **1993 Average** | [e] **3,035** | **770** | [c] **-2** | **1,081** | [e] **300** | [e] **2,426** | **206** |
| **1994 Average** | **2,973** | **761** | **24** | **861** | **329** | **2,518** | **215** |
| **1995 Average** | **3,031** | **708** | **-23** | **958** | **348** | **2,457** | **206** |
| **1996 Average** | **3,108** | **879** | **-11** | **1,014** | **376** | **2,608** | **202** |
| **1997 Average** | **3,204** | **945** | **30** | **985** | **402** | **2,733** | **213** |
| **1997 Average** | **3,204** | **945** | **30** | **985** | **402** | **2,733** | **213** |
| **1998 Average** | **3,253** | **888** | **18** | **1,002** | **380** | **2,741** | **219** |
| **1999 Average** | **3,211** | **943** | **-64** | **1,061** | **338** | **2,819** | **196** |
| **2000** January | 2,802 | 977 | 314 | 808 | 319 | 2,338 | 206 |
| February | 2,945 | 994 | 358 | 710 | 397 | 2,473 | 216 |
| March | 3,001 | 1,019 | 205 | 817 | 387 | 2,612 | 222 |
| April | 3,146 | 948 | 174 | 1,041 | 468 | 2,411 | 228 |
| May | 3,272 | 1,009 | -158 | 1,117 | 372 | 2,949 | 223 |
| June | 3,427 | 997 | -143 | 1,188 | 438 | 2,941 | 218 |
| July | 3,454 | 828 | 38 | 959 | 446 | 2,839 | 220 |
| August | 3,341 | 826 | -328 | 1,095 | 421 | 2,979 | 210 |
| September | 3,319 | 1,032 | -159 | 1,192 | 415 | 2,904 | 205 |
| October | 3,202 | 797 | -9 | 998 | 484 | 2,525 | 204 |
| November | 3,135 | 868 | 8 | 1,128 | 509 | 2,358 | 205 |
| December | 2,798 | 971 | 76 | 835 | 490 | 2,368 | 207 |
| **Average** | **3,154** | **938** | **30** | **991** | **429** | **2,642** | **207** |
| **2001** January | 2,704 | 1,079 | 394 | 434 | 483 | 2,471 | 220 |
| February | 2,982 | 1,003 | 566 | 482 | 499 | 2,438 | 236 |
| March | 2,806 | 1,040 | 158 | 770 | 424 | 2,495 | 240 |
| April | 2,946 | 971 | 16 | 919 | 451 | 2,531 | 241 |
| May | 3,078 | 1,003 | -57 | 1,024 | 465 | 2,650 | 239 |
| June | 3,205 | 986 | -240 | 1,327 | 430 | 2,674 | 232 |
| July | 3,193 | 814 | -342 | 1,340 | 393 | 2,615 | 221 |
| August | 3,162 | 898 | -288 | 1,100 | 492 | 2,757 | 212 |
| September | 3,183 | 872 | 263 | 1,025 | 334 | 2,434 | 220 |
| October | 3,068 | 878 | -228 | 1,019 | 473 | 2,682 | 213 |
| November | 3,113 | 934 | 120 | 923 | 402 | 2,602 | 217 |
| December | 2,851 | 791 | -96 | 939 | 370 | 2,429 | 214 |
| **Average** | **3,024** | **939** | **17** | **945** | **434** | **2,566** | **214** |
| **2002** January | 2,914 | 992 | 271 | 711 | 441 | 2,482 | 222 |
| February | 2,974 | 1,022 | 50 | 1,071 | 482 | 2,392 | 224 |
| **2-Month Average** | **2,942** | **1,006** | **166** | **882** | **461** | **2,440** | **224** |
| **2001 2-Month Average** | **2,836** | **1,043** | **476** | **457** | **490** | **2,455** | **236** |
| **2000 2-Month Average** | **2,871** | **985** | **335** | **761** | **357** | **2,403** | **216** |

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are at end of period.
[c] See Note 4 at end of section.
[d] See Note 6 at end of section.
[e] Beginning in 1993, other petroleum products production, exports, and products supplied include an adjustment to oxygenates and motor gasoline blending components.
(s)=Less than +500 barrels per day and greater than -500 barrels per day.

Notes: Other petroleum products include pentanes plus, other hydrocarbons and alcohol, unfinished oils, gasoline blending components, and all finished petroleum products except finished motor gasoline, distillate fuel oil, residual fuel oil, jet fuel, liquefied petroleum gases, and crude oil that is used as fuel. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1991:** Energy Information Administration (EIA), *Petroleum Supply Annual 1992, Volume 1,* May 1993, Table S9. **1992 forward:** EIA, *Petroleum Supply Monthly,* April 2002, Table S10.

## Petroleum Notes

**1. Survey Respondents:** 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 such industry publications 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.

To supplement routine frames maintenance and to provide more thorough coverage, a comprehensive frames investigation is conducted every 3 years. This investigation results in the reassessment and recompilation of the complete frame for each survey. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

In 1991, the EIA conducted a frame identifier survey of companies that produce, blend, store, or import oxygenates. A summary of the results from the identification survey was published in the *Weekly Petroleum Status Report* dated February 12, 1992, and in the February 1992 issue of the *Petroleum Supply Monthly.* In order to continue to provide relevant information about U.S. and regional gasoline supply, the EIA conducted a second frame identifier survey of those companies during 1992. As a result, numerous respondents were added to the monthly surveys effective in January 1993. See Explanatory Note 7 in the *Petroleum Supply Monthly.*

**2. Motor Gasoline:** Beginning in January 1981, the EIA expanded its universe to include non-refinery blenders and separated blending components from finished motor gasoline as a reporting category. Also, survey forms were modified to describe refinery operations more accurately.

Beginning with the reporting of January 1993 data, the EIA made adjustments to the product supplied series for finished motor gasoline. It was recognized that motor gasoline statistics published by the EIA through 1992 were underreported because the reporting system was (1) not collecting all fuel ethanol blending, and (2) there was a misreporting of motor gasoline blending components that were blended into finished gasoline. The adjustments are incorporated into EIA's data beginning in January 1993. To facilitate data analysis across the 1992-1993 period, EIA has prepared a table of 1992 data adjusted according to the 1993 basis. See *Petroleum Supply Monthly,* March 1993, Table H3.

**3. Distillate and Residual Fuel Oils:** The requirement to report crude oil in pipelines or burned on leases as either distillate or residual fuel oil has been eliminated. Prior to January 1981, the refinery input of unfinished oils typically exceeded the 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 unfinished oil inputs 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.

Beginning in January 1993, the end-of-month stocks of distillate fuel oil are split into two sulfur categories (0.05 percent sulfur or less and greater than 0.05 percent sulfur) to meet Environmental Protection Agency requirements effective in October 1992. For further details, see the EIA, *Petroleum Supply Monthly.*

**4. New Stock Basis:** In January 1975, 1979, 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—1,461.

Motor Gasoline: 1974—225; 1980—263 (Total) and 214 (Finished); 1982—244 (Total) and 202 (Finished).

Distillate Fuel Oil: 1974—224; 1980—205; and 1982—186.

Residual Fuel Oil: 1974—75; 1980—91; and 1982—69.

Jet Fuel: 1974—30 (Total) and 24 (Kerosene Type); 1980—42 (Total) and 36 (Kerosene Type); and 1982—39 (Total) and 32 (Kerosene Type).

Liquefied Petroleum Gases: 1974—113; 1978—136; 1980—128; and 1982—102.

Propane and Propylene: 1978—86; 1980—69; and 1982—57.

Other Petroleum Products: 1974—190; 1980—207; and 1982—219.

Stock change calculations beginning in 1975, 1979, 1981, and 1983 were made by 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 the "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: 108 for liquefied petroleum gases, 55 for propane and propylene, and 210 for other petroleum products.

In January 1993, changes were made in the monthly surveys to begin collecting bulk terminal and pipeline stocks of oxygenates. This change affected stocks reported and stock change calculations. However, a new basis stock level was not calculated for 1992 end-of-year stocks.

**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).

**6. Data Discrepancies**: Due to differences internal to EIA data processing systems, some small discrepancies exist between data in the *Monthly Energy Review* (*MER*) and the *Petroleum Supply Annual* (*PSA*) and *Petroleum Supply Monthly (PSM)*. The data that have discrepancies are footnoted in Section 3 tables and summarized here.

| Table | Data Series | Year Average | *MER* Data | *PSA* and *PSM* Data |
|---|---|---|---|---|
| 3.1a | Natural Gas Plant Production | 1976 | 1,604 | 1,603 |
| 3.1b | Exports, Total | 1979 | 471 | 472 |
| 3.1b | Exports, Petroleum Products | 1979 | 236 | 237 |
| 3.1b | Net Imports | 1979 | 7,985 | 7,984 |
| 3.2a | Crude Used Directly | 1976 | -19 | -18 |
| 3.2a | Imports, SPR | 1978 | 161 | 162 |
| 3.2a | Crude Used Directly | 1978 | -15 | -14 |
| 3.2a | Crude Used Directly | 1979 | -14 | -13 |
| 3.2a | Crude Used Directly | 1980 | -14 | -13 |
| 3.2b | Crude Losses | 1976 | 14 | 15 |
| 3.2b | Crude Losses | 1980 | 14 | 15 |
| 3.5 | Stock Change | 1974 | 10 | 9 |
| 3.5 | Stock Change | 1975 | -41 | -40 |
| 3.8 | Total Production | 1982 | 1,527 | 1,525 |
| 3.10 | Products Supplied | 1982 | 1,857 | 1,856 |

# Section 4. Natural Gas

Total dry natural gas production in the United States during March 2002 was forecast as 1.6 trillion cubic feet, 7 percent lower than production during March 2001.

Consumption of natural and supplemental gas in March 2002 was forecast as 2.2 trillion cubic feet, slightly lower than the level in March 2001.

Deliveries to residential consumers in March 2002 were forecast as 673 billion cubic feet, 2 percent lower than the previous March's deliveries. Total deliveries to industrial consumers during March 2002 were forecast as 799 billion cubic feet, 1 percent higher than the previous March's level.

Net imports of natural gas in March 2002 were forecast as 278 billion cubic feet, 15 percent lower than net imports in the previous March.

Stocks of working gas[1] in underground natural gas storage reservoirs at the end of March 2002 were forecast as 1.6 trillion cubic feet, 110 percent higher than the level of stocks available 1 year earlier.

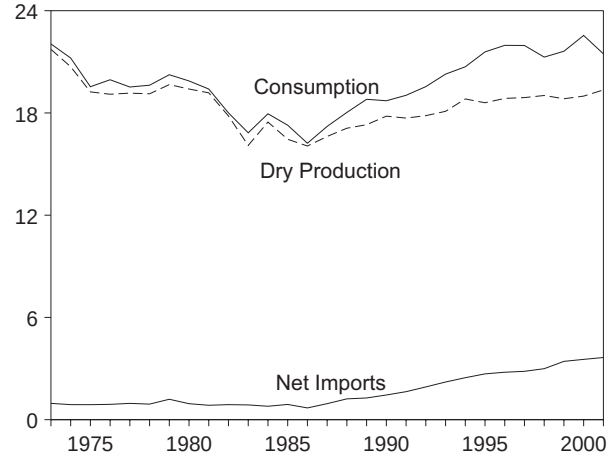
Net withdrawals from underground storage during March 2002 were forecast as 362 billion cubic feet, 100 percent higher than the amount of net withdrawals during March 2001.

[1]Gas available for withdrawal.

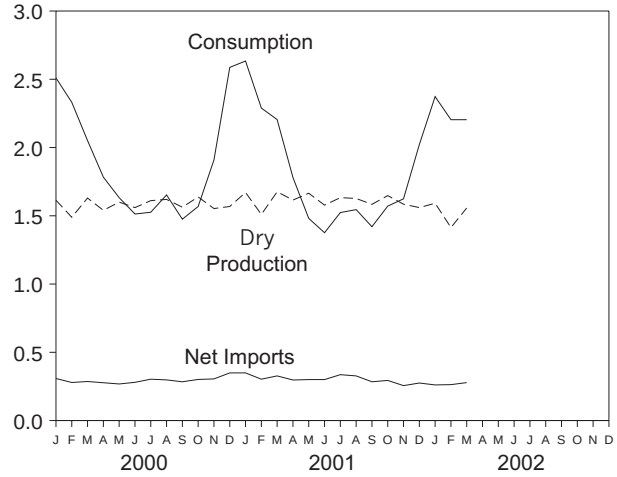
## Figure 4.1 Natural Gas

(Trillion Cubic Feet)

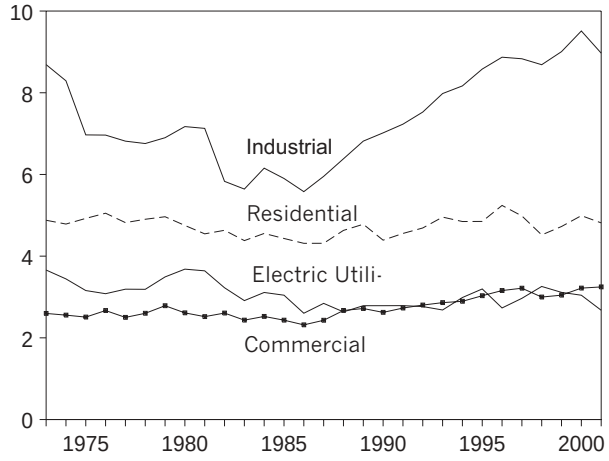
Overview, 1973-2001



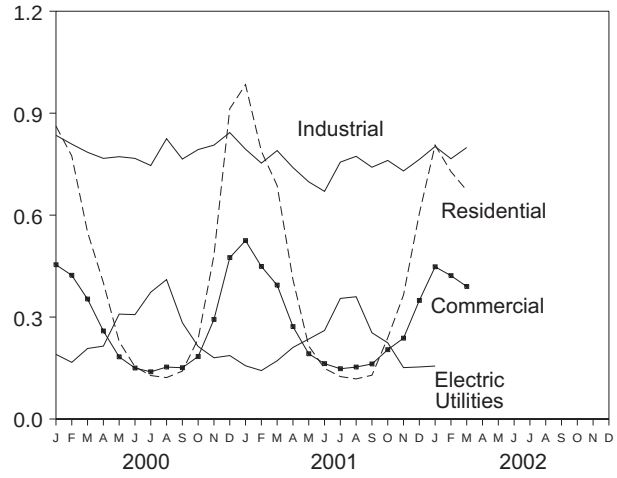

Overview, Monthly



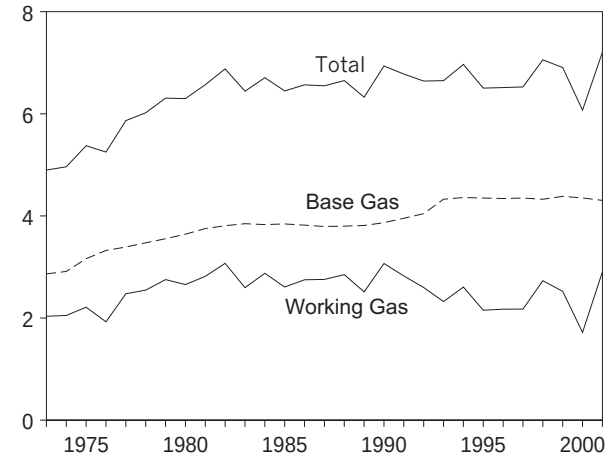

Consumption by Sector, 1973-2001



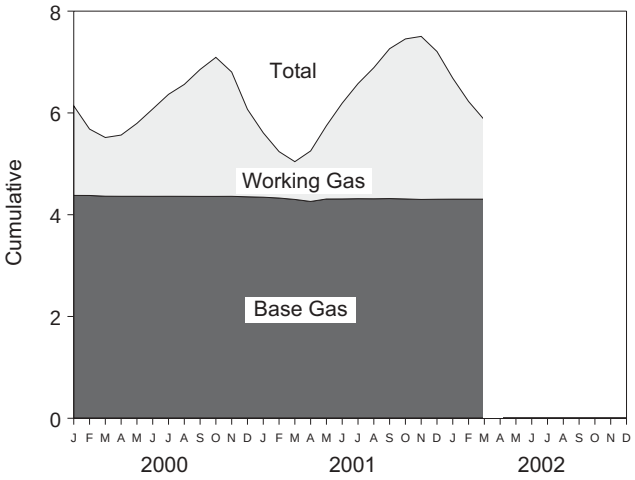

Consumption by Sector, Monthly




Underground Storage, End of Year, 1973-2001




Underground Storage, End of Month




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 4.1, 4.4, and 4.5.

# Table 4.1 Natural Gas Overview

(Billion Cubic Feet)

| | Dry Gas Production[a] | Supplemental Gaseous Fuels[b] | Net Imports[c] | Net Withdrawals From Storage[d] | Balancing Item[e] | Consumption[f,g] |
|---|---|---|---|---|---|---|
| **1973 Total** | [h]**21,731** | **NA** | **956** | **-442** | **-196** | **22,049** |
| **1974 Total** | [h]**20,713** | **NA** | **882** | **-84** | **-289** | **21,223** |
| **1975 Total** | [h]**19,236** | **NA** | **880** | **-344** | **-235** | **19,538** |
| **1976 Total** | [h]**19,098** | **NA** | **899** | **165** | **-216** | **19,946** |
| **1977 Total** | [h]**19,163** | **NA** | **955** | **-557** | **-41** | **19,521** |
| **1978 Total** | [h]**19,122** | **NA** | **913** | **-120** | **-287** | **19,627** |
| **1979 Total** | [h]**19,663** | **NA** | **1,198** | **-248** | **-372** | **20,241** |
| **1980 Total** | **19,403** | **155** | **936** | **23** | **-640** | **19,877** |
| **1981 Total** | **19,181** | **176** | **845** | **-297** | **-500** | **19,404** |
| **1982 Total** | **17,820** | **145** | **882** | **-308** | [h]**-537** | **18,001** |
| **1983 Total** | **16,094** | **132** | **864** | **447** | [h]**-703** | **16,835** |
| **1984 Total** | **17,466** | **110** | **788** | **-197** | **-217** | **17,951** |
| **1985 Total** | **16,454** | **126** | **894** | **235** | **-428** | **17,281** |
| **1986 Total** | **16,059** | **113** | **689** | **-147** | **-493** | **16,221** |
| **1987 Total** | **16,621** | **101** | **939** | **-6** | **-444** | **17,211** |
| **1988 Total** | **17,103** | **101** | **1,220** | **59** | **-453** | **18,030** |
| **1989 Total** | **17,311** | **107** | **1,275** | **326** | **-218** | **18,801** |
| **1990 Total** | **17,810** | **123** | **1,447** | **-513** | **-150** | **18,716** |
| **1991 Total** | **17,698** | **113** | **1,644** | **80** | **-500** | **19,035** |
| **1992 Total** | **17,840** | **118** | **1,921** | **173** | **-508** | **19,544** |
| **1993 Total** | **18,095** | **119** | **2,210** | **-36** | **-110** | **20,279** |
| **1994 Total** | **18,821** | **111** | **2,462** | **-286** | **-400** | **20,708** |
| **1995 Total** | **18,599** | **110** | **2,687** | **415** | **-230** | **21,581** |
| **1996 Total** | **18,854** | **109** | **2,784** | **2** | **217** | **21,966** |
| **1997 Total** | **18,902** | **103** | **2,837** | **24** | **92** | **21,959** |
| **1998 Total** | **19,024** | **102** | **2,993** | **-530** | **-312** | **21,277** |
| **1999 Total** | **18,832** | **98** | **3,422** | **172** | **-905** | **21,620** |
| **2000** January | 1,614 | 9 | 308 | 799 | -220 | 2,510 |
| February | 1,489 | 8 | 279 | 460 | 95 | 2,331 |
| March | 1,630 | 7 | 286 | 155 | -28 | 2,051 |
| April | 1,540 | 6 | 277 | -47 | 6 | 1,783 |
| May | 1,600 | 6 | 268 | -237 | -5 | 1,633 |
| June | 1,560 | 5 | 280 | -291 | -41 | 1,513 |
| July | 1,611 | 7 | 303 | -296 | -99 | 1,526 |
| August | 1,620 | 7 | 298 | -201 | -71 | 1,653 |
| September | 1,563 | 6 | 284 | -297 | -81 | 1,475 |
| October | 1,638 | 7 | 301 | -247 | -131 | 1,568 |
| November | 1,553 | 8 | 305 | 295 | -252 | 1,909 |
| December | 1,568 | 9 | 349 | 735 | -74 | 2,587 |
| **Total** | **18,987** | **86** | **3,538** | **829** | **-892** | **22,547** |
| **2001** January | [E] 1,671 | [E] 8 | [R] 349 | 467 | [R] 139 | [R] 2,634 |
| February | [E] 1,510 | [E] 7 | [R] 303 | 338 | [R] 131 | [R] 2,289 |
| March | [E] 1,676 | [E] 7 | [R] 327 | 181 | [R] 14 | [R] 2,205 |
| April | [E] 1,615 | [E] 6 | 297 | -276 | [R] 138 | [R] 1,780 |
| May | [E] 1,665 | [E] 5 | 300 | -448 | -42 | [R] 1,481 |
| June | [E] 1,578 | [E] 5 | [R] 300 | -422 | [R] -84 | [R] 1,376 |
| July | [E] 1,633 | [E] 7 | [R] 336 | -376 | [R] -75 | 1,524 |
| August | [E] 1,627 | [E] 6 | [R] 327 | -305 | [R] -109 | [R] 1,545 |
| September | [E] 1,584 | [E] 6 | [E] 284 | -368 | -85 | 1,420 |
| October | [E] 1,648 | [E] 6 | [RE] 294 | -189 | [R] -189 | [R] 1,571 |
| November | [RE] 1,585 | [E] 7 | [RE] 256 | -83 | [R] -141 | [R] 1,624 |
| December | [E] 1,560 | [E] 7 | [RE] 275 | 329 | [R] -150 | [R] 2,022 |
| **Total** | [RE] **19,352** | [E] **77** | [RE] **3,647** | **-1,153** | [R] **-453** | [R] **21,470** |
| **2002** January | [E] 1,592 | [RE] 8 | [RE] 261 | [R] 543 | [RE] -30 | [R] 2,373 |
| February | [RF] 1,414 | [F] 7 | [F] 263 | [F] 457 | [RF] 63 | [RF] 2,204 |
| March | [F] 1,557 | [F] 7 | [F] 278 | [F] 362 | [F] 0 | [F] 2,204 |
| **3-Month Total** | [E] **4,563** | [E] **21** | [E] **802** | [E] **1,361** | [E] **33** | [E] **6,781** |
| **2001 3-Month Total** | [E] **4,857** | [E] **22** | **979** | **985** | **285** | **7,128** |
| **2000 3-Month Total** | **4,733** | **24** | **873** | **1,414** | **-153** | **6,892** |

[a] "Marketed Production (Wet)" minus "Extraction Loss." See Table 4.2.
[b] See Note 4 at end of section.
[c] "Imports" minus "Exports." See Table 4.3.
[d] "Withdrawals" minus "Injections." Data for 1980-1999 cover underground storage and liquefied natural gas storage. All other time periods cover underground storage only. See also Note 8 at end of section.
[e] See Note 7 at end of section. Since 1980, excludes transit shipments that cross the U.S.-Canada border (i.e., natural gas delivered to its destination via the other country).
[f] See Note 6 at end of section.
[g] For 1990-1999, annual values include natural gas used by vehicles, whereas monthly values do not. See Table 4.4.
[h] May include unknown quantities of nonhydrocarbon gases.

R=Revised. NA=Not available. E=Estimate. F=Forecast.

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

Sources: **1973-1995:** Energy Information Administration (EIA), *Natural Gas Annual 2000,* Table 94. **1996 forward:** EIA, *Natural Gas Monthly,* March 2002, Table 2, except for Balancing Item and Consumption, which incorporate the most current electric utilities data from Table 4.4 of this report.

**Forecast values:** Derived from EIA's Short-Term Integrated Forecasting System. See Note 9 at end of section.

# Table 4.2 Natural Gas Production

(Billion Cubic Feet)

| | Gross Withdrawals[a] | Repressuring[b] | Nonhydrocarbon Gases Removed[c] | Vented and Flared[d] | Marketed Production[e] | Extraction Loss[f] | Dry Gas Production[g] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **24,067** | **1,171** | **NA** | **248** | [h] **22,648** | **917** | [h] **21,731** |
| **1974 Total** | **22,850** | **1,080** | **NA** | **169** | [h] **21,601** | **887** | [h] **20,713** |
| **1975 Total** | **21,104** | **861** | **NA** | **134** | [h] **20,109** | **872** | [h] **19,236** |
| **1976 Total** | **20,944** | **859** | **NA** | **132** | [h] **19,952** | **854** | [h] **19,098** |
| **1977 Total** | **21,097** | **935** | **NA** | **137** | [h] **20,025** | **863** | [h] **19,163** |
| **1978 Total** | **21,309** | **1,181** | **NA** | **153** | [h] **19,974** | **852** | [h] **19,122** |
| **1979 Total** | **21,883** | **1,245** | **NA** | **167** | [h] **20,471** | **808** | [h] **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** | **20,272** | **1,388** | **208** | **93** | **18,582** | **762** | **17,820** |
| **1983 Total** | **18,659** | **1,458** | **222** | **95** | **16,884** | **790** | **16,094** |
| **1984 Total** | **20,267** | **1,630** | **224** | **108** | **18,304** | **838** | **17,466** |
| **1985 Total** | **19,607** | **1,915** | **326** | **95** | **17,270** | **816** | **16,454** |
| **1986 Total** | **19,131** | **1,838** | **337** | **98** | **16,859** | **800** | **16,059** |
| **1987 Total** | **20,140** | **2,208** | **376** | **124** | **17,433** | **812** | **16,621** |
| **1988 Total** | **20,999** | **2,478** | **460** | **143** | **17,918** | **816** | **17,103** |
| **1989 Total** | **21,074** | **2,475** | **362** | **142** | **18,095** | **785** | **17,311** |
| **1990 Total** | **21,523** | **2,489** | **289** | **150** | **18,594** | **784** | **17,810** |
| **1991 Total** | **21,750** | **2,772** | **276** | **170** | **18,532** | **835** | **17,698** |
| **1992 Total** | **22,132** | **2,973** | **280** | **168** | **18,712** | **872** | **17,840** |
| **1993 Total** | **22,726** | **3,103** | **414** | **227** | **18,982** | **886** | **18,095** |
| **1994 Total** | **23,581** | **3,231** | **412** | **228** | **19,710** | **889** | **18,821** |
| **1995 Total** | **23,744** | **3,565** | **388** | **284** | **19,506** | **908** | **18,599** |
| **1996 Total** | **24,114** | **3,511** | **518** | **272** | **19,812** | **958** | **18,854** |
| **1997 Total** | **24,213** | **3,492** | **599** | **256** | **19,866** | **964** | **18,902** |
| **1998 Total** | **24,108** | **3,427** | **617** | **103** | **19,961** | **938** | **19,024** |
| **1999 Total** | **23,823** | **3,293** | **615** | **110** | **19,805** | **973** | **18,832** |
| **2000** January | 2,061 | 302 | 51 | 8 | 1,700 | 86 | 1,614 |
| February | 1,917 | 289 | 50 | 10 | 1,569 | 80 | 1,489 |
| March | 2,085 | 307 | 54 | 7 | 1,717 | 87 | 1,630 |
| April | 1,966 | 282 | 51 | 10 | 1,623 | 82 | 1,540 |
| May | 2,009 | 264 | 52 | 8 | 1,686 | 86 | 1,600 |
| June | 1,971 | 268 | 52 | 8 | 1,643 | 83 | 1,560 |
| July | 2,024 | 264 | 53 | 11 | 1,697 | 86 | 1,611 |
| August | 2,042 | 275 | 53 | 8 | 1,707 | 87 | 1,620 |
| September | 1,985 | 279 | 52 | 8 | 1,647 | 84 | 1,563 |
| October | 2,088 | 302 | 53 | 8 | 1,725 | 88 | 1,638 |
| November | 1,986 | 297 | 45 | 7 | 1,636 | 83 | 1,553 |
| December | 2,019 | 306 | 54 | 7 | 1,652 | 84 | 1,568 |
| **Total** | **24,153** | **3,434** | **617** | **100** | **20,002** | **1,016** | **18,987** |
| **2001** January | [E] 2,131 | [E] 320 | [E] 41 | [E] 9 | [E] 1,761 | [E] 89 | [E] 1,671 |
| February | [E] 1,928 | [E] 292 | [E] 38 | [E] 8 | [E] 1,591 | [E] 81 | [E] 1,510 |
| March | [E] 2,154 | [E] 339 | [E] 41 | [E] 9 | [E] 1,766 | [E] 90 | [E] 1,676 |
| April | [E] 2,058 | [E] 309 | [E] 38 | [E] 8 | [E] 1,702 | [E] 86 | [E] 1,615 |
| May | [E] 2,104 | [E] 302 | [E] 40 | [E] 9 | [E] 1,754 | [E] 89 | [E] 1,665 |
| June | [E] 1,993 | [E] 286 | [E] 37 | [E] 8 | [E] 1,662 | [E] 84 | [E] 1,578 |
| July | [E] 2,057 | [E] 287 | [E] 40 | [E] 9 | [E] 1,720 | [E] 87 | [E] 1,633 |
| August | [E] 2,058 | [E] 295 | [E] 40 | [E] 10 | [E] 1,714 | [E] 87 | [E] 1,627 |
| September | [E] 1,992 | [E] 276 | [E] 39 | [E] 9 | [E] 1,669 | [E] 85 | [E] 1,584 |
| October | [E] 2,065 | [E] 278 | [E] 41 | [E] 10 | [RE] 1,737 | [E] 88 | [E] 1,648 |
| November | [RE] 2,042 | [RE] 323 | [RE] 40 | [E] 9 | [RE] 1,670 | [E] 85 | [RE] 1,585 |
| December | [RE] 1,975 | [RE] 284 | [RE] 39 | [E] 9 | [E] 1,644 | [E] 84 | [E] 1,560 |
| **Total** | [RE] **24,557** | [RE] **3,590** | [E] **472** | [RE] **106** | [RE] **20,388** | [E] **1,036** | [RE] **19,352** |
| **2002** January | [E] 2,020 | [E] 294 | [E] 40 | [E] 9 | [E] 1,677 | [E] 85 | [E] 1,592 |
| February | NA | NA | NA | NA | [RF] 1,490 | [F] 76 | [RF] 1,414 |
| March | NA | NA | NA | NA | [F] 1,641 | [F] 84 | [F] 1,557 |
| **3-Month Total** | **NA** | **NA** | **NA** | **NA** | [E] **4,807** | [E] **245** | [E] **4,563** |
| **2001 3-Month Total** | [E] **6,213** | [E] **951** | [E] **120** | [E] **25** | [E] **5,117** | [E] **260** | [E] **4,857** |
| **2000 3-Month Total** | **6,063** | **898** | **154** | **25** | **4,986** | **253** | **4,733** |

[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] See Note 3 at end of section.

[g] "Marketed Production (Wet)" minus "Extraction Loss."

[h] May include unknown quantities of nonhydrocarbon gases.

R=Revised. NA=Not available. E=Estimate. F=Forecast.

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

Sources: **1973-1995:** Energy Information Administration (EIA), *Natural Gas Annual 2000,* Table 93. **1996 forward:** EIA, *Natural Gas Monthly,* March 2002, Table 1. **Forecast values:** Derived from EIA's Short-Term Integrated Forecasting System. See Note 9 at end of section.

# Table 4.3 Natural Gas Trade by Country

(Billion Cubic Feet)

| | Imports | | | | | | | | Exports | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Algeria[a] | Australia[a] | Canada[b] | Mexico[b] | Qatar[a] | Trinidad and Tobago[a] | Other[c] | Total | Canada[b] | Japan[a] | Mexico[b] | Total |
| **1973 Total** | **3** | **0** | **1,028** | **2** | **0** | **0** | **0** | **1,033** | **15** | **48** | **14** | **77** |
| **1974 Total** | **0** | **0** | **959** | **(s)** | **0** | **0** | **0** | **959** | **13** | **50** | **13** | **77** |
| **1975 Total** | **5** | **0** | **948** | **0** | **0** | **0** | **0** | **953** | **10** | **53** | **9** | **73** |
| **1976 Total** | **10** | **0** | **954** | **0** | **0** | **0** | **0** | **964** | **8** | **50** | **7** | **65** |
| **1977 Total** | **11** | **0** | **997** | **2** | **0** | **0** | **0** | **1,011** | **(s)** | **52** | **4** | **56** |
| **1978 Total** | **84** | **0** | **881** | **0** | **0** | **0** | **0** | **966** | **(s)** | **48** | **4** | **53** |
| **1979 Total** | **253** | **0** | **1,001** | **0** | **0** | **0** | **0** | **1,253** | **(s)** | **51** | **4** | **56** |
| **1980 Total** | **86** | **0** | **797** | **102** | **0** | **0** | **0** | **985** | **(s)** | **45** | **4** | **49** |
| **1981 Total** | **37** | **0** | **762** | **105** | **0** | **0** | **0** | **904** | **(s)** | **56** | **3** | **59** |
| **1982 Total** | **55** | **0** | **783** | **95** | **0** | **0** | **0** | **933** | **(s)** | **50** | **2** | **52** |
| **1983 Total** | **131** | **0** | **712** | **75** | **0** | **0** | **0** | **918** | **(s)** | **53** | **2** | **55** |
| **1984 Total** | **36** | **0** | **755** | **52** | **0** | **0** | **0** | **843** | **(s)** | **53** | **2** | **55** |
| **1985 Total** | **24** | **0** | **926** | **0** | **0** | **0** | **0** | **950** | **(s)** | **53** | **2** | **55** |
| **1986 Total** | **0** | **0** | **749** | **0** | **0** | **0** | **2** | **750** | **9** | **50** | **2** | **61** |
| **1987 Total** | **0** | **0** | **993** | **0** | **0** | **0** | **0** | **993** | **3** | **49** | **2** | **54** |
| **1988 Total** | **17** | **0** | **1,276** | **0** | **0** | **0** | **0** | **1,294** | **20** | **52** | **2** | **74** |
| **1989 Total** | **42** | **0** | **1,339** | **0** | **0** | **0** | **0** | **1,382** | **38** | **51** | **17** | **107** |
| **1990 Total** | **84** | **0** | **1,448** | **0** | **0** | **0** | **0** | **1,532** | **17** | **53** | **16** | **86** |
| **1991 Total** | **64** | **0** | **1,710** | **0** | **0** | **0** | **0** | **1,773** | **15** | **54** | **60** | **129** |
| **1992 Total** | **43** | **0** | **2,094** | **0** | **0** | **0** | **0** | **2,138** | **68** | **53** | **96** | **216** |
| **1993 Total** | **82** | **0** | **2,267** | **2** | **0** | **0** | **0** | **2,350** | **45** | **56** | **40** | **140** |
| **1994 Total** | **51** | **0** | **2,566** | **7** | **0** | **0** | **0** | **2,624** | **53** | **63** | **47** | **162** |
| **1995 Total** | **18** | **0** | **2,816** | **7** | **0** | **0** | **0** | **2,841** | **28** | **65** | **61** | **154** |
| **1996 Total** | **35** | **0** | **2,883** | **14** | **0** | **0** | **5** | **2,937** | **52** | **68** | **34** | **153** |
| **1997 Total** | **66** | **10** | **2,899** | **17** | **0** | **0** | **2** | **2,994** | **56** | **62** | **38** | **157** |
| **1998 Total** | **69** | **12** | **3,052** | **15** | **0** | **0** | **5** | **3,152** | **40** | **66** | **53** | **159** |
| **1999 Total** | **76** | **12** | **3,368** | **55** | **20** | **51** | **5** | **3,586** | **39** | **64** | **61** | **163** |
| **2000** January | 5 | 0 | 310 | 3 | 0 | 8 | 0 | 326 | 6 | 6 | 6 | 18 |
| February | 5 | 0 | 289 | 1 | 0 | 5 | 0 | 300 | 9 | 6 | 6 | 21 |
| March | 4 | 0 | 291 | (s) | 2 | 8 | 0 | 307 | 9 | 4 | 8 | 21 |
| April | 3 | 2 | 274 | 1 | 7 | 7 | 0 | 294 | 3 | 6 | 8 | 17 |
| May | 2 | 0 | 275 | 0 | 0 | 11 | 0 | 288 | 4 | 6 | 10 | 20 |
| June | 3 | 0 | 279 | 0 | 2 | 7 | 5 | 296 | 4 | 4 | 9 | 16 |
| July | 3 | 2 | 293 | (s) | 5 | 14 | 5 | 322 | 4 | 6 | 10 | 20 |
| August | 2 | 0 | 295 | (s) | 7 | 8 | 5 | 318 | 4 | 6 | 11 | 21 |
| September | 3 | 1 | 283 | (s) | 8 | 5 | 5 | 305 | 5 | 6 | 10 | 21 |
| October | 8 | 0 | 296 | 1 | 7 | 7 | 5 | 325 | 5 | 8 | 10 | 23 |
| November | 3 | (s) | 309 | 1 | 7 | 7 | 2 | 330 | 10 | 6 | 9 | 25 |
| December | 8 | 0 | 349 | 4 | 0 | 10 | 0 | 371 | 10 | 6 | 7 | 23 |
| **Total** | **47** | **6** | **3,544** | **12** | **46** | **99** | **28** | **3,782** | **73** | **66** | **106** | **244** |
| **2001** January | 5 | 0 | R 354 | 2 | 0 | R 11 | 2 | R 374 | 12 | 6 | 8 | 26 |
| February | 8 | 0 | R 307 | 1 | 0 | 7 | 8 | R 330 | R 15 | 4 | 8 | R 27 |
| March | 8 | 0 | R 335 | 1 | 2 | R 11 | 3 | R 360 | 20 | 6 | 7 | 32 |
| April | 5 | 0 | R 297 | 2 | 2 | 8 | 7 | R 321 | R 13 | 6 | 5 | R 24 |
| May | 8 | 0 | 302 | (s) | 5 | 10 | 5 | 329 | 13 | 6 | 10 | 29 |
| June | 4 | 0 | 297 | 0 | 3 | 10 | 9 | 324 | 10 | 4 | 11 | 25 |
| July | 8 | 1 | R 342 | 0 | 5 | 7 | 5 | R 367 | 10 | 6 | 15 | 31 |
| August | 5 | 1 | 336 | 0 | 0 | 8 | 5 | R 356 | 8 | 6 | 16 | 29 |
| September | 5 | 0 | 295 | 0 | 5 | 5 | 7 | R 317 | 10 | 6 | 18 | 33 |
| October | R 2 | 0 | R 317 | 0 | 0 | R 9 | 0 | R 328 | R 11 | 8 | R 16 | R 34 |
| November | R 3 | 0 | R 285 | (s) | 0 | 5 | R 0 | R 293 | R 16 | 6 | R 16 | R 37 |
| December | 5 | 0 | R 295 | R 3 | 0 | R 8 | 0 | R 311 | R 20 | 6 | R 11 | R 37 |
| **Total** | **65** | **2** | **R 3,763** | **R 10** | **23** | **R 98** | **R 50** | **R 4,011** | **R 157** | **66** | **R 140** | **R 364** |
| **2002** January | 3 | 0 | E 293 | E 3 | 0 | 7 | 0 | E 306 | E 29 | 6 | E 11 | E 45 |

[a] As liquefied natural gas.

[b] By pipeline, except for very small amounts of liquefied natural gas imported from Canada in 1973, 1977, and 1981 and exported to Mexico beginning in 1998. See Note 5 at end of section.

[c] Liquefied natural gas imported from Indonesia in 1986 and 2000, the United Arab Emirates beginning in 1996, Malaysia in 1999, Nigeria beginning in 2000, and Oman beginning in 2000.

R=Revised. E=Estimate. (s)=Less than 500 million cubic feet.

Notes: See Note 5 at end of section. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1995:** Energy Information Administration (EIA), Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." **1996 forward:** EIA, *Natural Gas Monthly,* March 2002, Tables 5 and 6.

# Table 4.4 Natural Gas Consumption by Sector

(Billion Cubic Feet)

| | Lease and Plant Fuel | Pipeline Fuel[a] | Delivered to Consumers | | | | | | Total Consumption[c] |
|---|---|---|---|---|---|---|---|---|---|
| | | | Residential | Commercial | Industrial[b] | Vehicles | Electric Utilities | Total | |
| **1973 Total** | **1,496** | **728** | **4,879** | **2,597** | **8,689** | **NA** | **3,660** | **19,825** | **22,049** |
| **1974 Total** | **1,477** | **669** | **4,786** | **2,556** | **8,292** | **NA** | **3,443** | **19,077** | **21,223** |
| **1975 Total** | **1,396** | **583** | **4,924** | **2,508** | **6,968** | **NA** | **3,158** | **17,558** | **19,538** |
| **1976 Total** | **1,634** | **548** | **5,051** | **2,668** | **6,964** | **NA** | **3,081** | **17,764** | **19,946** |
| **1977 Total** | **1,659** | **533** | **4,821** | **2,501** | **6,815** | **NA** | **3,191** | **17,329** | **19,521** |
| **1978 Total** | **1,648** | **530** | **4,903** | **2,601** | **6,757** | **NA** | **3,188** | **17,449** | **19,627** |
| **1979 Total** | **1,499** | **601** | **4,965** | **2,786** | **6,899** | **NA** | **3,491** | **18,141** | **20,241** |
| **1980 Total** | **1,026** | **635** | **4,752** | **2,611** | **7,172** | **NA** | **3,682** | **18,216** | **19,877** |
| **1981 Total** | **928** | **642** | **4,546** | **2,520** | **7,128** | **NA** | **3,640** | **17,834** | **19,404** |
| **1982 Total** | **1,109** | **596** | **4,633** | **2,606** | **5,831** | **NA** | **3,226** | **16,295** | **18,001** |
| **1983 Total** | **978** | **490** | **4,381** | **2,433** | **5,643** | **NA** | **2,911** | **15,367** | **16,835** |
| **1984 Total** | **1,077** | **529** | **4,555** | **2,524** | **6,154** | **NA** | **3,111** | **16,345** | **17,951** |
| **1985 Total** | **966** | **504** | **4,433** | **2,432** | **5,901** | **NA** | **3,044** | **15,811** | **17,281** |
| **1986 Total** | **923** | **485** | **4,314** | **2,318** | **5,579** | **NA** | **2,602** | **14,814** | **16,221** |
| **1987 Total** | **1,149** | **519** | **4,315** | **2,430** | **5,953** | **NA** | **2,844** | **15,542** | **17,211** |
| **1988 Total** | **1,096** | **614** | **4,630** | **2,670** | **6,383** | **NA** | **2,636** | **16,320** | **18,030** |
| **1989 Total** | **1,070** | **629** | **4,781** | **2,718** | **6,816** | **NA** | **2,787** | **17,102** | **18,801** |
| **1990 Total** | **1,236** | **660** | **4,391** | **2,623** | **7,018** | **(s)** | **2,787** | **16,820** | **18,716** |
| **1991 Total** | **1,129** | **601** | **4,556** | **2,729** | **7,231** | **(s)** | **2,789** | **17,305** | **19,035** |
| **1992 Total** | **1,171** | **588** | **4,690** | **2,803** | **7,527** | **1** | **2,766** | **17,786** | **19,544** |
| **1993 Total** | **1,172** | **624** | **4,956** | **2,862** | **7,981** | **1** | **2,682** | **18,483** | **20,279** |
| **1994 Total** | **1,124** | **685** | **4,848** | **2,895** | **8,167** | **2** | **2,987** | **18,899** | **20,708** |
| **1995 Total** | **1,220** | **700** | **4,850** | **3,031** | **8,580** | **3** | **3,197** | **19,660** | **21,581** |
| **1996 Total** | **1,250** | **711** | **5,241** | **3,158** | **8,870** | **3** | **2,732** | **20,005** | **21,966** |
| **1997 Total** | **1,203** | **751** | **4,984** | **3,215** | **8,832** | **4** | **2,968** | **20,004** | **21,959** |
| **1998 Total** | **1,173** | **635** | **4,520** | **2,999** | **8,686** | **5** | **3,258** | **19,469** | **21,277** |
| **1999 Total** | **1,079** | **645** | **4,726** | **3,045** | **9,006** | **6** | **3,113** | **19,895** | **21,620** |
| **2000** January | 96 | 73 | 862 | 454 | 835 | NA | 190 | 2,342 | 2,510 |
| February | 89 | 67 | 774 | 423 | 809 | NA | 167 | 2,174 | 2,331 |
| March | 97 | 59 | 550 | 353 | 785 | NA | 208 | 1,894 | 2,051 |
| April | 92 | 51 | 401 | 259 | 767 | NA | 215 | 1,640 | 1,783 |
| May | 94 | 46 | 228 | 183 | 772 | NA | 309 | 1,492 | 1,633 |
| June | 92 | 43 | 154 | 150 | 767 | NA | 307 | 1,378 | 1,513 |
| July | 95 | 43 | 128 | 139 | 746 | NA | 373 | 1,387 | 1,526 |
| August | 96 | 47 | 122 | 153 | 825 | NA | 410 | 1,510 | 1,653 |
| September | 93 | 42 | 141 | 151 | 765 | NA | 284 | 1,340 | 1,475 |
| October | 98 | 44 | 236 | 184 | 793 | NA | 213 | 1,426 | 1,568 |
| November | 93 | 55 | 482 | 293 | 806 | NA | 180 | 1,761 | 1,909 |
| December | 94 | 75 | 913 | 475 | 843 | NA | 187 | 2,418 | 2,587 |
| **Total** | **1,130** | **644** | **4,992** | **3,218** | **9,512** | **8** | **3,043** | **20,772** | **22,547** |
| **2001** January | E 99 | 75 | R 984 | 525 | 794 | NA | 157 | R 2,459 | R 2,634 |
| February | E 90 | 65 | R 788 | R 449 | 753 | NA | 143 | R 2,133 | R 2,289 |
| March | E 100 | 63 | R 687 | R 394 | R 790 | NA | 171 | R 2,043 | R 2,205 |
| April | E 96 | 51 | R 410 | 272 | R 740 | NA | 211 | R 1,633 | R 1,780 |
| May | E 99 | 42 | R 215 | 192 | 698 | NA | 235 | 1,339 | R 1,481 |
| June | E 94 | 39 | 149 | R 163 | R 670 | NA | 261 | R 1,243 | R 1,376 |
| July | E 97 | 44 | 125 | R 148 | R 756 | NA | 355 | R 1,383 | 1,524 |
| August | E 97 | 44 | 118 | R 153 | 773 | NA | 360 | R 1,404 | R 1,545 |
| September | E 94 | 41 | 129 | 162 | 741 | NA | 254 | 1,286 | 1,420 |
| October | E 98 | 45 | R 239 | R 204 | R 761 | NA | 224 | R 1,428 | R 1,571 |
| November | RE 94 | R 46 | R 365 | 238 | R 730 | NA | 151 | R 1,483 | R 1,624 |
| December | RE 93 | R 58 | R 605 | R 349 | R 764 | NA | 153 | R 1,871 | R 2,022 |
| **Total** | RE **1,152** | R **614** | R **4,814** | R **3,247** | R **8,969** | **NA** | **2,675** | R **19,705** | R **21,470** |
| **2002** January | RF 90 | RF 71 | RF 806 | RF 448 | RF 802 | NA | 156 | RF 2,212 | RF 2,373 |
| February | RF 81 | RF 63 | RF 728 | RF 422 | RF 766 | NA | NA | RF 2,060 | RF 2,204 |
| March | F 89 | F 62 | F 673 | F 390 | F 799 | NA | NA | F 2,052 | F 2,204 |
| **3-Month Total** | E **260** | E **196** | E **2,208** | E **1,260** | E **2,367** | **NA** | **NA** | E **6,325** | E **6,781** |
| **2001 3-Month Total** | **289** | **204** | **2,459** | **1,367** | **2,338** | **NA** | **471** | **6,635** | **7,128** |
| **2000 3-Month Total** | **283** | **199** | **2,186** | **1,230** | **2,429** | **NA** | **565** | **6,410** | **6,892** |

[a] Natural gas consumed in the operation of pipelines, primarily in compressors.

[b] Most deliveries to nonutility power producers are included in the industrial sector. In instances where the nonutility is primarily a commercial establishment, deliveries are included in the commercial sector.

[c] For 1990-1999, annual values include natural gas used by vehicles, whereas monthly values do not.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 500 million cubic feet.

Notes: Natural gas includes supplemental gaseous fuels. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1995:** Energy Information Administration (EIA), *Natural Gas Annual 2000,* Table 95. **1996 forward:** EIA, *Natural Gas Monthly,* March 2002, Table 3, except for the electric utilities values, which come from Table 7.7 of this report, and the totals in this table, which incorporate the electric utilities data. **Forecast values:** Derived from EIA's Short-Term Integrated Forecasting System.

# Table 4.5 Natural Gas in Underground Storage

(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 | Withdrawals | Injections | Net[b,c] |
| **1973 Total** | **2,864** | **2,034** | **4,898** | **305** | **17.6** | **1,533** | **1,974** | **-442** |
| **1974 Total** | **2,912** | **2,050** | **4,962** | **16** | **.8** | **1,701** | **1,784** | **-84** |
| **1975 Total** | **3,162** | **2,212** | **5,374** | **162** | **7.9** | **1,760** | **2,104** | **-344** |
| **1976 Total** | **3,323** | **1,926** | **5,250** | **-286** | **-12.9** | **1,921** | **1,756** | **165** |
| **1977 Total** | **3,391** | **2,475** | **5,866** | **549** | **28.5** | **1,750** | **2,307** | **-557** |
| **1978 Total** | **3,473** | **2,547** | **6,020** | **72** | **2.9** | **2,158** | **2,278** | **-120** |
| **1979 Total** | **3,553** | **2,753** | **6,306** | **207** | **8.1** | **2,047** | **2,295** | **-248** |
| **1980 Total** | **3,642** | **2,655** | **6,297** | **-99** | **-3.6** | **1,910** | **1,896** | **14** |
| **1981 Total** | **3,752** | **2,817** | **6,569** | **162** | **6.1** | **1,887** | **2,180** | **-293** |
| **1982 Total** | **3,808** | **3,071** | **6,879** | **255** | **9.0** | **2,094** | **2,399** | **-306** |
| **1983 Total** | **3,847** | **2,595** | **6,442** | **-476** | **-15.5** | **2,142** | **1,700** | **442** |
| **1984 Total** | **3,830** | **2,876** | **6,706** | **281** | **10.8** | **2,064** | **2,252** | **-188** |
| **1985 Total** | **3,842** | **2,607** | **6,448** | **-270** | **-9.4** | **2,359** | **2,128** | **231** |
| **1986 Total** | **3,819** | **2,749** | **6,567** | **142** | **5.5** | **1,812** | **1,952** | **-140** |
| **1987 Total** | **3,792** | **2,756** | **6,548** | **7** | **.3** | **1,881** | **1,887** | **-6** |
| **1988 Total** | **3,800** | **2,850** | **6,650** | **94** | **3.4** | **2,244** | **2,174** | **69** |
| **1989 Total** | **3,812** | **2,513** | **6,325** | **-337** | **-11.8** | **2,804** | **2,491** | **313** |
| **1990 Total** | **3,868** | **3,068** | **6,936** | **555** | **22.1** | **1,934** | **2,433** | **-499** |
| **1991 Total** | **3,954** | **2,824** | **6,778** | **-244** | **-8.0** | **2,689** | **2,608** | **80** |
| **1992 Total** | **4,044** | **2,597** | **6,641** | **-227** | **-8.0** | **2,724** | **2,555** | **168** |
| **1993 Total** | **4,327** | **2,322** | **6,649** | **-275** | **-10.6** | **2,717** | **2,760** | **-43** |
| **1994 Total** | **4,360** | **2,606** | **6,966** | **284** | **12.2** | **2,508** | **2,796** | **-288** |
| **1995 Total** | **4,349** | **2,153** | **6,503** | **-453** | **-17.4** | **2,974** | **2,566** | **408** |
| **1996 Total** | **4,341** | **2,173** | **6,513** | **19** | **.9** | **2,911** | **2,906** | **6** |
| **1997 Total** | **4,350** | **2,175** | **6,525** | **2** | **.1** | **2,824** | **2,800** | **24** |
| **1998 Total** | **4,326** | **2,730** | **7,056** | **554** | **25.5** | **2,379** | **2,905** | **-526** |
| **1999 Total** | **4,383** | **2,523** | **6,906** | **-207** | **-7.6** | **2,772** | **2,598** | **174** |
| **2000** January | 4,379 | 1,760 | 6,139 | -312 | -15.1 | 841 | 59 | 782 |
| February | 4,378 | 1,304 | 5,681 | -445 | -25.3 | 533 | 83 | 450 |
| March | 4,364 | 1,153 | 5,517 | -255 | -18.0 | 291 | 139 | 152 |
| April | 4,362 | 1,203 | 5,565 | -297 | -19.6 | 146 | 192 | -46 |
| May | 4,362 | 1,433 | 5,795 | -404 | -21.9 | 82 | 313 | -231 |
| June | 4,361 | 1,717 | 6,079 | -435 | -20.1 | 65 | 349 | -284 |
| July | 4,362 | 2,003 | 6,365 | -379 | -15.8 | 83 | 372 | -289 |
| August | 4,361 | 2,199 | 6,560 | -414 | -15.8 | 109 | 305 | -196 |
| September | 4,360 | 2,494 | 6,855 | -432 | -14.7 | 80 | 370 | -291 |
| October | 4,360 | 2,732 | 7,092 | -345 | -11.1 | 88 | 329 | -241 |
| November | 4,361 | 2,442 | 6,803 | -628 | -20.3 | 396 | 108 | 288 |
| December | 4,352 | 1,719 | 6,071 | -806 | -31.9 | 785 | 66 | 720 |
| **Total** | **4,352** | **1,719** | **6,071** | **-806** | **-31.9** | **3,498** | **2,684** | **814** |
| **2001** January | 4,344 | 1,265 | 5,609 | -495 | -28.1 | 559 | 93 | 467 |
| February | 4,328 | 912 | 5,241 | -391 | -30.0 | 409 | 71 | 338 |
| March | 4,300 | 742 | 5,042 | -412 | -35.7 | 293 | 113 | 181 |
| April | 4,261 | 992 | 5,253 | -210 | -17.5 | 68 | 345 | -276 |
| May | 4,309 | 1,440 | 5,749 | 7 | .5 | 41 | 488 | -448 |
| June | 4,310 | 1,882 | 6,193 | 165 | 9.6 | 48 | 470 | -422 |
| July | 4,315 | 2,261 | 6,576 | 258 | 12.9 | 64 | 441 | -376 |
| August | 4,313 | 2,576 | 6,889 | 377 | 17.1 | 79 | 384 | -305 |
| September | 4,318 | 2,944 | 7,262 | 450 | 18.0 | 41 | 409 | -368 |
| October | 4,310 | 3,144 | 7,454 | 412 | 15.1 | 92 | 281 | -189 |
| November | 4,300 | 3,204 | 7,504 | 762 | 31.2 | 140 | 224 | -83 |
| December | 4,304 | 2,903 | 7,207 | 1,184 | 68.9 | 407 | 78 | 329 |
| **Total** | **4,304** | **2,903** | **7,207** | **1,184** | **68.9** | **2,244** | **3,397** | **-1,153** |
| **2002** January | R 4,306 | R 2,377 | R 6,682 | R 1,111 | R 87.8 | 602 | 59 | R 543 |
| February | RF 4,306 | RF 1,920 | RF 6,226 | RF 1,008 | RF 110.5 | NA | NA | F 457 |
| March | F 4,306 | F 1,558 | F 5,864 | F 817 | F 110.1 | NA | NA | F 362 |

[a] For total underground storage capacity at the end of each calendar year, see Note 8 at end of section.

[b] For 1980-1998, data differ from those shown on Table 4.1, which includes liquefied natural gas storage for that period.

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

R=Revised. NA=Not available. F=Forecast.

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

Sources: See end of section.

## 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*). Data are not available 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 *Natural Gas Monthly* (*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 to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard 14.73 psi 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 liquid constituents at natural gas processing plants.

Annual data are from the EIA *NGA,* where they are estimated on the basis of 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 on the basis of 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 on the basis of total natural gas marketed production data from the EIA *NGA*.

**4. Supplemental Gaseous Fuels:** Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added 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 monthly supplemental gaseous fuels figure.

**5. Imports and Exports:** The United States imports natural gas via pipeline from Canada and Mexico and imports liquefied natural gas (LNG) via tanker from Algeria, Australia, Indonesia, Nigeria, Oman, Qatar, Trinidad and Tobago, and the United Arab Emirates. In addition, very small amounts of LNG arrived from Canada in 1973 (667 million cubic feet), 1977 (572 million cubic feet), and 1981 (6 million cubic feet). The United States exports natural gas via pipeline to Canada and Mexico and exports LNG via tanker to Japan. Also, small amounts of LNG have gone to Mexico since 1998.

Annual and final monthly data are from the annual EIA 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. Balancing Item:** The balancing item 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.

The increase of 0.2 trillion cubic feet (Tcf) in the "Balancing Item" category in 1983, followed by a decline of 0.5 Tcf in 1984, reflected unusually large differences resulting from the use of the annual billing cycle (essentially December 15 through the following December 14) consumption data in conjunction with calendar year supply data. Record cold temperatures during the last half of December 1983 resulted in a reported 0.3 Tcf increase in net withdrawals from underground storage for peak shaving as compared with the same period in 1982, but the effect of this cold weather was reflected primarily in 1984 consumption data. For underground storage data, see Table F2 in the May 1985 *NGM*, which was published in July 1985.

**8. Natural Gas Storage:** Gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. 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.

Total underground storage capacity at the end of each calendar year since 1975 (first year data were available), in billion cubic feet, was:

| | | | | | |
|---|---|---|---|---|---|
| 1975 | 6,280 | 1984 | 8,043 | 1993 | 7,989 |
| 1976 | 6,544 | 1985 | 8,087 | 1994 | 8,043 |
| 1977 | 6,678 | 1986 | 8,145 | 1995 | 7,953 |
| 1978 | 6,890 | 1987 | 8,124 | 1996 | 7,980 |
| 1979 | 6,929 | 1988 | 8,124 | 1997 | 8,332 |
| 1980 | 7,434 | 1989 | 8,124 | 1998 | 8,179 |
| 1981 | 7,805 | 1990 | 8,125 | 1999 | 8,229 |
| 1982 | 7,915 | 1991 | 7,993 | 2000 | 8,241 |
| 1983 | 7,985 | 1992 | 7,932 | | |

Monthly underground storage data are collected from the Federal Energy Regulatory Commission (FERC) Form FERC-8 (interstate data) and EIA Form EIA-191 (intrastate data). Beginning in January 1991, all data are collected on the revised Form EIA-191. 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 1980-1998 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.

**9. Forecast Values:** Data values preceded by "F" in this section are forecast values. They are derived from EIA's Short-Term Integrated Forecasting System (STIFS). The model is driven primarily by data and assumptions about key macroeconomic variables, the world oil price, and weather. The natural gas forecast relies on other variables as well, such as gas wellhead prices, electric power generation by other sources, and U.S. gas import capacity. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the natural gas industry.

The STIFS model results are published quarterly in EIA's *Short-Term Energy Outlook*, which is available from the National Energy Information Center (202-586-8800) and accessible on the world wide web at http://www.eia.doe.gov. Documentation for the model and instructions for downloading and operating it on a personal computer are provided.

## Sources for Table 4.5

**Storage Activity**

1973-1975: Energy Information Administration (EIA) *Natural Gas Annual 1994, Volume 2,* Table 9.
1976-1979: EIA**,** *Natural Gas Production and Consumption 1979,* Table 1.
1980-1995: EIA, *Historical Natural Gas Annual 1930 Through 2000,* Table 11.
1996 forward: EIA, *Natural Gas Monthly,* March 2002, Table 9.
*Forecast values:* derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.

**Other Data**

1973 and 1974: American Gas Association (AGA), *Gas Facts, 1972 Data,* Table 57, *Gas Facts, 1973 Data*, Table 57, and *Gas Facts, 1974 Data,* Table 40.
1975 and 1976: Federal Energy Administration (FEA), Form FEA-G318-M-O, "Underground Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8, "Underground Gas Storage Report."
1977 and 1978: EIA, Form FEA-G-318-M-O, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FERC-8, "Underground Gas Storage Report."
1979-1995: EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report."
1996 forward: EIA, *Natural Gas Monthly,* March 2002, Table 9.
*Forecast values:* derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.

# Section 5. Crude Oil and Natural Gas Resource Development

The March 2002 rotary rig count was 763, 8 percent lower than the count in February 2002 and 34 percent lower than the count in March 2001. Of the total number of rigs in operation, 649 were onshore and 114 were offshore. For March 2002, the number of onshore rigs was down 35 percent, while the number of offshore rigs was down 32 percent from the March 2001 count. Rotary rigs drilling for natural gas as a share of total rigs stood at 81 percent in March 2002.

Total footage drilled in March 2002 was 15.5 million feet, 34 percent higher than the footage drilled in February 2002 but down 6 percent from that drilled in March 2001.

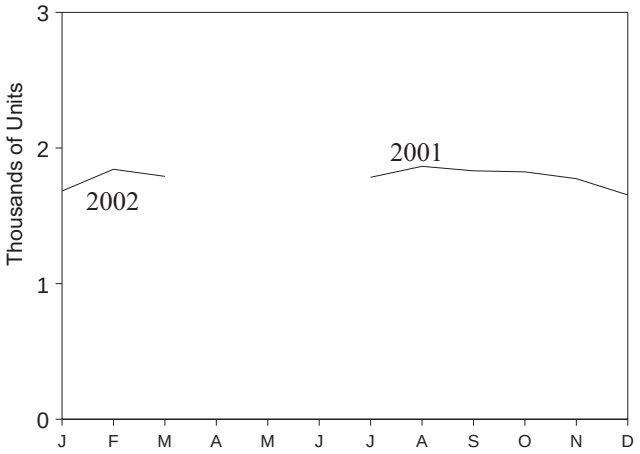
The estimated number of exploratory and development crude oil and natural gas wells drilled during March 2002 was 1,880, 2 percent more than the number drilled in February 2002 but 18 percent fewer than the number drilled in March 2001. The estimated number of crude oil wells drilled was 316, and the estimated number of natural gas wells was 1,564, 54 percent lower and 3 percent lower, respectively, than their March 2001 levels.

The estimated number of dry holes drilled in March 2002 was 87, down 38 percent from the number drilled in February 2002 and down 69 percent from the number drilled in March 2001.

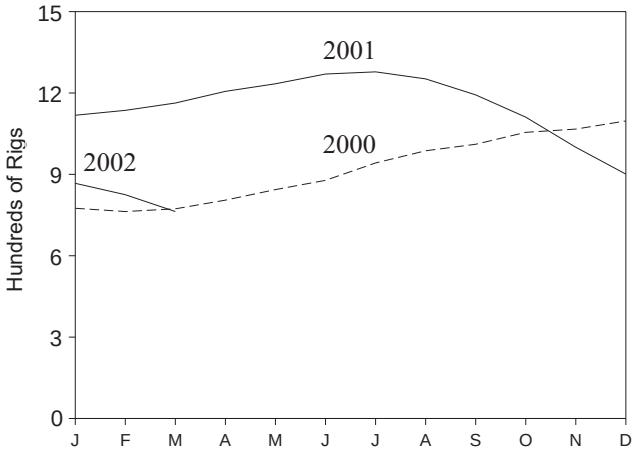
There were 1.8 thousand well service rigs active in March 2002, 3 percent fewer than in the previous month.

## Figure 5.1 Oil and Gas Resource Development Indicators

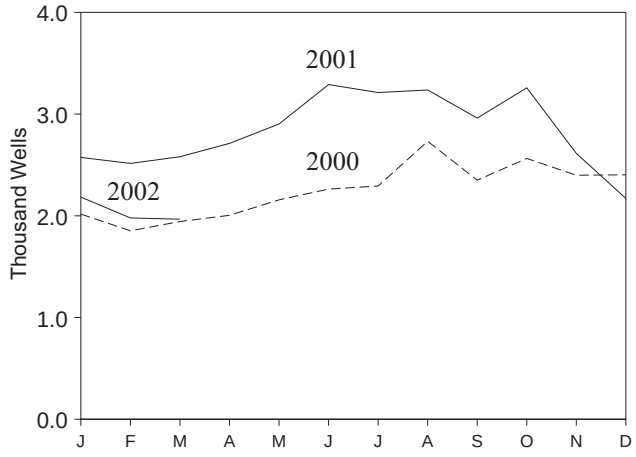
### Active Well Service Rig Count



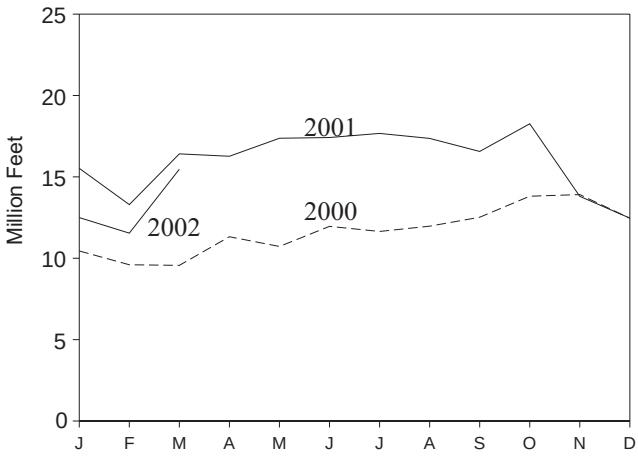

### Rotary Rigs in Operation



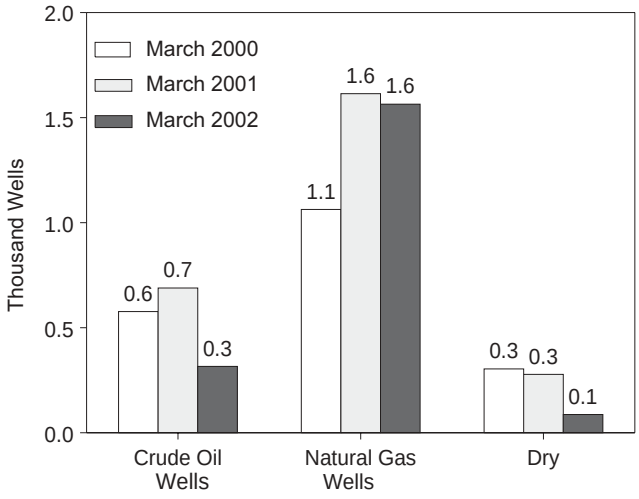

### Wells Drilled



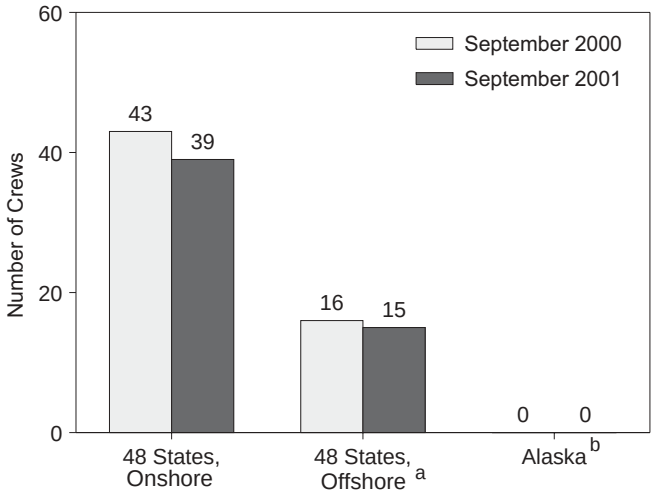

### Footage Drilled




### Wells Drilled by Type




### Maximum U.S. Active Seismic Crew Counts




[a]Federal and State Jurisdiction waters of Gulf of Mexico.
[b]All onshore.
Sources: Tables 5.1-5.3.

# Table 5.1 Crude Oil and Natural Gas Drilling Activity Measurements

| | Rotary Rigs in Operation[a] | | | | | Total Footage Drilled[c] | Active Well Service Rig Count[d] |
|---|---|---|---|---|---|---|---|
| | By Site | | By Objective | | | | |
| | Onshore | Offshore | Crude Oil | Natural Gas | Total[b] | | |
| | Average | | | | | Thousand Feet | Number |
| **1973 Average** | **1,110** | **84** | **NA** | **NA** | **1,194** | **138,223** | NA |
| **1974 Average** | **1,378** | **94** | **NA** | **NA** | **1,472** | **153,374** | NA |
| **1975 Average** | **1,554** | **106** | **NA** | **NA** | **1,660** | **180,494** | NA |
| **1976 Average** | **1,529** | **129** | **NA** | **NA** | **1,658** | **186,982** | NA |
| **1977 Average** | **1,834** | **167** | **NA** | **NA** | **2,001** | **215,866** | NA |
| **1978 Average** | **2,074** | **185** | **NA** | **NA** | **2,259** | **238,669** | NA |
| **1979 Average** | **1,970** | **207** | **NA** | **NA** | **2,177** | **244,798** | NA |
| **1980 Average** | **2,678** | **231** | **NA** | **NA** | **2,909** | **314,654** | NA |
| **1981 Average** | **3,714** | **256** | **NA** | **NA** | **3,970** | **413,112** | NA |
| **1982 Average** | **2,862** | **243** | **NA** | **NA** | **3,105** | **378,295** | NA |
| **1983 Average** | **2,033** | **199** | **NA** | **NA** | **2,232** | **317,986** | NA |
| **1984 Average** | **2,215** | **213** | **NA** | **NA** | **2,428** | **371,392** | NA |
| **1985 Average** | **1,774** | **206** | **NA** | **NA** | **1,980** | **313,045** | NA |
| **1986 Average** | **865** | **99** | **NA** | **NA** | **964** | **181,856** | NA |
| **1987 Average** | **841** | **95** | **NA** | **NA** | **936** | **162,178** | NA |
| **1988 Average** | **813** | **123** | **554** | **354** | **936** | **156,354** | NA |
| **1989 Average** | **764** | **105** | **453** | **401** | **869** | **134,439** | NA |
| **1990 Average** | **902** | **108** | **532** | **464** | **1,010** | **153,701** | NA |
| **1991 Average** | **779** | **81** | **482** | **351** | **860** | **143,021** | NA |
| **1992 Average** | **669** | **52** | **373** | **331** | **721** | **121,124** | NA |
| **1993 Average** | **672** | **82** | **373** | **364** | **754** | **135,118** | NA |
| **1994 Average** | **673** | **102** | **335** | **427** | **775** | **124,809** | NA |
| **1995 Average** | **622** | **101** | **323** | **385** | **723** | **117,832** | NA |
| **1996 Average** | **671** | **108** | **306** | **464** | **779** | **129,045** | NA |
| **1997 Average** | **821** | **122** | **376** | **564** | **943** | **156,661** | NA |
| **1998 Average** | **703** | **123** | **264** | **560** | **827** | **147,335** | NA |
| **1999 Average** | **519** | **106** | **128** | **496** | **625** | **99,410** | **NA** |
| **2000** January | 650 | 125 | 143 | 632 | 775 | 10,450 | NA |
| February | 641 | 122 | 147 | 616 | 763 | 9,602 | NA |
| March | 649 | 124 | 173 | 600 | 773 | 9,563 | NA |
| April | 680 | 125 | 196 | 609 | 805 | 11,324 | NA |
| May | 705 | 139 | 199 | 645 | 844 | 10,725 | NA |
| June | 739 | 139 | 201 | 677 | 878 | 11,959 | NA |
| July | 784 | 158 | 208 | 733 | 942 | 11,648 | NA |
| August | 828 | 159 | 206 | 779 | 987 | 11,972 | NA |
| September | 865 | 146 | 199 | 810 | 1,011 | 12,521 | NA |
| October | 908 | 147 | 212 | 842 | 1,055 | 13,813 | NA |
| November | 916 | 151 | 234 | 832 | 1,067 | 13,912 | NA |
| December | 950 | 147 | 242 | 854 | 1,097 | 12,460 | NA |
| **Average** | **778** | **140** | **197** | **720** | **918** | **139,949** | **NA** |
| **2001** January | 944 | 174 | 239 | 879 | 1,118 | 15,525 | NA |
| February | 973 | 163 | 237 | 898 | 1,136 | 13,296 | NA |
| March | 996 | 167 | 248 | 913 | 1,163 | 16,416 | NA |
| April | 1,037 | 169 | 247 | 957 | 1,206 | 16,268 | NA |
| May | 1,063 | 171 | 235 | 997 | 1,234 | 17,374 | NA |
| June | 1,107 | 163 | 219 | 1,050 | 1,270 | R 17,418 | NA |
| July | 1,121 | 157 | 219 | 1,058 | 1,278 | 17,672 | 1,784 |
| August | 1,105 | 147 | 219 | 1,032 | 1,252 | 17,363 | 1,865 |
| September | 1,049 | 144 | 220 | 972 | 1,193 | 16,563 | 1,832 |
| October | 978 | 133 | 198 | 913 | 1,111 | 18,264 | 1,824 |
| November | 866 | 134 | 174 | 825 | 1,000 | 13,806 | 1,774 |
| December | 778 | 123 | 147 | 754 | 901 | 12,465 | 1,654 |
| **Average** | **1,003** | **153** | **217** | **939** | **1,156** | R **192,430** | **NA** |
| **2002** January | 741 | 126 | 141 | 725 | 867 | 12,499 | 1,683 |
| February | 702 | 123 | 144 | 679 | 825 | 11,544 | 1,843 |
| March | 649 | 114 | 144 | 617 | 763 | 15,470 | 1,791 |
| **3-Month Average** | **693** | **121** | **143** | **669** | **814** | **39,513** | **1,772** |
| **2001 3-Month Average** | **974** | **167** | **242** | **898** | **1,141** | **45,237** | **NA** |
| **2000 3-Month Average** | **647** | **124** | **156** | **615** | **770** | **29,615** | **NA** |

[a] Rotary rigs in operation are reported weekly. Monthly data are averages of 4- or 5-week reporting periods, not calendar months. Multi-month data are averages of the reported data over the covered months, *not* averages of the weekly data. Annual data are averages over 52 or 53 weeks, not calendar years. Published data are rounded to the nearest whole number.

[b] Sum of rigs drilling for crude oil, rigs drilling for natural gas, and other rigs (not shown) drilling for miscellaneous purposes, such as service wells, injection wells, and stratigraphic tests.

[c] Values shown are totals.

[d] See Glossary.

R=Revised. NA=Not available.

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

Sources: **Rotary Rigs in Operation:** By Site - Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running--by State.* By Type - Baker Hughes, Inc., Houston, Texas, weekly phone recording. **Total Footage Drilled:** Energy Information Administration computations, which are based on well reports submitted to the American Petroleum Institute by the Petroleum Information Corporation, Denver, Colorado. **Active Well Service Rig Count:** Weatherford International, Inc., Houston, Texas.

# Table 5.2 Crude Oil and Natural Gas Wells Drilled

(Number of Wells)

| | Exploratory | | | | Development | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Crude Oil | Natural Gas | Dry | Total | Crude Oil | Natural Gas | Dry | Total | Crude Oil | Natural Gas | Dry | Total |
| **1973 Total** | **642** | **1,067** | **5,952** | **7,661** | **9,525** | **5,866** | **4,368** | **19,759** | **10,167** | **6,933** | **10,320** | **27,420** |
| **1974 Total** | **859** | **1,190** | **6,833** | **8,882** | **12,788** | **5,948** | **5,283** | **24,019** | **13,647** | **7,138** | **12,116** | **32,901** |
| **1975 Total** | **982** | **1,248** | **7,129** | **9,359** | **15,966** | **6,879** | **6,517** | **29,362** | **16,948** | **8,127** | **13,646** | **38,721** |
| **1976 Total** | **1,086** | **1,346** | **6,772** | **9,204** | **16,602** | **8,063** | **6,986** | **31,651** | **17,688** | **9,409** | **13,758** | **40,855** |
| **1977 Total** | **1,164** | **1,548** | **7,283** | **9,995** | **17,581** | **10,574** | **7,702** | **35,857** | **18,745** | **12,122** | **14,985** | **45,852** |
| **1978 Total** | **1,171** | **1,771** | **7,965** | **10,907** | **18,010** | **12,642** | **8,586** | **39,238** | **19,181** | **14,413** | **16,551** | **50,145** |
| **1979 Total** | **1,321** | **1,907** | **7,437** | **10,665** | **19,530** | **13,347** | **8,662** | **41,539** | **20,851** | **15,254** | **16,099** | **52,204** |
| **1980 Total** | **1,764** | **2,081** | **9,039** | **12,884** | **30,875** | **15,252** | **11,599** | **57,726** | **32,639** | **17,333** | **20,638** | **70,610** |
| **1981 Total** | **2,636** | **2,514** | **12,349** | **17,499** | **40,962** | **17,652** | **15,440** | **74,054** | **43,598** | **20,166** | **27,789** | **91,553** |
| **1982 Total** | **2,431** | **2,125** | **11,247** | **15,803** | **36,768** | **16,854** | **14,972** | **68,594** | **39,199** | **18,979** | **26,219** | **84,397** |
| **1983 Total** | **2,023** | **1,593** | **10,148** | **13,764** | **35,097** | **12,971** | **14,005** | **62,073** | **37,120** | **14,564** | **24,153** | **75,837** |
| **1984 Total** | **2,198** | **1,521** | **11,278** | **14,997** | **40,407** | **15,606** | **14,403** | **70,416** | **42,605** | **17,127** | **25,681** | **85,413** |
| **1985 Total** | **1,679** | **1,190** | **8,924** | **11,793** | **33,439** | **12,978** | **12,132** | **58,549** | **35,118** | **14,168** | **21,056** | **70,342** |
| **1986 Total** | **1,084** | **793** | **5,549** | **7,426** | **18,013** | **7,723** | **7,129** | **32,865** | **19,097** | **8,516** | **12,678** | **40,291** |
| **1987 Total** | **925** | **754** | **5,049** | **6,728** | **15,239** | **7,301** | **6,063** | **28,603** | **16,164** | **8,055** | **11,112** | **35,331** |
| **1988 Total** | **855** | **743** | **4,693** | **6,291** | **12,781** | **7,812** | **5,348** | **25,941** | **13,636** | **8,555** | **10,041** | **32,232** |
| **1989 Total** | **607** | **705** | **3,924** | **5,236** | **9,597** | **8,834** | **4,264** | **22,695** | **10,204** | **9,539** | **8,188** | **27,931** |
| **1990 Total** | **654** | **689** | **3,715** | **5,058** | **11,544** | **10,355** | **4,598** | **26,497** | **12,198** | **11,044** | **8,313** | **31,555** |
| **1991 Total** | **592** | **534** | **3,314** | **4,440** | **11,178** | **8,992** | **4,282** | **24,452** | **11,770** | **9,526** | **7,596** | **28,892** |
| **1992 Total** | **493** | **423** | **2,513** | **3,429** | **8,264** | **7,786** | **3,605** | **19,655** | **8,757** | **8,209** | **6,118** | **23,084** |
| **1993 Total** | **502** | **548** | **2,469** | **3,519** | **7,905** | **9,469** | **3,859** | **21,233** | **8,407** | **10,017** | **6,328** | **24,752** |
| **1994 Total** | **570** | **726** | **2,405** | **3,701** | **6,151** | **8,812** | **2,902** | **17,865** | **6,721** | **9,538** | **5,307** | **21,566** |
| **1995 Total** | **542** | **570** | **2,198** | **3,310** | **7,085** | **7,784** | **2,877** | **17,746** | **7,627** | **8,354** | **5,075** | **21,056** |
| **1996 Total** | **483** | **570** | **2,136** | **3,189** | **7,831** | **8,732** | **3,146** | **19,709** | **8,314** | **9,302** | **5,282** | **22,898** |
| **1997 Total** | **428** | **536** | **2,110** | **3,074** | **10,008** | **10,791** | **3,592** | **24,391** | **10,436** | **11,327** | **5,702** | **27,465** |
| **1998 Total** | **291** | **504** | **1,647** | **2,442** | **6,773** | **10,804** | **3,266** | **20,843** | **7,064** | **11,308** | **4,913** | **23,285** |
| **1999 Total** | **154** | **524** | **1,195** | **1,873** | **3,982** | **9,887** | **2,169** | **16,038** | **4,136** | **10,411** | **3,364** | **17,911** |
| **2000** January | 16 | 53 | 119 | 188 | 521 | 1,064 | 244 | 1,829 | 537 | 1,117 | 363 | 2,017 |
| February | 16 | 58 | 98 | 172 | 459 | 1,037 | 185 | 1,681 | 475 | 1,095 | 283 | 1,853 |
| March | 21 | 54 | 107 | 182 | 556 | 1,009 | 197 | 1,762 | 577 | 1,063 | 304 | 1,944 |
| April | 21 | 32 | 100 | 153 | 531 | 1,043 | 278 | 1,852 | 552 | 1,075 | 378 | 2,005 |
| May | 16 | 36 | 119 | 171 | 600 | 1,109 | 277 | 1,986 | 616 | 1,145 | 396 | 2,157 |
| June | 27 | 46 | 105 | 178 | 603 | 1,269 | 213 | 2,085 | 630 | 1,315 | 318 | 2,263 |
| July | R 21 | 42 | 97 | R 160 | R 641 | 1,253 | 239 | R 2,133 | 662 | 1,295 | 336 | 2,293 |
| August | 24 | 49 | 140 | 213 | 653 | 1,545 | 322 | 2,520 | 677 | 1,594 | 462 | 2,733 |
| September | 30 | 56 | 91 | 177 | 622 | 1,376 | 175 | 2,173 | 652 | 1,432 | 266 | 2,350 |
| October | 21 | 57 | 113 | 191 | 741 | 1,431 | 201 | 2,373 | 762 | 1,488 | 314 | 2,564 |
| November | 22 | R 59 | 97 | R 178 | 605 | R 1,411 | 205 | R 2,221 | 627 | 1,470 | 302 | 2,399 |
| December | 22 | 72 | 102 | 196 | 569 | 1,437 | 201 | 2,207 | 591 | 1,509 | 303 | 2,403 |
| **Total** | **R 257** | **R 614** | **1,288** | **R 2,159** | **R 7,101** | **R 14,984** | **2,737** | **R 24,822** | **7,358** | **15,598** | **4,025** | **26,981** |
| **2001** January | 19 | 74 | 101 | 194 | 669 | 1,480 | 231 | 2,380 | 688 | 1,554 | 332 | 2,574 |
| February | 29 | 76 | 94 | 199 | 599 | 1,511 | 206 | 2,316 | 628 | 1,587 | 300 | 2,515 |
| March | 24 | 51 | 90 | 165 | 665 | 1,563 | 188 | 2,416 | 689 | 1,614 | 278 | 2,581 |
| April | 28 | 81 | 127 | 236 | 649 | 1,610 | 217 | 2,476 | 677 | 1,691 | 344 | 2,712 |
| May | 28 | 84 | 136 | 248 | 736 | 1,678 | 241 | 2,655 | 764 | 1,762 | 377 | 2,903 |
| June | 31 | 89 | 128 | 248 | 717 | 2,067 | 258 | 3,042 | 748 | 2,156 | 386 | 3,290 |
| July | 31 | 89 | 153 | 273 | 651 | R 2,070 | 218 | R 2,939 | 682 | R 2,159 | 371 | R 3,212 |
| August | 27 | 104 | 132 | 263 | 670 | 2,056 | 248 | 2,974 | 697 | 2,160 | 380 | 3,237 |
| September | 18 | 82 | 119 | 219 | 619 | R 1,925 | 198 | R 2,742 | 637 | R 2,007 | 317 | R 2,961 |
| October | 29 | 90 | 144 | 263 | 764 | 2,011 | 220 | 2,995 | 793 | 2,101 | 364 | 3,258 |
| November | 24 | 88 | 131 | 243 | 545 | R 1,651 | 175 | R 2,371 | 569 | R 1,739 | 306 | R 2,614 |
| December | R 26 | R 46 | R 89 | R 161 | R 351 | R 1,507 | R 152 | R 2,010 | 377 | 1,553 | R 241 | R 2,171 |
| **Total** | **R 314** | **R 954** | **R 1,444** | **R 2,712** | **R 7,635** | **R 21,129** | **R 2,552** | **R 31,316** | **7,949** | **R 22,083** | **R 3,996** | **R 34,028** |
| **2002** January | R 17 | 83 | 61 | R 161 | R 388 | 1,526 | 109 | R 2,023 | 405 | 1,609 | 170 | 2,184 |
| February | R 10 | 74 | R 45 | R 129 | R 305 | 1,449 | R 96 | R 1,850 | 315 | 1,523 | R 141 | R 1,979 |
| March | 9 | 59 | 25 | 93 | 307 | 1,505 | 62 | 1,874 | 316 | 1,564 | 87 | 1,967 |
| **3-Month Total** | **36** | **216** | **131** | **383** | **1,000** | **4,480** | **267** | **5,747** | **1,036** | **4,696** | **398** | **6,130** |
| **2001 3-Month Total** | **72** | **201** | **285** | **558** | **1,933** | **4,554** | **625** | **7,112** | **2,005** | **4,755** | **910** | **7,670** |
| **2000 3-Month Total** | **53** | **165** | **324** | **542** | **1,536** | **3,110** | **626** | **5,272** | **1,589** | **3,275** | **950** | **5,814** |

R=Revised.

Notes: These well counts include only the original drilling of a hole intended to discover or further develop already discovered crude oil or natural gas resources. Other drilling activities, such as drilling an old well deeper, drilling of laterals from the original well, drilling of service and injection wells, and drilling for resources other than crude oil or natural gas are excluded. Due to the methodology used to estimate ultimate well counts from the available partially reported data, the counts shown on this page are frequently revised. See end of section. Geographic coverage is the 50 States and the District of Columbia.

Sources: Energy Information Administration computations, which are based on well reports submitted by the Petroleum Information Corporation, Denver, Colorado.

## Table 5.3 Maximum U.S. Active Seismic Crew Counts

(Number of Crews)

| | 48 States, Onshore | | | | 48 States, Offshore[a] | | | | Alaska[b] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dimensions[c] | | | | Dimensions[c] | | | | Dimensions[c] | | | | |
| | 2 | 3 | 4 | Total[d] | 2 | 3 | 4 | Total[d] | 2 | 3 | 4 | Total[d] | Total |
| **2000** March | 4 | 36 | 1 | 41 | 7 | 11 | 0 | 19 | 1 | 1 | 0 | 2 | 62 |
| April | 4 | 36 | 1 | 41 | 7 | 11 | 0 | 19 | 1 | 2 | 0 | 3 | 63 |
| May | 3 | 34 | 1 | 38 | 6 | 11 | 0 | 18 | 1 | 2 | 0 | 3 | 59 |
| June | 5 | 37 | 1 | 43 | 7 | 9 | 0 | 17 | 1 | 2 | 0 | 3 | 63 |
| July | 4 | 39 | 1 | 44 | 6 | 6 | 0 | 13 | 0 | 1 | 0 | 1 | 58 |
| August | 4 | 40 | 1 | 45 | 7 | 7 | 0 | 15 | 0 | 1 | 0 | 1 | 61 |
| September | 3 | 39 | 1 | 43 | 7 | 8 | 0 | 16 | 0 | 0 | 0 | 0 | 59 |
| October | 4 | 41 | 1 | 46 | 7 | 9 | 0 | 17 | 0 | 0 | 0 | 0 | 63 |
| November | 4 | 40 | 1 | 46 | 7 | 8 | 0 | 16 | 0 | 0 | 0 | 0 | 62 |
| December | 5 | 41 | 1 | 48 | 8 | 8 | 0 | 17 | 0 | 0 | 0 | 0 | 65 |
| **2001** January | 5 | 38 | 1 | 44 | 9 | 7 | 0 | 17 | 0 | 0 | 0 | 0 | 61 |
| February | 6 | 38 | 1 | 45 | 8 | 7 | 0 | 16 | 0 | 0 | 0 | 0 | 61 |
| March | 6 | 38 | 1 | 45 | 9 | 9 | 0 | 18 | 0 | 0 | 0 | 0 | 63 |
| April | 7 | 39 | 1 | 47 | 9 | 9 | 0 | 18 | 0 | 0 | 0 | 0 | 65 |
| May | 7 | 37 | 1 | 45 | 9 | 8 | 0 | 17 | 1 | 1 | 0 | 2 | 64 |
| June | 6 | 35 | 1 | 42 | 9 | 7 | 0 | 16 | 1 | 1 | 0 | 2 | 60 |
| July | 6 | 35 | 1 | 42 | 8 | 8 | 0 | 16 | 0 | 0 | 0 | 0 | 58 |
| August | 8 | 32 | 1 | 41 | 7 | 8 | 0 | 15 | 0 | 0 | 0 | 0 | 56 |
| September | 8 | 30 | 1 | 39 | 6 | 9 | 0 | 15 | 0 | 0 | 0 | 0 | 54 |

[a] Federal and State Jurisdiction waters of the Gulf of Mexico.

[b] All onshore.

[c] In **two-dimensional** (2D) reflection seismic surveying both the sound source and the sound detectors (numbering up to a hundred or more per shot) are moved along a straight line. The resultant product can be thought of as a vertical sonic cross-section of the subsurface beneath the survey line. It is constructed by summing many compressional (pressure) wave reflections from the various sound source and sound detector locations at the halfway sound path points beneath each location (common depth point stacking). In **three-dimensional** (3D) reflection seismic surveying the sound detectors (numbering up to a thousand or more) are spread out over an area and the sound source is moved from location to location through the area. The resultant product can be thought of as a cube of common depth point stacked reflections. Advantages over 2D include the additional dimension, the fact that many more reflections are available for stacking at each point, which provides greatly improved resolution of subsurface features, and elimination of the "ghost" or "side swipe" reflections from nearby offline features that 2D surveys are prone to (except, of course, along the outer faces of the cube). **Four dimensional** (4D) reflection seismic surveying is the exact repetition of a 3D survey at two or more time intervals. The primary application of 4D is mapping the movement of fluid interfaces in producing oil and gas reservoirs.

[d] Includes crews with unknown survey dimension.

Notes: "48 States" is the United States excluding Alaska and Hawaii. Data are reported on the first and fifteenth of each month, except January when they are reported only on the fifteenth. When semi-monthly values differ for the month, the larger of the two values is shown here. Consequently this table reflects the maximum number of crews at work at any time during the month.

Source: *World Geophysical News,* IHS Energy Group, Denver, CO. used with permission.

An update to Table 5.3 was not available.

# Crude Oil and Natural Gas Resource Development Notes

Three well types are considered in the *Monthly Energy Review* (*MER*) drilling statistics: "completed for crude oil," "completed for natural gas," and "dry hole." Wells that productively encounter both crude oil and natural gas are categorized as "completed for crude oil." Both development wells and exploratory wells (new field wildcats, new pool tests, and extension tests) are included in the statistics. All other classes of wells drilled in connection with the search for producible hydrocarbons are excluded.

Prior to the March 1985 *MER,* drilling statistics consisted of completion data for the above types and classes of wells as reported to the American Petroleum Institute (API) during a given month. Due to time lags between the date of well completion and the date of completion reporting to the API, as-reported well completions proved to be an inaccurate indicator of drilling activity. During 1982, for example, as-reported well completions rose, while the number of actual completions fell. Consequently, the drilling statistics published since the March 1985 *MER* are Energy Information Administration(EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API. These estimates are subject to continuous revision as new data, some of which pertain to earlier months and years, become available. Additional information about the EIA estimation methodology may be found in "Estimating Well Completions," the feature article published in the March 1985 *MER.*

**Users of the well completion and footage figures published by the Energy Information Administration (EIA) prior to August 1998 should be aware that these data have been revised.** The published well completion and footage figures are produced by the Well Completion Estimation Procedure (WELCOM) based on drilling records provided under contract to the EIA. Problems in the files received by EIA necessitated revision of the historical series for well completions and footage drilled. Queries regarding this matter may be directed to William Trapmann (202-586-6408 or william.trapmann@eia.doe.gov).

# Section 6. Coal

Coal production in March 2002 totaled 86 million short tons, 14 percent lower than in March 2001.

Coal consumed by the electric power sector in January 2002 was estimated as 79 million short tons, 9 percent lower than the level in January 2001.

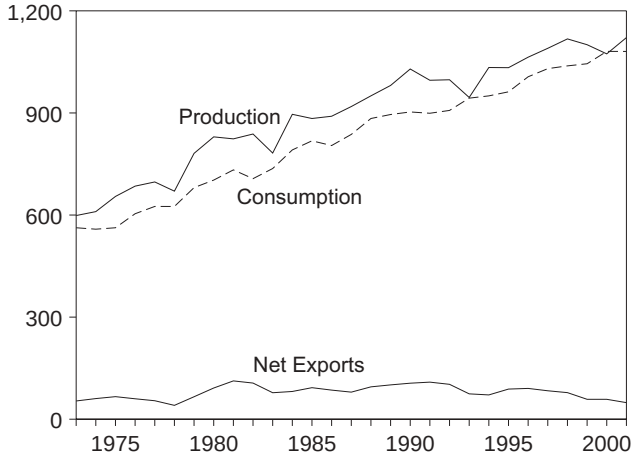
Electric power sector coal stocks were estimated as 126 million short tons at the end of January 2002, 30 percent higher than the level a year earlier.

Coal exports in February 2002 totaled 3 million short tons, 19 percent lower than exports in February 2001. Coal imports in February 2002 totaled 1 million short tons, 2 percent lower than imports in February 2001.

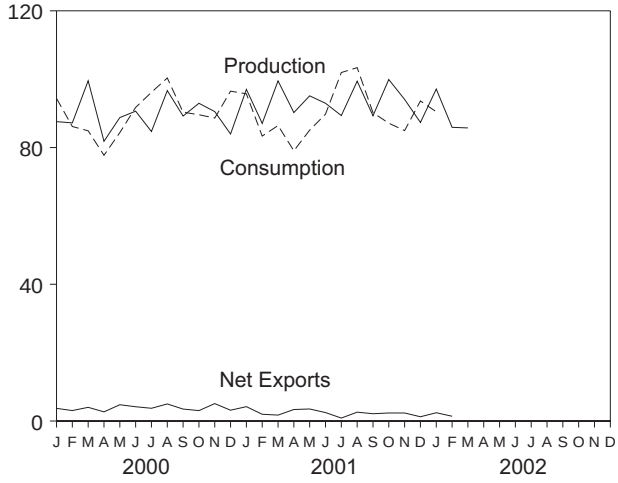
## Figure 6.1 Coal

(Million Short Tons)

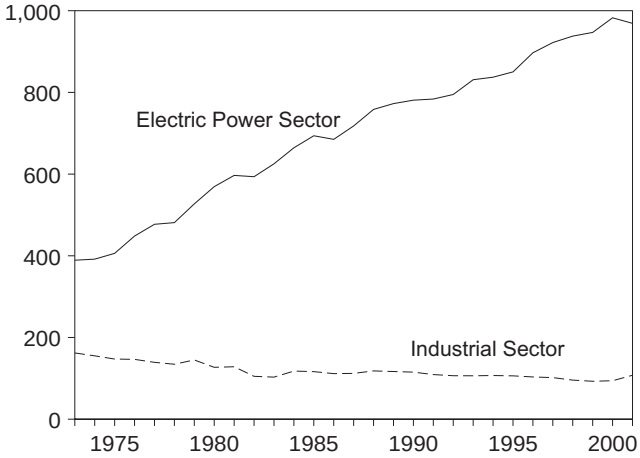
### Overview, 1973-2001



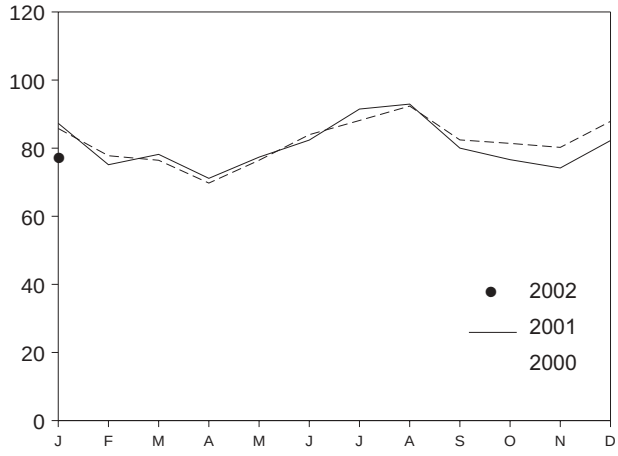

### Overview, Monthly



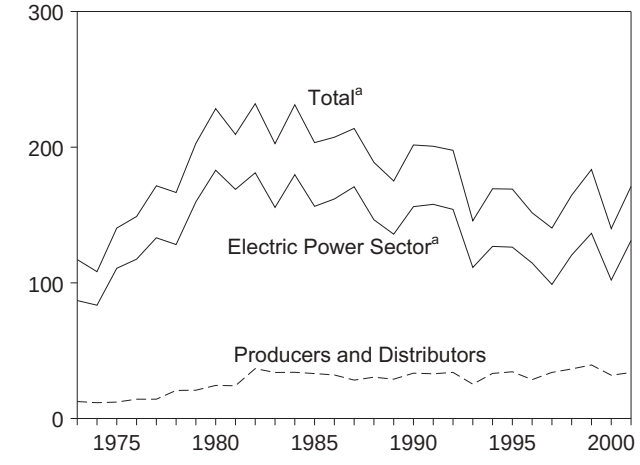

### Consumption by Sector, 1973-2001



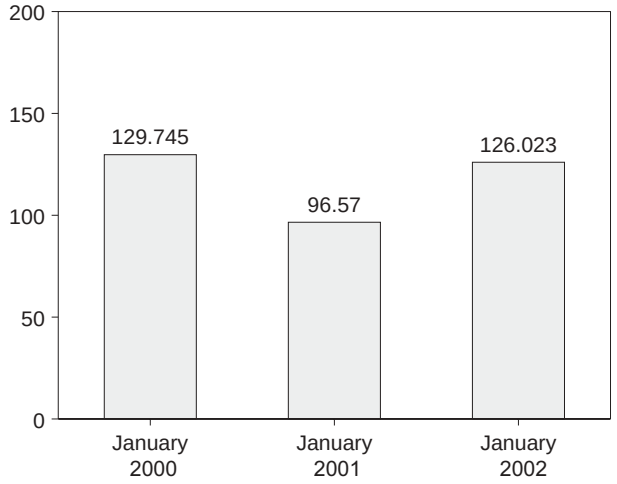

### Electric Power Sector Consumption, Monthly




### Stocks, End of Year, 1973-2001




### Electric Power Sector Stocks, End of Month




[a]Other power producers stocks are included beginning in 1999.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 6.1, 6.2, and 6.3.

# Table 6.1 Coal Overview

(Thousand Short Tons)

| | Production | Consumption | Imports[a] | Exports | Stocks[b] |
|---|---|---|---|---|---|
| **1973 Total** | **598,568** | **562,584** | **127** | **53,587** | **117,155** |
| **1974 Total** | **610,023** | **558,402** | **2,080** | **60,661** | **108,237** |
| **1975 Total** | **654,641** | **562,640** | **940** | **66,309** | **140,391** |
| **1976 Total** | **684,913** | **603,790** | **1,203** | **60,021** | **148,899** |
| **1977 Total** | **697,205** | **625,291** | **1,647** | **54,312** | **171,543** |
| **1978 Total** | **670,164** | **625,225** | **2,953** | **40,714** | **166,606** |
| **1979 Total** | **781,134** | **680,524** | **2,059** | **66,042** | **202,812** |
| **1980 Total** | **829,700** | **702,730** | **1,194** | **91,742** | **228,407** |
| **1981 Total** | **823,775** | **732,627** | **1,043** | **112,541** | **209,423** |
| **1982 Total** | **838,112** | **706,911** | **742** | **106,277** | **232,038** |
| **1983 Total** | **782,091** | **736,672** | **1,271** | **77,772** | **202,584** |
| **1984 Total** | **895,921** | **791,296** | **1,286** | **81,483** | **231,300** |
| **1985 Total** | **883,638** | **818,049** | **1,952** | **92,680** | **203,367** |
| **1986 Total** | **890,315** | **804,231** | **2,212** | **85,518** | **207,319** |
| **1987 Total** | **918,762** | **836,941** | **1,747** | **79,607** | **213,780** |
| **1988 Total** | **950,265** | **883,642** | **2,134** | **95,023** | **188,831** |
| **1989 Total** | **980,729** | [c]**895,369** | **2,851** | **100,815** | **175,087** |
| **1990 Total** | **1,029,076** | **902,893** | **2,699** | **105,804** | **201,629** |
| **1991 Total** | **995,984** | **899,067** | **3,390** | **108,969** | **200,682** |
| **1992 Total** | **997,545** | **907,378** | **3,803** | **102,516** | **197,685** |
| **1993 Total** | **945,424** | **943,467** | **8,181** | **74,519** | **145,742** |
| **1994 Total** | **1,033,504** | **950,141** | **8,870** | **71,359** | **169,358** |
| **1995 Total** | **1,032,974** | **962,038** | **9,473** | **88,547** | **169,083** |
| **1996 Total** | **1,063,856** | **1,006,306** | **8,115** | **90,473** | **151,627** |
| **1997 Total** | **1,089,932** | **1,030,145** | **7,487** | **83,545** | **140,374** |
| **1998 Total** | **1,117,535** | **1,038,292** | **8,724** | **78,048** | [d]**164,602** |
| **1999 Total** | **1,100,431** | **1,044,536** | **9,089** | **58,476** | **183,524** |
| **2000** January | 87,579 | 94,383 | 1,002 | 4,710 | 175,019 |
| February | 87,219 | 86,153 | 698 | 3,765 | 182,614 |
| March | 99,540 | 84,901 | 1,115 | 5,123 | 185,577 |
| April | 81,839 | 77,744 | 823 | 3,503 | 185,976 |
| May | 88,775 | 84,367 | 770 | 5,536 | 185,666 |
| June | 90,644 | 91,747 | 1,152 | 5,339 | 177,686 |
| July | 84,694 | 96,156 | 1,212 | 4,948 | 164,159 |
| August | 96,659 | 100,360 | 1,404 | 6,405 | 158,840 |
| September | 89,224 | 90,342 | 946 | 4,447 | 157,452 |
| October | 92,959 | 89,601 | 1,442 | 4,492 | 157,657 |
| November | 90,519 | 88,627 | 854 | 5,958 | 155,440 |
| December | 83,961 | 96,497 | 1,095 | 4,264 | 140,020 |
| **Total** | **1,073,612** | **1,080,880** | **12,513** | **58,489** | **140,020** |
| **2001** January | 97,023 | 95,717 | 1,303 | 5,512 | 138,151 |
| February | 87,077 | 83,356 | 1,252 | 3,236 | 142,654 |
| March | 99,499 | 86,449 | 1,355 | 3,094 | 152,876 |
| April | 90,237 | 79,051 | 1,253 | 4,623 | 163,050 |
| May | 95,139 | 85,102 | 1,435 | 4,966 | 170,151 |
| June | 92,954 | 89,774 | 1,436 | 3,911 | 166,837 |
| July | 89,365 | 101,955 | 2,289 | 3,166 | 162,624 |
| August | 99,406 | 103,379 | 1,772 | 4,364 | 154,270 |
| September | 89,303 | 90,208 | 1,986 | 4,125 | 155,780 |
| October | 99,904 | [R] 87,127 | 1,649 | 4,002 | [R] 160,927 |
| November | 94,085 | [R] 84,970 | 2,057 | 4,413 | [R] 168,399 |
| December | 87,334 | 93,631 | 2,001 | 3,256 | 171,070 |
| **Total** | **1,121,328** | [R] **1,080,717** | **19,787** | **48,666** | **171,070** |
| **2002** January | 97,124 | 90,477 | 1,439 | 3,873 | 169,280 |
| February | 85,919 | NA | 1,222 | 2,630 | NA |
| March | 85,742 | NA | NA | NA | NA |
| **3-Month Total** | **268,785** | **NA** | **NA** | **NA** | **NA** |
| **2001 3-Month Total** | **283,599** | **265,521** | **3,910** | **11,841** | **152,876** |
| **2000 3-Month Total** | **274,339** | **265,438** | **2,815** | **13,598** | **185,577** |

[a] Includes Puerto Rico.

[b] Stocks held by electric utilities, other power producers, 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.

[c] Beginning in 1989, includes coal consumed by "Other Power Producers." See Table 6.2.

[d] Beginning in 1998, includes coal stocks at "Other Power Producers." See Table 6.3.

R=Revised. NA=Not available.

Notes: Data through 1999 are final. Subsequent data are preliminary. For methodology used to calculate production, consumption, and stocks, see Notes 1, 2, and 3 at end of section. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section for sources.

# Table 6.2 Coal Consumption by Sector

(Thousand Short Tons)

| | End-Use Sectors[a] | | | | | Electric Power Sector | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Industrial | | | | | | | |
| | Residential and Commercial | Coke Plants | Other | Total | Transportation | Electric Utilities | Other Power Producers[a,b] | Total | Total |
| **1973 Total** | **11,117** | **94,101** | **68,038** | **162,139** | **116** | **389,212** | **NA** | **[c]389,212** | **562,584** |
| **1974 Total** | **11,417** | **90,191** | **64,903** | **155,094** | **80** | **391,811** | **NA** | **[c]391,811** | **558,402** |
| **1975 Total** | **9,410** | **83,598** | **63,646** | **147,244** | **24** | **405,962** | **NA** | **[c]405,962** | **562,640** |
| **1976 Total** | **8,916** | **84,704** | **61,787** | **146,491** | **12** | **448,371** | **NA** | **[c]448,371** | **603,790** |
| **1977 Total** | **8,954** | **77,739** | **61,463** | **139,202** | **9** | **477,126** | **NA** | **[c]477,126** | **625,291** |
| **1978 Total** | **9,511** | **71,394** | **63,085** | **134,479** | **( [d] )** | **481,235** | **NA** | **[c]481,235** | **625,225** |
| **1979 Total** | **8,388** | **77,368** | **67,717** | **145,085** | **( [d] )** | **527,051** | **NA** | **[c]527,051** | **680,524** |
| **1980 Total** | **6,452** | **66,657** | **60,347** | **127,004** | **( [d] )** | **569,274** | **NA** | **[c]569,274** | **702,730** |
| **1981 Total** | **7,421** | **61,014** | **67,395** | **128,409** | **( [d] )** | **596,797** | **NA** | **[c]596,797** | **732,627** |
| **1982 Total** | **8,240** | **40,908** | **64,097** | **105,005** | **( [d] )** | **593,666** | **NA** | **[c]593,666** | **706,911** |
| **1983 Total** | **8,448** | **37,033** | **65,980** | **103,013** | **( [d] )** | **625,211** | **NA** | **[c]625,211** | **736,672** |
| **1984 Total** | **9,130** | **44,022** | **73,745** | **117,767** | **( [d] )** | **664,399** | **NA** | **[c]664,399** | **791,296** |
| **1985 Total** | **7,779** | **41,056** | **75,372** | **116,429** | **( [d] )** | **693,841** | **NA** | **[c]693,841** | **818,049** |
| **1986 Total** | **7,667** | **35,924** | **75,583** | **111,508** | **( [d] )** | **685,056** | **NA** | **[c]685,056** | **804,231** |
| **1987 Total** | **6,914** | **36,957** | **75,175** | **112,132** | **( [d] )** | **717,894** | **NA** | **[c]717,894** | **836,941** |
| **1988 Total** | **7,130** | **41,888** | **76,252** | **118,140** | **( [d] )** | **758,372** | **NA** | **[c]758,372** | **883,642** |
| **1989 Total** | **6,167** | **40,508** | **76,134** | **116,643** | **( [d] )** | **766,888** | **5,670** | **[e]772,558** | **[e]895,369** |
| **1990 Total** | **6,724** | **38,877** | **76,330** | **115,207** | **( [d] )** | **773,549** | **7,413** | **780,962** | **902,893** |
| **1991 Total** | **6,094** | **33,854** | **75,405** | **109,259** | **( [d] )** | **772,268** | **11,446** | **783,714** | **899,067** |
| **1992 Total** | **6,153** | **32,366** | **74,042** | **106,408** | **( [d] )** | **779,860** | **14,957** | **794,817** | **907,378** |
| **1993 Total** | **6,221** | **31,323** | **74,892** | **106,215** | **( [d] )** | **813,508** | **17,523** | **831,031** | **943,467** |
| **1994 Total** | **6,013** | **31,740** | **75,179** | **106,919** | **( [d] )** | **817,270** | **19,940** | **837,210** | **950,141** |
| **1995 Total** | **5,807** | **33,011** | **73,055** | **106,067** | **( [d] )** | **829,007** | **21,158** | **850,165** | **962,038** |
| **1996 Total** | **6,006** | **31,706** | **71,689** | **103,395** | **( [d] )** | **874,681** | **22,224** | **896,905** | **1,006,306** |
| **1997 Total** | **6,463** | **30,203** | **71,515** | **101,718** | **( [d] )** | **900,361** | **21,603** | **921,964** | **1,030,145** |
| **1998 Total** | **4,856** | **28,189** | **67,439** | **95,628** | **( [d] )** | **910,867** | **26,941** | **937,808** | **1,038,292** |
| **1999 Total** | **4,879** | **28,108** | **64,738** | **92,846** | **( [d] )** | **894,120** | **52,691** | **946,811** | **1,044,536** |
| **2000** January | 531 | 2,473 | 5,601 | 8,074 | ( [d] ) | 77,090 | [E] 8,689 | [E] 85,779 | 94,383 |
| February | 396 | 2,343 | 5,626 | 7,969 | ( [d] ) | 69,442 | [E] 8,346 | [E] 77,788 | 86,153 |
| March | 307 | 2,506 | 5,642 | 8,148 | ( [d] ) | 67,925 | [E] 8,521 | [E] 76,446 | 84,901 |
| April | 350 | 2,499 | 5,137 | 7,637 | ( [d] ) | 61,214 | [E] 8,543 | [E] 69,757 | 77,744 |
| May | 235 | 2,548 | 5,140 | 7,687 | ( [d] ) | 67,428 | [E] 9,017 | [E] 76,445 | 84,367 |
| June | 238 | 2,399 | 5,151 | 7,549 | ( [d] ) | 73,910 | [E] 10,050 | [E] 83,960 | 91,747 |
| July | 287 | 2,484 | 5,256 | 7,739 | ( [d] ) | 77,051 | [E] 11,079 | [E] 88,130 | 96,156 |
| August | 293 | 2,428 | 5,269 | 7,698 | ( [d] ) | 80,021 | [E] 12,348 | [E] 92,369 | 100,360 |
| September | 242 | 2,383 | 5,288 | 7,671 | ( [d] ) | 70,725 | [E] 11,703 | [E] 82,428 | 90,342 |
| October | 192 | 2,251 | 5,751 | 8,002 | ( [d] ) | 69,835 | [E] 11,572 | [E] 81,407 | 89,601 |
| November | 399 | 2,270 | 5,721 | 7,991 | ( [d] ) | 69,114 | [E] 11,123 | [E] 80,237 | 88,627 |
| December | 643 | 2,356 | 5,626 | 7,982 | ( [d] ) | 75,579 | [E] 12,294 | [E] 87,873 | 96,497 |
| **Total** | **4,112** | **28,939** | **65,208** | **94,147** | **( [d] )** | **859,335** | **123,285** | **982,620** | **1,080,880** |
| **2001** January | 488 | 2,300 | 5,633 | 7,933 | ( [d] ) | 74,379 | [E] 12,917 | [E] 87,296 | 95,717 |
| February | 389 | 2,180 | 5,642 | 7,822 | ( [d] ) | 63,505 | [E] 11,640 | [E] 75,145 | 83,356 |
| March | 357 | 2,332 | 5,582 | 7,914 | ( [d] ) | 66,066 | [E] 12,112 | [E] 78,178 | 86,449 |
| April | 352 | 2,453 | 5,102 | 7,556 | ( [d] ) | 59,839 | [E] 11,305 | [E] 71,144 | 79,051 |
| May | 222 | 2,407 | 5,101 | 7,508 | ( [d] ) | 66,185 | [E] 11,187 | [E] 77,372 | 85,102 |
| June | 248 | 2,092 | 5,057 | 7,149 | ( [d] ) | 70,125 | [E] 12,252 | [E] 82,377 | 89,774 |
| July | 305 | 2,213 | [f] 7,952 | 10,165 | ( [d] ) | 77,613 | [E] 13,873 | [E] 91,486 | 101,955 |
| August | 309 | 2,256 | 7,874 | 10,130 | ( [d] ) | 79,010 | [E] 13,930 | [E] 92,940 | 103,379 |
| September | 208 | 2,151 | 7,834 | 9,985 | ( [d] ) | 67,062 | [E] 12,953 | [E] 80,015 | 90,208 |
| October | [RF] 239 | [RF] 1,971 | [F] 8,294 | [RF] 10,265 | ( [d] ) | 63,877 | [E] 12,746 | [E] 76,623 | [R] 87,127 |
| November | [RF] 385 | [RF] 1,958 | [RF] 8,445 | [RF] 10,403 | ( [d] ) | 62,045 | [E] 12,137 | [E] 74,182 | [R] 84,970 |
| December | [F] 652 | [F] 2,068 | [F] 8,677 | [RF] 10,745 | ( [d] ) | 68,649 | [E] 13,585 | [E] 82,234 | 93,631 |
| **Total** | **[RE] 4,154** | **[RE] 26,381** | **[RE] 81,193** | **[RE] 107,573** | **( [d] )** | **818,353** | **[E] 150,637** | **[E] 968,990** | **[R] 1,080,717** |
| **2002** January | [F] 497 | [F] 2,188 | [F] 8,559 | [F] 10,747 | ( [d] ) | 68,766 | [E] 10,468 | [E] 79,234 | 90,477 |

[a] Most of the coal consumption at nonutility cogeneration plants is included in the end-use sectors.

[b] Nonutility wholesale producers of electricity, and nonutility cogeneration plants that are not included in the end-use sectors.

[c] Electric utilities only.

[d] After 1977, small amounts of coal consumed by the transportation sector are included in "Other" under the industrial sector.

[e] Beginning in 1989, includes coal consumed by "Other Power Producers."

[f] Beginning in July 2001, includes coal consumed at 22 synthetic fuel plants; January-June 2001 consumption will be adjusted in a later release.

R=Revised. E=Estimate. NA=Not available. F=Forecast.

Notes: For sector-specific reporting and estimating information, see Note 2 at end of section. Data through 1999 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section for sources. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 4 at end of section.

## Table 6.3 Coal Stocks

(Thousand Short Tons)

| | Producers and Distributors | Consumers | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Residential and Commercial | Industrial | | | Electric Power Sector | | | Total | |
| | | | Coke Plants | Other | Total | Electric Utilities | Other Power Producers[a] | Total[b] | | |
| **1973 Year** | **12,530** | **290** | **6,998** | **10,370** | **17,368** | **86,967** | **NA** | **86,967** | **104,625** | **117,155** |
| **1974 Year** | **11,634** | **280** | **6,209** | **6,605** | **12,814** | **83,509** | **NA** | **83,509** | **96,603** | **108,237** |
| **1975 Year** | **12,108** | **233** | **8,797** | **8,529** | **17,326** | **110,724** | **NA** | **110,724** | **128,283** | **140,391** |
| **1976 Year** | **14,221** | **240** | **9,902** | **7,100** | **17,002** | **117,436** | **NA** | **117,436** | **134,678** | **148,899** |
| **1977 Year** | **14,225** | **220** | **12,816** | **11,063** | **23,879** | **133,219** | **NA** | **133,219** | **157,318** | **171,543** |
| **1978 Year** | **20,695** | **360** | **8,278** | **9,048** | **17,326** | **128,225** | **NA** | **128,225** | **145,911** | **166,606** |
| **1979 Year** | **20,826** | **340** | **10,155** | **11,777** | **21,932** | **159,714** | **NA** | **159,714** | **181,986** | **202,812** |
| **1980 Year** | **24,379** | **(c)** | **9,067** | **11,951** | **21,018** | **183,010** | **NA** | **183,010** | **204,028** | **228,407** |
| **1981 Year** | **24,149** | **(c)** | **6,475** | **9,906** | **16,381** | **168,893** | **NA** | **168,893** | **185,274** | **209,423** |
| **1982 Year** | **36,784** | **(c)** | **4,642** | **9,479** | **14,121** | **181,132** | **NA** | **181,132** | **195,254** | **232,038** |
| **1983 Year** | **33,931** | **(c)** | **4,346** | **8,710** | **13,056** | **155,598** | **NA** | **155,598** | **168,654** | **202,584** |
| **1984 Year** | **34,090** | **(c)** | **6,166** | **11,317** | **17,483** | **179,727** | **NA** | **179,727** | **197,211** | **231,300** |
| **1985 Year** | **33,133** | **(c)** | **3,420** | **10,438** | **13,857** | **156,376** | **NA** | **156,376** | **170,234** | **203,367** |
| **1986 Year** | **32,093** | **(c)** | **2,992** | **10,429** | **13,420** | **161,806** | **NA** | **161,806** | **175,226** | **207,319** |
| **1987 Year** | **28,321** | **(c)** | **3,884** | **10,777** | **14,662** | **170,797** | **NA** | **170,797** | **185,459** | **213,780** |
| **1988 Year** | **30,418** | **(c)** | **3,137** | **8,768** | **11,906** | **146,507** | **NA** | **146,507** | **158,413** | **188,831** |
| **1989 Year** | **29,000** | **(c)** | **2,864** | **7,363** | **10,227** | **135,860** | **NA** | **135,860** | **146,087** | **175,087** |
| **1990 Year** | **33,418** | **(c)** | **3,329** | **8,716** | **12,044** | **156,166** | **NA** | **156,166** | **168,210** | **201,629** |
| **1991 Year** | **32,971** | **(c)** | **2,773** | **7,061** | **9,835** | **157,876** | **NA** | **157,876** | **167,711** | **200,682** |
| **1992 Year** | **33,993** | **(c)** | **2,597** | **6,965** | **9,562** | **154,130** | **NA** | **154,130** | **163,692** | **197,685** |
| **1993 Year** | **25,284** | **(c)** | **2,401** | **6,716** | **9,117** | **111,341** | **NA** | **111,341** | **120,458** | **145,742** |
| **1994 Year** | **33,219** | **(c)** | **2,657** | **6,585** | **9,243** | **126,897** | **NA** | **126,897** | **136,139** | **169,358** |
| **1995 Year** | **34,444** | **(c)** | **2,632** | **5,702** | **8,334** | **126,304** | **NA** | **126,304** | **134,639** | **169,083** |
| **1996 Year** | **28,648** | **(c)** | **2,667** | **5,688** | **8,355** | **114,623** | **NA** | **114,623** | **122,979** | **151,627** |
| **1997 Year** | **33,973** | **(c)** | **1,978** | **5,597** | **7,576** | **98,826** | **NA** | **98,826** | **106,401** | **140,374** |
| **1998 Year** | **36,530** | **(c)** | **2,026** | **5,545** | **7,571** | **120,501** | **NA** | **120,501** | **128,072** | **164,602** |
| **1999 Year** | **39,475** | **(c)** | **1,943** | **5,569** | **7,512** | **129,041** | **E 7,496** | **E 136,537** | **144,049** | **183,524** |
| **2000** January | 38,166 | (c) | 1,940 | 5,168 | 7,108 | 123,661 | E 6,084 | E 129,745 | 136,853 | 175,019 |
| February | 39,708 | (c) | 1,938 | 4,767 | 6,705 | 129,055 | E 7,146 | E 136,201 | 142,906 | 182,614 |
| March | 44,423 | (c) | 1,935 | 4,367 | 6,302 | 127,130 | E 7,722 | E 134,852 | 141,154 | 185,577 |
| April | 41,453 | (c) | 1,903 | 4,429 | 6,333 | 128,669 | E 9,521 | E 138,190 | 144,523 | 185,976 |
| May | 41,656 | (c) | 1,871 | 4,492 | 6,363 | 127,090 | E 10,557 | E 137,647 | 144,010 | 185,666 |
| June | 40,440 | (c) | 1,839 | 4,555 | 6,394 | 119,634 | E 11,218 | E 130,852 | 137,246 | 177,686 |
| July | 35,732 | (c) | 1,745 | 4,596 | 6,341 | 111,494 | E 10,592 | E 122,086 | 128,427 | 164,159 |
| August | 35,606 | (c) | 1,652 | 4,636 | 6,288 | 106,201 | E 10,745 | E 116,946 | 123,234 | 158,840 |
| September | 37,143 | (c) | 1,558 | 4,677 | 6,235 | 102,876 | E 11,199 | E 114,075 | 120,309 | 157,452 |
| October | 35,191 | (c) | 1,537 | 4,647 | 6,183 | 104,422 | E 11,861 | E 116,283 | 122,466 | 157,657 |
| November | 34,903 | (c) | 1,515 | 4,617 | 6,132 | 102,227 | E 12,177 | E 114,404 | 120,537 | 155,440 |
| December | **31,905** | **(c)** | **1,494** | **4,587** | **6,081** | **90,115** | **E 11,919** | **E 102,034** | **108,115** | **140,020** |
| **2001** January | 35,489 | (c) | 1,630 | 4,462 | 6,092 | 85,759 | E 10,811 | E 96,570 | 102,662 | 138,151 |
| February | 37,589 | (c) | 1,766 | 4,338 | 6,104 | 87,499 | E 11,462 | E 98,961 | 105,065 | 142,654 |
| March | 39,196 | (c) | 1,902 | 4,213 | 6,115 | 95,801 | E 11,765 | E 107,566 | 113,680 | 152,876 |
| April | 40,265 | (c) | 1,813 | 4,500 | 6,313 | 103,851 | E 12,621 | E 116,472 | 122,785 | 163,050 |
| May | 39,568 | (c) | 1,724 | 4,538 | 6,263 | 110,956 | E 13,365 | E 124,321 | 130,583 | 170,151 |
| June | 38,253 | (c) | 1,635 | 4,577 | 6,212 | 108,953 | E 13,419 | E 122,372 | 128,584 | 166,837 |
| July | 39,485 | (c) | 1,609 | 4,837 | 6,446 | 104,009 | E 12,684 | E 116,693 | 123,139 | 162,624 |
| August | 38,498 | (c) | 1,583 | 5,097 | 6,680 | 97,694 | E 11,398 | E 109,092 | 115,772 | 154,270 |
| September | 37,043 | (c) | 1,557 | 5,358 | 6,915 | 100,304 | E 11,518 | E 111,822 | 118,737 | 155,780 |
| October | 33,531 | (c) | RF 1,405 | RF 4,439 | RF 5,844 | 109,391 | E 12,161 | E 121,552 | R 127,396 | R 160,927 |
| November | 32,956 | (c) | RF 1,418 | RF 4,439 | RF 5,857 | 117,036 | E 12,550 | E 129,586 | R 135,443 | R 168,399 |
| December | **33,912** | **(c)** | **F 1,441** | **F 4,534** | **F 5,974** | **118,917** | **E 12,267** | **E 131,184** | **137,158** | **171,070** |
| **2002** January | 37,598 | (c) | F 1,476 | F 4,183 | F 5,659 | 112,691 | E 13,332 | E 126,023 | 131,682 | 169,280 |

[a] Nonutility wholesale producers of electricity, and nonutility cogeneration plants that are not included in the industrial or commercial sectors.

[b] Beginning in 1999, includes coal stocks at "Other Power Producers."

[c] Beginning in 1980, the Energy Information Administration ceased collecting data on residential and commercial coal stocks.

R=Revised. E=Estimate. F=Forecast.

Notes: Stocks are at end of period. For sector-specific reporting and estimating information, see Note 3 at end of section. Data through 1999 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section for sources. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 4 at end of section.

## 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 by using the average number of tons of coal per railcar loaded reported in the most recent "Quarterly Freight Commodity Statistics" from the Surface Transportation Board. 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 ensures 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. Forecast data for the most recent months (designated by an "F") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "U.S. Coal Supply and Demand: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, October, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

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 1980-1987, monthly estimates were derived by proportioning reported quarterly data by 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 taken 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 by 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 taken directly from reported data.

Industrial Coke Plants—Prior to 1980, monthly coke plant consumption data were taken directly from reported data. From 1980-1987, coke plant consumption estimates were derived by proportioning reported quarterly data by 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 by 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.

Industrial Other—Prior to 1978, monthly consumption data for the other industrial sector (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 1980-1987, monthly figures were estimated by proportioning quarterly data by 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 data were included where appropriate. Starting in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by 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: food manufacturing, which is North

American Industry Classification System (NAICS) code 333; paper manufacturing, NAICS 322; chemical manufacturing, NAICS 325; petroleum and coal products, NAICS 324; nonmetallic mineral products manufacturing, NAICS 327; and primary metal manufacturing, NAICS 331. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights.

Electric Utilities—Monthly consumption data for electric utility plants are taken directly from reported data.

**3. Stocks:** Coal stocks data are reported by major end-use sector. Forecast data for the most recent months (designated by an "F") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "U.S. Coal Supply and Demand: Mid World Oil Price Case." The monthly estimates are one-third of the quarterly values shown in the then current issue of the publication, regularly released in February, May, October, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

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

Residential and Commercial—Prior to 1980, stock estimates for the residential and commercial sector were taken directly from reported data. Beginning in 1980, stock estimates for the sector were considered to be statistically insignificant and are no longer collected.

Industrial Coke Plants—Prior to 1980, monthly stocks at coke plants were taken 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 taken directly from data reported on Form EIA-5.

Industrial Other —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 1978-1982, 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 taken directly from data reported on Form EIA-3 and therefore include only manufacturing industries; data for agriculture, forestry, fishing, mining, and construction stocks are not available.

Electric Utilities—Monthly stocks data at electric utility plants are taken directly from reported data.

Other Power Producers—Annual stocks data are taken directly from reported data. Monthly data are estimated by EIA based on industry analysis.

**4. Forecast Values:** Data values preceded by "F" in this section are forecast values. They are derived from EIA's Short-Term Integrated Forecasting System (STIFS). The model is driven primarily by data and assumptions about key macroeconomic variables, the world oil price, and weather. The coal forecast relies on other variables as well, such as alternative fuel prices (natural gas and oil) and power generation by sources other than fossil fuels, including nuclear and hydroelectric power. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the coal industry.

The STIFS model results are published semi-annually (April and October) in EIA's *Short-Term Energy Outlook*, which is available from the National Energy Information Center (202-586-8800). Monthly updates are accessible on the world wide web at http://www.eia.doe.gov. Documentation for the model and instructions for downloading and operating it on a personal computer are provided.

**5. Additional Information:** EIA's *Quarterly Coal Report* provides additional information about coal data and estimation procedures.

## Sources for Table 6.1

**Production**
1973-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-545 (Exports).

**Stocks—**See Table 6.3.

## Sources for Table 6.2

**Residential and Commercial**
1973-1976—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook***.**
January-September 1977—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks."
October 1977-1979—Energy Information Administration (EIA), Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks."

1980-1997—EIA, Form EIA-6, "Coal Distribution Report," quarterly.
1998 forward—DOI, Mine Safety and Health Administration, Form 7000-2, "Quarterly Mine Employment and Coal Production."

**Industrial Coke Plants**
1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.*
October 1977-1980—EIA, Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual Supplement."
1981-1984—EIA, Form EIA-5/5A, "Coke Plant Report-Quarterly/Annual Supplement."
1985 forward—EIA, Form EIA-5, "Coke Plant Report-Quarterly."

**Industrial Other**
1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.
October 1977-1979—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," quarterly.

**Transportation**
1973-1976—DOI, BOM, *Minerals Yearbook*.
January-September 1977—DOI, BOM, Form 6-1400,"Monthly Coal Report, Retail Dealers-Upper Lake Docks."
October-December 1977—EIA, Form EIA-6, "Coal Distribution Report," quarterly.

**Electric Utilities**
1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.*
October 1977-2000—EIA, Form EIA-759 (formerly Form FPC-4), "Monthly Power Plant Report."
2001—EIA, Form EIA-906, "Power Plant Report."

**Other Power Producers**
Annual Data—EIA, Form EIA-860B (formerly Form EIA-867), "Annual Electric Generator Report - Nonutility."
Monthly Estimates—Through 1997, derived from the daily rate of each annual total. For 1998 forward, estimated by EIA from industry analysis.

## Sources for Table 6.3

**Producers and Distributors**
1973-1979—DOI, BOM, Form 6-1419Q, "Distribution of Bituminous Coal and Lignite Shipments."
1980 forward—Energy Information Administration (EIA), Form EIA-6, "Coal Distribution Report," quarterly.

**Residential and Commercial**
1973-1976—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*.
January-September 1977—DOI, BOM, Form 6-1400, "Monthly Coal Report, Retail Dealers-Upper Lake Docks."
October 1977-1979—EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers-Upper Lake Docks."

**Industrial Coke Plants**
1973-September 1977—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*.
October 1977-1980—Energy Information Administration (EIA), Form EIA-5/5A, "Coke and Coal Chemicals-Monthly/Annual."
1981-1984—EIA, Form EIA 5/5A, "Coke Plant Report-Quarterly/Annual Supplement."
1985 forward—EIA, Form EIA-5, "Coke Plant Report-Quarterly."

**Industrial Other**
1973-September 1977—DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys.*
October 1977-1979—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," quarterly.

**Electric Utilities**
See Table 7.9.

**Other Power Producers**
Annual Data—EIA, Form EIA-860B (formerly Form EIA-867), "Annual Electric Generator Report - Nonutility."
Monthly Estimates—Estimated by EIA from industry analysis.

# Section 7. Electricity

**Overview.** Electricity is produced by electric utilities, which are the traditional, regulated part of the industry, and nonutility power producers, which are expanding rapidly as the industry moves away from regulated entities.

In 2001, U.S. electricity net generation totaled 3.8 trillion kilowatthours. Electric utilities generated 2.7 trillion kilowatthours (70 percent of the total) and nonutility power producers generated 1.1 trillion kilowatthours (30 percent). The Nation imported 38 billion kilowatthours of electricity and exported 18 billion kilowatthours.

**Net Generation.** In January 2002, total net generation of electricity was 315 billion kilowatthours, 7 percent lower than in January 2001. At utilities, net generation was 218 billion kilowatthours, down 9 percent, while at nonutility power plants, net generation was 97 billion kilowatthours, down 1 percent, compared with 1 year earlier.

At utilities in January 2002, fossil fuels (primarily coal) accounted for 69 percent of net generation, nuclear 22 percent, and renewable resources 9 percent. At nonutility power plants, fossil fuels were estimated to account for 68 percent of net generation, nuclear accounted for 23 percent, and renewable resources were estimated to be 9 percent of the total.

**Electric Utility Retail Sales.** January 2002 total utility sales of electricity to end-users were 283 billion kilowatthours, 9 percent lower than in January 2001. January 2002 electricity sales to residential consumers were 108 billion kilowatthours (38 percent of the month's total), commercial users 89 billion kilowatthours (31 percent), industrial consumers 77 billion kilowatthours of electricity (27 percent), and other users 10 billion kilowatthours (3 percent).

**Consumption of Fossil Fuels.** In January 2002, 85 million short tons of coal were consumed to generate electricity, 8 percent less than in January 2001. Of the total, 69 million short tons (8 percent less than a year earlier) were consumed at electric utilities and 16 million short tons (7 percent less than a year earlier) were consumed by nonutility power producers.

In January 2002, 472 billion cubic feet of natural gas were estimated as consumed to generate electricity, 4 percent more than in January 2001. Of the total, 156 billion cubic feet (slightly less than a year earlier) were consumed by electric utilities and 316 billion cubic feet (6 percent more than a year earlier) were estimated as consumed by nonutility power plants.

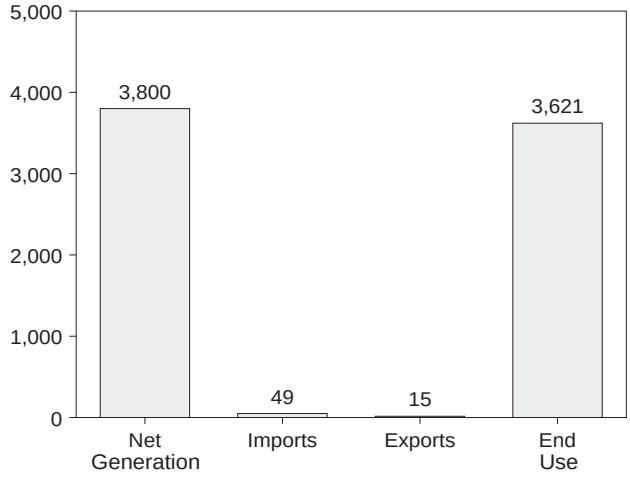
**Stocks of Coal and Petroleum.** At the end of January 2002, 143 million short tons of coal were held in storage for electricity generation, 37 percent more than in January 2001. Of the total, 113 million short tons (31 percent more than a year earlier) were held at electric utilities and 30 million short tons (62 percent more than the level a year earlier) were held by nonutility power plants.

At the end of January 2002, 68 million barrels of petroleum liquids (i.e., heavy and light oil) were held in storage by electric utilities and nonutility power producers, 53 percent more than in January 2001.

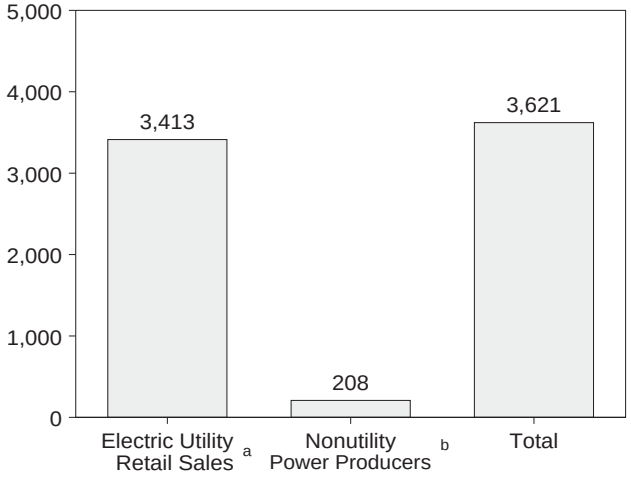
## Figure 7.1 Electricity Overview

(Billion Kilowatthours)

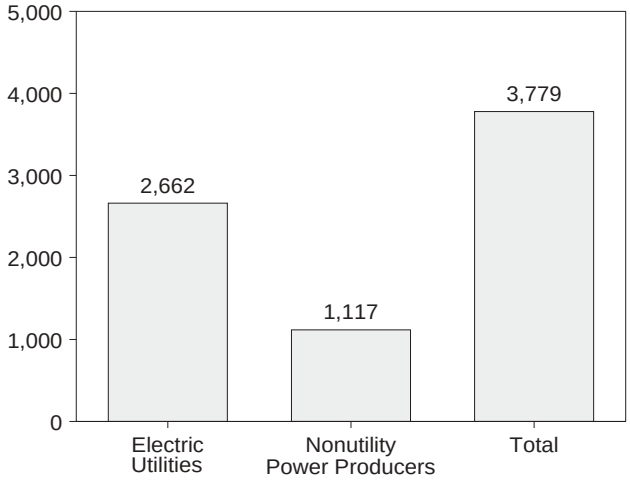
### Overview, 2000




### End Use, 2000

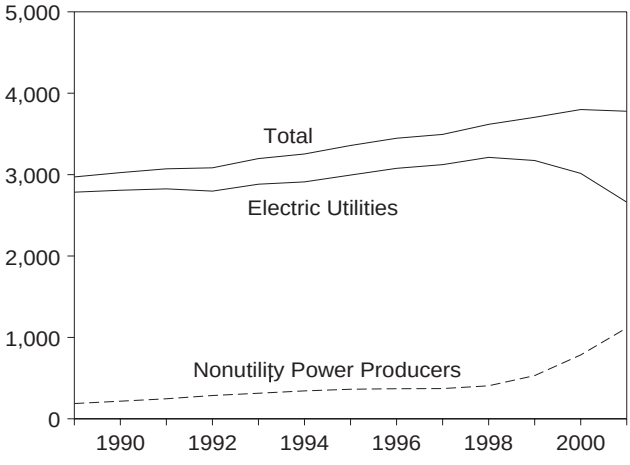



### Net Generation, 2001

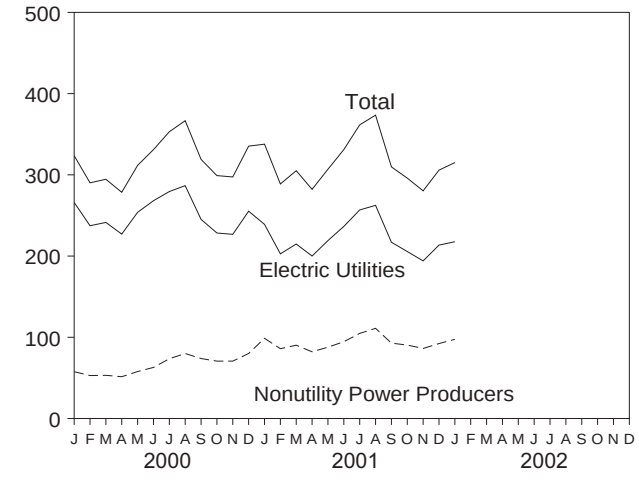



### Trade, 1973-2001


### Net Generation, 1989-2001




### Net Generation, Monthly




[a]Includes nonutility sales of electricity to utilities for distribution to end users, and sales to ultimate consumers by power marketers.
[b]Nonutility facility use of onsite net generation, and nonutility sales of electricity to end users.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.1.

# Table 7.1 Electricity Overview

(Billion Kilowatthours)

| | Net Generation | | | | | | End Use | | |
|---|---|---|---|---|---|---|---|---|---|
| | Electric Utilities | Nonutility Power Producers | Total | Imports[a] | Exports[a] | Losses and Unaccounted for[b] | Electric Utility Retail Sales[c] | Nonutility Power Producers[d] | Total[c] |
| **1973 Total** | **1,861** | **NA** | **1,861** | **17** | **3** | **NA** | **1,713** | **NA** | **NA** |
| **1974 Total** | **1,867** | **NA** | **1,867** | **15** | **3** | **NA** | **1,706** | **NA** | **NA** |
| **1975 Total** | **1,918** | **NA** | **1,918** | **11** | **5** | **NA** | **1,747** | **NA** | **NA** |
| **1976 Total** | **2,038** | **NA** | **2,038** | **11** | **2** | **NA** | **1,855** | **NA** | **NA** |
| **1977 Total** | **2,124** | **NA** | **2,124** | **20** | **3** | **NA** | **1,948** | **NA** | **NA** |
| **1978 Total** | **2,206** | **NA** | **2,206** | **21** | **1** | **NA** | **2,018** | **NA** | **NA** |
| **1979 Total** | **2,247** | **NA** | **2,247** | **23** | **2** | **NA** | **2,071** | **NA** | **NA** |
| **1980 Total** | **2,286** | **NA** | **2,286** | **25** | **4** | **NA** | **2,094** | **NA** | **NA** |
| **1981 Total** | **2,295** | **NA** | **2,295** | **36** | **3** | **NA** | **2,147** | **NA** | **NA** |
| **1982 Total** | **2,241** | **NA** | **2,241** | **33** | **4** | **NA** | **2,086** | **NA** | **NA** |
| **1983 Total** | **2,310** | **NA** | **2,310** | **39** | **3** | **NA** | **2,151** | **NA** | **NA** |
| **1984 Total** | **2,416** | **NA** | **2,416** | **42** | **3** | **NA** | **2,286** | **NA** | **NA** |
| **1985 Total** | **2,470** | **NA** | **2,470** | **46** | **5** | **NA** | **2,324** | **NA** | **NA** |
| **1986 Total** | **2,487** | **NA** | **2,487** | **41** | **5** | **NA** | **2,369** | **NA** | **NA** |
| **1987 Total** | **2,572** | **NA** | **2,572** | **52** | **6** | **NA** | **2,457** | **NA** | **NA** |
| **1988 Total** | **2,704** | **NA** | **2,704** | **39** | **7** | **NA** | **2,578** | **NA** | **NA** |
| **1989 Total** | **2,784** | **[e]188** | **2,972** | **26** | **15** | **236** | **2,647** | **100** | **2,747** |
| **1990 Total** | **2,808** | **[e]217** | **3,025** | **18** | **16** | **210** | **2,713** | **104** | **2,817** |
| **1991 Total** | **2,825** | **[e]246** | **3,071** | **22** | **2** | **218** | **2,762** | **111** | **2,873** |
| **1992 Total** | **2,797** | **286** | **3,083** | **28** | **3** | **224** | **2,763** | **122** | **2,885** |
| **1993 Total** | **2,883** | **314** | **3,197** | **31** | **4** | **236** | **2,861** | **127** | **2,988** |
| **1994 Total** | **2,911** | **343** | **3,254** | **47** | **2** | **223** | **2,935** | **141** | **3,075** |
| **1995 Total** | **2,995** | **363** | **3,358** | **43** | **4** | **235** | **3,013** | **149** | **3,162** |
| **1996 Total** | **3,077** | **370** | **3,447** | **43** | **3** | **237** | **3,101** | **149** | **3,250** |
| **1997 Total** | **3,123** | **372** | **3,494** | **43** | **9** | **234** | **3,146** | **149** | **3,295** |
| **1998 Total** | **3,212** | **406** | **3,618** | **40** | **13** | **220** | **3,264** | **160** | **3,424** |
| **1999 Total** | **3,174** | **531** | **3,705** | **43** | **14** | **233** | **3,312** | **189** | **3,501** |
| **2000** January | 266 | 58 | 324 | 4 | 1 | NA | 287 | NA | NA |
| February | 237 | 53 | 290 | 4 | 1 | NA | 271 | NA | NA |
| March | 241 | 53 | 295 | 4 | 1 | NA | 259 | NA | NA |
| April | 227 | 51 | 278 | 4 | 1 | NA | 246 | NA | NA |
| May | 254 | 58 | 312 | 4 | 1 | NA | 267 | NA | NA |
| June | 268 | 63 | 331 | 5 | 2 | NA | 299 | NA | NA |
| July | 279 | 74 | 353 | 5 | 1 | NA | 317 | NA | NA |
| August | 287 | 80 | 367 | 5 | 1 | NA | 331 | NA | NA |
| September | 245 | 74 | 319 | 4 | 1 | NA | 305 | NA | NA |
| October | 228 | 71 | 299 | 3 | 1 | NA | 274 | NA | NA |
| November | 227 | 71 | 297 | 4 | 1 | NA | 265 | NA | NA |
| December | 255 | 80 | 335 | 3 | 3 | NA | 292 | NA | NA |
| **Total** | **3,015** | **785** | **3,800** | **49** | **15** | **213** | **3,413** | **208** | **[E]3,621** |
| **2001** January | 239 | 99 | 338 | 3 | 2 | NA | 310 | NA | NA |
| February | 203 | 86 | 289 | 3 | 3 | NA | 272 | NA | NA |
| March | 215 | 90 | 305 | 4 | 2 | NA | 268 | NA | NA |
| April | 200 | 82 | 282 | 4 | 2 | NA | 255 | NA | NA |
| May | 219 | [R]88 | 307 | 4 | 2 | NA | 262 | NA | NA |
| June | 237 | [R]95 | 331 | 4 | 1 | NA | 289 | NA | NA |
| July | 257 | 105 | 362 | 4 | 1 | NA | 316 | NA | NA |
| August | 262 | 111 | 373 | 4 | 1 | NA | 332 | NA | NA |
| September | 217 | 93 | 310 | 2 | 1 | NA | 296 | NA | NA |
| October | 206 | 90 | 296 | 2 | 1 | NA | 268 | NA | NA |
| November | 194 | [R]86 | 280 | 2 | 1 | NA | 253 | NA | NA |
| December | 214 | 92 | 306 | 3 | 1 | NA | 265 | NA | NA |
| **Total** | **[R]2,662** | **[R]1,117** | **[R]3,779** | **38** | **18** | **NA** | **3,385** | **NA** | **NA** |
| **2002** January | [F]218 | [F]97 | [F]315 | 3 | 1 | NA | [F]283 | NA | NA |

[a] Electricity transmitted across U.S. borders with Canada and Mexico.

[b] Energy losses that occur between the point of generation and delivery to the customer, and data collection frame differences and nonsampling error. See Note 12 at end of Section 2 for discussion on electrical system energy losses.

[c] Includes nonutility sales of electricity to utilities for distribution to end users. Beginning in 1996, also includes sales to ultimate consumers by power marketers. See box on Table 7.5 for additional information.

[d] Nonutility facility use of onsite net electricity generation, and nonutility sales of electricity to end users.

[e] Data for 1989-1991 were collected for facilities with capacities of 5 megawatts or more. In 1992, the threshold was lowered to include facilities with capacities of 1 megawatt or more. Estimates of the 1-to-5 megawatt range for 1989-1991 were derived from historical data. The estimation did not include retirements that occurred prior to 1992 and included only the capacity of facilities that came on line before 1992.

NA=Not available. E=Estimate. F=Forecast.

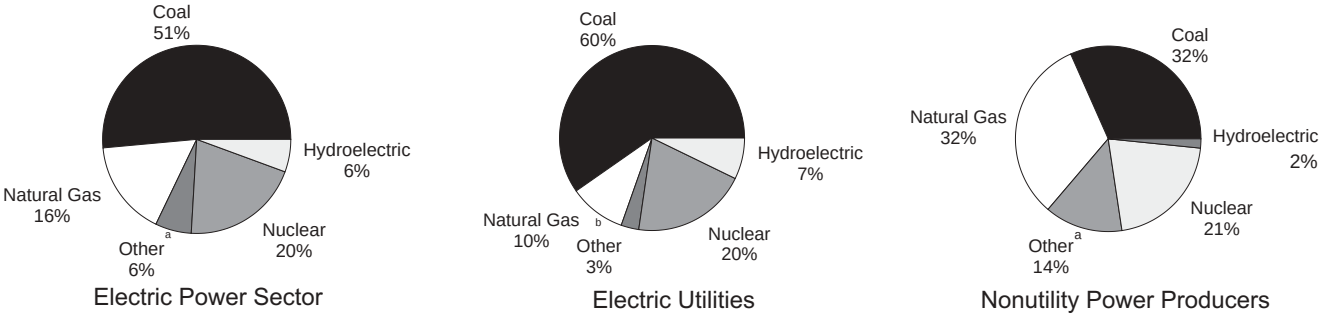
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 states and the District of Columbia.

Sources: **Net Generation:** Tables 7.2-7.4. **Imports and Exports:** See end of section. **Losses and Unaccounted for:** Calculated. **End Use:** Table 7.5. **Forecast Values:** Derived from Energy Information Administration's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

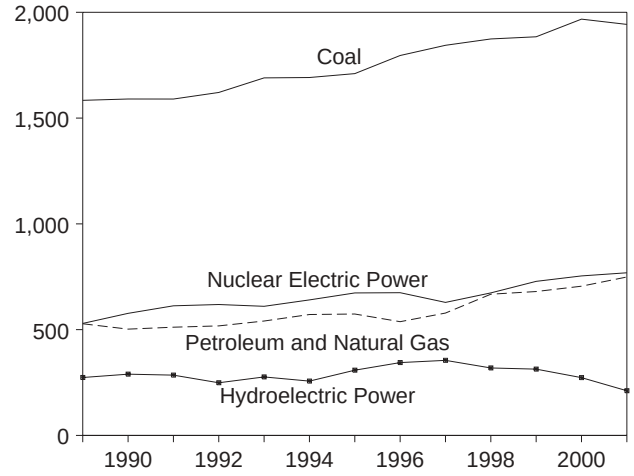
## Figure 7.2 Electricity Net Generation

(Billion Kilowatthours, Excespt as Noted)

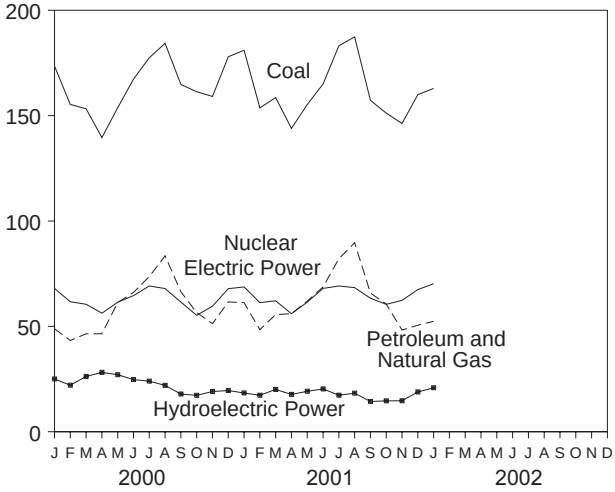
### By Selected Source, 2001



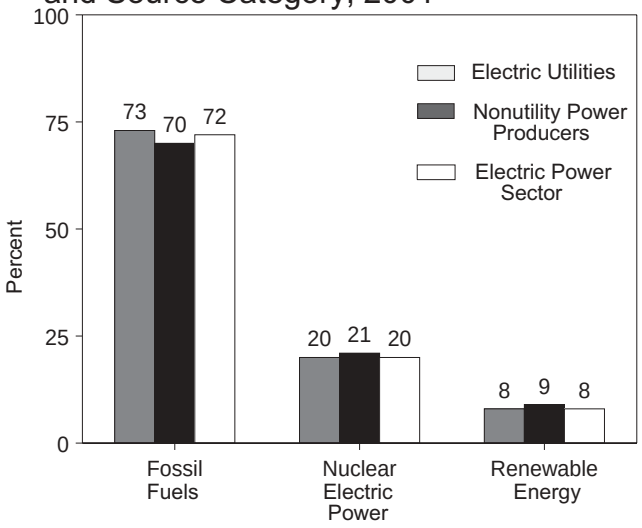

### By Major Source, 1989-2001



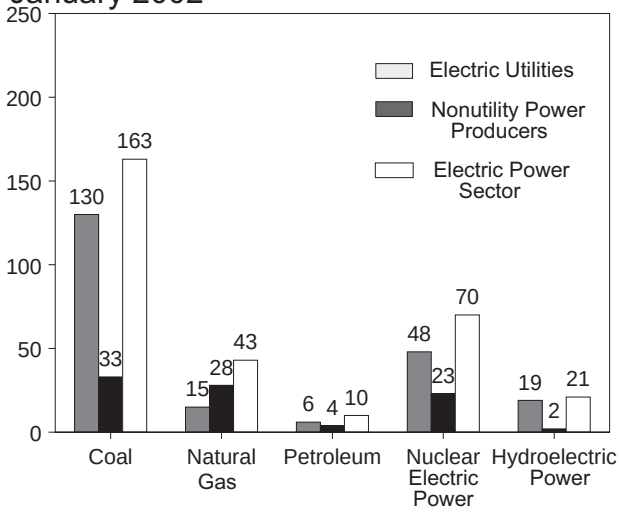

### By Major Source, Monthly




### Shares of Net Generation by Producer Type and Source Category, 2001




### By Producer Type and Selected Source, January 2002




[a]Petroleum, other gases, geothermal, wood, waste, wind, solar, batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam.
[b]Petroleum, geothermal, wood, waste, wind, and solar.

Note: Because vertical scales differ, graphs should not be compared.
Source: Tables 7.2-7.4.

# Table 7.2 Electricity Net Generation

(Million Kilowatthours)

| | Fossil Fuels | | | | | | Renewable Energy | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal[a] | Petroleum[b] | Natural Gas[c] | Other Gases[d] | Nuclear Electric Power | Hydroelectric Pumped Storage[e] | Conventional Hydroelectric Power | Geothermal | Wood[f] | Waste[g,h] | Wind | Solar[i] | Total[h] |
| **1989 Total** | **1,583,824** | **163,861** | **363,942** | **(j)** | **529,402** | **(k)** | **273,665** | **14,879** | **27,728** | **9,958** | **2,280** | **623** | **2,971,863** |
| **1990 Total** | **1,590,305** | **124,048** | **378,342** | **(j)** | **576,974** | **-3,508** | **293,013** | **15,788** | **30,413** | **13,163** | **3,035** | **646** | **3,024,867** |
| **1991 Total** | **1,589,940** | **118,957** | **392,590** | **(j)** | **612,642** | **-4,541** | **289,506** | **16,040** | **33,165** | **15,750** | **3,019** | **759** | **3,071,329** |
| **1992 Total** | **1,621,085** | **99,424** | **418,301** | **(j)** | **618,841** | **-4,177** | **253,088** | **16,422** | **35,580** | **17,777** | **2,888** | **727** | **3,083,367** |
| **1993 Total** | **1,690,010** | **112,353** | **428,417** | **(j)** | **610,367** | **-4,036** | **280,494** | **17,025** | **36,788** | **18,520** | **3,022** | **874** | **3,196,924** |
| **1994 Total** | **1,691,690** | **105,503** | **465,928** | **12,110** | **640,492** | **-3,378** | **260,166** | **16,756** | **37,804** | **19,084** | **3,447** | **803** | **3,253,799** |
| **1995 Total** | **1,710,176** | **75,260** | **498,541** | **13,506** | **673,402** | **-2,725** | **311,004** | **14,359** | **36,396** | **20,279** | **3,164** | **803** | **3,357,837** |
| **1996 Total** | **1,795,710** | **81,683** | **455,835** | **14,169** | **674,729** | **-3,088** | **347,448** | **15,126** | **36,779** | **20,672** | **3,376** | **879** | **3,446,994** |
| **1997 Total** | **1,844,104** | **93,025** | **485,440** | **11,175** | **628,644** | **-4,041** | **358,946** | **14,569** | **34,231** | **20,585** | **3,222** | **870** | **3,494,222** |
| **1998 Total** | **1,873,946** | **126,932** | **540,638** | **8,514** | **673,702** | **-4,441** | **323,330** | **14,726** | **31,789** | **21,286** | **2,988** | **856** | **3,617,873** |
| **1999 Total** | **1,884,322** | **123,560** | **E 556,649** | **E 13,330** | **728,254** | **-6,107** | **319,484** | **15,015** | **37,600** | **E 27,101** | **4,488** | **848** | **3,704,544** |
| **2000** January | 173,505 | 8,318 | E 40,546 | E 1,147 | 68,013 | -489 | 25,515 | 1,199 | 3,409 | E 2,008 | 390 | 35 | 323,596 |
| February | 155,324 | 5,713 | E 37,583 | E 1,097 | 61,688 | -417 | 22,497 | 1,073 | 3,225 | E 1,978 | 367 | 47 | 290,175 |
| March | 153,252 | 4,893 | E 41,580 | E 1,096 | 60,494 | -547 | 26,794 | 1,065 | 3,370 | E 2,077 | 427 | 60 | 294,561 |
| April | 139,585 | 4,900 | E 41,591 | E 1,058 | 56,252 | -383 | 28,546 | 1,109 | 3,237 | E 2,026 | 493 | 69 | 278,481 |
| May | 153,764 | 7,829 | E 53,495 | E 1,247 | 61,479 | -492 | 27,540 | 1,133 | 3,055 | E 2,118 | 460 | 76 | 311,703 |
| June | 167,315 | 10,076 | E 55,997 | E 1,371 | 64,595 | -561 | 25,312 | 1,144 | 3,203 | E 2,042 | 427 | 105 | 331,025 |
| July | 177,445 | 9,659 | E 63,950 | E 1,479 | 69,171 | -319 | 24,316 | 1,218 | 3,516 | E 2,104 | 398 | 102 | 353,039 |
| August | 184,350 | 12,198 | E 71,295 | E 1,686 | 67,954 | -390 | 22,385 | 1,250 | 3,318 | E 2,120 | 407 | 104 | 366,678 |
| September | 164,770 | 10,224 | E 56,172 | E 1,475 | 61,549 | -641 | 18,515 | 1,208 | 3,243 | E 1,995 | 380 | 94 | 318,985 |
| October | 161,372 | 8,989 | E 47,586 | E 1,377 | 55,240 | -415 | 17,677 | 1,244 | 3,396 | E 2,067 | 442 | 49 | 299,027 |
| November | 159,094 | 8,222 | E 43,084 | E 1,319 | 59,579 | -367 | 19,467 | 1,251 | 3,233 | E 2,039 | 418 | 57 | 297,395 |
| December | 177,949 | 17,761 | E 43,829 | E 1,320 | 67,881 | -530 | 20,070 | 1,303 | 3,294 | E 2,014 | 343 | 44 | 335,280 |
| **Total** | **1,967,726** | **108,781** | **E 596,708** | **E 15,672** | **753,893** | **-5,552** | **278,633** | **14,197** | **39,498** | **E 24,590** | **4,953** | **844** | **3,799,944** |
| **2001** January | 181,047 | 19,194 | E 42,059 | E 1,358 | R 68,707 | -428 | 18,825 | 1,307 | 3,344 | E 1,983 | 358 | E 12 | R 337,766 |
| February | 153,674 | 10,530 | E 37,914 | E 1,250 | R 61,272 | -502 | 17,821 | 1,169 | 2,993 | E 2,131 | 469 | E 13 | R 288,736 |
| March | 158,573 | 11,519 | E 44,112 | E 1,406 | R 62,141 | -539 | 20,606 | 1,208 | 3,346 | E 2,027 | 614 | E 44 | R 305,056 |
| April | 143,937 | 10,935 | E 45,069 | E 1,255 | R 56,003 | -598 | 18,317 | 1,107 | 3,093 | E 2,309 | 691 | E 60 | R 282,178 |
| May | 155,261 | 10,823 | E 51,187 | E 1,456 | R 61,512 | -329 | 19,523 | 1,085 | 3,171 | E 2,299 | 786 | E 91 | R 306,866 |
| June | 165,025 | 12,001 | E 56,703 | E 1,585 | R 68,023 | -410 | 20,705 | 1,101 | 3,277 | E 2,231 | 715 | E 112 | R 331,070 |
| July | 183,147 | 11,327 | E 70,755 | E 1,843 | R 69,166 | -528 | 17,859 | 1,192 | 3,714 | E 2,252 | 687 | E 122 | R 361,535 |
| August | 187,390 | 14,666 | E 75,025 | E 2,048 | R 68,389 | -351 | 18,643 | 1,171 | 3,480 | E 2,207 | 677 | E 122 | R 373,468 |
| September | 157,283 | 7,510 | E 58,334 | E 1,699 | R 63,378 | -718 | 15,091 | 1,142 | 3,284 | E 2,090 | 566 | E 126 | R 309,786 |
| October | 151,184 | 6,610 | E 53,955 | E 1,619 | R 60,461 | -463 | 15,110 | 1,165 | 3,614 | E 2,036 | 615 | E 49 | R 295,955 |
| November | 146,290 | 5,984 | E 42,263 | E 1,383 | R 62,342 | -662 | 15,358 | 1,162 | 3,513 | E 2,069 | 535 | E 62 | R 280,299 |
| December | 159,964 | 6,688 | E 43,849 | E 1,455 | R 67,431 | -478 | 19,358 | 1,196 | 3,512 | E 2,219 | 556 | E 46 | R 305,797 |
| **Total** | **1,942,775** | **127,785** | **E 621,226** | **E 18,356** | **R 768,827** | **-6,004** | **217,216** | **14,006** | **40,341** | **E 25,855** | **7,270** | **E 860** | **R 3,778,512** |
| **2002** January | F 162,889 | F 9,606 | F 42,807 | F 1,434 | F 70,247 | F -539 | F 21,409 | F 1,140 | F 3,407 | F 2,175 | F 476 | F 39 | F 315,091 |

[a] Coal, fine coal, anthracite culm, bituminous gob, lignite waste, tar coal, waste coal, and coke breeze.

[b] Fuel oil nos. 1, 2, 4, 5, and 6, crude oil, petroleum coke, kerosene, liquid butane, liquid propane, methanol, liquid byproducts, oil waste, sludge oil, and tar oil.

[c] Includes supplemental gaseous fuels at electric utilities.

[d] Blast furnace gas, coke oven gas, butane gas, propane gas, refinery gas, and other process and waste gases derived from coal, petroleum, and natural gas.

[e] Pumped storage facility production minus energy used for pumping.

[f] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[g] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

[h] "Total" includes batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam, which are not separately displayed. Beginning in 1999, these components are also included in "Waste."

[i] Solar thermal and photovoltaic energy.

[j] Included in natural gas.

[k] Included in conventional hydroelectric power.

R=Revised. E=Estimate. F=Forecast.

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

Sources: Tables 7.3 and 7.4.

This table represents the entire U.S. electric power sector. See Table 7.3 for electric utilities only. See Table 7.4 for nonutility power producers only.

# Table 7.3 Electricity Net Generation at Electric Utilities

(Million Kilowatthours)

| | Fossil Fuels | | | | | Renewable Energy | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal | Petroleum[a] | Natural Gas[b] | Nuclear Electric Power | Hydroelectric Pumped Storage[c] | Conventional Hydroelectric Power | Geothermal | Wood[d] | Waste[e] | Wind | Solar[f] | Total |
| **1973 Total** | **847,651** | **314,343** | **340,858** | **83,479** | **(g)** | **272,083** | **1,966** | **130** | **198** | **0** | **0** | **1,860,710** |
| **1974 Total** | **828,433** | **300,931** | **320,065** | **113,976** | **(g)** | **301,032** | **2,453** | **69** | **182** | **0** | **0** | **1,867,140** |
| **1975 Total** | **852,786** | **289,095** | **299,778** | **172,505** | **(g)** | **300,047** | **3,246** | **18** | **174** | **0** | **0** | **1,917,649** |
| **1976 Total** | **944,391** | **319,988** | **294,624** | **191,104** | **(g)** | **283,707** | **3,616** | **84** | **182** | **0** | **0** | **2,037,696** |
| **1977 Total** | **985,219** | **358,179** | **305,505** | **250,883** | **(g)** | **220,475** | **3,582** | **308** | **173** | **0** | **0** | **2,124,323** |
| **1978 Total** | **975,742** | **365,060** | **305,391** | **276,403** | **(g)** | **280,419** | **2,978** | **197** | **140** | **0** | **0** | **2,206,331** |
| **1979 Total** | **1,075,037** | **303,525** | **329,485** | **255,155** | **(g)** | **279,783** | **3,889** | **300** | **198** | **0** | **0** | **2,247,372** |
| **1980 Total** | **1,161,562** | **245,994** | **346,240** | **251,116** | **(g)** | **276,021** | **5,073** | **275** | **158** | **0** | **0** | **2,286,439** |
| **1981 Total** | **1,203,203** | **206,421** | **345,777** | **272,674** | **(g)** | **260,684** | **5,686** | **245** | **123** | **0** | **0** | **2,294,812** |
| **1982 Total** | **1,192,004** | **146,797** | **305,260** | **282,773** | **(g)** | **309,213** | **4,843** | **196** | **125** | **0** | **0** | **2,241,211** |
| **1983 Total** | **1,259,424** | **144,499** | **274,098** | **293,677** | **(g)** | **332,130** | **6,075** | **216** | **163** | **3** | **0** | **2,310,285** |
| **1984 Total** | **1,341,681** | **119,808** | **297,394** | **327,634** | **(g)** | **321,150** | **7,741** | **461** | **425** | **6** | **5** | **2,416,304** |
| **1985 Total** | **1,402,128** | **100,202** | **291,946** | **383,691** | **(g)** | **281,149** | **9,325** | **743** | **640** | **6** | **11** | **2,469,841** |
| **1986 Total** | **1,385,831** | **136,585** | **248,508** | **414,038** | **(g)** | **290,844** | **10,308** | **492** | **685** | **4** | **14** | **2,487,310** |
| **1987 Total** | **1,463,781** | **118,493** | **272,621** | **455,270** | **(g)** | **249,695** | **10,775** | **783** | **694** | **4** | **10** | **2,572,127** |
| **1988 Total** | **1,540,653** | **148,900** | **252,801** | **526,973** | **(g)** | **222,940** | **10,300** | **936** | **738** | **1** | **9** | **2,704,250** |
| **1989 Total** | **1,553,661** | **158,318** | **266,598** | **529,355** | **(g)** | **265,063** | **9,342** | **972** | **993** | **(s)** | **3** | **2,784,304** |
| **1990 Total** | **1,559,606** | **117,017** | **264,089** | **576,862** | **-3,508** | **283,434** | **8,581** | **810** | **1,257** | **(s)** | **2** | **2,808,151** |
| **1991 Total** | **1,551,167** | **111,463** | **264,172** | **612,565** | **-4,541** | **280,061** | **8,087** | **732** | **1,314** | **(s)** | **3** | **2,825,023** |
| **1992 Total** | **1,575,895** | **88,916** | **263,872** | **618,776** | **-4,177** | **243,736** | **8,104** | **816** | **1,276** | **(s)** | **3** | **2,797,219** |
| **1993 Total** | **1,639,151** | **99,539** | **258,915** | **610,291** | **-4,036** | **269,098** | **7,571** | **890** | **1,100** | **(s)** | **4** | **2,882,525** |
| **1994 Total** | **1,635,493** | **91,039** | **291,115** | **640,440** | **-3,378** | **247,071** | **6,941** | **765** | **1,224** | **(s)** | **3** | **2,910,712** |
| **1995 Total** | **1,652,914** | **60,844** | **307,306** | **673,402** | **-2,725** | **296,378** | **4,745** | **633** | **1,016** | **11** | **4** | **2,994,529** |
| **1996 Total** | **1,737,453** | **67,346** | **262,730** | **674,729** | **-3,088** | **331,058** | **5,234** | **788** | **1,179** | **10** | **3** | **3,077,442** |
| **1997 Total** | **1,787,806** | **77,753** | **283,625** | **628,644** | **-4,041** | **341,273** | **5,469** | **739** | **1,244** | **6** | **3** | **3,122,522** |
| **1998 Total** | **1,807,480** | **110,158** | **309,222** | **673,702** | **-4,441** | **308,844** | **5,176** | **719** | **1,305** | **3** | **3** | **3,212,171** |
| **1999 Total** | **1,767,679** | **86,929** | **296,381** | **725,036** | **-5,982** | **299,914** | **1,698** | **684** | **1,307** | **23** | **3** | **3,173,674** |
| **2000** January | 153,871 | 4,771 | 18,152 | 66,214 | -470 | 23,281 | 14 | 44 | 111 | 3 | (s) | 265,991 |
| February | 137,477 | 3,184 | 16,166 | 60,053 | -401 | 20,654 | 13 | 59 | 115 | 4 | (s) | 237,324 |
| March | 135,329 | 2,974 | 20,186 | 58,704 | -534 | 24,531 | 13 | 61 | 131 | 2 | (s) | 241,397 |
| April | 122,437 | 3,110 | 20,937 | 54,514 | -342 | 26,172 | 13 | 58 | 131 | 2 | (s) | 227,031 |
| May | 134,171 | 5,743 | 29,146 | 59,864 | -435 | 25,190 | 13 | 55 | 140 | 2 | (s) | 253,890 |
| June | 145,722 | 7,395 | 29,226 | 62,973 | -500 | 23,136 | 13 | 48 | 113 | 2 | (s) | 268,128 |
| July | 150,690 | 7,004 | 35,077 | 64,538 | -247 | 22,167 | 13 | 59 | 118 | 2 | (s) | 279,421 |
| August | 156,643 | 8,689 | 38,381 | 62,905 | -317 | 20,193 | 13 | 61 | 113 | 2 | (s) | 286,682 |
| September | 139,802 | 7,488 | 27,366 | 54,521 | -570 | 16,352 | 11 | 55 | 108 | 2 | (s) | 245,137 |
| October | 137,211 | 5,758 | 20,693 | 49,097 | -354 | 15,788 | 12 | 67 | 116 | 2 | (s) | 228,389 |
| November | 134,200 | 4,914 | 17,332 | 52,841 | -314 | 17,602 | 12 | 65 | 107 | 4 | (s) | 226,765 |
| December | 149,065 | 11,150 | 18,054 | 59,209 | -475 | 18,088 | 13 | 67 | 55 | 2 | (s) | 255,229 |
| **Total** | **1,696,619** | **72,180** | **290,715** | **705,433** | **-4,960** | **253,155** | **151** | **700** | **1,358** | **29** | **3** | **3,015,383** |
| **2001** January | 146,431 | 11,271 | 15,549 | R 48,876 | -372 | 17,056 | 14 | 81 | 109 | 5 | (s) | R 239,019 |
| February | 123,805 | 6,101 | 13,501 | R 43,547 | -460 | 16,090 | 12 | 70 | 92 | 4 | (s) | R 202,764 |
| March | 129,514 | 6,836 | 16,658 | R 43,477 | -490 | 18,619 | 14 | 59 | 132 | 4 | (s) | R 214,822 |
| April | 117,933 | 6,879 | 20,565 | R 39,042 | -546 | 15,947 | 13 | 52 | 130 | 5 | (s) | R 200,022 |
| May | 128,666 | 7,062 | 22,761 | R 43,312 | -279 | 17,337 | (s) | 33 | 151 | 4 | (s) | R 219,048 |
| June | 136,566 | 7,835 | 25,749 | R 47,850 | -355 | 18,669 | 15 | 48 | 145 | 3 | (s) | R 236,526 |
| July | 150,077 | 7,305 | 34,766 | R 48,447 | -473 | 16,435 | 16 | 55 | 135 | 3 | (s) | R 256,767 |
| August | 152,643 | 9,056 | 35,040 | R 48,266 | -294 | 17,510 | 16 | 64 | 138 | 3 | (s) | R 262,444 |
| September | 129,029 | 5,238 | 25,169 | R 43,857 | -652 | 14,164 | 13 | 70 | 117 | 3 | (s) | R 217,008 |
| October | 123,811 | 4,269 | 22,349 | R 41,177 | -425 | 14,217 | 16 | 50 | 93 | 5 | (s) | R 205,562 |
| November | 119,788 | 3,776 | 15,268 | R 41,415 | -623 | 14,313 | 14 | 34 | 87 | 5 | (s) | R 194,077 |
| December | 131,531 | 3,947 | 15,450 | R 44,941 | -379 | 17,872 | 10 | 34 | 89 | 5 | (s) | R 213,501 |
| **Total** | **1,589,796** | **79,577** | **262,825** | **R 534,207** | **-5,346** | **198,227** | **152** | **649** | **1,418** | **50** | **3** | **R 2,661,559** |
| **2002** January | F 130,388 | F 5,523 | F 14,804 | F 47,647 | F -414 | F 19,525 | F 13 | F 44 | F 115 | F 7 | F (s) | F 217,654 |

[a] Fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.
[b] Includes supplemental gaseous fuels.
[c] Pumped storage facility production minus energy used for pumping.
[d] Wood, wood waste, wood liquors, wood sludge, peat, railroad ties, and utility poles.
[e] Municipal solid waste, landfill gas, methane, digester gas, waste alcohol, sludge waste, solid byproducts, and tires.
[f] Solar thermal and photovoltaic energy.
[g] Included in conventional hydroelectric power.

R=Revised. F=Forecast. (s)=Less than 0.5 million kilowatthours.

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

Sources: See end of section. Forecast values are derived from Energy Information Administration's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

# Table 7.4 Electricity Net Generation at Nonutility Power Producers

(Million Kilowatthours)

| | Fossil Fuels | | | | | | Renewable Energy | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Coal[a] | Petroleum[b] | Natural Gas[c] | Other Gases[d] | Nuclear Electric Power | Hydroelectric Pumped Storage[e] | Conventional Hydroelectric Power | Geothermal | Wood[f] | Waste[g,h] | Wind | Solar[i] | Total[h] |
| **1989 Total**[j] | **30,163** | **5,543** | **97,343** | **(k)** | **47** | **0** | **8,602** | **5,537** | **26,756** | **8,965** | **2,279** | **621** | **187,558** |
| **1990 Total**[j] | **30,699** | **7,031** | **114,253** | **(k)** | **113** | **0** | **9,580** | **7,207** | **29,603** | **11,906** | **3,035** | **644** | **216,716** |
| **1991 Total**[j] | **38,773** | **7,494** | **128,419** | **(k)** | **77** | **0** | **9,446** | **7,953** | **32,433** | **14,435** | **3,019** | **756** | **246,306** |
| **1992 Total** | **45,189** | **10,508** | **154,429** | **(k)** | **65** | **0** | **9,352** | **8,318** | **34,764** | **16,500** | **2,887** | **724** | **286,148** |
| **1993 Total** | **50,859** | **12,814** | **169,502** | **(k)** | **76** | **0** | **11,396** | **9,454** | **35,898** | **17,420** | **3,022** | **870** | **314,399** |
| **1994 Total** | **56,197** | **14,464** | **174,813** | **12,110** | **52** | **0** | **13,095** | **9,816** | **37,039** | **17,860** | **3,447** | **799** | **343,087** |
| **1995 Total** | **57,261** | **14,416** | **191,235** | **13,506** | **0** | **0** | **14,626** | **9,614** | **35,763** | **19,263** | **3,153** | **799** | **363,308** |
| **1996 Total** | **58,257** | **14,337** | **193,106** | **14,169** | **0** | **0** | **16,390** | **9,892** | **35,991** | **19,493** | **3,366** | **876** | **369,552** |
| **1997 Total** | **56,298** | **15,272** | **201,816** | **11,175** | **0** | **0** | **17,673** | **9,100** | **33,492** | **19,341** | **3,216** | **866** | **371,700** |
| **1998 Total** | **66,466** | **16,775** | **231,415** | **8,514** | **0** | **0** | **14,486** | **9,550** | **31,070** | **19,981** | **2,985** | **854** | **405,702** |
| **1999 Total** | **116,642** | **36,631** | **E 260,268** | **E 13,330** | **3,218** | **-124** | **19,570** | **13,316** | **36,916** | **E 25,794** | **4,465** | **845** | **530,871** |
| **2000** January | 19,634 | 3,547 | E 22,394 | E 1,147 | 1,799 | -19 | 2,234 | 1,186 | 3,365 | E 1,897 | 387 | 35 | 57,605 |
| February | 17,847 | 2,528 | E 21,417 | E 1,097 | 1,635 | -16 | 1,842 | 1,061 | 3,167 | E 1,863 | 364 | 47 | 52,851 |
| March | 17,923 | 1,919 | E 21,394 | E 1,096 | 1,790 | -13 | 2,263 | 1,052 | 3,308 | E 1,946 | 426 | 60 | 53,164 |
| April | 17,148 | 1,791 | E 20,654 | E 1,058 | 1,737 | -41 | 2,374 | 1,095 | 3,179 | E 1,896 | 491 | 69 | 51,450 |
| May | 19,593 | 2,086 | E 24,349 | E 1,247 | 1,615 | -57 | 2,350 | 1,120 | 2,999 | E 1,978 | 458 | 76 | 57,814 |
| June | 21,593 | 2,681 | E 26,771 | E 1,371 | 1,622 | -61 | 2,176 | 1,132 | 3,155 | E 1,929 | 424 | 104 | 62,896 |
| July | 26,755 | 2,656 | E 28,873 | E 1,479 | 4,633 | -71 | 2,148 | 1,205 | 3,456 | E 1,986 | 397 | 102 | 73,618 |
| August | 27,707 | 3,509 | E 32,915 | E 1,686 | 5,049 | -73 | 2,192 | 1,237 | 3,257 | E 2,008 | 405 | 104 | 79,996 |
| September | 24,967 | 2,735 | E 28,806 | E 1,475 | 7,028 | -71 | 2,162 | 1,197 | 3,188 | E 1,887 | 379 | 94 | 73,849 |
| October | 24,161 | 3,232 | E 26,894 | E 1,377 | 6,143 | -60 | 1,889 | 1,232 | 3,330 | E 1,951 | 440 | 49 | 70,637 |
| November | 24,894 | 3,307 | E 25,752 | E 1,319 | 6,737 | -54 | 1,865 | 1,238 | 3,167 | E 1,932 | 414 | 57 | 70,630 |
| December | 28,884 | 6,611 | E 25,776 | E 1,320 | 8,672 | -56 | 1,983 | 1,290 | 3,227 | E 1,959 | 341 | 44 | 80,051 |
| **Total** | **271,106** | **36,601** | **E 305,993** | **E 15,672** | **48,460** | **-592** | **25,478** | **14,046** | **38,798** | **E 23,232** | **4,925** | **842** | **784,561** |
| **2001** January | 34,616 | 7,923 | E 26,510 | E 1,358 | 19,831 | -56 | 1,768 | 1,294 | 3,263 | E 1,875 | 353 | E 12 | 98,746 |
| February | 29,869 | 4,429 | E 24,413 | E 1,250 | 17,725 | -42 | 1,731 | 1,157 | 2,923 | E 2,039 | 465 | E 13 | 85,972 |
| March | 29,058 | 4,682 | E 27,454 | E 1,406 | 18,664 | -49 | 1,987 | 1,195 | 3,287 | E 1,895 | 610 | E 44 | 90,234 |
| April | 26,003 | 4,055 | E 24,504 | E 1,255 | 16,961 | -52 | 2,370 | 1,094 | 3,041 | E 2,179 | 686 | E 60 | 82,157 |
| May | 26,595 | 3,761 | E 28,426 | E 1,456 | R 18,200 | -50 | 2,186 | 1,085 | 3,138 | E 2,149 | 782 | E 91 | R 87,818 |
| June | 28,459 | 4,166 | E 30,954 | E 1,585 | R 20,173 | -55 | 2,037 | 1,086 | 3,229 | E 2,086 | 712 | E 112 | R 94,544 |
| July | 33,070 | 4,021 | E 35,989 | E 1,843 | 20,719 | -56 | 1,425 | 1,176 | 3,659 | E 2,117 | 684 | E 121 | 104,768 |
| August | 34,747 | 5,609 | E 39,985 | E 2,048 | 20,123 | -57 | 1,133 | 1,155 | 3,415 | E 2,069 | 674 | E 122 | 111,024 |
| September | 28,254 | 2,272 | E 33,166 | E 1,699 | 19,521 | -65 | 927 | 1,129 | 3,214 | E 1,973 | 562 | E 125 | 92,778 |
| October | 27,372 | 2,341 | E 31,606 | E 1,619 | 19,284 | -39 | 893 | 1,149 | 3,565 | E 1,944 | 610 | E 49 | 90,393 |
| November | 26,502 | 2,208 | E 26,995 | E 1,383 | R 20,927 | -38 | 1,045 | 1,148 | 3,479 | E 1,982 | 530 | E 62 | R 86,222 |
| December | 28,433 | 2,740 | E 28,400 | E 1,455 | 22,490 | -99 | 1,486 | 1,186 | 3,478 | E 2,130 | 551 | E 46 | 92,296 |
| **Total** | **352,979** | **48,208** | **E 358,401** | **E 18,356** | **R 234,619** | **-659** | **18,989** | **13,854** | **39,692** | **E 24,437** | **7,220** | **E 856** | **R 1,116,953** |
| **2002** January | F 32,501 | F 4,083 | F 28,003 | F 1,434 | F 22,600 | F -125 | F 1,884 | F 1,126 | F 3,363 | F 2,060 | F 468 | F 39 | F 97,437 |

[a] Coal, fine coal, anthracite culm, bituminous gob, lignite waste, tar coal, waste coal, and coke breeze.

[b] Fuel oil nos. 1, 2, 4, 5, and 6, crude oil, petroleum coke, kerosene, liquid butane, liquid propane, methanol, liquid byproducts, oil waste, sludge oil, and tar oil.

[c] Natural gas only.

[d] Blast furnace gas, coke oven gas, butane gas, propane gas, refinery gas, and other process and waste gases derived from coal, petroleum, and natural gas.

[e] Pumped storage facility production minus energy used for pumping.

[f] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[g] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

[h] "Total" includes batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam, which are not separately displayed. Beginning in 1999, these components are also included in "Waste."

[i] Solar thermal and photovoltaic energy.

[j] Data for 1989-1991 were collected for facilities with capacities of 5 megawatts or more. In 1992, the threshold was lowered to include facilities with capacities of 1 megawatt or more. Estimates of the 1-to-5 megawatt range for 1989-1991 were derived from historical data. The estimation did not include retirements that occurred prior to 1992 and included only the capacity of facilities that came on line before 1992.

[k] Included in natural gas.

R=Revised. E=Estimate. F=Forecast.

Notes: Due to restructuring of the electric power sector, the sale of generation assets is resulting in reclassification of plants from electric utility to nonutility plants.

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

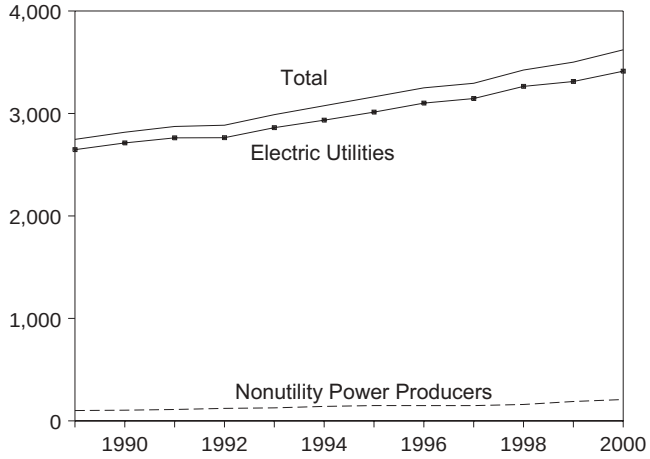
Geographic coverage is the 50 states and the District of Columbia.

Sources: **1989-1998:** Energy Information Administration (EIA), Form EIA-860B, "Annual Electric Generator Report-Nonutility" and predecessor form. **1999 and 2000:** EIA, Form EIA-900, "Monthly Nonutility Power Report." **2001:** EIA, Form EIA-906, "Power Plant Report." **Forecast Values:** Derived from EIA's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

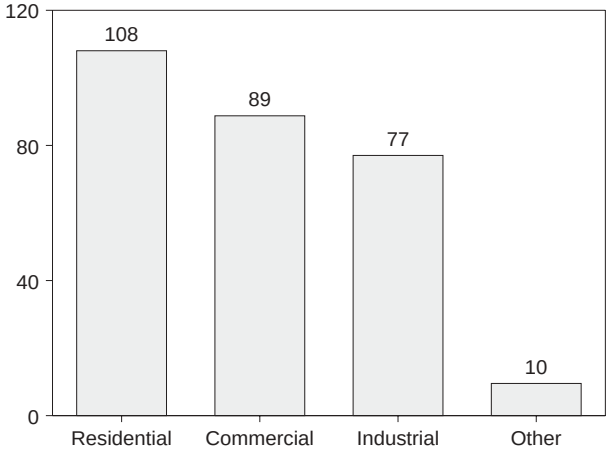
## Figure 7.3 Electricity End Use

(Billion Kilowatthours)

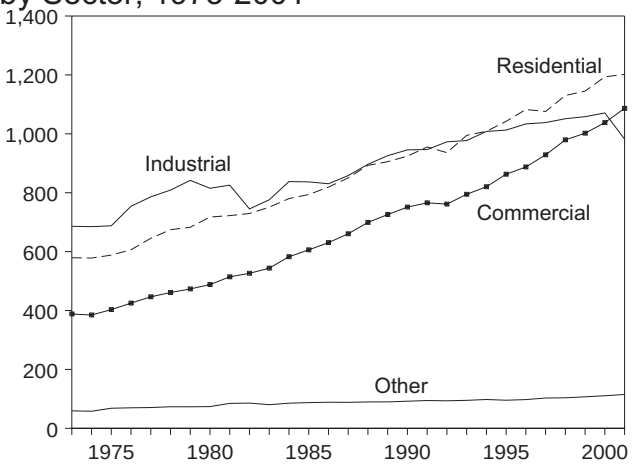
### Electricity End Use Overview, 1989-2001



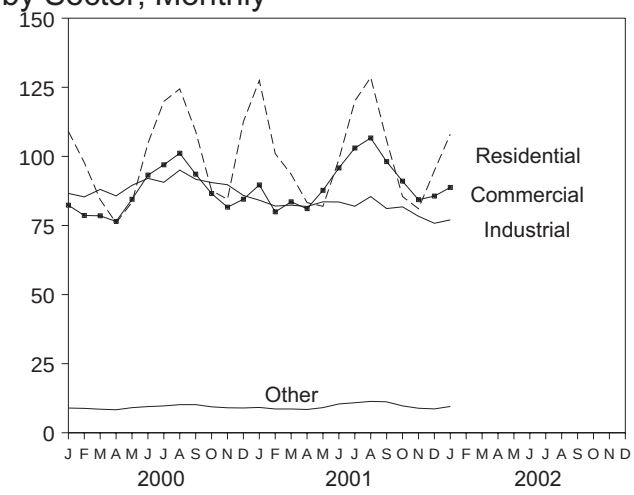

### Electric Utility Retail Sales by Sector, January 2002




### Electric Utility Retail Sales by Sector, 1973-2001

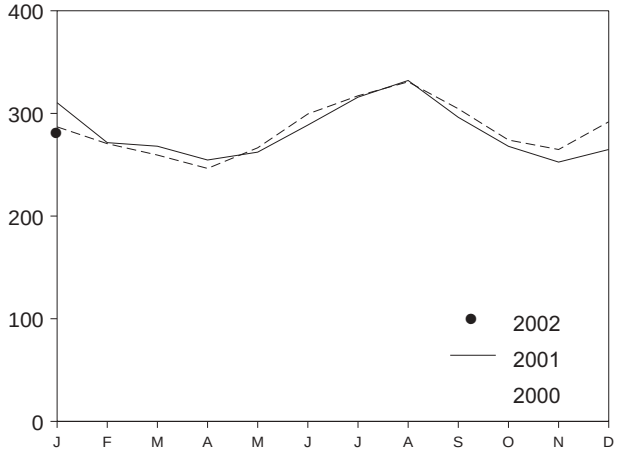



### Electric Utility Retail Sales by Sector, Monthly




### Electric Utility Retail Sales Total, January


### Electric Utility Retail Sales Total, Monthly




Notes: • Electric utility data include nonutility sales of electricity to utilities for distribution to end users; beginning in 1996, they also include sales to ultimate consumers by power marketers. • Nonutility data are for nonutility facility use of onsite net electricity generation, and nonutility sales of electricity to end users. • Because vertical scales differ, graphs should not be compared.
Source: Table 7.5.

## Table 7.5 Electricity End Use

(Million Kilowatthours)

| | Electric Utility Retail Sales[a] | | | | | Nonutility Power Producers | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Residential | Commercial | Industrial | Other[b] | Total | Direct Use[c] | Sales to End Users | Total | Total[a] |
| **1973 Total** | **579,231** | **388,266** | **686,085** | **59,326** | **1,712,909** | **NA** | **NA** | **NA** | **NA** |
| **1974 Total** | **578,184** | **384,826** | **684,875** | **58,039** | **1,705,924** | **NA** | **NA** | **NA** | **NA** |
| **1975 Total** | **588,140** | **403,049** | **687,680** | **68,222** | **1,747,091** | **NA** | **NA** | **NA** | **NA** |
| **1976 Total** | **606,452** | **425,094** | **754,069** | **69,631** | **1,855,246** | **NA** | **NA** | **NA** | **NA** |
| **1977 Total** | **645,239** | **446,514** | **786,037** | **70,571** | **1,948,361** | **NA** | **NA** | **NA** | **NA** |
| **1978 Total** | **674,466** | **461,163** | **809,078** | **73,215** | **2,017,922** | **NA** | **NA** | **NA** | **NA** |
| **1979 Total** | **682,819** | **473,307** | **841,903** | **73,070** | **2,071,099** | **NA** | **NA** | **NA** | **NA** |
| **1980 Total** | **717,495** | **488,155** | **815,067** | **73,732** | **2,094,449** | **NA** | **NA** | **NA** | **NA** |
| **1981 Total** | **722,265** | **514,338** | **825,743** | **84,756** | **2,147,103** | **NA** | **NA** | **NA** | **NA** |
| **1982 Total** | **729,520** | **526,397** | **744,949** | **85,575** | **2,086,441** | **NA** | **NA** | **NA** | **NA** |
| **1983 Total** | **750,948** | **543,788** | **775,999** | **80,219** | **2,150,955** | **NA** | **NA** | **NA** | **NA** |
| **1984 Total** | **780,092** | **582,621** | **837,836** | **85,248** | **2,285,796** | **NA** | **NA** | **NA** | **NA** |
| **1985 Total** | **793,934** | **605,989** | **836,772** | **87,279** | **2,323,974** | **NA** | **NA** | **NA** | **NA** |
| **1986 Total** | **819,088** | **630,520** | **830,531** | **88,615** | **2,368,753** | **NA** | **NA** | **NA** | **NA** |
| **1987 Total** | **850,410** | **660,433** | **858,233** | **88,196** | **2,457,272** | **NA** | **NA** | **NA** | **NA** |
| **1988 Total** | **892,866** | **699,100** | **896,498** | **89,598** | **2,578,062** | **NA** | **NA** | **NA** | **NA** |
| **1989 Total** | **905,525** | **725,861** | **925,659** | **89,765** | **2,646,809** | **[d]82,742** | **[d]17,687** | **[d]100,430** | **2,747,239** |
| **1990 Total** | **924,019** | **751,027** | **945,522** | **91,988** | **2,712,555** | **[d]84,367** | **[d]19,824** | **[d]104,191** | **2,816,746** |
| **1991 Total** | **955,417** | **765,664** | **946,583** | **94,339** | **2,762,003** | **[d]99,623** | **[d]11,419** | **[d]111,042** | **2,873,045** |
| **1992 Total** | **935,939** | **761,271** | **972,714** | **93,442** | **2,763,365** | **110,988** | **10,786** | **121,774** | **2,885,140** |
| **1993 Total** | **994,781** | **794,573** | **977,164** | **94,944** | **2,861,462** | **111,322** | **15,569** | **126,891** | **2,988,353** |
| **1994 Total** | **1,008,482** | **820,269** | **1,007,981** | **97,830** | **2,934,563** | **123,283** | **17,626** | **140,909** | **3,075,472** |
| **1995 Total** | **1,042,501** | **862,685** | **1,012,693** | **95,407** | **3,013,287** | **133,609** | **15,548** | **149,157** | **3,162,443** |
| **1996 Total** | **1,082,512** | **887,445** | **1,033,631** | **97,539** | **3,101,127** | **134,644** | **14,284** | **148,928** | **3,250,055** |
| **1997 Total** | **1,075,880** | **928,633** | **1,038,197** | **102,901** | **3,145,610** | **130,836** | **18,147** | **148,983** | **3,294,593** |
| **1998 Total** | **1,130,109** | **979,401** | **1,051,203** | **103,518** | **3,264,231** | **134,041** | **25,777** | **159,818** | **3,424,049** |
| **1999 Total** | **1,144,923** | **1,001,996** | **1,058,217** | **106,952** | **3,312,087** | **147,161** | **41,683** | **188,844** | **3,500,931** |
| **2000** January | 109,058 | 82,339 | 86,602 | 8,937 | 286,936 | NA | NA | NA | NA |
| February | 97,785 | 78,627 | 85,341 | 8,826 | 270,580 | NA | NA | NA | NA |
| March | 84,358 | 78,497 | 88,061 | 8,533 | 259,448 | NA | NA | NA | NA |
| April | 75,934 | 76,460 | 85,708 | 8,330 | 246,434 | NA | NA | NA | NA |
| May | 83,429 | 84,479 | 89,535 | 9,085 | 266,528 | NA | NA | NA | NA |
| June | 104,742 | 93,219 | 92,042 | 9,471 | 299,473 | NA | NA | NA | NA |
| July | 119,907 | 96,943 | 90,629 | 9,719 | 317,198 | NA | NA | NA | NA |
| August | 124,424 | 101,128 | 95,043 | 10,174 | 330,768 | NA | NA | NA | NA |
| September | 109,078 | 93,563 | 91,737 | 10,167 | 304,545 | NA | NA | NA | NA |
| October | 87,664 | 86,559 | 90,521 | 9,382 | 274,125 | NA | NA | NA | NA |
| November | 84,449 | 81,625 | 89,753 | 9,036 | 264,863 | NA | NA | NA | NA |
| December | 112,551 | 84,497 | 85,855 | 8,963 | 291,866 | NA | NA | NA | NA |
| **Total** | **1,193,380** | **1,037,936** | **1,070,827** | **110,622** | **3,412,766** | **NA** | **NA** | **[F]208,400** | **[E]3,621,166** |
| **2001** January | 127,490 | 89,662 | 84,146 | 9,164 | 310,462 | NA | NA | NA | NA |
| February | 100,988 | 79,921 | 82,038 | 8,598 | 271,545 | NA | NA | NA | NA |
| March | 93,534 | 83,565 | 82,357 | 8,615 | 268,071 | NA | NA | NA | NA |
| April | 83,273 | 81,066 | 81,859 | 8,431 | 254,629 | NA | NA | NA | NA |
| May | 81,937 | 87,702 | 83,566 | 9,095 | 262,300 | NA | NA | NA | NA |
| June | 98,910 | 95,812 | 83,502 | 10,439 | 288,662 | NA | NA | NA | NA |
| July | 120,006 | 103,024 | 81,957 | 10,862 | 315,849 | NA | NA | NA | NA |
| August | 128,616 | 106,647 | 85,471 | 11,358 | 332,093 | NA | NA | NA | NA |
| September | 105,805 | 98,086 | 81,132 | 11,202 | 296,225 | NA | NA | NA | NA |
| October | 85,470 | 91,033 | 81,738 | 9,722 | 267,963 | NA | NA | NA | NA |
| November | 81,076 | 84,319 | 78,342 | 8,876 | 252,613 | NA | NA | NA | NA |
| December | 94,830 | 85,625 | 75,798 | 8,626 | 264,879 | NA | NA | NA | NA |
| **Total** | **1,201,935** | **1,086,464** | **981,906** | **114,988** | **3,385,293** | **NA** | **NA** | **NA** | **NA** |
| **2002** January | [F]108,028 | [F]88,764 | [F]77,034 | [F]9,525 | [F]283,351 | NA | NA | NA | NA |

[a] Includes nonutility sales of electricity to utilities for distribution to end users. Beginning in 1996, also includes sales to ultimate consumers by power marketers. See box below for additional information.

[b] Public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

[c] Nonutility facility use of onsite net electricity generation.

[d] Data for 1989-1991 were collected for facilities with capacities of 5 megawatts or more. In 1992, the threshold was lowered to include facilities with capacities of 1 megawatt or more. Estimates of the 1-to-5 megawatt range for 1989-1991 were derived from historical data. The estimation did not include retirements that occurred prior to 1992 and included only the capacity of facilities that came on line before 1992.

NA=Not available. E=Estimate. F=Forecast.

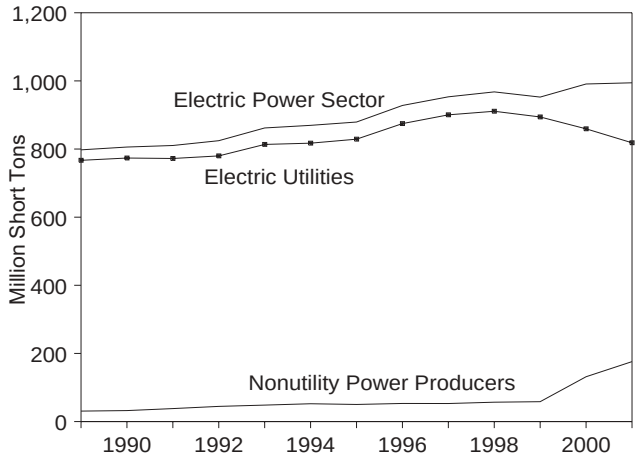
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section. Forecast values are derived from Energy Information Administration's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

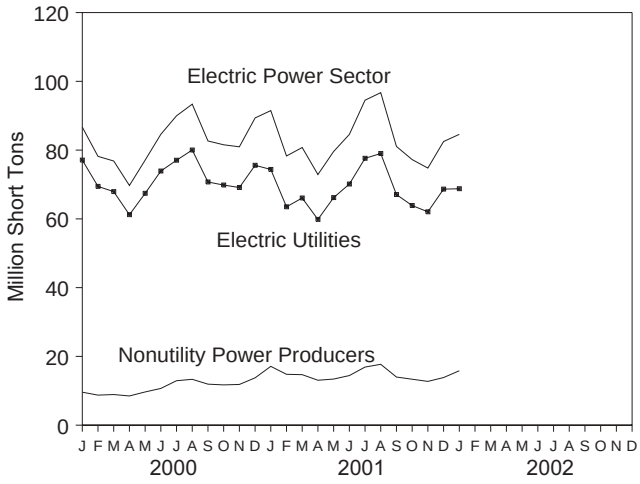
Beginning in 1996, retail sales include sales to ultimate consumers by power marketers in several State 'retail wheeling" pilot programs. In million kilowatthours, these were 3,317 in 1996; 5,849 in 1997; and 24,412 in 1998. In 1999 these sales totaled 76,188 million kilowatthours, of which 4,162 were to the residential sector; 31,395 to the commercial sector; 40,434 to the industrial sector; and 198 to other. See EIA, *Electric Sales and Revenue 1999,* Appendix C, for more information.

## Figure 7.4 Consumption of Fossil Fuels To Generate Electricity

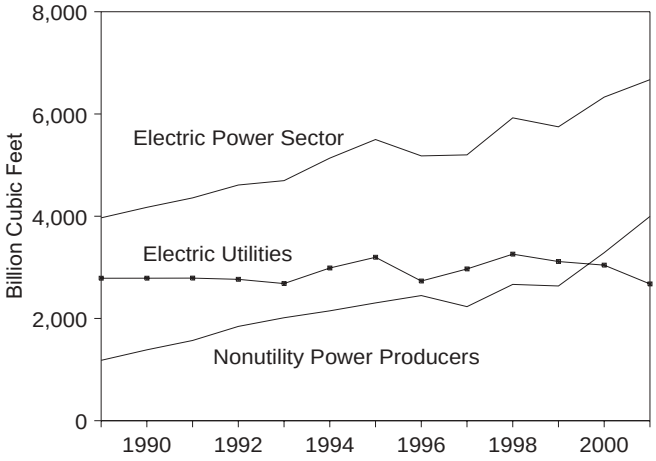
### Coal Consumption, 1989-2001



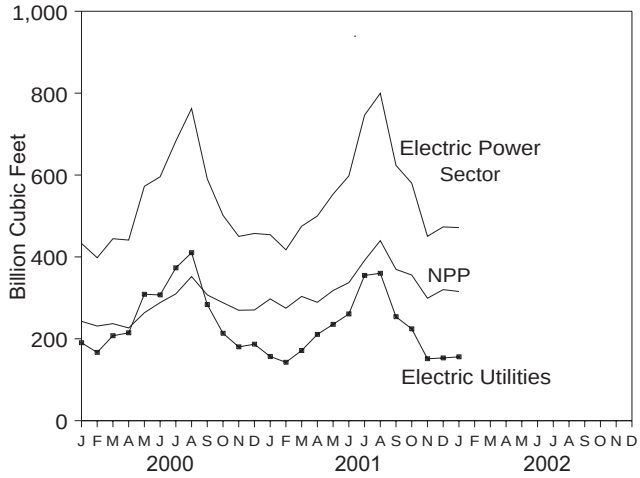

### Coal Consumption, Monthly



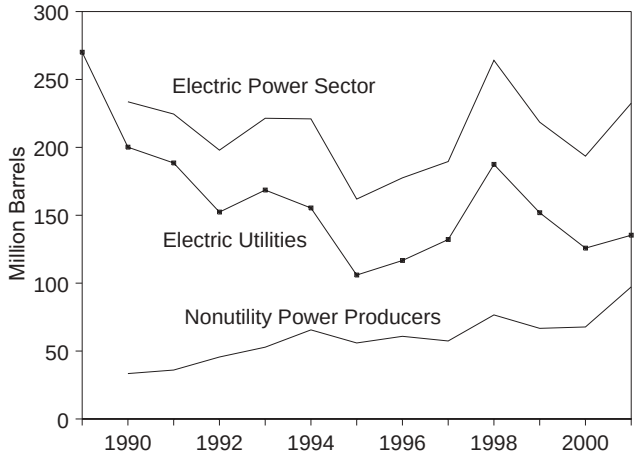

### Natural Gas Consumption, 1989-2001



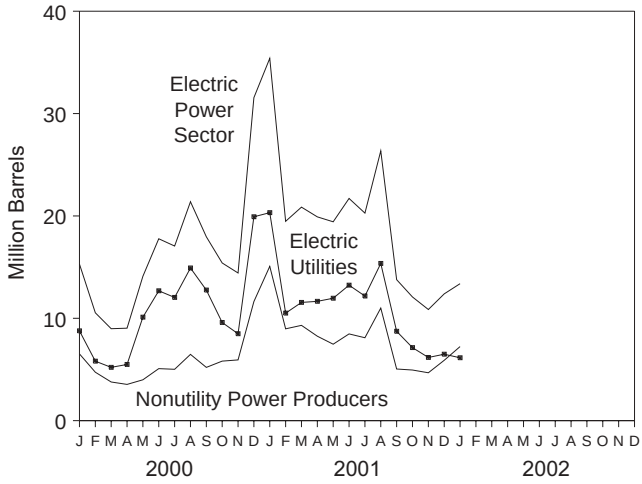

### Natural Gas Consumption, Monthly




### Petroleum Consumption, 1989-2001




### Petroleum Consumption, Monthly




NPP=Nonutility Power Producers.
Note: • Electric utility data for all years are for fuels consumed to produce electricity only. • Nonutility data prior to 1999 are for fuels consumed to produce both electricity and useful thermal output; monutility data for 1999 forward are for fuels consumed to produce electricity only. • Petroleum includes petroleum coke, which is converted to liquid units at 5 barrels per short ton. • Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.6, 7.7, and 7.8.

# Table 7.6 Consumption of Fossil Fuels To Generate Electricity

| | Coal[a] | Petroleum | | | Natural Gas[d] |
|---|---|---|---|---|---|
| | | Liquids[b] | Petroleum Coke[c] | Total[c] | |
| | Thousand Short Tons | Thousand Barrels | Thousand Short Tons | Thousand Barrels | Million Cubic Feet |
| **1989 Total** | **797,650** | **295,828** | **NA** | **NA** | **3,968,027** |
| **1990 Total** | **805,860** | **223,932** | **1,927** | **233,570** | **4,174,073** |
| **1991 Total** | **810,387** | **212,768** | **2,351** | **224,521** | **4,358,864** |
| **1992 Total** | **824,467** | **179,211** | **3,749** | **197,955** | **4,610,465** |
| **1993 Total** | **861,851** | **199,414** | **4,402** | **221,426** | **4,696,228** |
| **1994 Total** | **869,531** | **192,893** | **5,615** | **220,966** | **5,136,392** |
| **1995 Total** | **879,336** | **137,181** | **4,949** | **161,927** | **5,500,451** |
| **1996 Total** | **927,880** | **151,718** | **5,165** | **177,544** | **5,179,827** |
| **1997 Total** | **953,274** | **160,740** | **5,764** | **189,561** | **5,199,816** |
| **1998 Total** | **967,716** | **232,889** | **6,239** | **264,086** | **5,924,484** |
| **1999 Total** | **952,516** | **195,971** | **4,523** | **218,584** | [E] **5,748,944** |
| **2000** January | 86,680 | 13,136 | 432 | 15,295 | [E] 433,009 |
| February | 78,180 | 8,610 | 386 | 10,540 | [E] 398,053 |
| March | 76,835 | 7,139 | 369 | 8,986 | [E] 444,525 |
| April | 69,715 | 7,282 | 350 | 9,034 | [E] 441,203 |
| May | 77,092 | 12,550 | 310 | 14,102 | [E] 572,447 |
| June | 84,601 | 16,127 | 329 | 17,772 | [E] 595,733 |
| July | 89,976 | 15,450 | 321 | 17,057 | [E] 683,015 |
| August | 93,366 | 19,648 | 349 | 21,391 | [E] 762,448 |
| September | 82,656 | 16,231 | 346 | 17,962 | [E] 590,715 |
| October | 81,549 | 13,778 | 326 | 15,406 | [E] 501,618 |
| November | 80,967 | 12,801 | 325 | 14,426 | [E] 450,103 |
| December | 89,348 | 30,016 | 308 | 31,554 | [E] 457,314 |
| **Total** | **990,966** | **172,769** | **4,153** | **193,533** | [E] **6,330,184** |
| **2001** January | 91,489 | 32,988 | 482 | 35,397 | [E] 454,194 |
| February | 78,296 | 17,256 | 444 | 19,478 | [E] 417,363 |
| March | 80,761 | 18,755 | 421 | 20,861 | [E] 474,958 |
| April | 72,901 | 18,109 | 360 | 19,910 | [E] 499,942 |
| May | 79,598 | 17,241 | 438 | 19,430 | [E] 553,409 |
| June | 84,558 | 19,414 | 460 | 21,711 | [E] 597,704 |
| July | 94,518 | 17,684 | 518 | 20,276 | [E] 746,286 |
| August | 96,709 | 23,781 | 515 | 26,358 | [E] 799,750 |
| September | 81,068 | 11,339 | 487 | 13,774 | [E] 623,526 |
| October | 77,240 | 9,687 | 479 | 12,083 | [E] 580,136 |
| November | 74,776 | 8,776 | 416 | 10,856 | [E] 450,371 |
| December | 82,497 | 9,521 | 573 | 12,387 | [E] 473,314 |
| **Total** | **994,409** | **204,551** | **5,595** | **232,527** | [E] **6,670,954** |
| **2002** January | [F] 84,596 | [F] 10,391 | [F] 598 | [F] 13,382 | [F] 471,609 |

[a] Coal, fine coal, anthracite culm, bituminous gob, lignite waste, tar coal, waste coal, and coke breeze.
[b] Fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, liquid butane, liquid propane, methanol, liquid byproducts, oil waste, sludge oil, and tar oil.
[c] Petroleum coke is converted from short tons to barrels by multiplying by 5.
[d] Includes supplemental gaseous fuels at electric utilities.
NA=Not available. E=Estimate. F=Forecast.

Notes: Electric utility data for all years are for fuels consumed to produce electricity only. Nonutility data prior to 1999 are for fuels consumed to produce both electricity and useful thermal output; nonutility data for 1999 forward are for fuels consumed to produce electricity only. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: Tables 7.7 and 7.8.

This table represents the entire U.S. electric power sector. See Table 7.7 for electric utilities only. See Table 7.8 for nonutility power producers only.

# Table 7.7 Consumption of Fossil Fuels To Generate Electricity at Electric Utilities

| | Coal | Petroleum | | | | | Natural Gas[d] |
|---|---|---|---|---|---|---|---|
| | | Heavy Oil[a] | Light Oil[b] | Total Liquids | Petroleum Coke[c] | Total[c] | |
| | Thousand Short Tons | Thousand Barrels | | | Thousand Short Tons | Thousand Barrels | Million Cubic Feet |
| **1973 Total** | **389,212** | **513,190** | **47,058** | **560,248** | **507** | **562,781** | **3,660,172** |
| **1974 Total** | **391,811** | **483,146** | **53,128** | **536,274** | **625** | **539,399** | **3,443,428** |
| **1975 Total** | **405,962** | **467,221** | **38,907** | **506,128** | **70** | **506,479** | **3,157,669** |
| **1976 Total** | **448,371** | **514,077** | **41,843** | **555,920** | **68** | **556,261** | **3,080,868** |
| **1977 Total** | **477,126** | **574,869** | **48,837** | **623,705** | **98** | **624,193** | **3,191,200** |
| **1978 Total** | **481,235** | **588,319** | **47,520** | **635,839** | **398** | **637,830** | **3,188,363** |
| **1979 Total** | **527,051** | **492,606** | **30,691** | **523,297** | **268** | **524,636** | **3,490,523** |
| **1980 Total** | **569,274** | **391,163** | **29,051** | **420,214** | **179** | **421,110** | **3,681,595** |
| **1981 Total** | **596,797** | **329,798** | **21,313** | **351,111** | **139** | **351,806** | **3,640,154** |
| **1982 Total** | **593,666** | **234,434** | **15,337** | **249,771** | **149** | **250,517** | **3,225,518** |
| **1983 Total** | **625,211** | **228,984** | **16,512** | **245,497** | **261** | **246,804** | **2,910,767** |
| **1984 Total** | **664,399** | **189,289** | **15,190** | **204,479** | **252** | **205,736** | **3,111,342** |
| **1985 Total** | **693,841** | **158,779** | **14,635** | **173,414** | **231** | **174,571** | **3,044,083** |
| **1986 Total** | **685,056** | **216,156** | **14,326** | **230,482** | **313** | **232,046** | **2,602,370** |
| **1987 Total** | **717,894** | **184,011** | **15,367** | **199,378** | **348** | **201,116** | **2,844,051** |
| **1988 Total** | **758,372** | **229,327** | **18,769** | **248,096** | **409** | **250,141** | **2,635,613** |
| **1989 Total** | **766,888** | **241,960** | **25,491** | **267,451** | **517** | **270,038** | **2,787,012** |
| **1990 Total** | **773,549** | **181,231** | **14,823** | **196,054** | **819** | **200,152** | **2,787,332** |
| **1991 Total** | **772,268** | **171,157** | **13,729** | **184,886** | **722** | **188,494** | **2,789,014** |
| **1992 Total** | **779,860** | **135,779** | **11,556** | **147,335** | **999** | **152,329** | **2,765,608** |
| **1993 Total** | **813,508** | **149,287** | **13,168** | **162,454** | **1,220** | **168,556** | **2,682,440** |
| **1994 Total** | **817,270** | **134,666** | **16,338** | **151,004** | **875** | **155,377** | **2,987,146** |
| **1995 Total** | **829,007** | **86,584** | **15,565** | **102,150** | **761** | **105,956** | **3,196,507** |
| **1996 Total** | **874,681** | **96,382** | **16,892** | **113,274** | **681** | **116,680** | **2,732,107** |
| **1997 Total** | **900,361** | **109,989** | **15,157** | **125,146** | **1,400** | **132,147** | **2,968,453** |
| **1998 Total** | **910,867** | **156,573** | **22,041** | **178,614** | **1,769** | **187,461** | **3,258,054** |
| **1999 Total** | **894,120** | **122,303** | **21,528** | **143,830** | **1,608** | **151,868** | **3,113,419** |
| **2000** January | 77,090 | 6,194 | 1,769 | 7,963 | 162 | 8,772 | 190,316 |
| February | 69,442 | 4,083 | 1,068 | 5,150 | 132 | 5,810 | 166,842 |
| March | 67,925 | 3,859 | 913 | 4,772 | 87 | 5,209 | 207,545 |
| April | 61,214 | 4,222 | 824 | 5,046 | 89 | 5,493 | 214,599 |
| May | 67,428 | 7,781 | 1,921 | 9,702 | 81 | 10,109 | 308,787 |
| June | 73,910 | 10,533 | 1,659 | 12,192 | 99 | 12,687 | 307,218 |
| July | 77,051 | 9,792 | 1,957 | 11,749 | 58 | 12,041 | 373,256 |
| August | 80,021 | 12,149 | 2,198 | 14,347 | 114 | 14,915 | 410,344 |
| September | 70,725 | 10,836 | 1,485 | 12,321 | 87 | 12,757 | 283,535 |
| October | 69,835 | 8,222 | 1,023 | 9,245 | 69 | 9,588 | 213,487 |
| November | 69,114 | 6,827 | 1,292 | 8,120 | 74 | 8,490 | 180,318 |
| December | 75,579 | 12,852 | 6,668 | 19,520 | 80 | 19,918 | 186,846 |
| **Total** | **859,335** | **97,350** | **22,779** | **120,129** | **1,132** | **125,788** | **3,043,094** |
| **2001** January | 74,379 | 13,375 | 6,408 | 19,783 | 108 | 20,322 | 156,734 |
| February | 63,505 | 8,304 | 1,699 | 10,003 | 100 | 10,505 | 142,626 |
| March | 66,066 | 9,226 | 1,924 | 11,150 | 80 | 11,551 | 171,432 |
| April | 59,839 | 9,526 | 1,866 | 11,392 | 53 | 11,658 | 210,784 |
| May | 66,185 | 9,902 | 1,673 | 11,575 | 77 | 11,959 | 235,381 |
| June | 70,125 | 11,276 | 1,403 | 12,679 | 112 | 13,236 | 260,613 |
| July | 77,613 | 10,167 | 1,309 | 11,476 | 139 | 12,173 | 354,834 |
| August | 79,010 | 12,637 | 1,835 | 14,472 | 177 | 15,359 | 359,940 |
| September | 67,062 | 7,202 | 803 | 8,004 | 145 | 8,729 | 253,907 |
| October | 63,877 | 5,425 | 985 | 6,410 | 145 | 7,136 | 224,323 |
| November | 62,045 | 4,877 | 688 | 5,565 | 122 | 6,175 | 151,276 |
| December | 68,649 | 4,805 | 884 | 5,689 | 160 | 6,490 | 153,217 |
| **Total** | **818,353** | **106,721** | **21,477** | **128,198** | **1,419** | **135,294** | **2,675,067** |
| **2002** January | [F] 68,766 | [F] 4,805 | [F] 884 | [F] 5,689 | [F] 91 | [F] 6,145 | [F] 155,984 |

[a] For 1973-1979, steam plant consumption of petroleum; for 1980 forward, fuel oil nos. 5 and 6 (and small amounts of fuel oil no. 4).

[b] For 1973-1979, gas turbine and internal combustion plant use of petroleum; for 1980 forward, fuel oil nos. 1 and 2 (and small amounts of kerosene and jet fuel).

[c] Petroleum coke is converted from short tons to barrels by multiplying by 5.

[d] Includes supplemental gaseous fuels.

F=Forecast.

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

Sources: **1973-September 1977:** Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." **October 1977-1979:** Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." **1980-1989:** Energy Information Administration (EIA), *Electric Power Monthly,* March issues. **1990 forward:** EIA, *Electric Power Monthly,* March 2002, Table 14. **Forecast Values:** Derived from EIA's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

# Table 7.8 Consumption of Fossil Fuels To Generate Electricity at Nonutility Power Producers

| | Coal[a] | Petroleum | | | Natural Gas[d] |
|---|---|---|---|---|---|
| | | Liquids[b] | Petroleum Coke | Total[c] | |
| | Thousand Short Tons | Thousand Barrels | Thousand Short Tons | Thousand Barrels | Million Cubic Feet |
| **1989 Total**[e] | **30,762** | **28,377** | **NA** | **NA** | **1,181,015** |
| **1990 Total**[e] | **32,311** | **27,878** | **1,108** | **33,418** | **1,386,741** |
| **1991 Total**[e] | **38,119** | **27,882** | **1,629** | **36,027** | **1,569,850** |
| **1992 Total** | **44,607** | **31,876** | **2,750** | **45,626** | **1,844,857** |
| **1993 Total** | **48,343** | **36,960** | **3,182** | **52,870** | **2,013,788** |
| **1994 Total** | **52,261** | **41,889** | **4,740** | **65,589** | **2,149,246** |
| **1995 Total** | **50,329** | **35,031** | **4,188** | **55,971** | **2,303,944** |
| **1996 Total** | **53,199** | **38,444** | **4,484** | **60,864** | **2,447,720** |
| **1997 Total** | **52,913** | **35,594** | **4,364** | **57,414** | **2,231,363** |
| **1998 Total** | **56,849** | **54,275** | **4,470** | **76,625** | **2,666,430** |
| **1999 Total** | **58,396** | **52,141** | **2,915** | **66,716** | [E] **2,635,525** |
| **2000** January | 9,590 | 5,173 | 270 | 6,523 | [E] 242,693 |
| February | 8,738 | 3,460 | 254 | 4,730 | [E] 231,211 |
| March | 8,910 | 2,367 | 282 | 3,777 | [E] 236,980 |
| April | 8,501 | 2,236 | 261 | 3,541 | [E] 226,604 |
| May | 9,664 | 2,848 | 229 | 3,993 | [E] 263,660 |
| June | 10,691 | 3,935 | 230 | 5,085 | [E] 288,515 |
| July | 12,925 | 3,701 | 263 | 5,016 | [E] 309,759 |
| August | 13,345 | 5,301 | 235 | 6,476 | [E] 352,104 |
| September | 11,931 | 3,910 | 259 | 5,205 | [E] 307,180 |
| October | 11,714 | 4,533 | 257 | 5,818 | [E] 288,131 |
| November | 11,853 | 4,681 | 251 | 5,936 | [E] 269,785 |
| December | 13,769 | 10,496 | 228 | 11,636 | [E] 270,468 |
| **Total** | **131,631** | **52,640** | **3,021** | **67,745** | [E] **3,287,090** |
| **2001** January | 17,110 | 13,205 | 374 | 15,075 | [E] 297,460 |
| February | 14,791 | 7,253 | 344 | 8,973 | [E] 274,737 |
| March | 14,695 | 7,605 | 341 | 9,310 | [E] 303,526 |
| April | 13,062 | 6,717 | 307 | 8,252 | [E] 289,158 |
| May | 13,413 | 5,666 | 361 | 7,471 | [E] 318,028 |
| June | 14,433 | 6,735 | 348 | 8,475 | [E] 337,091 |
| July | 16,905 | 6,208 | 379 | 8,103 | [E] 391,452 |
| August | 17,699 | 9,309 | 338 | 10,999 | [E] 439,810 |
| September | 14,006 | 3,335 | 342 | 5,045 | [E] 369,619 |
| October | 13,363 | 3,277 | 334 | 4,947 | [E] 355,813 |
| November | 12,731 | 3,211 | 294 | 4,681 | [E] 299,095 |
| December | 13,848 | 3,832 | 413 | 5,897 | [E] 320,097 |
| **Total** | **176,056** | **76,353** | **4,176** | **97,233** | [E] **3,995,887** |
| **2002** January | [F] 15,830 | [F] 4,702 | [F] 507 | [F] 7,237 | [F] 315,625 |

[a] Coal, fine coal, anthracite culm, bituminous gob, lignite waste, tar coal, waste coal, and coke breeze.

[b] Fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, liquid butane, liquid propane, methanol, liquid byproducts, oil waste, sludge oil, and tar oil.

[c] Petroleum coke is converted at 5 barrels per short ton.

[d] Natural gas only.

[e] Data for 1989-1991 were collected for facilities with capacities of 5 megawatts or more. In 1992, the threshold was lowered to include facilities with capacities of 1 megawatt or more.

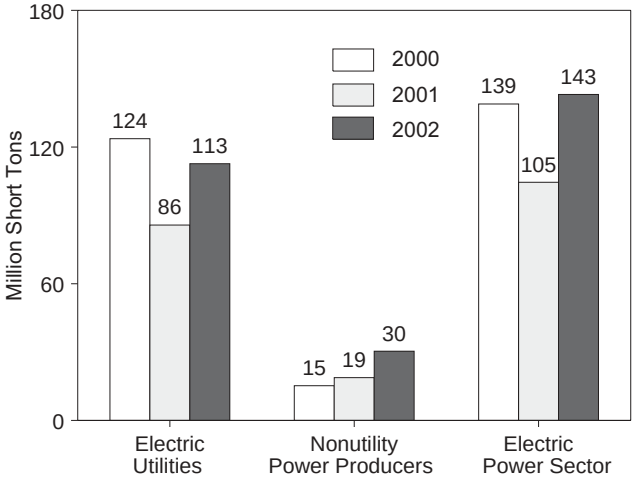
NA=Not available. E=Estimate. F=Forecast.

Notes: Data prior to 1999 are for fuels consumed to produce both electricity and useful thermal output; data for 1999 forward are for fuels consumed to produce electricity only. Due to restructuring of the electric power sector, the sale of generation assets is resulting in reclassification of plants from electric utility to nonutility plants. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

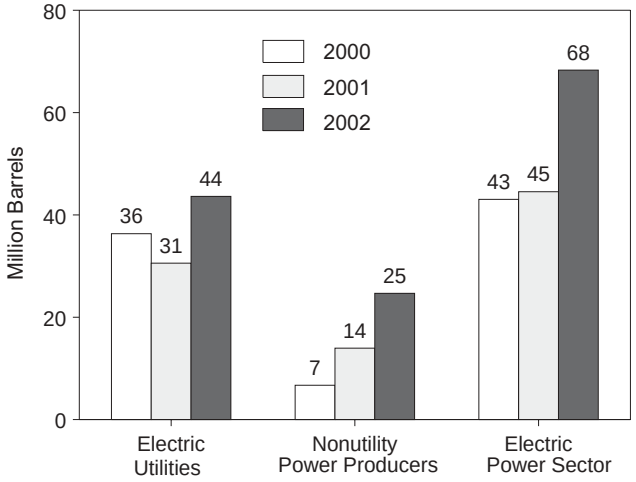
Sources: **1989-1998:** Energy Information Administration (EIA), Form EIA-860B, "Annual Electric Generator Report-Nonutility" and predecessor form. **1999 and 2000:** EIA, Form EIA-900, "Monthly Nonutility Power Report." **2001:** EIA, Form EIA-906, "Power Plant Report." **Forecast Values:** Derived from EIA's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

## Figure 7.5 Electric Power Sector Stocks of Coal and Petroleum

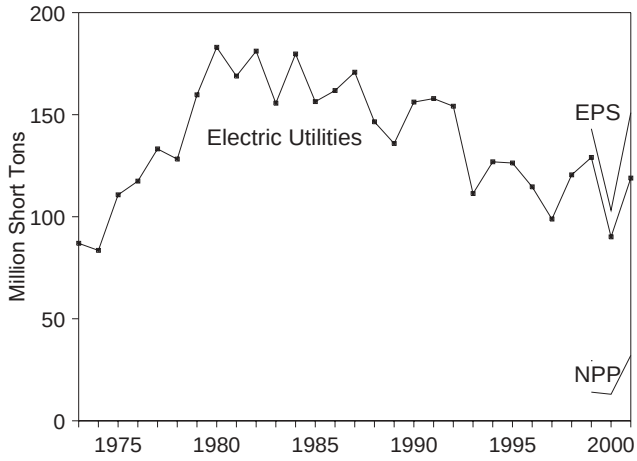
### Coal Stocks, January



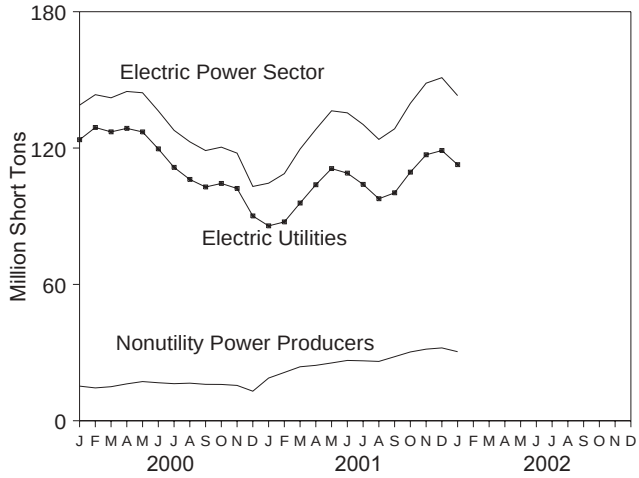

### Petroleum Liquids Stocks, January



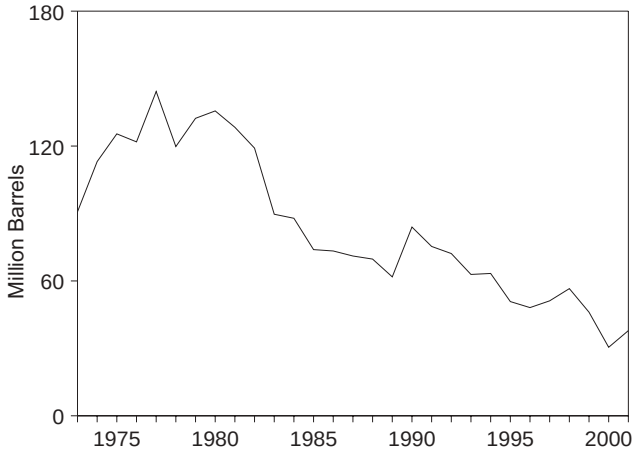

### Coal Stocks, 1973-2001



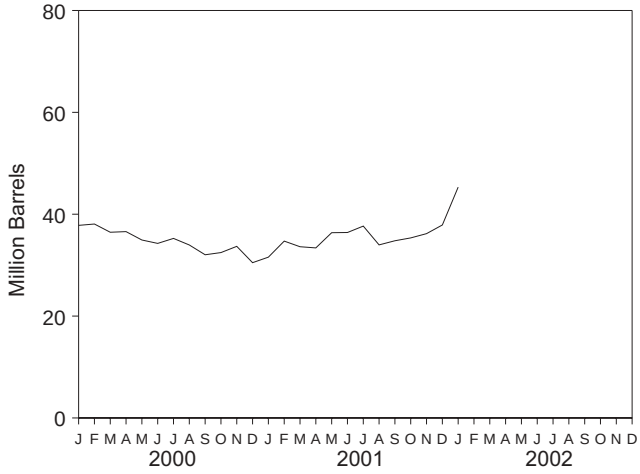

### Coal Stocks, Monthly




### Petroleum Total Stocks at Electric Utilities, 1973-2001




### Petroleum Total Stocks at Electric Utilities, Monthly




EPS=Electric Power Sector.
NPP=Nonutility Power Producers.
Notes: • Data are for fuels available to produce electricity; they may include some fuels available to produce useful thermal output at cogeneration plants. • Petroleum includes petroleum coke, which is converted to liquid units at 5 barrels per short ton. • Because vertical scales differ, graphs should not be compared.
Source: Table 7.9.

# Table 7.9 Electric Power Sector Stocks of Coal and Petroleum

| | Coal | | | Petroleum | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Electric Utilities | | | | Nonutility Power Producers | | | |
| | Electric Utilities | Nonutility Power Producers | Total Electric Power Sector | Heavy Oil[a] | Light Oil[b] | Petroleum Coke[c] | Total[c] | Liquids | Petroleum Coke | Total[c] | Total Electric Power Sector |
| | Thousand Short Tons | | | Thousand Barrels | | Thousand Short Tons | Thousand Barrels | Thousand Barrels | Thousand Short Tons | Thousand Barrels | Thousand Barrels |
| **1973 Total** | **86,967** | **NA** | **NA** | **79,121** | **10,095** | **312** | **90,776** | **NA** | **NA** | **NA** | **NA** |
| **1974 Total** | **83,509** | **NA** | **NA** | **97,718** | **15,199** | **35** | **113,091** | **NA** | **NA** | **NA** | **NA** |
| **1975 Total** | **110,724** | **NA** | **NA** | **108,825** | **16,432** | **31** | **125,413** | **NA** | **NA** | **NA** | **NA** |
| **1976 Total** | **117,436** | **NA** | **NA** | **106,993** | **14,703** | **32** | **121,857** | **NA** | **NA** | **NA** | **NA** |
| **1977 Total** | **133,219** | **NA** | **NA** | **124,750** | **19,281** | **44** | **144,252** | **NA** | **NA** | **NA** | **NA** |
| **1978 Total** | **128,225** | **NA** | **NA** | **102,402** | **16,386** | **198** | **119,778** | **NA** | **NA** | **NA** | **NA** |
| **1979 Total** | **159,714** | **NA** | **NA** | **111,121** | **20,301** | **183** | **132,338** | **NA** | **NA** | **NA** | **NA** |
| **1980 Total** | **183,010** | **NA** | **NA** | **105,351** | **30,023** | **52** | **135,635** | **NA** | **NA** | **NA** | **NA** |
| **1981 Total** | **168,893** | **NA** | **NA** | **102,042** | **26,094** | **42** | **128,345** | **NA** | **NA** | **NA** | **NA** |
| **1982 Total** | **181,132** | **NA** | **NA** | **95,515** | **23,369** | **41** | **119,090** | **NA** | **NA** | **NA** | **NA** |
| **1983 Total** | **155,598** | **NA** | **NA** | **70,573** | **18,801** | **55** | **89,652** | **NA** | **NA** | **NA** | **NA** |
| **1984 Total** | **179,727** | **NA** | **NA** | **68,503** | **19,116** | **50** | **87,870** | **NA** | **NA** | **NA** | **NA** |
| **1985 Total** | **156,376** | **NA** | **NA** | **57,304** | **16,386** | **49** | **73,933** | **NA** | **NA** | **NA** | **NA** |
| **1986 Total** | **161,806** | **NA** | **NA** | **56,841** | **16,269** | **40** | **73,313** | **NA** | **NA** | **NA** | **NA** |
| **1987 Total** | **170,797** | **NA** | **NA** | **55,069** | **15,759** | **51** | **71,084** | **NA** | **NA** | **NA** | **NA** |
| **1988 Total** | **146,507** | **NA** | **NA** | **54,187** | **15,099** | **86** | **69,714** | **NA** | **NA** | **NA** | **NA** |
| **1989 Total** | **135,860** | **NA** | **NA** | **47,446** | **13,824** | **105** | **61,795** | **NA** | **NA** | **NA** | **NA** |
| **1990 Total** | **156,166** | **NA** | **NA** | **67,030** | **16,471** | **94** | **83,970** | **NA** | **NA** | **NA** | **NA** |
| **1991 Total** | **157,876** | **NA** | **NA** | **58,636** | **16,357** | **70** | **75,343** | **NA** | **NA** | **NA** | **NA** |
| **1992 Total** | **154,130** | **NA** | **NA** | **56,135** | **15,714** | **67** | **72,183** | **NA** | **NA** | **NA** | **NA** |
| **1993 Total** | **111,341** | **NA** | **NA** | **46,769** | **15,674** | **89** | **62,889** | **NA** | **NA** | **NA** | **NA** |
| **1994 Total** | **126,897** | **NA** | **NA** | **46,342** | **16,644** | **69** | **63,331** | **NA** | **NA** | **NA** | **NA** |
| **1995 Total** | **126,304** | **NA** | **NA** | **35,102** | **15,392** | **65** | **50,821** | **NA** | **NA** | **NA** | **NA** |
| **1996 Total** | **114,623** | **NA** | **NA** | **32,473** | **15,216** | **91** | **48,146** | **NA** | **NA** | **NA** | **NA** |
| **1997 Total** | **98,826** | **NA** | **NA** | **33,336** | **15,456** | **469** | **51,138** | **NA** | **NA** | **NA** | **NA** |
| **1998 Total** | **120,501** | **NA** | **NA** | **37,447** | **16,343** | **559** | **56,586** | **NA** | **NA** | **NA** | **NA** |
| **1999 Year** | **129,041** | **14,050** | **143,091** | **27,763** | **16,549** | **355** | **46,089** | **8,666** | **NA** | **NA** | **NA** |
| **2000** January | 123,661 | 15,233 | 138,894 | 21,678 | 14,655 | 297 | 37,816 | 6,710 | NA | NA | NA |
| February | 129,055 | 14,446 | 143,501 | 22,055 | 15,048 | 195 | 38,076 | 6,611 | NA | NA | NA |
| March | 127,130 | 14,983 | 142,113 | 20,966 | 14,643 | 171 | 36,462 | 6,587 | NA | NA | NA |
| April | 128,669 | 16,235 | 144,904 | 21,135 | 14,698 | 150 | 36,584 | 7,336 | NA | NA | NA |
| May | 127,090 | 17,240 | 144,330 | 20,169 | 14,206 | 113 | 34,942 | 7,621 | NA | NA | NA |
| June | 119,634 | 16,719 | 136,353 | 19,145 | 14,693 | 87 | 34,274 | 9,344 | NA | NA | NA |
| July | 111,494 | 16,317 | 127,811 | 20,136 | 14,579 | 108 | 35,253 | 12,470 | NA | NA | NA |
| August | 106,201 | 16,546 | 122,746 | 18,759 | 14,419 | 157 | 33,964 | 11,383 | NA | NA | NA |
| September | 102,876 | 16,020 | 118,896 | 17,265 | 13,780 | 199 | 32,039 | 11,784 | NA | NA | NA |
| October | 104,422 | 15,980 | 120,402 | 17,302 | 13,932 | 247 | 32,470 | 12,365 | NA | NA | NA |
| November | 102,227 | 15,537 | 117,765 | 18,451 | 14,020 | 245 | 33,694 | 12,701 | NA | NA | NA |
| December | **90,115** | **13,001** | **103,117** | **16,899** | **12,655** | **186** | **30,486** | **11,089** | **NA** | **NA** | **NA** |
| **2001** January | 85,759 | 18,779 | 104,538 | 15,629 | 14,945 | 200 | 31,571 | 13,964 | NA | NA | NA |
| February | 87,499 | 21,249 | 108,748 | 18,485 | 15,456 | 156 | 34,721 | 16,180 | NA | NA | NA |
| March | 95,801 | 23,743 | 119,544 | 18,123 | 14,723 | 155 | 33,619 | 15,346 | NA | NA | NA |
| April | 103,851 | 24,386 | 128,238 | 18,051 | 14,637 | 140 | 33,390 | 16,061 | NA | NA | NA |
| May | 110,956 | 25,434 | 136,390 | 21,309 | 14,417 | 130 | 36,375 | 19,487 | NA | NA | NA |
| June | 108,953 | 26,542 | 135,495 | 20,199 | 14,985 | 246 | 36,413 | 17,895 | NA | NA | NA |
| July | 104,009 | 26,369 | 130,379 | 21,534 | 14,979 | 232 | 37,671 | 19,788 | NA | NA | NA |
| August | 97,694 | 26,114 | 123,808 | 18,155 | 14,826 | 200 | 33,979 | 16,486 | NA | NA | NA |
| September | 100,304 | 28,174 | 128,478 | 18,322 | 14,882 | 318 | 34,792 | 18,230 | NA | NA | NA |
| October | 109,391 | 30,284 | 139,675 | 18,641 | 14,945 | 353 | 35,348 | 19,877 | NA | NA | NA |
| November | 117,036 | 31,510 | 148,546 | 19,305 | 15,171 | 341 | 36,183 | 20,643 | NA | NA | NA |
| December | **118,917** | **32,063** | **150,980** | **21,044** | **15,342** | **300** | **37,888** | **20,581** | **NA** | **NA** | **NA** |
| **2002** January | [F] 112,691 | [F] 30,384 | [F] 143,075 | [F] 28,595 | [F] 15,034 | [F] 338 | [F] 45,318 | [F] 24,677 | NA | NA | NA |

[a] For 1973-1979, steam plant stocks of petroleum; for 1980 forward, fuel oil nos. 5 and 6 (and small amounts of fuel oil no. 4).

[b] For 1973-1979, gas turbine and internal combustion plant stocks of petroleum; for 1980 forward, fuel oil nos. 1 and 2 (and small amounts of kerosene and jet fuel).

[c] Petroleum coke is converted from short tons to barrels by multiplying by 5.

NA=Not available. F=Forecast.

Notes: Stocks are at end of period. Data are for fuels available to produce electricity; they may include some fuels available to produce useful thermal output at cogeneration plants. Nonutility facilities that are not required to report on Form EIA-900 are not included. Due to restructuring of the electric power sector, the sale of generation assets is resulting in reclassification of plants from electric utility to nonutility plants. Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section. Forecast values are derived from the Energy Information Administration's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

## Sources for Table 7.1, Imports and Exports of Electricity

1973-September 1977—Unpublished Federal Power Commission data.
October 1977-1980—Unpublished Economic Regulatory Administration (ERA) data.
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, ERA, *Electricity Exchanges Across International Borders*.
1984-1986—DOE, ERA, *Electricity Transactions Across International Borders*.
1987 and 1988—DOE, ERA, Form ERA-781R, "Annual Report of International Electrical Export/Import Data."
1989—DOE, Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data."
1990-1998—Mexico's data: DOE, Fossil Energy, Office of Fuels Programs, Form FE-781R, "Annual Report of International Electrical Export/Import Data." Canada's data (metered energy, firm and interruptible): the National Energy Board of Canada.
1999 forward—EIA estimates based on preliminary data from DOE, Fossil Energy, and actual data from the National Energy Board of Canada.

## Sources for Table 7.3

1973-September 1977—Federal Power Commission Form FPC-4, "Monthly Power Plant Report."
October 1977-1979—Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report."
1980-1989—Energy Information Administration (EIA), *Electric Power Monthly,* March issues, and (for small components) EIA, Form EIA-759, "Monthly Power Plant Report" and predecessor form.
1990-2000—EIA, *Electric Power Monthly*, October 2001, Tables 4 and 5, and (for small components) EIA, Form EIA-759, "Monthly Power Plant Report."
2001—EIA, *Electric Power Monthly*, March 2002, Tables 4 and 5, and (for small components) EIA, Form EIA-906, "Power Plant Report."

## Sources for Table 7.5

**Electric Utilities**
1973-September 1977—Federal Power Commission (FPC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."
October 1977-February 1980—Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."
March 1980-1982—FERC, Form FPC-5, "Electric Utility Company Monthly Statement."
1983—Energy Information Administration (EIA), Form EIA-826, "Monthly Electric Utility Sales and Revenue Report with State Distributions" (formerly "Electric Utility Company Monthly Statement").
1984-1989—EIA, Form EIA-861, "Annual Electric Utility Report.
1990 forward—EIA, *Electric Power Monthly,* March 2002, Table 44.

**Nonutility Power Producers**
1989-1999—EIA, Form EIA-860B, "Annual Electric Generator Report--Nonutility" and predecessor form.
2000—Derived from EIA's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

## Sources for Table 7.9

**Electric Utilities**
1973-September 1977—FPC, Form FPC-4, "Monthly Power Plant Report."
October 1977-1979—FERC, Form FPC-4 "Monthly Power Plant Report."
1980-1989—EIA, *Electric Power Monthly*, March issues.
1990 forward—EIA, *Electric Power Monthly,* March 2002, Table 21.

**Nonutility Power Producers**
1999 forward—EIA, *Electric Power Monthly*, March 2002, Table 72.

# Section 8. Nuclear Energy

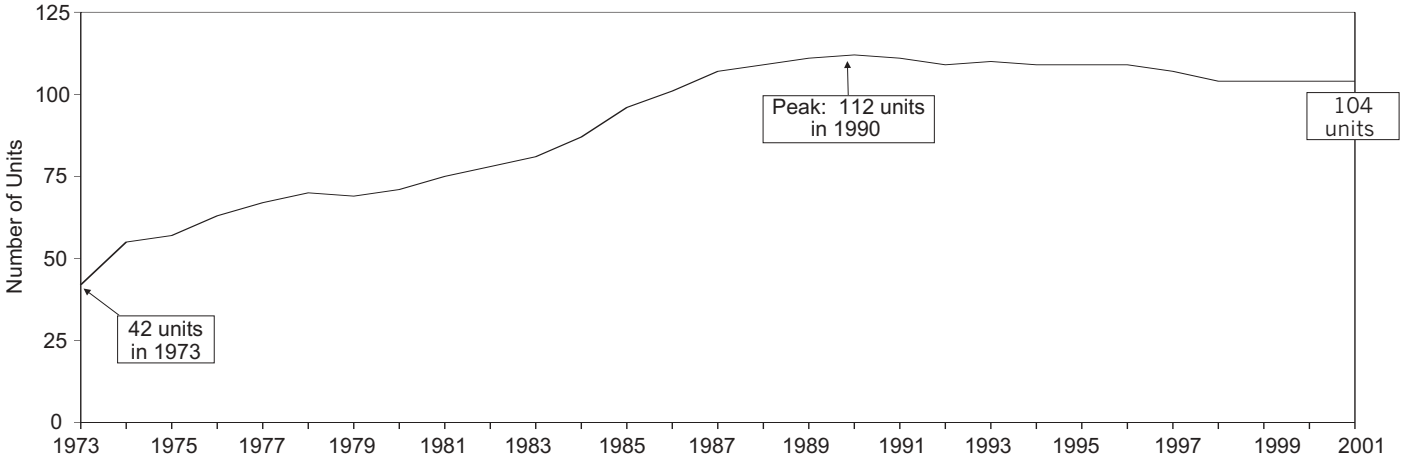
U.S. nuclear electricity net generation during January 2002 was 70 net terawatthours (billion kilowatthours) of electricity, 2 percent higher than in January 2001. Nuclear units generated at an average capacity factor of 96.5 percent, 2.1 percentage points higher than the capacity factor in January 2001.

On January 31, 2002, there were 104 operable nuclear generating units in the United States, with a collective net summer capability of 97.9 million kilowatts of electricity. Of the 104 operable units, 1 unit generated no electricity during the month because of maintenance, refueling, or repair outage, and 79 units reported operating at 90 percent of capacity or more. Of these 79 units, 48 operated at 100 percent or greater (based on net summer capability).

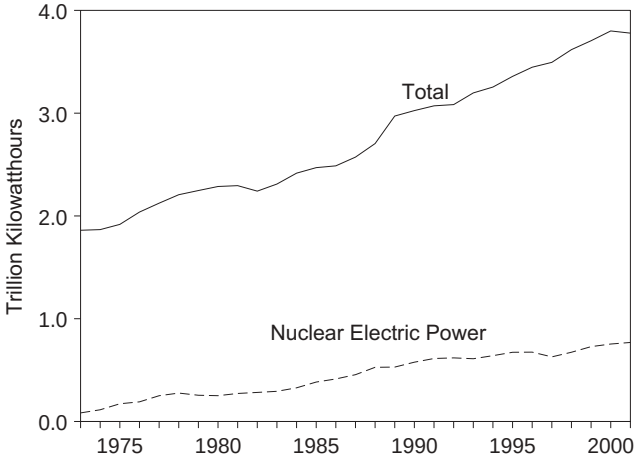
In addition, there were three other units with construction permits, but construction for all three units has been halted. Their combined design capacity is 3.6 million kilowatts.

## Figure 8.1 Nuclear Power Plant Operations

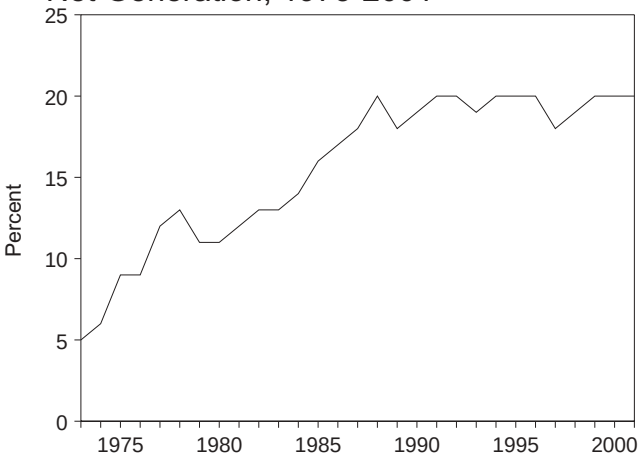
### Operable Units, End of Year, 1973-2001



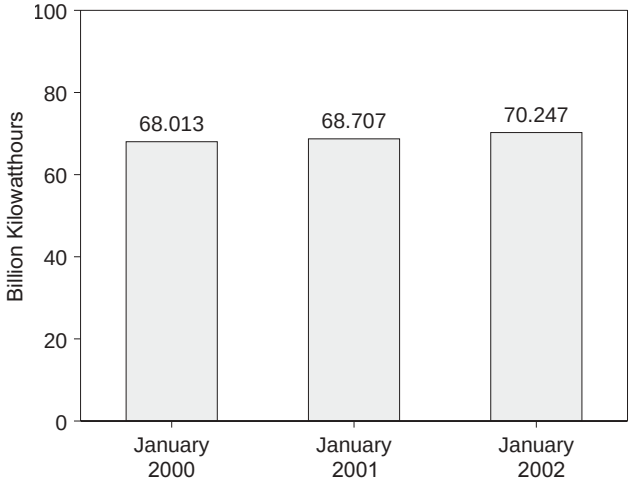

### Electricity Net Generation, 1973-2001



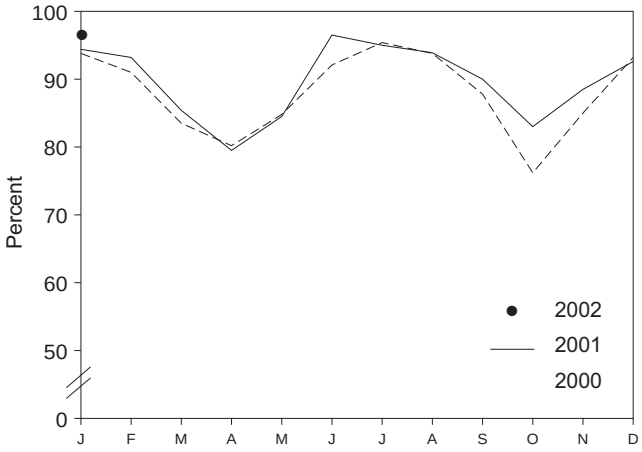

### Nuclear Share of Electricity Net Generation, 1973-2001




### Nuclear Electricity Net Generation




### Capacity Factor, Monthly




Notes: • Includes all units that contributed power to the commercial grid whether they were owned by an electric utility or a nonutility power plant. See Note 1 at end of section for additional information. • Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.1, 8.1, and 8.2.

# Table 8.1 Nuclear Power Plant Operations

| | Nuclear Electricity Net Generation | Nuclear Share of Electricity Net Generation | Net Summer Capability of Operable Units[a,b] | Capacity Factor[c] |
|---|---|---|---|---|
| | Million Kilowatthours | Percent | Million Kilowatts | Percent |
| **1973 Year** | **83,479** | **4.5** | **22.683** | **53.5** |
| **1974 Year** | **113,976** | **6.1** | **31.867** | **47.8** |
| **1975 Year** | **172,505** | **9.0** | **37.267** | **55.9** |
| **1976 Year** | **191,104** | **9.4** | **43.822** | **54.7** |
| **1977 Year** | **250,883** | **11.8** | **46.303** | **63.3** |
| **1978 Year** | **276,403** | **12.5** | **50.824** | **64.5** |
| **1979 Year** | **255,155** | **11.4** | **49.747** | **58.4** |
| **1980 Year** | **251,116** | **11.0** | **51.810** | **56.3** |
| **1981 Year** | **272,674** | **11.9** | **56.042** | **58.2** |
| **1982 Year** | **282,773** | **12.6** | **60.035** | **56.6** |
| **1983 Year** | **293,677** | **12.7** | **63.009** | **54.4** |
| **1984 Year** | **327,634** | **13.6** | **69.652** | **56.3** |
| **1985 Year** | **383,691** | **15.5** | **79.397** | **58.0** |
| **1986 Year** | **414,038** | **16.6** | **85.241** | **56.9** |
| **1987 Year** | **455,270** | **17.7** | **93.583** | **57.4** |
| **1988 Year** | **526,973** | **19.5** | **94.695** | **63.5** |
| **1989 Year** | [d]**529,402** | [d]**17.8** | [d]**98.179** | [d]**62.2** |
| **1990 Year** | **576,974** | **19.1** | **99.642** | **66.0** |
| **1991 Year** | **612,642** | **19.9** | **99.608** | **70.2** |
| **1992 Year** | **618,841** | **20.1** | **99.004** | **70.9** |
| **1993 Year** | **610,367** | **19.1** | **99.060** | **70.5** |
| **1994 Year** | **640,492** | **19.7** | **99.148** | **73.8** |
| **1995 Year** | **673,402** | **20.1** | **99.515** | **77.4** |
| **1996 Year** | **674,729** | **19.6** | **100.784** | **76.2** |
| **1997 Year** | **628,644** | **18.0** | **99.716** | **71.1** |
| **1998 Year** | **673,702** | **18.6** | **97.070** | **78.2** |
| **1999 Year** | **728,254** | **19.7** | **97.411** | **85.3** |
| **2000** January | 68,013 | 21.0 | 97.411 | 93.8 |
| February | 61,688 | 21.3 | 97.411 | 91.0 |
| March | 60,494 | 20.5 | 97.411 | 83.5 |
| April | 56,252 | 20.2 | 97.411 | 80.2 |
| May | 61,479 | 19.7 | 97.411 | 84.8 |
| June | 64,595 | 19.5 | 97.411 | 92.1 |
| July | 69,171 | 19.6 | 97.411 | 95.4 |
| August | 67,954 | 18.5 | 97.411 | 93.8 |
| September | 61,549 | 19.3 | 97.411 | 87.8 |
| October | 55,240 | 18.5 | 97.411 | 76.2 |
| November | 59,579 | 20.0 | 97.411 | 85.0 |
| December | 67,881 | 20.2 | [R] 97.860 | [R] 93.2 |
| **Year** | **753,893** | **19.8** | [R] **97.860** | **88.1** |
| **2001** January | [R] 68,707 | 20.3 | [R] 97.860 | [R] 94.4 |
| February | [R] 61,272 | 21.2 | [R] 97.860 | [R] 93.2 |
| March | [R] 62,141 | 20.4 | [R] 97.860 | [R] 85.4 |
| April | [R] 56,003 | 19.8 | [R] 97.860 | [R] 79.5 |
| May | [R] 61,512 | 20.0 | [R] 97.860 | [R] 84.5 |
| June | [R] 68,023 | 20.5 | [R] 97.860 | [R] 96.5 |
| July | [R] 69,166 | 19.1 | [R] 97.860 | [R] 95.0 |
| August | [R] 68,389 | 18.3 | [R] 97.860 | [R] 93.9 |
| September | [R] 63,378 | [R] 20.5 | [R] 97.860 | [R] 90.0 |
| October | [R] 60,461 | 20.4 | [R] 97.860 | [R] 83.0 |
| November | [R] 62,342 | [R] 22.2 | [R] 97.860 | [R] 88.5 |
| December | [R] 67,431 | [R] 22.1 | [R] 97.860 | [R] 92.6 |
| **Year** | [R] **768,827** | **20.3** | [R] **97.860** | [R] **89.7** |
| **2002** January | [F] 70,247 | [F] 22.3 | 97.860 | 96.5 |

[a] At end of period.
[b] For the definition of "Net Summer Capability," see Note 2(a) at end of section.
[c] For an explanation of the method of calculating the capacity factor, see Note 2 at end of section.
[d] Beginning in 1989, includes nonutility facilities.
R=Revised. F=Forecast.
Notes: The performance data shown in this table are based on a universe of reactor units that differs in some respects from the reactor universe used to profile the nuclear power industry in Table 8.2. See Note 1 at end of section for further discussion. Nuclear electricity net generation totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

# Table 8.2 Nuclear Generating Units

| | Orders[a] | Construction Permits[b] | Low Power Operating Licenses[c] | New Operable Units[d] | Shutdowns[e] | Total Operable Units[f] | Cancellations[g] | Cumulative Cancellations |
|---|---|---|---|---|---|---|---|---|
| **1973 Year** | **42** | **14** | **12** | **15** | **0** | **42** | **0** | **7** |
| **1974 Year** | **28** | **23** | **14** | **15** | **2** | **55** | **9** | **16** |
| **1975 Year** | **4** | **9** | **3** | **2** | **0** | **57** | **13** | **29** |
| **1976 Year** | **3** | **9** | **7** | **7** | **1** | **63** | **1** | **30** |
| **1977 Year** | **4** | **15** | **4** | **4** | **0** | **67** | **10** | **40** |
| **1978 Year** | **2** | **13** | **3** | **4** | **1** | **70** | **13** | **53** |
| **1979 Year** | **0** | **2** | **0** | **0** | **1** | **69** | **6** | **59** |
| **1980 Year** | **0** | **0** | **5** | **2** | **0** | **71** | **15** | **74** |
| **1981 Year** | **0** | **0** | **3** | **4** | **0** | **75** | **9** | **83** |
| **1982 Year** | **0** | **0** | **6** | **4** | **1** | **78** | **18** | **101** |
| **1983 Year** | **0** | **0** | **3** | **3** | **0** | **81** | **6** | **107** |
| **1984 Year** | **0** | **0** | **7** | **6** | **0** | **87** | **6** | **113** |
| **1985 Year** | **0** | **0** | **7** | **9** | **0** | **96** | **2** | **115** |
| **1986 Year** | **0** | **0** | **7** | **5** | **0** | **101** | **2** | **117** |
| **1987 Year** | **0** | **0** | **6** | **8** | **2** | **107** | **0** | **117** |
| **1988 Year** | **0** | **0** | **1** | **2** | **0** | **109** | **3** | **120** |
| **1989 Year** | **0** | **0** | **3** | **4** | **2** | **111** | **0** | **120** |
| **1990 Year** | **0** | **0** | **1** | **2** | **1** | **112** | **1** | **121** |
| **1991 Year** | **0** | **0** | **0** | **0** | **1** | **111** | **0** | **121** |
| **1992 Year** | **0** | **0** | **0** | **0** | **2** | **109** | **0** | **121** |
| **1993 Year** | **0** | **0** | **1** | **1** | **0** | **110** | **0** | **121** |
| **1994 Year** | **0** | **0** | **0** | **0** | **1** | **109** | **1** | **122** |
| **1995 Year** | **0** | **0** | **1** | **0** | **0** | **109** | **2** | **124** |
| **1996 Year** | **0** | **0** | **0** | **1** | **1** | **109** | **0** | **124** |
| **1997 Year** | **0** | **0** | **0** | **0** | **2** | **107** | **0** | **124** |
| **1998 Year** | **0** | **0** | **0** | **0** | **3** | **104** | **0** | **124** |
| **1999 Year** | **0** | **0** | **0** | **0** | **0** | **104** | **0** | **124** |
| **2000** January | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| February | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| March | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| April | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| May | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| June | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| July | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| August | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| September | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| October | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| November | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| December | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| **Year** | **0** | **0** | **0** | **0** | **0** | **104** | **0** | **124** |
| **2001** January | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| February | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| March | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| April | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| May | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| June | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| July | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| August | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| September | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| October | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| November | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| December | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |
| **Year** | **0** | **0** | **0** | **0** | **0** | **104** | **0** | **124** |
| **2002** January | 0 | 0 | 0 | 0 | 0 | 104 | 0 | 124 |

[a] Placement of an order by a utility or government agency for a nuclear steam supply system.

[b] Issuance by regulatory authority of a permit, or equivalent permission, to begin construction. Numbers reflect permits issued in a given year, not extant permits.

[c] Issuance by regulatory authority of license, or equivalent permission, to conduct testing but not to operate at full power.

[d] Issuance by regulatory authority of full-power operating license, or equivalent permission. Units generally did not begin immediate operation. See Note 1 at end of section.

[e] Ceased operating permanently, irrespective of intent.

[f] Total of units holding full-power licenses, or equivalent permission to operate, at the end of the period. See Note 1 at end of section.

[g] Cancellation by utilities of ordered units. Does not include three units (Bellefonte 1 and 2 and Watts Bar 2) where construction has been stopped indefinitely.

Note: This table covers all units that contributed power to the commercial grid whether or not they were owned by an electric utility. See Note 1 at end of section for additional information.

Sources: See end of section.

## Nuclear Energy Notes

**1.** In 1997 EIA undertook a major revision of the data categories in Table 8.2 to make them more relevant to current conditions and trends in the U.S. commercial nuclear electric power industry. To acquire the data for the revised categories it was necessary to develop a reactor unit database employing different sources than those used previously for Table 8.2 and still used for Table 8.1. Because of differences in definitions and tally protocols, the year-by-year tallies of operable reactors in the two databases diverge in some years, although this divergence does not change the overall trends.

The data in Table 8.2 apply to commercial nuclear power units, which means that the units contributed power to the commercial electricity grid whether or not they were owned by an electric utility. A total of 259 units ever ordered was identified. (Many of the orders were placed before 1973 and thus do not appear in the table. Annual data on orders and other characteristics from 1953 forward can be found in EIA's *Annual Energy Review 2000*, Tables 9.1 and 9.2.) Although most orders were placed by electric utilities, several units are or were ordered, owned, and operated wholly or in part by the Federal government, including BONUS (Boiling Nuclear Superheater Power Station), Elk River, Experimental Breeder Reactor 2, Hallam, Hanford N, Piqua, and Shippingport.

A reactor is generally defined as operable in Table 8.2 while it possessed a full-power license from the Nuclear Regulatory Commission or its predecessor the Atomic Energy Commission, or equivalent permission to soperate, at the end of the year or month shown. The definition is liberal in that it does not exclude units retaining full-power licenses during long, non-routine shutdowns that for a time rendered them unable to generate electricity. Examples are:

(a) In 1985 the five then-active Tennessee Valley Authority (TVA) units (Browns Ferry 1, 2, and 3 and Sequoyah 1 and 2) were shut down under a regulatory forced outage. Browns Ferry 1 remains shut down and has been defueled, while the other units were idle for several years, restarting in 1991, 1995, 1988, and 1988, respectively. All five units are counted as operable during the shutdowns. Browns Ferry 1 is the only one of the five TVA plants that has not returned to service. Because it is still fully licensed to operate, it continues to meet the definition of operable.
(b) Shippingport was shut down from 1974 through 1976 for conversion to a light-water breeder reactor, but is counted as operable from 1957 until its retirement in 1982.
(c) Calvert Cliffs 2 was shut down in 1989 and 1990 for replacement of pressurizer heater sleeves but is counted as operable during those years.

Exceptions to the definition are Shoreham and Three Mile Island 2. Shoreham was granted a full-power license in April 1989, but was shut down two months later and never restarted. In 1991, the license was changed to Possession Only. Although not operable at the end of the year, Shoreham is treated as operable during 1989 and shut down in 1990, because counting it as operable and shut down in the same year would introduce a statistical discrepancy in the tallies. A major accident closed Three Mile Island 2 in 1979, and although the unit retained its full-power license for several years, it is considered permanently shut down since that year.

**2.** 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 a unit, specified by the utility and used for plant design.

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 net summer capability at the end of the month. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are averages of the monthly values for that year.

## Sources for Table 8.1

**Nuclear Electricity Net Generation** and **Nuclear Share of Electricity Net Generation**— See Table 7.2 for actual data. The forecast value is derived from EIA's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).
**Net Summer Capability of Operable Units**—1973-1982—Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones."
1983 forward—Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report," and monthly updates as appropriate.
**Capacity Factor**—EIA, Office of Coal, Nuclear, Electric and Alternate Fuels for actual data. The forecast value is derived from EIA's Short-Term Integrated Forecasting System. See related note on page 79 (Note 9).

## Sources for Table 8.2

**Orders**—Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E, September 1991; Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; U.S. Atomic Energy Commission, *1973 Annual Report to Congress, Volume 2, Regulatory Activities*; various utilities.

**Construction Permits**—Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Appendix A; Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; various utility, Federal, and contractor officials.

**Low-Power Operating Licenses**—Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development*, 1988 edition; U.S. Department of Energy, *Nuclear Reactors Built, Being Built, and Planned: 1995*; various utility, Federal, and contractor officials.

**New Operable Units**—Nuclear Regulatory Commission, *Information Digest*, 1997 edition, Table 11 and Appendices A and B; various utility, Federal, and contractor officials.

**Shutdowns**—Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E; Nuclear Regulatory Commission, *Information Digest,* 1997 edition, Appendix B; U.S. Department of Energy, *Nuclear Reactors Built, Being Built, and Planned:* 1995; Tennessee Valley Authority officials; various Nuclear Regulatory Commission documents.

**Total Operable Units**—Commercial reactors fully licensed to operate, excluding permanent shutdowns.

**Cancellations**—Energy Information Administration, *Commercial Nuclear Power 1991*, Appendix E, September 1991; Nuclear Regulatory Commission, *Information Digest,* 1997 edition, Appendix C; and Nuclear Energy Institute, *Historical Profile of U.S. Nuclear Power Development,* 1988 edition.

# Section 9. Energy Prices

**Crude Oil.** The average price of domestic crude oil at the wellhead was $15.86 per barrel in January 2002, 35 percent below the level of January 2001. The refiner acquisition cost of imported crude oil in January 2002 was $16.93 per barrel, 31 percent below the January 2001 level. The average cost of domestic crude oil in January 2002 was $17.85, 33 percent less than the January 2001 average.

**Motor Gasoline.** The national city average retail price of unleaded regular gasoline at all types of stations was $1.13 per gallon in February 2002, 24 percent lower than the price in February 2001. The price of unleaded premium gasoline averaged $1.33 in February 2002, 20 percent lower than the price in February 2001.

**Residual Fuel Oil.** The average price, excluding taxes, of residual fuel oil sold to end users in January 2002 was 45 cents per gallon, 6 percent higher than the previous month's price but 28 percent lower than the January 2001 average. The average resale price, excluding taxes, of residual fuel oil in January 2002 was 39 cents, 7 percent higher than the December 2001 price but 31 percent lower than the price 1 year earlier.

**Aviation Fuel.** The average price, excluding taxes, of aviation gasoline sold to end users in January 2002 was $1.21 per gallon, 5 percent higher than the previous month's average but 6 percent lower than the January 2001 average. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in January 2002 was 58 cents per gallon, 4 percent higher than the previous month's average price but 34 percent lower than the January 2001 average price.

**No. 2 Distillate Fuel Oil.** The January 2002 national average price, excluding taxes, of heating oil sold to residential customers was $1.10 per gallon, 2 percent higher than the December 2001 price but 21 percent lower than the January 2001 price. The average price of No. 2 fuel oil sold to all end users was 64 cents per gallon in January 2002, 1 percent higher than the December 2001 price but 36 percent lower than the price 1 year earlier.

**Electricity**. The average price of electricity sold by electric utilities to all ultimate consumers in the United States in December 2001 was 7.12 cents per kilowatthour, 7 percent higher than the December 2000 mean price. The price of electricity sold to residential consumers in December 2001 averaged 8.50 cents per kilowatthour, 9 percent higher than the December 2000 price. The price of electricity sold to commercial consumers averaged 7.73 cents per kilowatthour in December 2001, 7 percent higher than the December 2000 price. The price of electricity sold to other consumers was 6.27 cents per kilowatthour, 1 percent lower than the December 2000 price. The price of electricity sold to industrial users in December 2001 averaged 4.81 cents per kilowatthour, 4 percent higher than the price 1 year earlier.

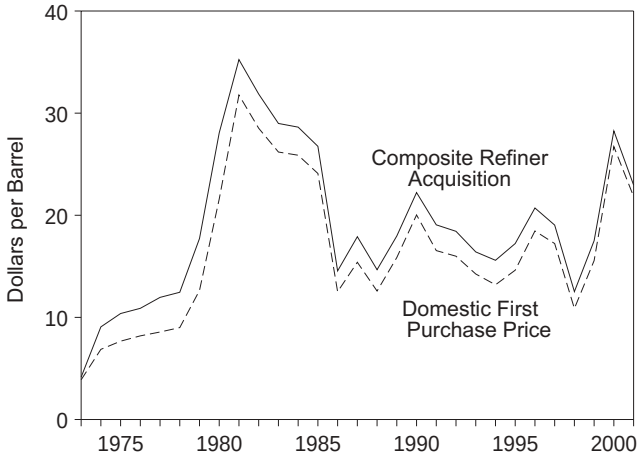
Beginning with January 1986, new series of national average price estimates were based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

**Natural Gas**. The average wellhead price of natural gas for February 2002 was estimated as $2.14 per thousand cubic feet, 63 percent lower than the February 2001 price.

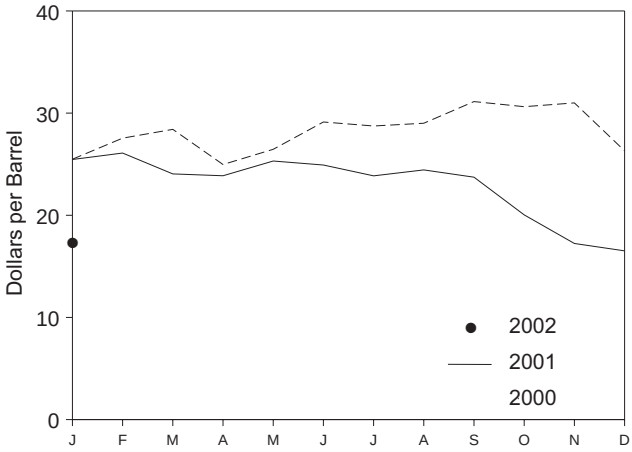
The average price of natural gas delivered to electric utility plants was $3.30 per thousand cubic feet in November 2001 (latest date for which data are available), 39 percent lower than the November 2000 price. The average price of natural gas used by residential consumers in December 2001 was $7.36 per thousand cubic feet, 14 percent lower than the December 2000 price. The average price of natural gas used by commercial consumers in December 2001 was $6.42 per thousand cubic feet, 22 percent lower than the December 2000 price. The average price of natural gas used by industrial consumers in December 2001 was $3.39 per thousand cubic feet, 49 percent below the December 2000 price.

## Figure 9.1 Petroleum Prices

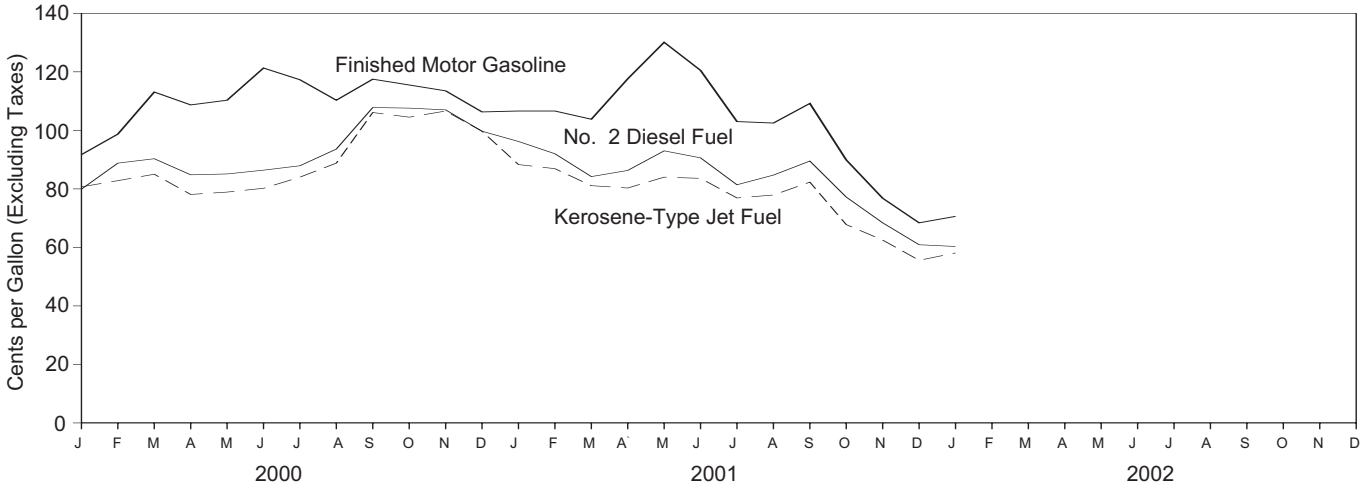
Crude Oil Prices, 1973-2001



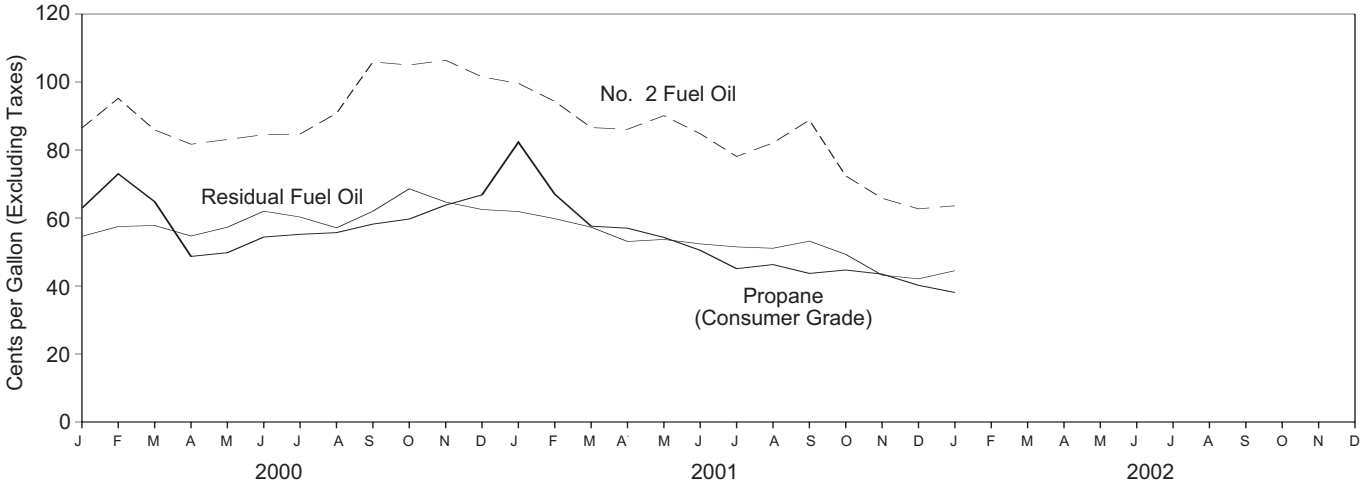

Composite Refiner Acquisition Cost, Monthly




Refiner Prices to End Users: Motor Gasoline, Diesel Fuel, and Jet Fuel, Monthly




Refiner Prices to End Users: No. 2 Fuel Oil, Propane, and Residual Fuel, Monthly




Sources: Tables 9.1, 9.5, and 9.7.

# Table 9.1 Crude Oil Price Summary

(Dollars per Barrel)

| | Domestic First Purchase Price[b] | F.O.B. Cost of Imports[c] | Landed Cost of Imports[d] | Refiner Acquisition Cost[a] | | |
|---|---|---|---|---|---|---|
| | | | | Domestic | Imported | Composite |
| **1973 Average** | **3.89** | [e] **5.21** | [e] **6.41** | [E] **4.17** | [E] **4.08** | [E] **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** | **12.15** | **13.32** | **8.84** | **13.48** | **10.89** |
| **1977 Average** | **8.57** | **13.24** | **14.36** | **9.55** | **14.53** | **11.96** |
| **1978 Average** | **9.00** | **13.29** | **14.35** | **10.61** | **14.57** | **12.46** |
| **1979 Average** | **12.64** | **20.07** | **21.45** | **14.27** | **21.67** | **17.72** |
| **1980 Average** | **21.59** | **32.37** | **33.67** | **24.23** | **33.89** | **28.07** |
| **1981 Average** | **31.77** | **35.15** | **36.47** | **34.33** | **37.05** | **35.24** |
| **1982 Average** | **28.52** | **32.02** | **33.18** | **31.22** | **33.55** | **31.87** |
| **1983 Average** | **26.19** | **27.81** | **28.93** | **28.87** | **29.30** | **28.99** |
| **1984 Average** | **25.88** | **27.60** | **28.54** | **28.53** | **28.88** | **28.63** |
| **1985 Average** | **24.09** | **25.84** | **26.67** | **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 Average** | **12.58** | **13.25** | **14.08** | **14.74** | **14.56** | **14.67** |
| **1989 Average** | **15.86** | **16.89** | **17.68** | **17.87** | **18.08** | **17.97** |
| **1990 Average** | **20.03** | **20.37** | **21.13** | **22.59** | **21.76** | **22.22** |
| **1991 Average** | **16.54** | **16.89** | **18.02** | **19.33** | **18.70** | **19.06** |
| **1992 Average** | **15.99** | **16.77** | **17.75** | **18.63** | **18.20** | **18.43** |
| **1993 Average** | **14.25** | **14.71** | **15.72** | **16.67** | **16.14** | **16.41** |
| **1994 Average** | **13.19** | **14.18** | **15.18** | **15.67** | **15.51** | **15.59** |
| **1995 Average** | **14.62** | **15.69** | **16.78** | **17.33** | **17.14** | **17.23** |
| **1996 Average** | **18.46** | **19.32** | **20.31** | **20.77** | **20.64** | **20.71** |
| **1997 Average** | **17.23** | **16.94** | **18.11** | **19.61** | **18.53** | **19.04** |
| **1998 Average** | **10.87** | **10.76** | **11.84** | **13.18** | **12.04** | **12.52** |
| **1999 Average** | **15.56** | **16.47** | **17.23** | **17.90** | **17.26** | **17.51** |
| **2000** January | 23.53 | 24.56 | 25.61 | 25.79 | 25.29 | 25.49 |
| February | 25.48 | 26.51 | 27.01 | 27.80 | 27.39 | 27.55 |
| March | 26.19 | 25.71 | 26.94 | 29.53 | 27.70 | 28.41 |
| April | 23.20 | 23.39 | 24.72 | 26.05 | 24.29 | 24.97 |
| May | 25.58 | 25.95 | 26.71 | 26.62 | 26.35 | 26.46 |
| June | 27.62 | 27.73 | 28.56 | 29.46 | 28.91 | 29.13 |
| July | 26.81 | 26.53 | 28.29 | 29.94 | 28.00 | 28.74 |
| August | 27.91 | 27.94 | 29.03 | 29.36 | 28.80 | 29.01 |
| September | 29.72 | 28.84 | 30.51 | 32.01 | 30.56 | 31.13 |
| October | 29.65 | 27.74 | 29.54 | 32.09 | 29.71 | 30.63 |
| November | 30.36 | 27.40 | 28.74 | 32.43 | 30.00 | 31.00 |
| December | 24.46 | 22.79 | 24.77 | 27.90 | 25.19 | 26.31 |
| **Average** | **26.72** | **26.27** | **27.53** | **29.11** | **27.70** | **28.26** |
| **2001** January | 24.58 | 22.49 | 24.17 | 26.84 | 24.49 | 25.46 |
| February | 25.27 | 23.11 | 24.31 | 27.67 | 24.97 | 26.09 |
| March | 23.02 | 20.96 | 22.88 | 25.64 | 23.01 | 24.05 |
| April | 23.41 | 21.89 | 23.13 | 25.12 | 22.99 | 23.87 |
| May | 24.06 | 22.85 | 24.19 | 26.37 | 24.63 | 25.31 |
| June | 23.43 | 22.73 | 23.82 | 26.30 | 23.95 | 24.92 |
| July | 22.94 | 21.37 | 22.84 | 25.27 | 22.83 | 23.86 |
| August | 23.08 | 22.00 | 23.30 | 25.44 | 23.77 | 24.44 |
| September | 22.37 | 20.84 | 22.16 | 25.48 | 22.51 | 23.73 |
| October | 18.73 | 17.18 | 18.40 | 21.79 | 18.76 | 20.04 |
| November | 16.49 | [R] 15.05 | [R] 16.25 | 18.99 | 16.06 | 17.24 |
| December | [R] 15.54 | [R] 15.23 | [R] 16.00 | 17.34 | 15.95 | 16.52 |
| **Average** | [R] **21.84** | [R] **20.49** | [R] **21.84** | **24.34** | **22.01** | **22.96** |
| **2002** January | 15.86 | 15.59 | 16.71 | 17.85 | 16.93 | 17.31 |

[a] See Note 4 at end of section.
[b] See Note 1 at end of section.
[c] See Note 2 at end of section.
[d] See Note 3 at end of section.
[e] Based on October, November, and December data only.
R=Revised. E=Estimate.
Notes: Values for Domestic First Purchase Price and Refiner Acquisition Cost for the current month and for F.O.B. and Landed Costs of Imports for the current 2 months are preliminary. F.O.B. and landed costs through 1980 reflect the period of reporting; prices since then reflect the period of loading.
Annual averages are the averages of the monthly prices, weighted by volume. Geographic coverage is the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions.
Sources: See end of section.

# Table 9.2 F.O.B. Costs of Crude Oil Imports From Selected Countries

(Dollars per Barrel)

| | Selected Countries | | | | | | | Persian Gulf Nations[a] | Total OPEC[b] | Total Non-OPEC |
|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | Colombia | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | | | |
| **1973 Average**[c] | **W** | **W** | **NA** | **7.81** | **3.25** | **NA** | **5.39** | **3.68** | **5.43** | **4.80** |
| **1974 Average** | **11.87** | **W** | **W** | **12.44** | **10.17** | **NA** | **10.71** | **10.60** | **11.33** | **9.59** |
| **1975 Average** | **10.97** | **(d)** | **11.44** | **11.82** | **10.87** | **NA** | **11.04** | **10.88** | **11.34** | **10.62** |
| **1976 Average** | **12.02** | **(d)** | **12.22** | **13.08** | **11.62** | **W** | **11.39** | **11.65** | **12.23** | **11.70** |
| **1977 Average** | **13.29** | **(d)** | **13.42** | **14.44** | **12.38** | **14.11** | **12.63** | **12.56** | **13.29** | **12.97** |
| **1978 Average** | **13.32** | **(d)** | **13.24** | **14.05** | **12.70** | **13.82** | **12.38** | **12.77** | **13.31** | **13.23** |
| **1979 Average** | **19.85** | **(d)** | **20.27** | **21.69** | **17.28** | **21.70** | **16.90** | **18.77** | **19.88** | **20.92** |
| **1980 Average** | **33.45** | **W** | **31.06** | **35.93** | **28.17** | **34.36** | **24.81** | **28.92** | **32.21** | **32.85** |
| **1981 Average** | **35.55** | **(d)** | **33.01** | **38.31** | **32.60** | **36.06** | **28.95** | **33.00** | **35.17** | **35.12** |
| **1982 Average** | **31.86** | **(d)** | **28.08** | **35.13** | **33.73** | **33.42** | **23.74** | **33.55** | **33.48** | **30.58** |
| **1983 Average** | **28.14** | **(d)** | **25.20** | **29.81** | **27.53** | **29.91** | **21.48** | **27.70** | **28.46** | **27.20** |
| **1984 Average** | **27.46** | **(d)** | **26.39** | **29.51** | **27.67** | **28.87** | **24.23** | **27.48** | **27.79** | **27.45** |
| **1985 Average** | **26.30** | **(d)** | **25.33** | **28.04** | **22.04** | **27.64** | **23.64** | **23.31** | **25.67** | **25.96** |
| **1986 Average** | **13.30** | **12.34** | **11.84** | **14.35** | **11.36** | **13.84** | **10.92** | **11.35** | **12.21** | **12.87** |
| **1987 Average** | **17.27** | **17.84** | **16.36** | **18.47** | **15.12** | **18.28** | **15.08** | **15.97** | **16.43** | **16.99** |
| **1988 Average** | **13.70** | **13.61** | **12.18** | **15.16** | **12.16** | **14.80** | **12.96** | **12.38** | **13.43** | **13.05** |
| **1989 Average** | **17.66** | **17.89** | **15.96** | **18.31** | **16.29** | **17.89** | **16.09** | **16.61** | **17.06** | **16.72** |
| **1990 Average** | **20.23** | **20.75** | **19.26** | **22.46** | **20.36** | **23.43** | **19.55** | **18.54** | **20.40** | **20.32** |
| **1991 Average** | **18.47** | **18.49** | **15.37** | **20.29** | **14.62** | **20.81** | **14.91** | **15.22** | **16.99** | **16.77** |
| **1992 Average** | **18.41** | **18.02** | **15.26** | **19.98** | **15.85** | **19.61** | **14.39** | **16.35** | **16.87** | **16.66** |
| **1993 Average** | **16.23** | **15.87** | **13.74** | **17.79** | **13.77** | **16.64** | **12.46** | **14.21** | **14.78** | **14.65** |
| **1994 Average** | **15.40** | **14.99** | **13.68** | **16.32** | **14.12** | **15.66** | **12.21** | **13.97** | **14.00** | **14.34** |
| **1995 Average** | **16.58** | **16.73** | **15.64** | **17.40** | **W** | **16.94** | **13.86** | **W** | **15.36** | **16.02** |
| **1996 Average** | **20.71** | **21.33** | **19.14** | **21.27** | **19.28** | **19.43** | **17.73** | **19.22** | **18.94** | **19.65** |
| **1997 Average** | **18.81** | **18.85** | **16.72** | **19.43** | **15.16** | **18.59** | **15.33** | **15.24** | **16.26** | **17.51** |
| **1998 Average** | **12.11** | **12.56** | **10.49** | **12.97** | **8.87** | **12.52** | **9.31** | **9.09** | **10.20** | **11.21** |
| **1998 Average** | **12.11** | **12.56** | **10.49** | **12.97** | **8.87** | **12.52** | **9.31** | **9.09** | **10.20** | **11.21** |
| **1999 Average** | **17.46** | **17.20** | **15.89** | **17.32** | **17.65** | **19.14** | **14.33** | **17.15** | **15.90** | **16.84** |
| **2000** January | 25.99 | 27.12 | 23.31 | W | 25.57 | 24.47 | 23.36 | 25.37 | 24.45 | 24.64 |
| February | 27.71 | 29.56 | 26.25 | 29.07 | 23.73 | 26.22 | 24.93 | 24.46 | 25.89 | 26.98 |
| March | 27.89 | 29.43 | 25.37 | 26.09 | 23.64 | 27.76 | 23.92 | 23.17 | 24.30 | 26.70 |
| April | 22.72 | 25.40 | 21.91 | 24.34 | 27.64 | 23.62 | 22.73 | 25.39 | 23.92 | 23.03 |
| May | 28.36 | 26.50 | 25.27 | 28.85 | 24.31 | 25.91 | 25.12 | 24.53 | 25.71 | 26.07 |
| June | 29.15 | 29.98 | 26.90 | 30.04 | 24.82 | 29.09 | 26.26 | 24.54 | 26.84 | 28.25 |
| July | 28.48 | 27.50 | 24.89 | 28.93 | 26.84 | 26.92 | 23.29 | 26.24 | 25.77 | 27.13 |
| August | 30.40 | 30.47 | 26.66 | 31.06 | 26.41 | 26.41 | 26.45 | 26.66 | 27.74 | 28.09 |
| September | 30.16 | 32.66 | 28.00 | 30.54 | 27.81 | 30.24 | 26.04 | 26.87 | 27.80 | 29.65 |
| October | 29.13 | 32.36 | 27.29 | 30.71 | 23.61 | 29.05 | 26.63 | 24.27 | 26.71 | 28.54 |
| November | 30.27 | 32.24 | 27.07 | 31.92 | 22.10 | 30.91 | 24.08 | 22.74 | 25.43 | 28.80 |
| December | 24.96 | 25.66 | 21.46 | 25.45 | 21.65 | 24.80 | 20.98 | 21.63 | 22.07 | 23.34 |
| **Average** | **27.90** | **29.04** | **25.39** | **28.70** | **24.62** | **27.21** | **24.45** | **24.72** | **25.56** | **26.77** |
| **2001** January | 24.28 | 26.72 | 21.35 | 26.46 | 20.55 | 26.16 | 21.15 | 20.78 | 21.99 | 22.87 |
| February | 25.69 | 27.06 | 21.39 | 26.82 | 21.35 | W | 20.43 | 21.60 | 22.39 | 23.71 |
| March | 22.98 | 23.63 | 18.81 | 24.70 | 20.46 | W | 19.12 | 20.43 | 20.84 | 21.08 |
| April | 24.75 | 25.04 | 19.78 | W | 21.11 | 26.99 | 21.18 | 20.78 | 21.91 | 21.87 |
| May | 27.66 | 26.23 | 21.20 | 28.74 | 21.41 | 28.19 | 20.10 | 20.94 | 22.03 | 23.67 |
| June | 26.82 | 26.81 | 21.39 | 27.63 | 20.68 | W | 17.92 | 20.61 | 21.41 | 23.70 |
| July | 23.85 | 25.86 | 19.02 | 24.98 | 20.77 | 24.88 | 18.70 | 20.93 | 20.53 | 22.20 |
| August | 24.10 | 25.23 | 20.56 | 25.78 | 19.24 | W | 19.67 | 20.40 | 21.20 | 22.63 |
| September | 24.03 | 22.78 | 20.82 | 24.60 | 15.69 | 23.81 | 17.17 | 16.30 | 18.69 | 22.36 |
| October | 19.70 | 20.40 | 16.45 | 20.29 | 14.43 | 20.48 | 14.76 | 14.55 | 15.92 | 18.13 |
| November | 17.49 | 18.44 | 14.32 | 19.02 | R 14.99 | W | 11.90 | R 14.30 | R 14.06 | 15.70 |
| December | R 17.53 | 18.48 | R 14.25 | 19.08 | R 15.11 | W | R 12.80 | R 15.23 | R 14.59 | R 15.67 |
| **Average** | **R 23.35** | **24.25** | **R 18.89** | **R 24.83** | **R 19.12** | **23.51** | **R 18.03** | **R 19.11** | **R 19.80** | **R 21.04** |
| **2002** January | 19.52 | 18.93 | 14.25 | 19.55 | W | 19.24 | 13.78 | 15.18 | 15.07 | 15.93 |

[a] Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.

[b] Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Ecuador withdrew at the end of 1992 and Gabon withdrew at the end of 1994.

[c] Based on October, November, and December data only.

[d] No data reported.

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: 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. Values for the current 2 months are preliminary. Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are 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. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

# Table 9.3 Landed Costs of Crude Oil Imports From Selected Countries

(Dollars per Barrel)

| | Selected Countries | | | | | | | | Persian Gulf Nations[a] | Total OPEC[b] | Total Non-OPEC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Angola | Canada | Colombia | Mexico | Nigeria | Saudi Arabia | United Kingdom | Venezuela | | | |
| **1973 Average**[c] | **W** | **5.33** | **W** | **NA** | **9.08** | **5.37** | **NA** | **5.99** | **5.91** | **6.85** | **5.64** |
| **1974 Average** | **12.48** | **11.48** | **W** | **W** | **13.16** | **11.63** | **NA** | **11.25** | **12.21** | **12.49** | **11.81** |
| **1975 Average** | **11.81** | **12.84** | **( [d] )** | **12.61** | **12.70** | **12.50** | **NA** | **12.36** | **12.64** | **12.70** | **12.70** |
| **1976 Average** | **12.71** | **13.36** | **( [d] )** | **12.64** | **13.81** | **13.06** | **W** | **11.89** | **13.03** | **13.32** | **13.35** |
| **1977 Average** | **14.04** | **14.13** | **( [d] )** | **13.82** | **15.29** | **13.69** | **14.83** | **13.11** | **13.85** | **14.35** | **14.42** |
| **1978 Average** | **14.07** | **14.41** | **( [d] )** | **13.56** | **14.88** | **13.94** | **14.53** | **12.84** | **14.01** | **14.34** | **14.38** |
| **1979 Average** | **21.06** | **20.22** | **( [d] )** | **20.77** | **22.97** | **18.95** | **22.97** | **17.65** | **20.42** | **21.29** | **22.10** |
| **1980 Average** | **34.76** | **30.11** | **W** | **31.77** | **37.15** | **29.80** | **35.68** | **25.92** | **30.59** | **33.56** | **33.99** |
| **1981 Average** | **36.84** | **32.32** | **( [d] )** | **33.70** | **39.66** | **34.20** | **37.29** | **29.91** | **34.61** | **36.60** | **36.14** |
| **1982 Average** | **33.08** | **27.15** | **( [d] )** | **28.63** | **36.16** | **34.99** | **34.25** | **24.93** | **34.94** | **34.81** | **31.47** |
| **1983 Average** | **29.31** | **25.63** | **( [d] )** | **25.78** | **30.85** | **29.27** | **30.87** | **22.94** | **29.37** | **29.84** | **28.08** |
| **1984 Average** | **28.49** | **26.56** | **( [d] )** | **26.85** | **30.36** | **29.20** | **29.45** | **25.19** | **29.07** | **29.06** | **28.14** |
| **1985 Average** | **27.39** | **25.71** | **( [d] )** | **25.63** | **28.96** | **24.72** | **28.36** | **24.43** | **25.50** | **26.86** | **26.53** |
| **1986 Average** | **14.09** | **13.43** | **12.85** | **12.17** | **15.29** | **12.84** | **14.63** | **11.52** | **12.92** | **13.46** | **13.52** |
| **1987 Average** | **18.20** | **17.04** | **18.43** | **16.69** | **19.32** | **16.81** | **18.78** | **15.76** | **17.47** | **17.64** | **17.66** |
| **1988 Average** | **14.48** | **13.50** | **14.47** | **12.58** | **15.88** | **13.37** | **15.82** | **13.66** | **13.51** | **14.18** | **13.96** |
| **1989 Average** | **18.36** | **16.81** | **18.10** | **16.35** | **19.19** | **17.34** | **18.74** | **16.78** | **17.37** | **17.78** | **17.54** |
| **1990 Average** | **21.51** | **20.48** | **22.34** | **19.64** | **23.33** | **21.82** | **22.65** | **20.31** | **20.55** | **21.23** | **20.98** |
| **1991 Average** | **19.90** | **17.16** | **19.55** | **15.89** | **21.39** | **17.22** | **21.37** | **15.92** | **17.34** | **18.08** | **17.93** |
| **1992 Average** | **19.36** | **17.04** | **18.46** | **15.60** | **20.78** | **17.48** | **20.63** | **15.13** | **17.58** | **17.81** | **17.67** |
| **1993 Average** | **17.40** | **15.27** | **16.54** | **14.11** | **18.73** | **15.40** | **17.92** | **13.39** | **15.26** | **15.68** | **15.78** |
| **1994 Average** | **16.36** | **14.83** | **15.80** | **14.09** | **17.21** | **15.11** | **16.64** | **13.12** | **15.00** | **15.08** | **15.29** |
| **1995 Average** | **17.66** | **16.65** | **17.45** | **16.19** | **18.25** | **16.84** | **17.91** | **14.81** | **16.78** | **16.61** | **16.95** |
| **1996 Average** | **21.86** | **19.94** | **22.02** | **19.64** | **21.95** | **20.49** | **20.88** | **18.59** | **20.45** | **20.14** | **20.47** |
| **1997 Average** | **20.24** | **17.63** | **19.71** | **17.30** | **20.64** | **17.52** | **20.64** | **16.35** | **17.44** | **17.73** | **18.45** |
| **1998 Average** | **13.37** | **11.62** | **13.26** | **11.04** | **14.14** | **11.16** | **13.55** | **10.16** | **11.18** | **11.46** | **12.22** |
| **1999 Average** | **18.37** | **17.54** | **18.09** | **16.12** | **17.63** | **17.48** | **18.26** | **15.58** | **17.37** | **16.94** | **17.51** |
| **2000** January | 27.21 | 24.66 | 27.39 | 23.77 | 26.99 | 26.79 | 25.86 | 24.31 | 26.47 | 25.86 | 25.37 |
| February | 28.77 | 26.14 | 29.74 | 26.52 | 29.05 | 25.42 | 27.48 | 25.90 | 25.94 | 26.61 | 27.45 |
| March | 29.14 | 27.27 | 29.67 | 26.29 | 29.04 | 24.95 | 28.99 | 25.55 | 25.37 | 26.23 | 27.76 |
| April | 24.50 | 24.86 | 26.34 | 22.53 | 25.78 | 25.77 | 25.60 | 23.72 | 25.20 | 24.97 | 24.46 |
| May | 29.49 | 25.25 | 27.40 | 25.66 | 27.93 | 26.66 | 26.79 | 26.19 | 26.64 | 26.84 | 26.60 |
| June | 30.79 | 28.01 | 30.60 | 27.61 | 31.06 | 26.71 | 30.61 | 27.80 | 26.90 | 28.06 | 29.07 |
| July | 30.74 | 27.98 | 29.40 | 25.75 | 31.14 | 27.81 | 30.57 | 25.21 | 27.68 | 27.96 | 28.69 |
| August | 32.41 | 28.09 | 30.34 | 27.25 | 31.59 | 28.37 | 29.27 | 28.16 | 28.17 | 29.00 | 29.06 |
| September | 32.46 | 29.94 | 33.84 | 28.94 | 32.63 | 30.03 | 31.95 | 28.33 | 29.77 | 30.13 | 30.90 |
| October | 31.87 | 28.32 | 33.68 | 28.10 | 33.10 | 27.47 | 31.06 | 28.54 | 27.97 | 29.06 | 30.08 |
| November | 32.80 | 26.91 | 33.36 | 27.76 | 34.02 | 25.69 | 32.93 | 26.34 | 26.61 | 27.86 | 29.74 |
| December | 27.05 | 23.47 | 28.12 | 21.91 | 27.77 | 24.52 | 28.86 | 23.13 | 24.64 | 24.82 | 24.72 |
| **Average** | **29.57** | **26.69** | **29.68** | **26.03** | **30.04** | **26.58** | **29.26** | **26.05** | **26.77** | **27.29** | **27.80** |
| **2001** January | 26.56 | 21.98 | 28.27 | 21.53 | 28.37 | 23.79 | 28.27 | 23.04 | 23.81 | 24.29 | 24.03 |
| February | 27.48 | 22.47 | 28.71 | 21.61 | 28.74 | 23.24 | 29.12 | 22.15 | 23.18 | 24.04 | 24.62 |
| March | 24.87 | 21.62 | 26.21 | 19.55 | 27.40 | 22.47 | 26.29 | 21.13 | 22.42 | 23.17 | 22.48 |
| April | 26.63 | 21.39 | 26.71 | 19.57 | 27.01 | 22.68 | 26.45 | 22.53 | 22.35 | 23.33 | 22.87 |
| May | 28.58 | 22.63 | 27.83 | 21.22 | 29.33 | 22.86 | 28.27 | 21.91 | 22.65 | 23.77 | 24.73 |
| June | 28.40 | 22.53 | 28.86 | 21.34 | 29.31 | 22.61 | 26.91 | 20.35 | 22.20 | 23.21 | 24.42 |
| July | 25.59 | 22.60 | 27.45 | 19.65 | 26.68 | 22.46 | 26.02 | 20.23 | 22.23 | 22.39 | 23.48 |
| August | 25.54 | 23.97 | 26.31 | 21.20 | 27.01 | 21.80 | 25.91 | 21.21 | 22.04 | 22.69 | 23.96 |
| September | 25.66 | 22.55 | 24.86 | 21.40 | 26.45 | 19.08 | 24.83 | 19.33 | 19.82 | 20.99 | 23.48 |
| October | 21.21 | 18.42 | 21.77 | 17.19 | 22.35 | 16.33 | 21.27 | 16.26 | 17.02 | 17.63 | 19.26 |
| November | 18.91 | 14.84 | 20.22 | 14.82 | 20.41 | 16.44 | W | 13.62 | R 16.17 | R 16.12 | 16.39 |
| December | R 18.49 | 14.65 | 18.92 | R 14.63 | R 19.98 | R 16.05 | W | R 14.40 | R 15.68 | R 15.92 | R 16.09 |
| **Average** | **R 25.10** | **20.72** | **25.88** | **R 19.36** | **R 26.53** | **R 21.01** | **25.38** | **R 19.81** | **R 20.78** | **R 21.55** | **R 22.17** |
| **2002** January | 19.89 | 15.63 | 19.48 | 14.88 | 20.30 | 16.81 | 20.49 | 15.39 | 16.58 | 16.73 | 16.68 |

[a] Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and United Arab Emirates.

[b] Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela. Ecuador withdrew at the end of 1992 and Gabon withdrew at the end of 1994.

[c] Based on October, November, and December data only.

[d] No data reported.

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: See Note 3 at end of section. Values for the current 2 months are preliminary. Prices through 1980 reflect the period of reporting; prices since then reflect the period of loading. Annual averages are 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. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **October 1973-September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." **October 1977-December 1977:** Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." **1978 forward:** EIA, *Petroleum Marketing Monthly,* April 2002, Table 25.

# Table 9.4 Motor Gasoline Retail Prices, U.S. City Average

(Cents per Gallon, Including Taxes)

| | Leaded Regular | Unleaded Regular | Unleaded Premium | All Types[a] |
|---|---|---|---|---|
| **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**[b] | **131.1** | **137.8** | [c] **147.0** | **135.3** |
| **1982 Average** | **122.2** | **129.6** | **141.5** | **128.1** |
| **1983 Average** | **115.7** | **124.1** | **138.3** | **122.5** |
| **1984 Average** | **112.9** | **121.2** | **136.6** | **119.8** |
| **1985 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 Average** | **89.9** | **94.6** | **110.7** | **96.3** |
| **1989 Average** | **99.8** | **102.1** | **119.7** | **106.0** |
| **1990 Average** | **114.9** | **116.4** | **134.9** | **121.7** |
| **1991 Average** | **NA** | **114.0** | **132.1** | **119.6** |
| **1992 Average** | **NA** | **112.7** | **131.6** | **119.0** |
| **1993 Average** | **NA** | **110.8** | **130.2** | **117.3** |
| **1994 Average** | **NA** | **111.2** | **130.5** | **117.4** |
| **1995 Average** | **NA** | **114.7** | **133.6** | **120.5** |
| **1996 Average** | **NA** | **123.1** | **141.3** | **128.8** |
| **1997 Average** | **NA** | **123.4** | **141.6** | **129.1** |
| **1998 Average** | **NA** | **105.9** | **125.0** | **111.5** |
| **1999 Average** | **NA** | **116.5** | **135.7** | **122.1** |
| **2000** January | NA | 130.1 | 148.6 | 135.6 |
| February | NA | 136.9 | 155.1 | 142.2 |
| March | NA | 154.1 | 172.3 | 159.4 |
| April | NA | 150.6 | 169.8 | 156.1 |
| May | NA | 149.8 | 168.2 | 155.2 |
| June | NA | 161.7 | 178.6 | 166.6 |
| July | NA | 159.3 | 177.3 | 164.2 |
| August | NA | 151.0 | 168.9 | 155.9 |
| September | NA | 158.2 | 176.4 | 163.5 |
| October | NA | 155.9 | 174.4 | 161.3 |
| November | NA | 155.5 | 173.8 | 160.8 |
| December | NA | 148.9 | 167.9 | 154.4 |
| **Average** | **NA** | **151.0** | **169.3** | **156.3** |
| **2001** January | NA | 147.2 | 165.7 | 152.5 |
| February | NA | 148.4 | 167.1 | 153.8 |
| March | NA | 144.7 | 163.8 | 150.3 |
| April | NA | 156.4 | 174.8 | 161.7 |
| May | NA | 172.9 | 193.4 | 181.2 |
| June | NA | 164.0 | 188.1 | 173.1 |
| July | NA | 148.2 | 169.5 | 156.5 |
| August | NA | 142.7 | 163.6 | 150.9 |
| September | NA | 153.1 | 172.6 | 160.9 |
| October | NA | 136.2 | 156.0 | 144.2 |
| November | NA | 126.3 | 142.7 | 132.4 |
| December | NA | 113.1 | 131.2 | 120.0 |
| **Average** | **NA** | **146.1** | **165.7** | **153.1** |
| **2002** January | NA | 113.9 | 132.3 | 120.9 |
| February | NA | 113.0 | 133.0 | 121.0 |

[a] Also includes types of motor gasoline not shown separately.

[b] 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.

[c] Based on September through December data only.

NA=Not available.

Notes: See Note 5 at end of section. Geographic coverage for 1973-1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas.

Sources: **Monthly Data:** U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Prices: Energy.* **Annual Data: 1973**—*Platt's Oil Price Handbook and Oilmanac,* 1974, 51st Edition. **1974 forward**—calculated by the Energy Information Administration as the simple averages of monthly data.

# Table 9.5 Refiner 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 Average** | **33.3** | **37.2** | **27.1** | **30.0** | **30.0** | **33.4** |
| **1989 Average** | **40.7** | **43.6** | **33.1** | **34.4** | **36.0** | **38.5** |
| **1990 Average** | **47.2** | **50.5** | **37.2** | **40.0** | **41.3** | **44.4** |
| **1991 Average** | **36.4** | **40.2** | **29.2** | **30.6** | **31.4** | **34.0** |
| **1992 Average** | **35.1** | **38.9** | **28.6** | **31.2** | **30.8** | **33.6** |
| **1993 Average** | **33.7** | **39.7** | **25.6** | **30.3** | **29.3** | **33.7** |
| **1994 Average** | **34.5** | **40.1** | **28.7** | **33.0** | **31.7** | **35.2** |
| **1995 Average** | **38.3** | **43.6** | **33.8** | **37.7** | **36.3** | **39.2** |
| **1996 Average** | **45.6** | **52.6** | **38.9** | **43.3** | **42.0** | **45.5** |
| **1997 Average** | **41.5** | **48.8** | **36.6** | **40.3** | **38.7** | **42.3** |
| **1998 Average** | **29.9** | **35.4** | **26.9** | **28.7** | **28.0** | **30.5** |
| **1999 Average** | **38.2** | **40.5** | **32.9** | **36.2** | **35.4** | **37.4** |
| **2000** January | 55.3 | 66.3 | 44.6 | 50.0 | 49.0 | 54.6 |
| February | 59.2 | 68.8 | 48.6 | 54.0 | 53.9 | 57.5 |
| March | 53.2 | 66.5 | 50.7 | 55.9 | 51.9 | 57.8 |
| April | 52.3 | 65.1 | 44.5 | 52.5 | 48.2 | 54.7 |
| May | 58.9 | 63.2 | 51.7 | 54.9 | 54.9 | 57.3 |
| June | 65.8 | 70.2 | 54.7 | 59.0 | 60.0 | 62.0 |
| July | 65.1 | 69.7 | 50.8 | 57.3 | 58.9 | 60.3 |
| August | 61.5 | 67.0 | 46.7 | 53.6 | 53.9 | 57.1 |
| September | 71.9 | 75.8 | 58.6 | 59.2 | 64.5 | 62.0 |
| October | 73.7 | 76.8 | 57.3 | 65.4 | 63.8 | 68.6 |
| November | 71.3 | 77.1 | 52.8 | 59.2 | 61.3 | 64.7 |
| December | 66.6 | 75.8 | 50.6 | 57.0 | 57.9 | 62.5 |
| **Average** | **62.7** | **70.8** | **51.2** | **56.6** | **56.6** | **60.2** |
| **2001** January | 64.5 | 73.1 | 48.5 | 56.2 | 55.6 | 61.9 |
| February | 61.9 | 68.4 | 49.5 | 55.2 | 54.9 | 59.8 |
| March | 57.2 | 66.1 | 47.8 | 52.8 | 51.4 | 57.3 |
| April | 57.3 | 63.8 | 41.8 | 48.8 | 48.0 | 53.1 |
| May | 58.2 | 63.4 | 44.2 | 50.1 | 49.8 | 53.7 |
| June | 53.0 | 64.1 | 42.4 | 49.0 | 47.9 | 52.4 |
| July | 50.0 | 63.2 | 42.2 | 47.2 | 46.3 | 51.5 |
| August | 50.4 | 60.0 | 41.3 | 48.0 | 45.7 | 51.1 |
| September | 51.2 | 62.3 | 45.0 | 50.9 | 48.9 | 53.2 |
| October | 44.8 | 59.2 | 40.0 | 46.6 | 42.4 | 49.3 |
| November | 40.5 | 52.3 | 31.9 | 40.6 | 36.9 | 43.2 |
| December | [R] 40.0 | 51.2 | 30.6 | 39.7 | [R] 36.2 | 42.1 |
| **Average** | **51.7** | **64.1** | **42.8** | **49.3** | [R] **47.1** | **53.3** |
| **2002** January | 40.8 | 50.8 | 33.7 | 41.9 | 38.6 | 44.5 |

R=Revised.

Notes: Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and commercial consumers. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly,* April 2002, Table 19.

# Table 9.6 Refiner 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 Average** | **57.7** | **85.0** | **49.5** | **54.9** | **47.3** | **47.3** | **24.0** |
| **1989 Average** | **65.4** | **95.0** | **58.3** | **66.9** | **56.5** | **56.7** | **24.7** |
| **1990 Average** | **78.6** | **106.3** | **77.3** | **83.9** | **69.7** | **69.4** | **38.6** |
| **1991 Average** | **69.9** | **100.1** | **65.0** | **72.2** | **62.2** | **61.5** | **34.9** |
| **1992 Average** | **67.7** | **99.1** | **60.5** | **63.2** | **57.9** | **59.1** | **32.8** |
| **1993 Average** | **62.6** | **96.5** | **57.7** | **60.4** | **54.4** | **57.0** | **35.1** |
| **1994 Average** | **59.9** | **93.3** | **53.4** | **61.8** | **50.6** | **52.9** | **32.4** |
| **1995 Average** | **62.6** | **97.5** | **53.9** | **58.0** | **51.1** | **53.8** | **34.4** |
| **1996 Average** | **71.3** | **105.5** | **64.6** | **71.4** | **63.9** | **65.9** | **46.1** |
| **1997 Average** | **70.0** | **106.5** | **61.3** | **65.3** | **59.0** | **60.6** | **41.6** |
| **1998 Average** | **52.6** | **91.2** | **45.0** | **46.5** | **42.2** | **44.4** | **28.8** |
| **1999 Average** | **64.5** | **100.7** | **53.3** | **55.0** | **49.3** | **54.6** | **34.2** |
| **2000** January | 78.6 | 111.5 | 80.4 | 97.9 | 84.1 | 77.7 | 49.4 |
| February | 88.4 | 119.8 | 83.6 | 101.2 | 92.4 | 85.2 | 60.2 |
| March | 98.9 | 130.3 | 83.4 | 84.4 | 79.6 | 85.1 | 52.9 |
| April | 88.5 | 125.5 | 77.4 | 76.7 | 76.4 | 79.9 | 48.8 |
| May | 97.9 | 130.8 | 77.9 | 77.6 | 78.4 | 81.4 | 49.3 |
| June | 109.3 | 141.9 | 79.9 | 80.0 | 80.3 | 82.4 | 53.9 |
| July | 99.3 | 138.8 | 83.6 | 83.1 | 81.0 | 83.6 | 54.8 |
| August | 96.9 | 133.8 | 87.9 | 89.8 | 88.3 | 92.1 | 60.3 |
| September | 104.8 | 142.5 | 105.1 | 107.7 | 100.9 | 105.0 | 65.9 |
| October | 102.2 | 138.1 | 104.4 | 108.1 | 98.8 | 104.0 | 64.3 |
| November | 100.2 | 137.6 | 105.1 | 112.8 | 100.4 | 103.2 | 63.3 |
| December | 87.9 | 128.3 | 99.0 | 105.8 | 94.1 | 93.8 | 76.7 |
| **Average** | **96.3** | **133.0** | **88.0** | **96.9** | **88.6** | **89.8** | **59.5** |
| **2001** January | 94.2 | 131.0 | 88.2 | 107.3 | 90.3 | 90.7 | 86.4 |
| February | 93.9 | 131.9 | 86.8 | 93.4 | 82.5 | 85.8 | 66.9 |
| March | 91.0 | 129.3 | 80.5 | 83.6 | 76.3 | 78.1 | 60.1 |
| April | 106.4 | 140.5 | 79.5 | 83.0 | 79.2 | 82.6 | 58.6 |
| May | 115.5 | 147.8 | 83.5 | 86.6 | 82.7 | 89.8 | 56.2 |
| June | 98.7 | 135.0 | 82.6 | 83.3 | 79.3 | 85.3 | 48.7 |
| July | 84.3 | 120.9 | 75.9 | 75.4 | 72.8 | 75.5 | 43.6 |
| August | 90.7 | 125.9 | 77.6 | 81.3 | 77.0 | 80.8 | 45.6 |
| September | 94.1 | 132.8 | 80.7 | 80.1 | 79.0 | 84.1 | 46.4 |
| October | 74.2 | 112.1 | 68.5 | 74.5 | 68.5 | 71.4 | 46.1 |
| November | 63.4 | 100.5 | 61.9 | 63.5 | 60.6 | 61.6 | 41.6 |
| December | 58.4 | 94.9 | R 55.3 | 58.6 | 56.6 | 54.7 | R 38.1 |
| **Average** | **88.6** | **125.9** | **76.3** | **82.4** | **75.6** | **78.4** | **54.1** |
| **2002** January | 61.1 | 95.8 | 57.4 | 62.1 | 57.5 | 54.7 | 37.6 |

[a] See Note 5 at end of section.

R=Revised.

Notes: Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are shown in Table 9.7; they are sales made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly,* April 2002, Table 4.

# Table 9.7 Refiner 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 Average** | **67.3** | **89.1** | **51.3** | **73.8** | **54.4** | **50.0** | **71.4** |
| **1989 Average** | **75.6** | **99.5** | **59.2** | **70.9** | **58.7** | **58.5** | **61.5** |
| **1990 Average** | **88.3** | **112.0** | **76.6** | **92.3** | **73.4** | **72.5** | **74.5** |
| **1991 Average** | **79.7** | **104.7** | **65.2** | **83.8** | **66.5** | **64.8** | **73.0** |
| **1992 Average** | **78.7** | **102.7** | **61.0** | **78.8** | **62.7** | **61.9** | **64.3** |
| **1993 Average** | **75.9** | **99.0** | **58.0** | **75.4** | **60.2** | **60.2** | **67.3** |
| **1994 Average** | **73.8** | **95.7** | **53.4** | **66.0** | **57.2** | **55.4** | **53.0** |
| **1995 Average** | **76.5** | **100.5** | **54.0** | **58.9** | **56.2** | **56.0** | **49.2** |
| **1996 Average** | **84.7** | **111.6** | **65.1** | **74.0** | **67.3** | **68.1** | **60.5** |
| **1997 Average** | **83.9** | **112.8** | **61.3** | **74.5** | **63.6** | **64.2** | **55.2** |
| **1998 Average** | **67.3** | **97.5** | **45.2** | **50.1** | **48.2** | **49.4** | **40.5** |
| **1999 Average** | **78.1** | **105.9** | **54.3** | **60.5** | **55.8** | **58.4** | **45.8** |
| **2000** January | 91.7 | 118.7 | 80.7 | 111.1 | 86.5 | 79.9 | 62.9 |
| February | 98.7 | 119.5 | 82.8 | 130.1 | 95.2 | 88.8 | 73.0 |
| March | 113.1 | 129.1 | 85.0 | 107.7 | 85.9 | 90.3 | 64.8 |
| April | 108.7 | 124.3 | 78.1 | 99.6 | 81.7 | 84.8 | 48.7 |
| May | 110.3 | 126.8 | 78.9 | 86.8 | 83.1 | 85.1 | 49.8 |
| June | 121.3 | 139.8 | 80.2 | 88.4 | 84.5 | 86.4 | 54.4 |
| July | 117.3 | 142.6 | 84.0 | 90.1 | 84.7 | 87.9 | 55.2 |
| August | 110.3 | NA | 88.8 | 96.5 | 90.8 | 93.6 | 55.7 |
| September | 117.5 | 138.2 | 106.1 | 116.2 | 105.9 | 107.8 | 58.2 |
| October | 115.5 | 134.9 | 104.5 | 116.0 | 105.0 | 107.6 | 59.7 |
| November | 113.5 | 134.9 | 106.6 | 122.9 | 106.4 | 107.0 | 63.8 |
| December | 106.3 | 126.1 | 99.7 | 122.7 | 101.5 | 99.7 | 66.8 |
| **Average** | **110.6** | **130.6** | **89.9** | **112.3** | **92.7** | **93.5** | **60.3** |
| **2001** January | 106.6 | 128.5 | 88.3 | 126.0 | 99.6 | 96.2 | 82.3 |
| February | 106.6 | 130.3 | 86.9 | 122.1 | 94.3 | 92.0 | 67.0 |
| March | 103.8 | 124.5 | 81.1 | 112.8 | 86.6 | 84.2 | 57.6 |
| April | 117.6 | 132.8 | 80.3 | 100.5 | 86.1 | 86.3 | 57.0 |
| May | 130.1 | 146.5 | 84.0 | 94.1 | 90.1 | 93.0 | 54.3 |
| June | 120.5 | 145.1 | 83.6 | 93.8 | 84.8 | 90.6 | 50.5 |
| July | 103.0 | 134.6 | 76.9 | 83.4 | 78.1 | 81.4 | 45.1 |
| August | 102.5 | 136.3 | 77.9 | 84.2 | 82.1 | 84.7 | 46.3 |
| September | 109.2 | 142.5 | 82.3 | 94.9 | 88.8 | 89.5 | 43.7 |
| October | 89.9 | 125.4 | 67.8 | 104.3 | 72.4 | 77.2 | 44.7 |
| November | 76.8 | 119.4 | 62.5 | 100.9 | 65.8 | 68.4 | 43.5 |
| December | 68.4 | 115.8 | 55.6 | 97.7 | 62.7 | 60.9 | 40.2 |
| **Average** | **103.2** | **132.2** | **77.6** | **105.1** | **82.9** | **84.2** | **50.6** |
| **2002** January | 70.6 | 121.2 | 58.1 | 97.4 | 63.6 | 60.3 | 38.1 |

[a] See Note 5 at end of section.

NA=Not available.

Notes: Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Sales for resale are shown in Table 9.6; they are sales made to purchasers other than ultimate consumers. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Source: EIA, *Petroleum Marketing Monthly,* April 2002, Table 2.

# Table 9.8a No. 2 Distillate Prices 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 Average** | **77.7** | **78.2** | **82.6** | **82.1** | **83.6** | **85.3** | **86.3** | **84.8** | **77.8** |
| **1989 Average** | **89.4** | **89.3** | **90.5** | **92.6** | **93.9** | **92.9** | **95.8** | **91.8** | **85.1** |
| **1990 Average** | **98.9** | **102.8** | **107.0** | **108.4** | **108.6** | **109.8** | **112.5** | **108.7** | **102.6** |
| **1991 Average** | **96.0** | **91.6** | **101.9** | **103.0** | **99.9** | **106.2** | **111.3** | **104.0** | **99.7** |
| **1992 Average** | **87.1** | **85.6** | **92.1** | **92.5** | **91.2** | **94.7** | **102.8** | **93.9** | **89.0** |
| **1993 Average** | **82.6** | **82.8** | **90.4** | **89.7** | **89.3** | **91.9** | **100.1** | **92.4** | **86.3** |
| **1994 Average** | **81.8** | **79.2** | **87.6** | **87.0** | **88.5** | **89.0** | **96.6** | **89.5** | **85.7** |
| **1995 Average** | **78.7** | **77.9** | **85.3** | **84.4** | **87.4** | **86.4** | **95.5** | **88.8** | **82.6** |
| **1996 Average** | **97.2** | **94.0** | **96.9** | **97.6** | **98.6** | **98.6** | **106.3** | **102.4** | **95.3** |
| **1997 Average** | **94.2** | **94.2** | **98.7** | **96.0** | **98.9** | **96.3** | **106.5** | **103.3** | **95.0** |
| **1998 Average** | **78.8** | **78.8** | **87.3** | **81.8** | **86.8** | **83.1** | **94.8** | **89.2** | **81.4** |
| **1999 Average** | **81.3** | **77.0** | **85.4** | **83.6** | **85.8** | **85.2** | **96.9** | **91.3** | **81.5** |
| **2000** January | 126.4 | 120.9 | 117.2 | 123.7 | 118.8 | 124.5 | 141.6 | 134.7 | 117.3 |
| February | 140.5 | 140.3 | 133.2 | 139.6 | 132.8 | 141.5 | 162.9 | 154.7 | 133.1 |
| March | 120.8 | 123.0 | 118.5 | 116.8 | 114.8 | 120.7 | 135.8 | 131.6 | 114.3 |
| April | 113.5 | 116.4 | 114.0 | 111.7 | 112.2 | 114.0 | 127.4 | 124.8 | 108.2 |
| May | 115.1 | 117.9 | 112.3 | 114.3 | 114.2 | 114.4 | 127.5 | 125.2 | 106.5 |
| June | 117.1 | 117.0 | 117.3 | 112.9 | 114.2 | 113.7 | 128.1 | 125.0 | 106.2 |
| July | 118.9 | 117.9 | 119.5 | 111.6 | 112.6 | 114.1 | 127.7 | 124.8 | 104.0 |
| August | 124.8 | 121.4 | 122.2 | 117.4 | 115.1 | 115.8 | 129.0 | 128.0 | 109.7 |
| September | 136.2 | 132.3 | 133.8 | 128.7 | 132.6 | 129.4 | 140.5 | 139.8 | 123.2 |
| October | 138.9 | 131.5 | 130.9 | 132.1 | 134.0 | 134.5 | 147.2 | 144.2 | 127.2 |
| November | 141.1 | 135.8 | 133.4 | 135.1 | 138.3 | 137.2 | 150.3 | 149.9 | 131.3 |
| December | 137.3 | 136.4 | 132.7 | 137.0 | 136.9 | 139.2 | 152.2 | 147.2 | 135.1 |
| **Average** | **129.7** | **128.1** | **125.5** | **127.3** | **125.9** | **129.1** | **144.2** | **140.4** | **122.4** |
| **2001** January | 132.8 | 134.8 | 132.7 | 132.8 | 134.2 | 136.7 | 148.6 | 146.4 | 133.4 |
| February | 129.5 | 132.9 | 130.6 | 129.6 | 129.5 | 132.0 | 143.5 | 140.7 | 128.3 |
| March | 125.6 | 130.1 | 128.9 | 125.6 | 125.6 | 129.0 | 139.6 | 133.9 | 121.9 |
| April | 122.9 | 126.9 | 127.7 | 124.3 | 124.1 | 127.2 | 139.6 | 132.5 | 117.5 |
| May | 121.9 | 124.4 | 124.9 | 122.7 | 122.3 | 125.1 | 137.3 | 130.9 | 112.0 |
| June | 121.6 | 125.5 | 124.7 | 119.8 | 121.6 | 119.1 | 133.2 | 128.8 | 106.3 |
| July | 117.8 | 121.2 | 122.2 | 113.7 | 117.2 | 113.6 | 126.9 | 123.3 | 101.9 |
| August | 115.2 | 118.9 | 121.5 | 113.5 | 118.0 | 110.9 | 127.2 | 118.5 | 104.2 |
| September | 118.7 | 118.3 | 122.7 | 115.9 | 119.7 | 116.2 | 129.1 | 120.1 | 105.8 |
| October | 114.8 | 117.6 | 120.7 | 113.4 | 117.4 | 113.3 | 125.9 | 118.1 | 103.2 |
| November | 110.2 | 114.8 | 118.5 | 110.0 | 113.9 | 108.9 | 123.3 | 114.3 | 101.6 |
| December | 108.6 | R 114.2 | R 116.9 | R 107.0 | R 111.3 | R 107.4 | 119.8 | R 112.3 | R 100.3 |
| **Average** | **121.8** | **125.6** | **125.9** | **122.1** | **123.8** | **123.9** | R **136.5** | **131.4** | R **116.4** |
| **2002** January | 109.6 | 113.2 | 117.4 | 107.5 | 112.1 | 108.4 | 121.7 | 114.1 | 103.3 |

R=Revised. NA=Not available.

Notes: 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 (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* April 2002, Table 18.

## Table 9.8b No. 2 Distillate Prices 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 Average** | **80.1** | **91.6** | **87.0** | **80.5** | **74.2** | **74.7** | **77.5** | **75.4** | **77.6** | **73.9** | **73.5** |
| **1989 Average** | **88.2** | **98.6** | **93.8** | **87.0** | **83.0** | **81.6** | **85.3** | **83.2** | **80.9** | **81.1** | **82.4** |
| **1990 Average** | **105.8** | **107.8** | **111.9** | **110.6** | **99.1** | **98.1** | **100.9** | **99.3** | **96.1** | **94.2** | **101.4** |
| **1991 Average** | **99.7** | **112.2** | **108.4** | **101.1** | **93.4** | **91.0** | **94.2** | **91.8** | **92.7** | **89.5** | **91.1** |
| **1992 Average** | **92.3** | **105.7** | **100.0** | **92.8** | **86.4** | **83.6** | **87.2** | **81.2** | **87.7** | **81.6** | **82.6** |
| **1993 Average** | **89.9** | **104.5** | **98.1** | **89.3** | **85.6** | **84.0** | **87.2** | **81.0** | **84.4** | **82.3** | **83.2** |
| **1994 Average** | **89.4** | **100.0** | **95.0** | **85.3** | **80.9** | **81.2** | **86.3** | **81.2** | **78.4** | **81.1** | **80.6** |
| **1995 Average** | **87.0** | **101.0** | **93.6** | **84.4** | **81.5** | **80.8** | **86.0** | **81.6** | **78.5** | **81.2** | **80.1** |
| **1996 Average** | **98.4** | **117.8** | **106.3** | **95.2** | **96.0** | **92.1** | **97.7** | **91.2** | **89.3** | **89.9** | **90.9** |
| **1997 Average** | **98.4** | **117.4** | **105.7** | **94.8** | **96.2** | **91.3** | **94.2** | **86.5** | **87.0** | **93.3** | **89.9** |
| **1998 Average** | **85.8** | **102.2** | **90.2** | **85.6** | **81.8** | **76.7** | **80.4** | **74.8** | **73.5** | **80.1** | **73.8** |
| **1999 Average** | **88.4** | **101.1** | **90.7** | **87.0** | **78.9** | **82.0** | **88.3** | **79.3** | **71.6** | **84.7** | **77.4** |
| **2000** January | 124.2 | W | 123.6 | 120.9 | 116.1 | 110.5 | NA | 109.6 | 100.6 | 105.7 | 101.9 |
| February | 137.3 | W | 141.5 | 131.9 | 130.6 | 120.1 | NA | 116.1 | 109.3 | 110.2 | 109.8 |
| March | 120.6 | W | 126.3 | 122.4 | 119.7 | 116.7 | NA | 117.6 | 108.3 | 111.8 | 109.5 |
| April | 115.2 | W | 119.9 | 114.5 | 110.3 | 111.2 | NA | 112.4 | 104.6 | 110.2 | 107.5 |
| May | 109.6 | W | 119.6 | 111.9 | 110.0 | 111.9 | NA | 108.6 | 98.6 | 109.8 | 110.2 |
| June | 103.7 | W | 115.1 | 109.2 | 109.7 | 112.5 | NA | 115.1 | 96.0 | 109.9 | 112.8 |
| July | 103.7 | W | 115.6 | 108.2 | 110.2 | 110.4 | NA | 112.3 | NA | 105.3 | 111.4 |
| August | 112.8 | W | 120.4 | 117.7 | 117.1 | 111.8 | NA | 118.8 | 106.8 | 114.6 | 110.6 |
| September | 124.9 | W | 133.3 | 130.2 | 130.3 | 129.5 | NA | 134.0 | 124.4 | 127.8 | 122.4 |
| October | 129.7 | W | 141.5 | 133.0 | 132.7 | 133.7 | NA | 135.0 | 123.1 | 131.8 | 128.4 |
| November | 139.7 | W | 147.4 | 135.8 | 136.6 | 134.0 | NA | 131.5 | 124.2 | 130.1 | 128.5 |
| December | 140.0 | W | 150.1 | 137.0 | 137.4 | 132.4 | NA | 127.0 | 123.2 | 130.2 | 125.7 |
| **Average** | **127.0** | **W** | **135.1** | **126.9** | **125.1** | **122.0** | **NA** | **120.7** | **109.5** | **117.1** | **115.6** |
| **2001** January | 140.1 | W | 150.3 | 141.5 | 137.1 | 131.8 | NA | 127.1 | 122.2 | 128.0 | 124.5 |
| February | 138.0 | W | 146.5 | 133.5 | 127.6 | 126.8 | NA | 123.1 | 118.2 | 126.5 | 120.6 |
| March | 129.7 | W | 140.8 | 122.8 | 119.2 | 117.4 | NA | 114.1 | 115.3 | 120.0 | 115.2 |
| April | 123.2 | W | 137.2 | 117.4 | 117.1 | 117.5 | NA | 112.3 | NA | 118.7 | 119.5 |
| May | 113.3 | W | 128.7 | 112.9 | 114.4 | 120.5 | NA | 117.8 | 109.6 | 122.0 | 121.3 |
| June | 110.8 | W | 123.2 | 112.7 | 112.5 | 113.0 | NA | 109.8 | 103.9 | 117.1 | 114.0 |
| July | 102.0 | W | 116.9 | 106.6 | 104.5 | 104.7 | NA | 102.9 | 100.3 | 110.5 | 106.4 |
| August | 101.6 | W | 117.0 | 107.7 | 109.3 | 110.4 | NA | 111.6 | 110.4 | 118.4 | 115.4 |
| September | 106.1 | W | 120.0 | 110.5 | 112.6 | 119.9 | 137.8 | 118.2 | 121.4 | 123.9 | 118.7 |
| October | NA | W | 117.7 | 106.9 | 104.3 | 108.3 | 122.9 | 108.2 | 109.2 | 114.5 | 105.4 |
| November | 110.3 | W | 117.2 | 102.4 | NA | 100.8 | 112.8 | 98.3 | 98.0 | 106.2 | 99.9 |
| December | 108.8 | W | R 114.3 | 97.8 | R 95.8 | R 95.0 | 109.0 | 93.6 | 92.4 | R 96.3 | R 90.2 |
| **Average** | **123.5** | R **143.1** | **134.2** | **120.3** | **114.2** | R **116.1** | **NA** | **113.4** | **111.7** | R **118.1** | **112.6** |
| **2002** January | 114.2 | W | 115.7 | 101.5 | 97.0 | 94.1 | 103.0 | 91.8 | 86.7 | 95.0 | 90.3 |

R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: 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 (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* April 2002, Table 18.

## Table 9.8c No. 2 Distillate Prices 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 Average** | **68.8** | **78.5** | **70.9** | **86.9** | **81.3** |
| **1989 Average** | **77.8** | **87.4** | **80.2** | **96.4** | **90.0** |
| **1990 Average** | **97.4** | **102.9** | **97.0** | **110.1** | **106.3** |
| **1991 Average** | **95.1** | **101.6** | **93.3** | **105.0** | **101.9** |
| **1992 Average** | **85.7** | **94.0** | **87.6** | **94.1** | **93.4** |
| **1993 Average** | **86.2** | **99.9** | **91.8** | **96.1** | **91.1** |
| **1994 Average** | **78.9** | **95.0** | **88.7** | **86.5** | **88.4** |
| **1995 Average** | **83.9** | **96.2** | **89.4** | **83.4** | **86.7** |
| **1996 Average** | **93.3** | **108.0** | **98.9** | **90.9** | **98.9** |
| **1997 Average** | **95.3** | **113.9** | **103.1** | **97.3** | **98.4** |
| **1998 Average** | **78.4** | **97.8** | **86.1** | **85.2** | **85.2** |
| **1999 Average** | **76.2** | **106.5** | **93.8** | **96.6** | **87.6** |
| **2000** January | 93.5 | 127.5 | 115.6 | 122.0 | 125.8 |
| February | 97.7 | 134.0 | 124.9 | 126.3 | 142.5 |
| March | 109.2 | 145.4 | 136.1 | 131.3 | 123.9 |
| April | 105.9 | 133.8 | 127.7 | 130.3 | 117.7 |
| May | 96.6 | 132.0 | 121.2 | 124.7 | 117.2 |
| June | NA | 128.1 | 122.8 | 120.4 | 116.3 |
| July | 109.6 | NA | 126.4 | 121.8 | 115.0 |
| August | 114.1 | 133.3 | 131.3 | 130.8 | 119.0 |
| September | 133.3 | 156.6 | 154.4 | 140.8 | 132.0 |
| October | 140.8 | 162.8 | 156.0 | NA | 136.6 |
| November | 140.5 | 160.5 | 150.6 | 154.1 | 139.7 |
| December | 128.4 | 162.5 | 155.8 | 152.9 | 141.1 |
| **Average** | **117.0** | **144.5** | **136.8** | **133.7** | **131.1** |
| **2001** January | 120.9 | 144.0 | 134.3 | NA | 138.7 |
| February | 114.1 | 145.4 | 134.4 | 149.4 | 134.2 |
| March | 108.9 | 141.9 | 129.7 | 152.3 | 129.4 |
| April | 110.3 | 141.8 | 130.3 | NA | 127.2 |
| May | 114.2 | 144.6 | 133.8 | 145.6 | 124.9 |
| June | 111.9 | 141.3 | 129.9 | 140.6 | 120.2 |
| July | 100.9 | 122.7 | 115.4 | 131.8 | 113.6 |
| August | 102.1 | 119.0 | 116.7 | 124.6 | 114.3 |
| September | 107.6 | 128.0 | 121.0 | NA | 117.6 |
| October | 100.2 | NA | 110.9 | 131.1 | 114.1 |
| November | 89.4 | 118.1 | 103.5 | 125.7 | 110.9 |
| December | R 75.8 | R 110.2 | 94.9 | 119.9 | R 108.0 |
| **Average** | R **103.9** | **133.6** | **121.2** | **137.8** | R **125.0** |
| **2002** January | 77.5 | 108.3 | 93.4 | 114.0 | 109.7 |

R=Revised. NA=Not available.

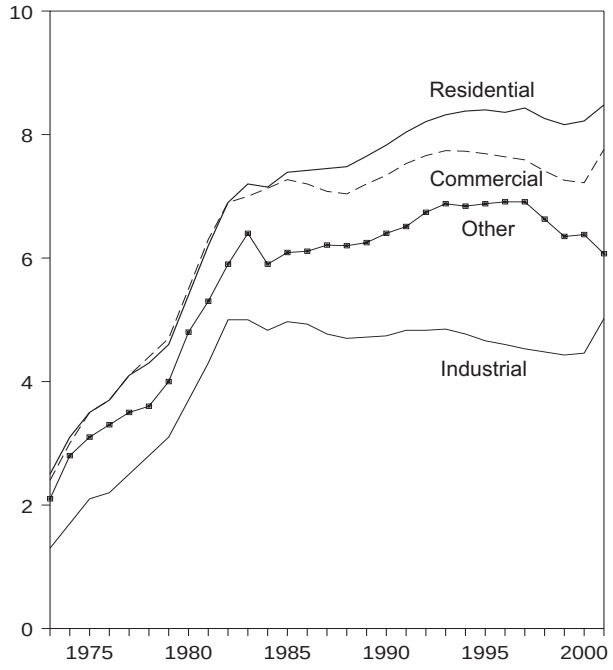
Notes: States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* April 2002, Table 18.

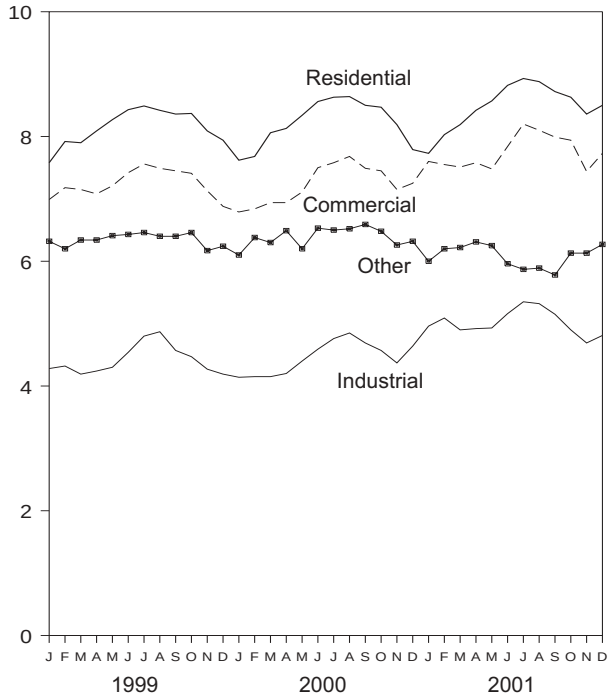
## Figure 9.2 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

By Sector, 1973-2001




By Sector, Monthly

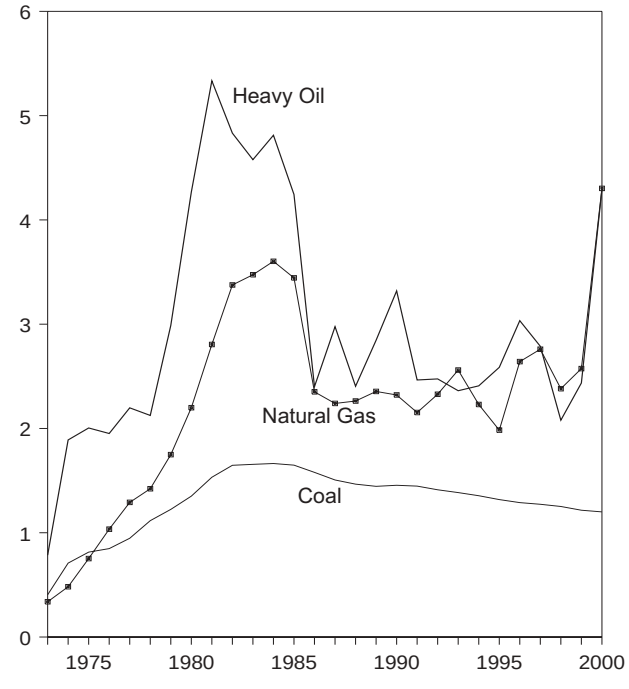



Note: Excludes taxes.
Source: Table 9.9.

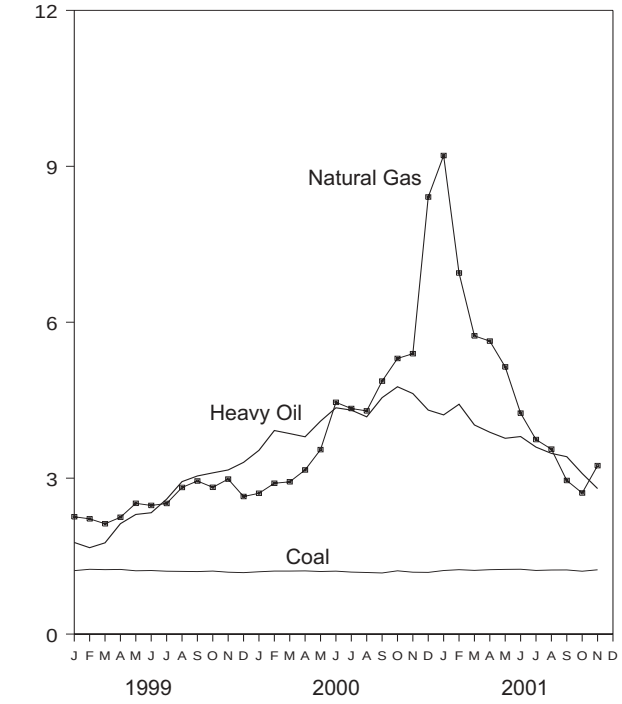
## Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants

(Dollars per Million Btu)

Costs, 1973-2000




Costs, Monthly




Note: Beacause vertical scales differ, graphs should not be compared.
Source: Table 9.10.

# Table 9.9 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour, Excluding Taxes)

| | Residential | Commercial | Industrial | Other[a] | Total |
|---|---|---|---|---|---|
| **1973 Average** | **2.5** | **2.4** | **1.3** | **2.1** | **2.0** |
| **1974 Average** | **3.1** | **3.0** | **1.7** | **2.8** | **2.5** |
| **1975 Average** | **3.5** | **3.5** | **2.1** | **3.1** | **2.9** |
| **1976 Average** | **3.7** | **3.7** | **2.2** | **3.3** | **3.1** |
| **1977 Average** | **4.1** | **4.1** | **2.5** | **3.5** | **3.4** |
| **1978 Average** | **4.3** | **4.4** | **2.8** | **3.6** | **3.7** |
| **1979 Average** | **4.6** | **4.7** | **3.1** | **4.0** | **4.0** |
| **1980 Average** | **5.4** | **5.5** | **3.7** | **4.8** | **4.7** |
| **1981 Average** | **6.2** | **6.3** | **4.3** | **5.3** | **5.5** |
| **1982 Average** | **6.9** | **6.9** | **5.0** | **5.9** | **6.1** |
| **1983 Average** | **7.2** | **7.0** | **5.0** | **6.4** | **6.3** |
| **1984 Average** | **7.15** | **7.13** | **4.83** | **5.90** | **6.25** |
| **1985 Average** | **7.39** | **7.27** | **4.97** | **6.09** | **6.44** |
| **1986 Average** | **7.42** | **7.20** | **4.93** | **6.11** | **6.44** |
| **1987 Average** | **7.45** | **7.08** | **4.77** | **6.21** | **6.37** |
| **1988 Average** | **7.48** | **7.04** | **4.70** | **6.20** | **6.35** |
| **1989 Average** | **7.65** | **7.20** | **4.72** | **6.25** | **6.45** |
| **1990 Average** | **7.83** | **7.34** | **4.74** | **6.40** | **6.57** |
| **1991 Average** | **8.04** | **7.53** | **4.83** | **6.51** | **6.75** |
| **1992 Average** | **8.21** | **7.66** | **4.83** | **6.74** | **6.82** |
| **1993 Average** | **8.32** | **7.74** | **4.85** | **6.88** | **6.93** |
| **1994 Average** | **8.38** | **7.73** | **4.77** | **6.84** | **6.91** |
| **1995 Average** | **8.40** | **7.69** | **4.66** | **6.88** | **6.89** |
| **1996 Average** | **8.36** | **7.64** | **4.60** | **6.91** | **6.86** |
| **1997 Average** | **8.43** | **7.59** | **4.53** | **6.91** | **6.85** |
| **1998 Average** | **8.26** | **7.41** | **4.48** | **6.63** | **6.74** |
| **1999** January | 7.58 | 6.99 | 4.28 | 6.32 | 6.42 |
| February | 7.92 | 7.18 | 4.32 | 6.20 | 6.50 |
| March | 7.90 | 7.15 | 4.19 | 6.34 | 6.43 |
| April | 8.09 | 7.08 | 4.24 | 6.34 | 6.40 |
| May | 8.27 | 7.21 | 4.30 | 6.41 | 6.50 |
| June | 8.43 | 7.42 | 4.54 | 6.43 | 6.83 |
| July | 8.49 | 7.56 | 4.80 | 6.46 | 7.11 |
| August | 8.42 | 7.49 | 4.87 | 6.40 | 7.08 |
| September | 8.36 | 7.45 | 4.57 | 6.40 | 6.87 |
| October | 8.37 | 7.41 | 4.47 | 6.46 | 6.70 |
| November | 8.09 | 7.13 | 4.27 | 6.17 | 6.39 |
| December | 7.94 | 6.88 | 4.19 | 6.24 | 6.41 |
| **Average** | **8.16** | **7.26** | **4.43** | **6.35** | **6.66** |
| **2000** January | 7.62 | 6.79 | 4.14 | 6.10 | 6.29 |
| February | 7.68 | 6.84 | 4.15 | 6.38 | 6.28 |
| March | 8.06 | 6.94 | 4.15 | 6.30 | 6.34 |
| April | 8.13 | 6.94 | 4.20 | 6.49 | 6.34 |
| May | 8.34 | 7.11 | 4.40 | 6.20 | 6.56 |
| June | 8.56 | 7.50 | 4.59 | 6.53 | 6.94 |
| July | 8.63 | 7.58 | 4.76 | 6.50 | 7.14 |
| August | 8.64 | 7.68 | 4.85 | 6.52 | 7.19 |
| September | 8.50 | 7.49 | 4.69 | 6.59 | 6.98 |
| October | 8.47 | 7.45 | 4.57 | 6.48 | 6.79 |
| November | 8.19 | 7.15 | 4.37 | 6.26 | 6.51 |
| December | 7.79 | 7.25 | 4.64 | 6.32 | 6.66 |
| **Average** | **8.22** | **7.22** | **4.46** | **6.38** | **6.68** |
| **2001** January | 7.73 | 7.60 | 4.96 | 6.00 | 6.89 |
| February | 8.03 | 7.55 | 5.09 | 6.20 | 6.94 |
| March | 8.19 | 7.51 | 4.90 | 6.22 | 6.90 |
| April | 8.42 | 7.58 | 4.92 | 6.31 | 6.96 |
| May | 8.57 | 7.48 | 4.93 | 6.25 | 6.96 |
| June | 8.82 | 7.84 | 5.16 | 5.96 | 7.33 |
| July | 8.93 | 8.20 | 5.35 | 5.87 | 7.66 |
| August | 8.88 | 8.10 | 5.32 | 5.89 | 7.61 |
| September | 8.72 | 7.99 | 5.15 | 5.78 | 7.39 |
| October | 8.63 | 7.94 | 4.90 | 6.13 | 7.17 |
| November | R 8.28 | R 7.39 | R 4.67 | R 6.12 | R 6.79 |
| December | 8.50 | 7.73 | 4.81 | 6.27 | 7.12 |
| **Average** | **8.48** | **7.76** | **5.02** | **6.07** | **7.16** |

[a] Public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

R=Revised.

Notes: Prices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of electric utility billing and accounting procedures. That lack of correspondence could result in uncharacteristic increases or decreases in the monthly prices. See Note 7 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

An update to Table 9.9 was not available.

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

| | Coal | | Petroleum | | | | Natural Gas[a] | | All Fossil Fuels[b] |
|---|---|---|---|---|---|---|---|---|---|
| | | | Heavy Oil[b] | | Total[b,c] | | | | |
| | 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 Year** | **727,775** | **146.6** | **230,234** | **240.5** | **236,924** | **243.9** | **2,362,721** | **226.3** | **164.3** |
| **1989 Year** | **753,217** | **144.5** | **237,668** | **284.6** | **246,422** | **289.3** | **2,472,506** | **235.5** | **167.5** |
| **1990 Year** | **786,627** | **145.5** | **202,281** | **331.9** | **209,350** | **338.4** | **2,490,979** | **232.1** | **168.9** |
| **1991 Year** | **769,923** | **144.7** | **163,106** | **246.5** | **169,625** | **254.8** | **2,630,818** | **215.3** | **160.3** |
| **1992 Year** | **775,963** | **141.2** | **138,537** | **247.5** | **144,390** | **255.1** | **2,637,678** | **232.8** | **159.0** |
| **1993 Year** | **769,152** | **138.5** | **141,719** | **236.2** | **147,902** | **243.3** | **2,574,523** | **256.0** | **159.5** |
| **1994 Year** | **831,929** | **135.5** | **135,184** | **240.9** | **142,940** | **248.8** | **2,863,904** | **223.0** | **152.6** |
| **1995 Year** | **826,860** | **131.8** | **78,216** | **258.6** | **84,292** | **267.9** | **3,023,327** | **198.4** | **145.3** |
| **1996 Year** | **862,701** | **128.9** | **98,926** | **303.4** | **106,629** | **315.7** | **2,604,663** | **264.1** | **151.9** |
| **1997 Year** | **880,588** | **127.3** | **110,906** | **278.8** | **117,789** | **288.0** | **2,764,734** | **276.0** | **152.2** |
| **1998 Year** | **929,448** | **125.2** | **156,852** | **207.9** | **165,191** | **213.6** | **2,922,957** | **238.1** | **143.8** |
| **1999** January | 76,346 | 122.1 | 13,215 | 176.3 | 14,028 | 181.9 | 163,114 | 225.8 | 134.7 |
| February | 73,956 | 124.7 | 10,013 | 166.2 | 10,417 | 171.5 | 138,852 | 221.7 | 134.5 |
| March | 76,771 | 124.0 | 11,001 | 175.6 | 11,471 | 180.6 | 187,369 | 212.3 | 135.4 |
| April | 71,933 | 124.4 | 10,647 | 212.4 | 11,099 | 217.6 | 229,069 | 224.7 | 141.3 |
| May | 74,458 | 121.8 | 10,701 | 230.2 | 11,289 | 236.0 | 253,352 | 251.6 | 144.3 |
| June | 74,427 | 122.3 | 11,176 | 233.5 | 11,959 | 240.5 | 278,473 | 247.5 | 146.0 |
| July | 76,496 | 121.0 | 13,249 | 259.6 | 14,198 | 267.9 | 367,060 | 251.3 | 151.9 |
| August | 81,351 | 120.6 | 12,129 | 293.3 | 13,203 | 303.7 | 379,367 | 282.1 | 157.2 |
| September | 76,745 | 120.3 | 9,557 | 304.2 | 10,126 | 312.0 | 262,342 | 294.5 | 151.4 |
| October | 77,114 | 121.3 | 8,052 | 310.2 | 8,636 | 320.9 | 220,823 | 282.4 | 146.7 |
| November | 73,998 | 119.1 | 7,449 | 315.8 | 8,035 | 329.0 | 164,874 | 298.2 | 142.7 |
| December | 74,638 | 118.2 | 6,030 | 330.4 | 6,946 | 353.9 | 164,761 | 264.7 | 138.5 |
| **Total** | **908,232** | **121.6** | **123,219** | **243.6** | **131,407** | **252.7** | **2,809,455** | **257.4** | **144.1** |
| **2000** January | 69,471 | 119.9 | 2,668 | 353.6 | 3,035 | 378.4 | 170,117 | 270.9 | 139.4 |
| February | 67,199 | 121.2 | 3,846 | 391.7 | 4,271 | 419.6 | 151,152 | 290.2 | 143.2 |
| March | 69,703 | 121.2 | 3,764 | 385.8 | 4,066 | 402.7 | 191,465 | 293.0 | 146.0 |
| April | 63,890 | 121.6 | 4,961 | 379.6 | 5,258 | 389.5 | 199,696 | 315.8 | 153.0 |
| May | 67,779 | 120.4 | 7,708 | 409.7 | 8,331 | 422.8 | 268,772 | 354.9 | 167.2 |
| June | 65,615 | 121.1 | 10,034 | 435.4 | 10,650 | 444.4 | 270,015 | 445.9 | 187.2 |
| July | 68,217 | 119.3 | 11,397 | 431.0 | 12,027 | 439.8 | 323,950 | 434.0 | 191.6 |
| August | 69,160 | 118.5 | 10,992 | 418.0 | 11,412 | 426.5 | 332,154 | 429.4 | 189.2 |
| September | 64,642 | 117.6 | 9,696 | 454.9 | 10,168 | 466.9 | 240,233 | 486.7 | 187.8 |
| October | 61,904 | 121.7 | 8,944 | 475.9 | 9,355 | 487.2 | 177,839 | 530.3 | 185.9 |
| November | 61,175 | 119.1 | 8,184 | 462.8 | 8,676 | 477.8 | 147,630 | 539.5 | 177.1 |
| December | 61,520 | 118.7 | 10,454 | 431.0 | 12,607 | 471.8 | 156,963 | 840.9 | 217.4 |
| **Total** | **790,274** | **120.0** | **92,648** | **429.4** | **99,855** | **445.0** | **2,629,986** | **430.2** | **173.8** |
| **2001** January | 67,470 | 122.3 | 13,773 | 421.7 | 17,254 | 471.4 | 134,549 | 920.7 | 214.5 |
| February | 57,397 | 123.9 | 9,166 | 442.2 | 9,799 | 455.8 | 114,039 | 694.7 | 189.3 |
| March | 64,359 | 122.6 | 8,685 | 402.3 | 9,635 | 419.6 | 141,653 | 573.8 | 178.5 |
| April | 60,277 | 123.9 | 9,422 | 388.4 | 10,152 | 404.7 | 178,222 | 563.7 | 192.2 |
| May | 68,369 | 124.5 | 12,171 | 376.7 | 12,897 | 389.6 | 203,724 | 514.1 | 186.5 |
| June | 63,667 | 124.8 | 10,717 | 380.1 | 11,240 | 391.2 | 212,536 | 425.1 | 178.7 |
| July | 65,920 | 122.5 | 10,872 | 359.7 | 11,282 | 367.0 | 282,929 | 374.3 | 176.6 |
| August | 67,986 | 123.3 | 8,546 | 347.7 | 8,965 | 359.0 | 277,039 | 355.8 | 169.9 |
| September | 57,998 | 123.4 | 6,612 | 341.3 | 7,017 | 358.1 | 207,491 | 295.5 | 156.8 |
| October | 64,442 | 121.0 | 4,503 | 309.0 | 4,838 | 325.6 | 165,688 | 271.5 | 142.4 |
| November | 59,551 | 123.7 | 5,728 | 280.0 | 6,121 | 291.5 | 111,201 | 324.1 | 145.3 |
| **11 Months** | **697,435** | **123.3** | **100,194** | **377.2** | **109,201** | **397.2** | **2,029,071** | **457.2** | **176.1** |
| **2000 11 Months** | **728,754** | **120.1** | **82,194** | **429.2** | **87,248** | **441.2** | **2,473,023** | **403.9** | **170.2** |
| **1999 11 Months** | **833,593** | **121.9** | **117,189** | **239.1** | **124,462** | **247.1** | **2,644,694** | **256.9** | **144.6** |

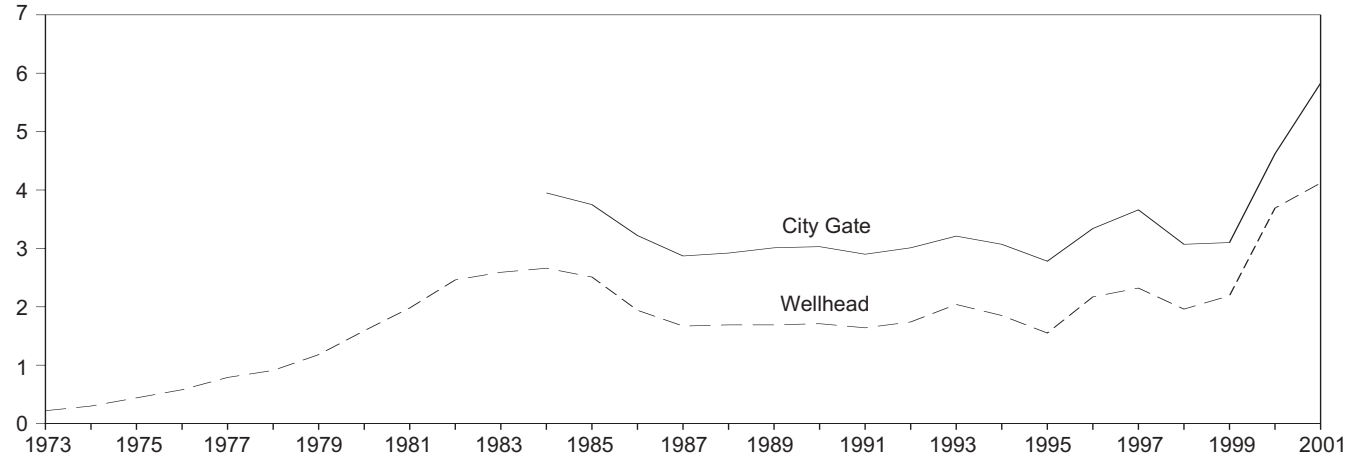
[a] Includes supplemental gaseous fuels.
[b] Heavy oil includes fuel oil nos. 4, 5, and 6, and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (fuel oil nos. 1 and 2, kerosene, and jet fuel) prices. Data do not include petroleum coke.
[c] Data for 1973-1982 do not include small quantities of rerefined motor oil, bunker oil, and liquefied petroleum gas.

Notes: Receipts are purchases of fuel. Yearly costs are averages of monthly values, weighted by quantities in Btu. See Note 8 at end of section. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

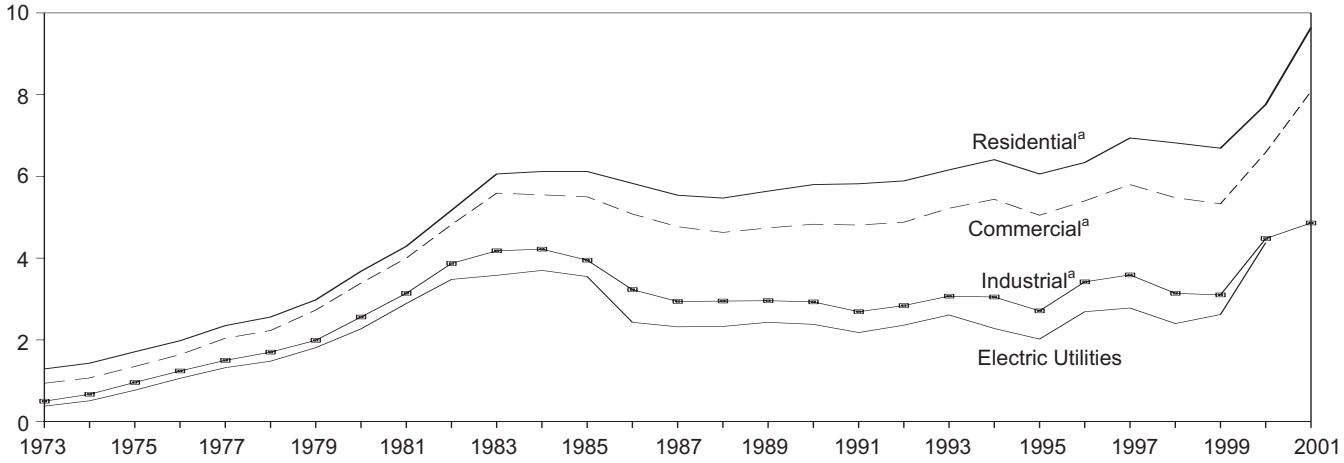
## Figure 9.4 Natural Gas Prices

(Dollars per Thousand Cubic Feet)

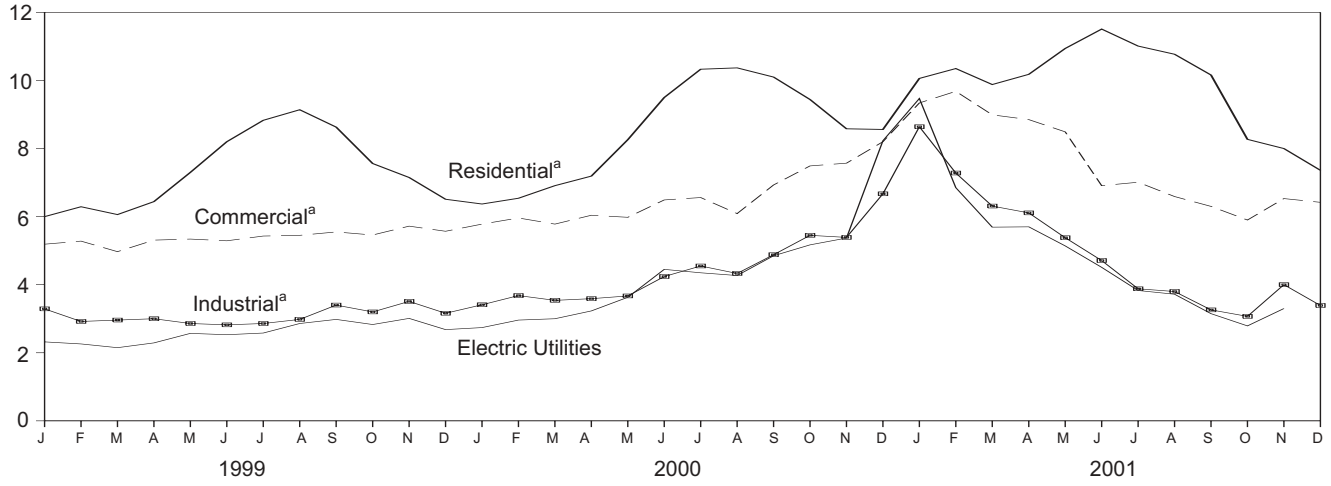
Selected Prices, 1973-2001




Delivered to Consumers, 1973-2001




Delivered to Consumers, Monthly




[a] Includes taxes.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 9.11.

## Table 9.11 Natural Gas Prices

(Prices: Dollars per Thousand Cubic Feet; Share of Volume Delivered: Percentage)

| | Wellhead | City Gate | Delivered to Consumers[a,b] | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Residential[c] | Commercial | | Industrial | | Electric Utilities[d] |
| | | | | Price[c] | Share of Total Volume Delivered | Price[c] | Share of Total Volume Delivered | |
| **1973 Average** | **0.22** | **NA** | **1.29** | **0.94** | **NA** | **0.50** | **NA** | **0.38** |
| **1974 Average** | **.30** | **NA** | **1.43** | **1.07** | **NA** | **.67** | **NA** | **.51** |
| **1975 Average** | **.44** | **NA** | **1.71** | **1.35** | **NA** | **.96** | **NA** | **.77** |
| **1976 Average** | **.58** | **NA** | **1.98** | **1.64** | **NA** | **1.24** | **NA** | **1.06** |
| **1977 Average** | **.79** | **NA** | **2.35** | **2.04** | **NA** | **1.50** | **NA** | **1.32** |
| **1978 Average** | **.91** | **NA** | **2.56** | **2.23** | **NA** | **1.70** | **NA** | **1.48** |
| **1979 Average** | **1.18** | **NA** | **2.98** | **2.73** | **NA** | **1.99** | **NA** | **1.81** |
| **1980 Average** | **1.59** | **NA** | **3.68** | **3.39** | **NA** | **2.56** | **NA** | **2.27** |
| **1981 Average** | **1.98** | **NA** | **4.29** | **4.00** | **NA** | **3.14** | **NA** | **2.89** |
| **1982 Average** | **2.46** | **NA** | **5.17** | **4.82** | **NA** | **3.87** | **85.1** | **3.48** |
| **1983 Average** | **2.59** | **NA** | **6.06** | **5.59** | **NA** | **4.18** | **80.7** | **3.58** |
| **1984 Average** | **2.66** | **3.95** | **6.12** | **5.55** | **NA** | **4.22** | **74.7** | **3.70** |
| **1985 Average** | **2.51** | **3.75** | **6.12** | **5.50** | **NA** | **3.95** | **68.8** | **3.55** |
| **1986 Average** | **1.94** | **3.22** | **5.83** | **5.08** | **NA** | **3.23** | **59.8** | **2.43** |
| **1987 Average** | **1.67** | **2.87** | **5.54** | **4.77** | **93.1** | **2.94** | **47.4** | **2.32** |
| **1988 Average** | **1.69** | **2.92** | **5.47** | **4.63** | **90.8** | **2.95** | **42.6** | **2.33** |
| **1989 Average** | **1.69** | **3.01** | **5.64** | **4.74** | **89.1** | **2.96** | **36.9** | **2.43** |
| **1990 Average** | **1.71** | **3.03** | **5.80** | **4.83** | **86.6** | **2.93** | **35.2** | **2.38** |
| **1991 Average** | **1.64** | **2.90** | **5.82** | **4.81** | **85.1** | **2.69** | **32.7** | **2.18** |
| **1992 Average** | **1.74** | **3.01** | **5.89** | **4.88** | **83.2** | **2.84** | **30.3** | **2.36** |
| **1993 Average** | **2.04** | **3.21** | **6.16** | **5.22** | **83.9** | **3.07** | **29.7** | **2.61** |
| **1994 Average** | **1.85** | **3.07** | **6.41** | **5.44** | **79.3** | **3.05** | **25.5** | **2.28** |
| **1995 Average** | **1.55** | **2.78** | **6.06** | **5.05** | **76.7** | **2.71** | **24.5** | **2.02** |
| **1996 Average** | **2.17** | **3.34** | **6.34** | **5.40** | **77.6** | **3.42** | **19.4** | **2.69** |
| **1997 Average** | **2.32** | **3.66** | **6.94** | **5.80** | **70.8** | **3.59** | **18.1** | **2.78** |
| **1998 Average** | **1.96** | **3.07** | **6.82** | **5.48** | **67.0** | **3.14** | **16.1** | **2.40** |
| **1999 Average** | **2.19** | **3.10** | **6.69** | **5.33** | **66.2** | **3.10** | **17.5** | **2.62** |
| **2000** January | 2.60 | 3.27 | 6.37 | 5.78 | 66.5 | 3.41 | 18.7 | 2.74 |
| February | 2.73 | 3.48 | 6.54 | 5.96 | 67.4 | 3.68 | 19.4 | 2.96 |
| March | 2.66 | 3.54 | 6.91 | 5.78 | 62.4 | 3.54 | 18.2 | 3.00 |
| April | 2.86 | 3.72 | 7.19 | 6.04 | 61.2 | 3.59 | 18.0 | 3.23 |
| May | 3.04 | 4.15 | 8.26 | 5.98 | 59.6 | 3.67 | 17.0 | 3.63 |
| June | 3.77 | 5.19 | 9.50 | 6.49 | 56.5 | 4.24 | 18.1 | 4.45 |
| July | 3.84 | 5.20 | 10.33 | 6.56 | 55.5 | 4.55 | 17.6 | 4.35 |
| August | 3.73 | 4.63 | 10.37 | 6.09 | 57.7 | 4.33 | 17.1 | 4.27 |
| September | 4.26 | 5.21 | 10.10 | 6.93 | 56.0 | 4.88 | 16.5 | 4.85 |
| October | 4.58 | 5.66 | 9.44 | 7.49 | 58.5 | 5.45 | 16.6 | 5.17 |
| November | 4.40 | 5.20 | 8.58 | 7.57 | 63.0 | 5.39 | 19.8 | 5.37 |
| December | 5.77 | 6.64 | 8.56 | 8.20 | 67.5 | 6.67 | 20.4 | 8.23 |
| **Average** | **3.69** | **4.62** | **7.76** | **6.59** | **62.9** | **4.48** | **18.1** | **4.38** |
| **2001** January | E 8.06 | R 8.85 | R 10.06 | 9.34 | 69.0 | R 8.64 | 15.8 | 9.47 |
| February | E 5.84 | R 7.21 | R 10.35 | 9.68 | R 67.0 | 7.28 | 15.6 | 6.85 |
| March | E 5.15 | R 6.18 | R 9.88 | 8.99 | R 65.9 | R 6.31 | R 14.6 | 5.69 |
| April | E 5.21 | R 6.35 | R 10.18 | R 8.85 | R 63.7 | R 6.11 | R 13.4 | 5.70 |
| May | E 4.56 | R 5.89 | 10.94 | 8.49 | 56.5 | R 5.38 | R 12.4 | 5.14 |
| June | E 3.88 | 5.36 | 11.51 | R 6.91 | R 61.1 | R 4.71 | R 12.5 | 4.51 |
| July | E 3.39 | R 4.27 | 11.01 | 7.01 | R 53.6 | 3.88 | R 18.2 | 3.83 |
| August | E 3.23 | R 4.28 | 10.77 | R 6.59 | R 53.9 | R 3.80 | 17.2 | 3.72 |
| September | E 2.55 | R 3.64 | 10.16 | 6.30 | 51.9 | 3.26 | 18.2 | 3.15 |
| October | E 2.40 | R 3.48 | R 8.27 | 5.90 | R 57.3 | 3.07 | 18.5 | 2.79 |
| November | E 2.74 | 4.18 | 8.00 | 6.53 | R 62.4 | R 4.00 | R 17.3 | 3.30 |
| December | E 2.38 | 4.09 | 7.36 | 6.42 | 66.1 | 3.39 | 19.0 | NA |
| **Average** | E **4.12** | **5.83** | **9.64** | **8.08** | **63.0** | **4.86** | **16.1** | **NA** |
| **2002** January | E 2.35 | NA | NA | NA | NA | NA | NA | NA |
| February | E 2.14 | NA | NA | NA | NA | NA | NA | NA |
| **Year-to-Date Avg.**[e] | **2.25** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |
| **2001 Year-to-Date Avg.**[e] | **6.95** | **5.83** | **9.64** | **8.08** | **63.0** | **4.86** | **16.1** | **NA** |
| **2000 Year-to-Date Avg.**[e] | **2.67** | **4.62** | **7.76** | **6.59** | **62.9** | **4.48** | **18.1** | **NA** |

[a] Includes supplemental gaseous fuels.
[b] See Note 9 at end of section.
[c] Includes taxes.
[d] See Note 8 at end of section.
[e] Based on number of months with data in the current year.
R=Revised. NA=Not available. E=Estimate.

Notes: Prices shown on this page are intended to include all taxes. See Note 9 at end of section. Wellhead annual and year-to-date prices are simple averages of the monthly prices; all other annual and year-to-date prices are volume-weighted averages of the monthly prices. Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

## Energy Prices 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 April 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 Energy Information Administration (EIA) Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Economic Regulatory Administration (ERA) 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. The respondents for the two forms are also 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 when 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 Federal Energy Administration (FEA) Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report," 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. From 1974-1977, prices were collected in 56 urban areas. From 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 prices of finished motor gasoline for resale and to end users are determined by the 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) and 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 series were generated for annual data 1978-1982 and for monthly data 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 was made 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 in-

clude sales among resellers. However, sales to bulk consumers, such as 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 sales to the bulk consumers such as agriculture, industry, and electric utilities. 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**. Preliminary monthly data are based on submissions from over 250 publicly and privately owned electric utilities reporting on Form EIA-826, "Monthly Electric Utility Sales and Revenue Report With State Distributions." These utilities are statistically chosen as a cutoff sample from more than 3,000 electric utilities that report annually on Form EIA-861, "Annual Electric Utility Report." Preliminary annual values are the sum of the monthly revenues divided by the sum of the monthly sales. When final Form EIA-861 annual data become available each year, their ratios to the preliminary Form EIA-826 values are used to derive adjusted final monthly values. Prior to January 1986, only privately owned electric utilities were included in the monthly survey and the sample was chosen using stratification techniques through December 1992.

**8.** Data for 1973-1982 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 25 megawatts or greater. From 1974-1982, peaking units were included in the data and counted towards the 25-megawatt-or-greater total. Data for 1983-1990 cover all electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 50 megawatts or greater. Data for 1991 forward cover all electric generating plants at which the generator nameplate capacity of all steam-electric units and combined-cycle units together totaled 50 megawatts or greater.

**9**. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all Federal, State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on more than 3,000 consumers' bills are sometimes excluded by the reporting utilities. Delivered-to-consumers 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 4.4. Additional information is available in the EIA *Natural Gas Monthly,* Appendix C.

## Sources for Table 9.1

**Domestic First Purchase Price**
1973-1976—U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook,* "Crude Petroleum and Petroleum Products" chapter.
1977—Federal Energy Administration (FEA), based on Form FEA-P124, "Domestic Crude Oil Purchaser's Monthly Report."
1978 forward—Energy Information Administration (EIA), *Petroleum Marketing Monthly,* April 2002, Table 1.

**F.O.B. and Landed Cost of Imports**
December 1973-September 1977—Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report."
October-December 1977—EIA, Form FEA-F701-M-0, "Transfer Pricing Report."
1978 forward—EIA, *Petroleum Marketing Monthly,* April 2002, Table 1.

**Refiner Acquisition Cost**
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.
1974-1976—DOI, BOM, *Minerals Yearbook,* "Crude Petroleum and Petroleum Products" chapter.
1977—January-September, FEA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report." October-December, EIA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report."
1978 forward—EIA, *Petroleum Marketing Monthly*, April 2002, Table 1.

## Sources for Table 9.2

October 1973-September 1977—Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report."
October 1977-December 1977—Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report."
1978 forward—EIA, *Petroleum Marketing Monthly*, April 2002, Table 24.

## Sources for Table 9.9

1973-September 1977—Federal Power Commission (FPC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income."
October 1977-February 1980—Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly

Statement of Electric Operating Revenues and Income."
March 1980-1982—FERC, Form FERC-5, "Electric Utility Company Monthly Statement."
1983—Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement."
1984-1989—EIA, Form EIA-861, "Annual Electric Utility Report."
1990 forward—EIA, *Electric Power Monthly*, April 2002, Table 52.

## Sources for Table 9.10

1973-June 1977—Federal Power Commission, Form FPC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants."
June 1977-December 1977—Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants."
1978 and 1979—Energy Information Administration (EIA), Form FERC-423, "Monthly Report on Cost and Quality of Fuels for Electric Utility Plants."
1980-1989—EIA, *Electric Power Monthly,* April issues.
1990 forward—EIA, *Electric Power Monthly*, April 2002, Table 26.

## Sources for Table 9.11

**Prices, 1973-1994**
**Wellhead—**Energy Information Administration (EIA), *Natural Gas Annual 2000,* Table 96.
**City Gate, 1984-1987—**EIA, *Natural Gas Monthly,* March 1990, Table 4.
**City Gate, 1988-1992—** EIA, *Natural Gas Monthly,* March 1995, Table 4.
**City Gate, 1993 and 1994—**EIA, *Natural Gas Monthly,* December 1999, Table 4.
**Delivered to Consumers, 1973-1994—**EIA**,** *Natural Gas Annual 2000*, Table 96.

**Prices, 1995 forward**
EIA, *Natural Gas Monthly*, March 2002, Table 4.

**Share of Total Volume Delivered, Annual**
Calculated from EIA, *Natural Gas Annual, Volume 1,* report series, Table 1, "Summary Statistics for Natural Gas in the United States," as total amount of natural gas delivered to the sector's consumers minus the amount delivered for the account of others (to derive the amount on system) divided by the total amount delivered to the sector.

**Share of Total Volume Delivered, Monthly**
EIA, table titled, "Percentage of Total Deliveries Represented by Onsystem Sales, by State," in the *Natural Gas Monthly* issues as follows:

| | | |
|---|---|---|
| April 1988-March 1989 | - | Table C-1 |
| April 1989-December 1991 | - | Table 33 |
| January 1992-February 1993 | - | Table 32 |
| March 1993-October 1995 | - | Table 28 |
| November 1995-December 1997 | - | Table 24 |
| January 1998-Present | - | Table 25 |

# Section 10. Renewable Energy

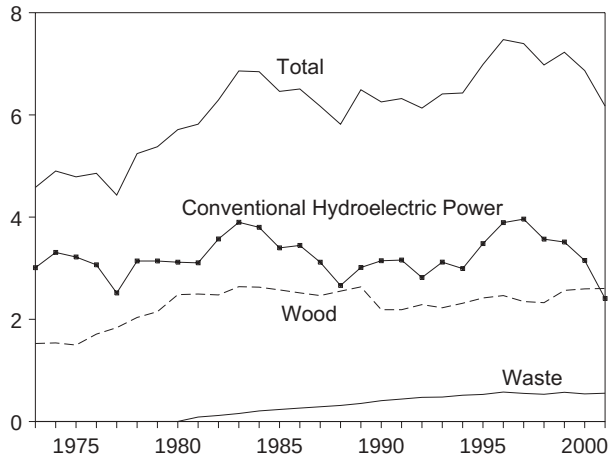
Beginning with the January 2001 issue of the *Monthly Energy Review* (*MER*), previously uncounted portions of renewable energy data (including renewable nonutility generation and all nonelectric energy) were fully incorporated into the *MER* summaries in Sections 1 and 2. The addition of these data into the summaries raised the U.S. energy consumption total by 3 to 4 quadrillion Btu per year in recent years.

The tables presented in this section organize and summarize the renewable energy data and estimates that are now used in Sections 1 and 2 summary tables. Caution is warranted in using some of the monthly values; in particular, monthly data on Table 10.2 are not available from data collection systems but are estimated instead from daily rates of the annual data.

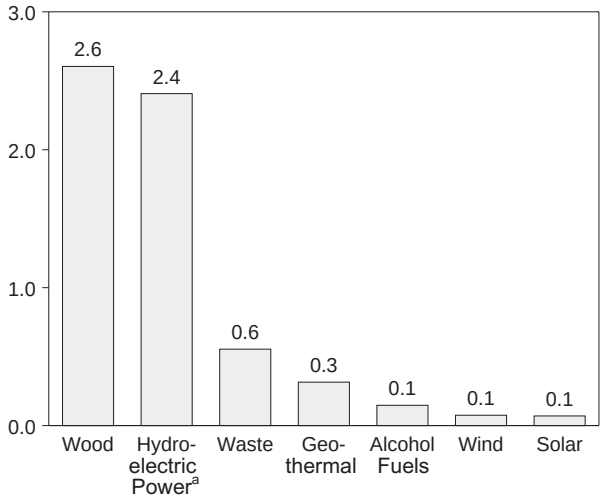
## Figure 10.1 Renewable Energy Consumption

(Quadrillion Btu, Except as Noted)

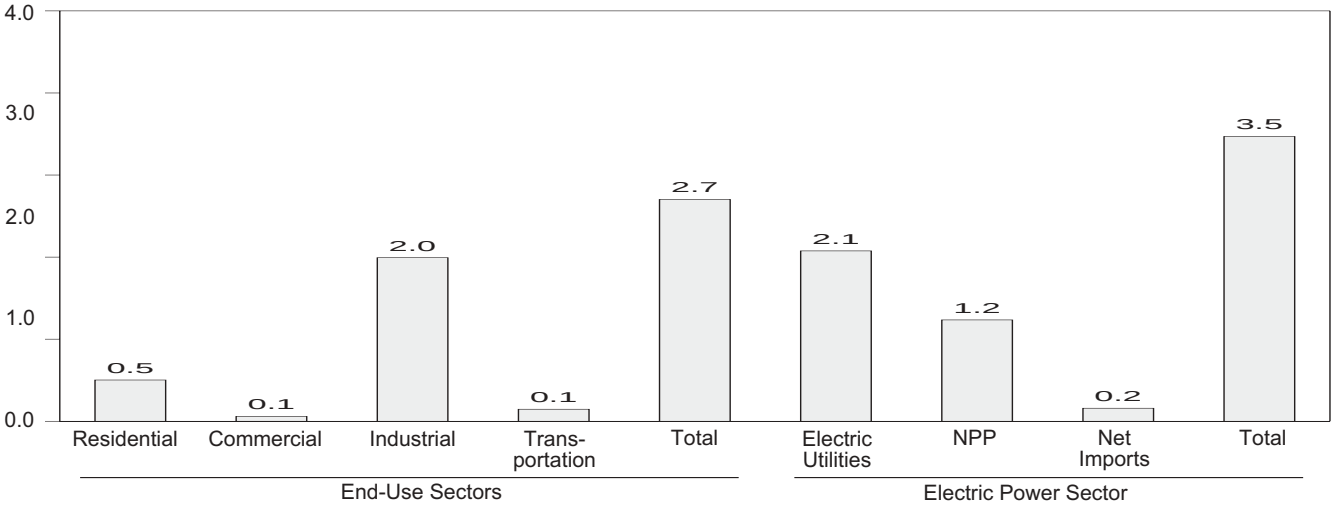
Total and Major Sources, 1973-2001



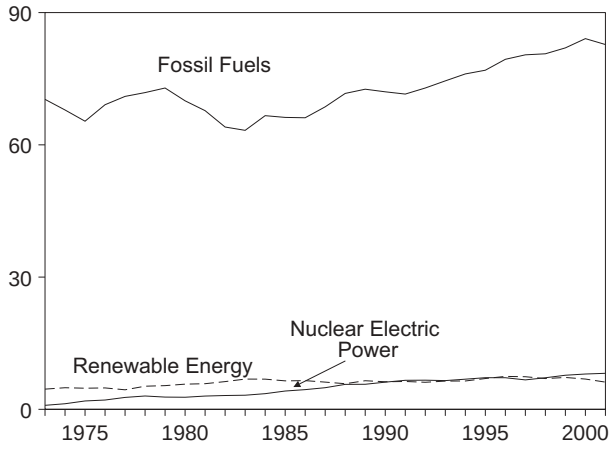

By Source, 2001



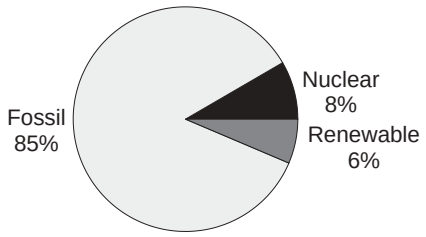

By Sector, 2001




Compared With Other Resources, 1973-2001




As Share of Total Consumption, 2001




NPP=Nonutility Power Producers.
[a]Conventional hydroelectric power.
Sources: Tables 1.4 and 10.1-10.3b.

# Table 10.1 Renewable Energy Consumption by Source

(Trillion Btu)

| | Conventional Hydroelectric Power[a,b] | Wood[c] | Waste[d] | Alcohol Fuels[e] | Geothermal[f] | Solar[g] | Wind[h] | Total |
|---|---|---|---|---|---|---|---|---|
| **1973 Total** | **3,010** | **1,527** | **2** | **NA** | **43** | **NA** | **NA** | **4,581** |
| **1974 Total** | **3,309** | **1,538** | **2** | **NA** | **53** | **NA** | **NA** | **4,902** |
| **1975 Total** | **3,219** | **1,497** | **2** | **NA** | **70** | **NA** | **NA** | **4,788** |
| **1976 Total** | **3,066** | **1,711** | **2** | **NA** | **78** | **NA** | **NA** | **4,857** |
| **1977 Total** | **2,515** | **1,837** | **2** | **NA** | **77** | **NA** | **NA** | **4,431** |
| **1978 Total** | **3,141** | **2,036** | **1** | **NA** | **64** | **NA** | **NA** | **5,243** |
| **1979 Total** | **3,141** | **2,150** | **2** | **NA** | **84** | **NA** | **NA** | **5,377** |
| **1980 Total** | E **3,118** | **2,483** | **2** | **NA** | **110** | **NA** | **NA** | **5,712** |
| **1981 Total** | E **3,105** | **2,495** | **88** | **7** | **123** | **NA** | **NA** | **5,818** |
| **1982 Total** | E **3,572** | **2,477** | **119** | **19** | **105** | **NA** | **NA** | **6,292** |
| **1983 Total** | E **3,899** | **2,639** | **157** | **35** | **129** | **NA** | **(s)** | **6,860** |
| **1984 Total** | E **3,800** | **2,629** | **208** | **43** | **165** | **(s)** | **(s)** | **6,845** |
| **1985 Total** | E **3,398** | E **2,576** | E **236** | E **52** | **198** | **(s)** | **(s)** | **6,460** |
| **1986 Total** | E **3,446** | E **2,518** | E **263** | E **60** | **219** | **(s)** | **(s)** | **6,507** |
| **1987 Total** | E **3,117** | E **2,465** | **289** | **69** | **229** | **(s)** | **(s)** | **6,170** |
| **1988 Total** | E **2,662** | E **2,552** | E **315** | E **70** | **217** | **(s)** | **(s)** | **5,817** |
| **1989 Total** | **3,014** | E **2,635** | **354** | **71** | **334** | **59** | **24** | **6,492** |
| **1990 Total** | **3,146** | E **2,188** | **408** | **63** | **355** | **63** | **32** | **6,254** |
| **1991 Total** | **3,159** | E **2,188** | **440** | **73** | **363** | **66** | **32** | **6,320** |
| **1992 Total** | **2,818** | E **2,288** | **473** | **83** | **374** | **67** | **30** | **6,134** |
| **1993 Total** | **3,119** | **2,226** | **479** | **97** | **387** | **71** | **31** | **6,410** |
| **1994 Total** | **2,993** | **2,314** | **515** | **109** | **391** | **72** | **36** | **6,429** |
| **1995 Total** | **3,481** | **2,418** | **531** | **117** | **333** | **73** | **33** | **6,987** |
| **1996 Total** | **3,892** | **2,465** | **577** | **84** | **346** | **75** | **35** | **7,473** |
| **1997 Total** | **3,961** | **2,348** | **551** | **106** | **322** | **74** | **33** | **7,395** |
| **1998 Total** | **3,569** | **2,326** | **533** | **117** | **328** | **74** | **31** | **6,977** |
| **1999 Total** | **3,512** | **2,566** | **572** | **122** | **335** | **73** | **46** | **7,226** |
| **2000** January | E 285 | E 220 | E 45 | 12 | E 27 | E 6 | 4 | 599 |
| February | E 257 | E 207 | E 43 | 10 | E 24 | E 5 | 4 | 550 |
| March | E 298 | E 220 | E 46 | 12 | E 24 | E 6 | 4 | 610 |
| April | E 316 | E 213 | E 44 | 10 | E 25 | E 6 | 5 | 619 |
| May | E 308 | E 217 | E 46 | 12 | E 26 | E 6 | 5 | 620 |
| June | E 286 | E 212 | E 45 | 9 | E 26 | E 6 | 4 | 588 |
| July | E 283 | E 222 | E 46 | 11 | E 27 | E 6 | 4 | 600 |
| August | E 264 | E 220 | E 46 | 12 | E 28 | E 6 | 4 | 581 |
| September | E 217 | E 213 | E 44 | 11 | E 27 | E 6 | 4 | 522 |
| October | E 197 | E 220 | E 46 | 13 | E 28 | E 6 | 5 | 515 |
| November | E 221 | E 213 | E 45 | 13 | E 28 | E 6 | 4 | 530 |
| December | E 219 | E 219 | E 45 | 14 | E 29 | E 6 | 4 | 536 |
| **Total** | E **3,152** | E **2,596** | E **541** | **139** | E **319** | E **70** | **51** | **6,868** |
| **2001** January | E 209 | E 220 | E 45 | 15 | E 29 | E 5 | E 4 | 527 |
| February | E 191 | E 199 | E 44 | 12 | E 26 | E 5 | E 5 | 482 |
| March | E 227 | E 220 | E 45 | 12 | E 27 | E 6 | E 6 | 544 |
| April | E 206 | E 212 | E 47 | 11 | E 25 | E 6 | 7 | 514 |
| May | E 222 | E 219 | E 48 | 11 | E 25 | E 6 | E 8 | 539 |
| June | E 231 | E 214 | E 47 | 12 | E 25 | E 6 | 7 | 541 |
| July | E 201 | E 224 | E 48 | 11 | E 27 | E 6 | 7 | 524 |
| August | E 210 | E 222 | E 47 | 10 | E 26 | E 6 | 7 | 529 |
| September | E 161 | E 214 | E 45 | 12 | E 26 | E 6 | 6 | 471 |
| October | E 163 | E 223 | E 45 | 16 | E 26 | E 6 | 6 | 486 |
| November | E 167 | E 216 | E 45 | 13 | E 26 | E 6 | 6 | 478 |
| December | E 217 | E 222 | E 47 | 13 | E 27 | E 6 | 6 | 538 |
| **Total** | E **2,407** | E **2,604** | E **554** | **147** | E **315** | E **70** | E **75** | **6,173** |
| **2002** January | E 238 | E 221 | E 47 | 13 | E 26 | E 6 | E 5 | 555 |

[a] Hydroelectricity generated by pumped storage is not included in renewable energy.

[b] Through 1988, includes all electricity net imports. From 1989, includes only the portion of electricity net imports derived from hydroelectric power.

[c] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[d] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw. For 1999 forward, data also include electricity net generation from batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam.

[e] Ethanol blended into motor gasoline.

[f] Geothermal electricity net generation, heat pump, and direct use energy. From 1989, also includes electricity imports derived from geothermal energy.

[g] Solar thermal and photovoltaic electricity net generation, and solar thermal direct use energy.

[h] Wind electricity net generation.

NA=Not available. E=Estimate. (s)=Less than 0.5 trillion Btu.

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

Sources: Tables 10.2, 10.3a, and 10.3b.

# Table 10.2 Renewable Energy Consumption by End-Use Sector

(Trillion Btu)

| | Residential | | | | Commercial | | | Industrial[a] | | | | Trans-portation | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Wood[b] | Geo-thermal[c] | Solar[d] | Total | Wood[b] | Geo-thermal[c] | Total | Wood[e] | Waste[f] | Geo-thermal[c] | Total | Alcohol Fuels[g] | End-Use Total |
| **1973 Total** | **354** | **NA** | **NA** | **354** | **7** | **NA** | **7** | **1,165** | **NA** | **NA** | **1,165** | **NA** | **1,526** |
| **1974 Total** | **371** | **NA** | **NA** | **371** | **7** | **NA** | **7** | **1,159** | **NA** | **NA** | **1,159** | **NA** | **1,537** |
| **1975 Total** | **425** | **NA** | **NA** | **425** | **8** | **NA** | **8** | **1,063** | **NA** | **NA** | **1,063** | **NA** | **1,497** |
| **1976 Total** | **482** | **NA** | **NA** | **482** | **9** | **NA** | **9** | **1,220** | **NA** | **NA** | **1,220** | **NA** | **1,711** |
| **1977 Total** | **542** | **NA** | **NA** | **542** | **10** | **NA** | **10** | **1,281** | **NA** | **NA** | **1,281** | **NA** | **1,833** |
| **1978 Total** | **622** | **NA** | **NA** | **622** | **12** | **NA** | **12** | **1,400** | **NA** | **NA** | **1,400** | **NA** | **2,034** |
| **1979 Total** | **728** | **NA** | **NA** | **728** | **14** | **NA** | **14** | **1,405** | **NA** | **NA** | **1,405** | **NA** | **2,147** |
| **1980 Total** | **859** | **NA** | **NA** | **859** | **21** | **NA** | **21** | **1,600** | **NA** | **NA** | **1,600** | **NA** | **2,480** |
| **1981 Total** | **869** | **NA** | **NA** | **869** | **21** | **NA** | **21** | **1,602** | **87** | **NA** | **1,689** | **7** | **2,586** |
| **1982 Total** | **937** | **NA** | **NA** | **937** | **22** | **NA** | **22** | **1,516** | **118** | **NA** | **1,634** | **19** | **2,612** |
| **1983 Total** | **925** | **NA** | **NA** | **925** | **22** | **NA** | **22** | **1,690** | **155** | **NA** | **1,845** | **35** | **2,827** |
| **1984 Total** | **923** | **NA** | **NA** | **923** | **22** | **NA** | **22** | **1,679** | **204** | **NA** | **1,883** | **43** | **2,871** |
| **1985 Total** | I **899** | **NA** | **NA** | I **899** | I **24** | **NA** | I **24** | I **1,645** | I **230** | **NA** | E **1,875** | I **52** | **2,850** |
| **1986 Total** | I **876** | **NA** | **NA** | I **876** | I **27** | **NA** | I **27** | I **1,610** | I **256** | **NA** | E **1,866** | I **60** | **2,829** |
| **1987 Total** | **852** | **NA** | **NA** | **852** | I **29** | **NA** | I **29** | **1,576** | **282** | **NA** | **1,858** | **69** | **2,808** |
| **1988 Total** | I **885** | **NA** | **NA** | I **885** | I **32** | **NA** | I **32** | I **1,625** | I **308** | **NA** | E **1,933** | I **70** | **2,920** |
| **1989 Total** | **918** | **5** | **53** | **976** | I **34** | **3** | E **37** | **1,394** | **250** | **2** | **1,646** | **71** | **2,729** |
| **1990 Total** | **581** | **6** | **56** | **642** | I **37** | **3** | E **40** | **1,254** | **271** | **2** | **1,527** | **63** | **2,272** |
| **1991 Total** | **613** | **6** | **58** | **677** | I **39** | **3** | E **42** | **1,190** | **275** | **2** | **1,467** | **73** | **2,259** |
| **1992 Total** | **645** | **6** | **60** | **711** | I **42** | **3** | E **45** | **1,233** | **289** | **2** | **1,525** | **83** | **2,365** |
| **1993 Total** | **548** | **7** | **62** | **616** | **44** | **3** | **47** | **1,255** | **288** | **2** | **1,546** | **97** | **2,307** |
| **1994 Total** | **537** | **6** | **64** | **607** | **45** | **4** | **49** | **1,342** | **318** | **3** | **1,663** | **109** | **2,428** |
| **1995 Total** | **596** | **7** | **65** | **667** | **45** | **5** | **50** | **1,402** | **322** | **3** | **1,727** | **117** | **2,561** |
| **1996 Total** | **595** | **7** | **66** | **668** | **49** | **5** | **54** | **1,441** | **363** | **3** | **1,807** | **84** | **2,612** |
| **1997 Total** | **433** | **7** | **65** | **506** | **47** | **6** | **53** | **1,513** | **338** | **3** | **1,854** | **106** | **2,518** |
| **1998 Total** | **387** | **8** | **65** | **459** | **47** | **7** | **54** | **1,564** | **312** | **3** | **1,879** | **117** | **2,509** |
| **1999 Total** | **414** | **8** | **64** | **486** | **51** | **7** | **58** | **1,711** | **291** | **4** | **2,007** | **122** | **2,673** |
| **2000** January | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 12 | 228 |
| February | A 34 | A 1 | A 5 | A 40 | A 4 | A 1 | A 5 | A 135 | A 23 | A (s) | A 158 | 10 | 212 |
| March | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 12 | 228 |
| April | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 139 | A 23 | A (s) | A 163 | 10 | 220 |
| May | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 12 | 228 |
| June | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 139 | A 23 | A (s) | A 163 | 9 | 218 |
| July | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 11 | 227 |
| August | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 12 | 229 |
| September | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 139 | A 23 | A (s) | A 163 | 11 | 221 |
| October | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 13 | 230 |
| November | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 139 | A 23 | A (s) | A 163 | 13 | 223 |
| December | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 144 | A 24 | A (s) | A 169 | 14 | 230 |
| **Total** | E **433** | E **9** | E **62** | E **503** | E **52** | E **8** | E **60** | E **1,702** | E **287** | E **4** | E **1,993** | **139** | **2,695** |
| **2001** January | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 15 | 232 |
| February | A 33 | A 1 | A 5 | A 39 | A 4 | A 1 | A 5 | A 131 | A 22 | A (s) | A 153 | 12 | 208 |
| March | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 12 | 229 |
| April | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 140 | A 24 | A (s) | A 164 | 11 | 221 |
| May | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 11 | 228 |
| June | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 140 | A 24 | A (s) | A 164 | 12 | 222 |
| July | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 11 | 228 |
| August | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 10 | 227 |
| September | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 140 | A 24 | A (s) | A 164 | 12 | 222 |
| October | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 16 | 233 |
| November | A 36 | A 1 | A 5 | A 41 | A 4 | A 1 | A 5 | A 140 | A 24 | A (s) | A 164 | 13 | 223 |
| December | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 13 | 230 |
| **Total** | E **433** | E **9** | E **62** | E **503** | E **52** | E **8** | E **60** | E **1,702** | E **287** | E **4** | E **1,993** | **147** | **2,703** |
| **2002** January | A 37 | A 1 | A 5 | A 43 | A 4 | A 1 | A 5 | A 145 | A 24 | A (s) | A 169 | 13 | 230 |

[a] Through 1988, includes industrial sector use of wood and waste to produce both useful thermal output and electricity. From 1989, includes the portion of nonutility power producers' use of renewable energy to produce useful thermal output; excludes the portion used to produce electricity, which is included under "Nonutility Power Producers" on Table E3b.

[b] Wood only.

[c] Geothermal heat pump and direct use energy.

[d] Solar thermal direct use and photovoltaic energy. Includes small amounts of commercial sector use.

[e] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[f] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

[g] Ethanol blended into motor gasoline.

NA=Not available. E=Estimate. (s)=Less than 0.5 trillion Btu. I=Interpolated value. A=Apportioned data: monthly estimates for 1999 and 2000 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2001 monthly estimates are created by dividing the 2000 annual value by 365 and multiplying by the number of days in the month.

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

Sources: See end of section.

## Table 10.3a Renewable Energy Consumption by the Electric Power Sector (Part 1 of 2)

(Trillion Btu)

| | Electric Power Sector | | | | | | |
|---|---|---|---|---|---|---|---|
| | Electric Utilities | | | | | | |
| | Conventional Hydroelectric Power[a] | Wood[b] | Waste[c] | Geothermal[d] | Solar[e] | Wind[f] | Total |
| **1973 Total** | **2,827** | **1** | **2** | **43** | **0** | **NA** | **2,873** |
| **1974 Total** | **3,143** | **1** | **2** | **53** | **0** | **NA** | **3,199** |
| **1975 Total** | **3,122** | **(s)** | **2** | **70** | **0** | **NA** | **3,194** |
| **1976 Total** | **2,943** | **1** | **2** | **78** | **0** | **NA** | **3,024** |
| **1977 Total** | **2,301** | **3** | **2** | **77** | **0** | **NA** | **2,383** |
| **1978 Total** | **2,905** | **2** | **1** | **64** | **0** | **NA** | **2,973** |
| **1979 Total** | **2,897** | **3** | **2** | **84** | **0** | **NA** | **2,986** |
| **1980 Total** | **2,867** | **3** | **2** | **110** | **0** | **NA** | **2,982** |
| **1981 Total** | **2,725** | **3** | **1** | **123** | **0** | **NA** | **2,852** |
| **1982 Total** | **3,233** | **2** | **1** | **105** | **0** | **NA** | **3,341** |
| **1983 Total** | **3,494** | **2** | **2** | **129** | **0** | **(s)** | **3,627** |
| **1984 Total** | **3,353** | **5** | **4** | **165** | **(s)** | **(s)** | **3,527** |
| **1985 Total** | **2,937** | **8** | **7** | **198** | **(s)** | **(s)** | **3,150** |
| **1986 Total** | **3,038** | **5** | **7** | **219** | **(s)** | **(s)** | **3,270** |
| **1987 Total** | **2,602** | **8** | **7** | **229** | **(s)** | **(s)** | **2,846** |
| **1988 Total** | **2,302** | **10** | **8** | **217** | **(s)** | **(s)** | **2,536** |
| **1989 Total** | **2,765** | **10** | **10** | **197** | **(s)** | **(s)** | **2,983** |
| **1990 Total** | **2,948** | **8** | **13** | **181** | **(s)** | **(s)** | **3,151** |
| **1991 Total** | **2,923** | **8** | **14** | **170** | **(s)** | **(s)** | **3,114** |
| **1992 Total** | **2,521** | **8** | **13** | **169** | **(s)** | **(s)** | **2,712** |
| **1993 Total** | **2,774** | **9** | **11** | **158** | **(s)** | **(s)** | **2,953** |
| **1994 Total** | **2,549** | **8** | **13** | **145** | **(s)** | **(s)** | **2,714** |
| **1995 Total** | **3,056** | **7** | **10** | **99** | **(s)** | **(s)** | **3,173** |
| **1996 Total** | **3,423** | **8** | **12** | **110** | **(s)** | **(s)** | **3,553** |
| **1997 Total** | **3,535** | **8** | **13** | **115** | **(s)** | **(s)** | **3,670** |
| **1998 Total** | **3,195** | **7** | **14** | **109** | **(s)** | **(s)** | **3,325** |
| **1999 Total** | **3,103** | **7** | **14** | **36** | **(s)** | **(s)** | **3,159** |
| **2000** January | 241 | (s) | 1 | (s) | (s) | (s) | 243 |
| February | 214 | 1 | 1 | (s) | (s) | (s) | 216 |
| March | 254 | 1 | 1 | (s) | (s) | (s) | 256 |
| April | 271 | 1 | 1 | (s) | (s) | (s) | 273 |
| May | 261 | 1 | 1 | (s) | (s) | (s) | 263 |
| June | 239 | 1 | 1 | (s) | (s) | (s) | 241 |
| July | 229 | 1 | 1 | (s) | (s) | (s) | 231 |
| August | 209 | 1 | 1 | (s) | (s) | (s) | 211 |
| September | 169 | 1 | 1 | (s) | (s) | (s) | 171 |
| October | 163 | 1 | 1 | (s) | (s) | (s) | 166 |
| November | 182 | 1 | 1 | (s) | (s) | (s) | 184 |
| December | 187 | 1 | 1 | (s) | (s) | (s) | 189 |
| **Total** | **2,619** | **7** | **14** | **3** | **(s)** | **(s)** | **2,644** |
| **2001** January | 176 | 1 | 1 | (s) | (s) | (s) | 179 |
| February | 166 | 1 | 1 | (s) | (s) | (s) | 168 |
| March | 193 | 1 | 1 | (s) | (s) | (s) | 195 |
| April | 165 | 1 | 1 | (s) | (s) | (s) | 167 |
| May | 179 | (s) | 2 | (s) | (s) | (s) | 181 |
| June | 193 | (s) | 2 | (s) | (s) | (s) | 195 |
| July | 170 | 1 | 1 | (s) | (s) | (s) | 172 |
| August | 181 | 1 | 1 | (s) | (s) | (s) | 184 |
| September | 147 | 1 | 1 | (s) | (s) | (s) | 149 |
| October | 147 | 1 | 1 | (s) | (s) | (s) | 149 |
| November | 148 | (s) | 1 | (s) | (s) | (s) | 150 |
| December | 185 | (s) | 1 | (s) | (s) | (s) | 186 |
| **Total** | **2,051** | **7** | **15** | **3** | **(s)** | **1** | **2,076** |
| **2002** January | 202 | (s) | 1 | (s) | (s) | (s) | 204 |

[a] Through 1989, includes hydroelectricity generated by both conventional and pumped storage facilities; from 1990, includes only conventional hydroelectric generation.

[b] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[c] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

[d] Geothermal electricity net generation.

[e] Solar thermal and photovoltaic electricity net generation.

[f] Wind electricity net generation.

NA=Not available. (s)=Less than 0.5 trillion Btu.

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

Sources: Tables 7.3 and A6.

# Table 10.3b Renewable Energy Consumption by the Electric Power Sector (Part 2 of 2)

(Trillion Btu)

| | Electric Power Sector | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nonutility Power Producers[a] | | | | | | | Electricity Trade[b] | | | | Electric Power Sector Total |
| | | | | | | | | Hydropower[c] | | | | |
| | Hydro-power[c] | Wood[d] | Waste[e] | Geo-thermal[f] | Solar[g] | Wind[h] | Total | Imports | Exports | Geo-thermal Imports | Total Net Imports | |
| **1973 Total** | **35** | **NA** | **NA** | **NA** | **NA** | **NA** | **35** | **175** | **27** | **(i)** | **148** | **3,056** |
| **1974 Total** | **33** | **NA** | **NA** | **NA** | **NA** | **NA** | **33** | **161** | **28** | **(i)** | **133** | **3,365** |
| **1975 Total** | **32** | **NA** | **NA** | **NA** | **NA** | **NA** | **32** | **117** | **53** | **(i)** | **64** | **3,291** |
| **1976 Total** | **33** | **NA** | **NA** | **NA** | **NA** | **NA** | **33** | **114** | **25** | **(i)** | **89** | **3,146** |
| **1977 Total** | **33** | **NA** | **NA** | **NA** | **NA** | **NA** | **33** | **210** | **29** | **(i)** | **182** | **2,597** |
| **1978 Total** | **32** | **NA** | **NA** | **NA** | **NA** | **NA** | **32** | **220** | **15** | **(i)** | **204** | **3,209** |
| **1979 Total** | **34** | **NA** | **NA** | **NA** | **NA** | **NA** | **34** | **233** | **23** | **(i)** | **211** | **3,230** |
| **1980 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **260** | **43** | **(i)** | **217** | **3,232** |
| **1981 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **379** | **32** | **(i)** | **347** | **3,232** |
| **1982 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **343** | **37** | **(i)** | **306** | **3,680** |
| **1983 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **407** | **35** | **(i)** | **372** | **4,032** |
| **1984 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **441** | **27** | **(i)** | **414** | **3,974** |
| **1985 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **479** | **52** | **(i)** | **428** | **3,611** |
| **1986 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **425** | **50** | **(i)** | **375** | **3,678** |
| **1987 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **544** | **61** | **(i)** | **483** | **3,362** |
| **1988 Total** | E 33 | **NA** | **NA** | **NA** | **NA** | **NA** | E 33 | **401** | **73** | **(i)** | **328** | **2,897** |
| **1989 Total** | **90** | **279** | **94** | **117** | **6** | **24** | **609** | **200** | **40** | **11** | **171** | **3,763** |
| **1990 Total** | **100** | **308** | **124** | **152** | **7** | **32** | **722** | **99** | **(s)** | **11** | **110** | **3,982** |
| **1991 Total** | **99** | **338** | **151** | **167** | **8** | **32** | **794** | **138** | **(s)** | **15** | **153** | **4,061** |
| **1992 Total** | **97** | **360** | **171** | **174** | **7** | **30** | **838** | **201** | **(s)** | **19** | **219** | **3,769** |
| **1993 Total** | **117** | **370** | **180** | **198** | **9** | **31** | **905** | **238** | **11** | **18** | **246** | **4,104** |
| **1994 Total** | **135** | **382** | **184** | **205** | **8** | **36** | **951** | **309** | **(s)** | **27** | **337** | **4,002** |
| **1995 Total** | **151** | **369** | **199** | **201** | **8** | **33** | **960** | **291** | **17** | **19** | **293** | **4,426** |
| **1996 Total** | **169** | **372** | **202** | **207** | **9** | **35** | **994** | **306** | **7** | **14** | **313** | **4,861** |
| **1997 Total** | **183** | **347** | **200** | **191** | **9** | **33** | **963** | **281** | **37** | **(s)** | **244** | **4,877** |
| **1998 Total** | **150** | **321** | **207** | **201** | **9** | **31** | **918** | **269** | **46** | **1** | **225** | **4,468** |
| **1999 Total** | **202** | **382** | E **267** | **280** | **9** | **46** | E **1,186** | **280** | **73** | **1** | **208** | **4,553** |
| **2000** January | 23 | 35 | E 20 | 25 | (s) | 4 | E 107 | j 24 | j 3 | j (s) | E 21 | 371 |
| February | 19 | 33 | E 19 | 22 | (s) | 4 | E 98 | j 26 | j 2 | j (s) | E 24 | 338 |
| March | 23 | 34 | E 20 | 22 | 1 | 4 | E 105 | j 24 | j 4 | j (s) | E 21 | 382 |
| April | 25 | 33 | E 20 | 23 | 1 | 5 | E 106 | j 25 | j 5 | j (s) | E 20 | 399 |
| May | 24 | 31 | E 20 | 24 | 1 | 5 | E 105 | j 29 | j 5 | j (s) | E 24 | 391 |
| June | 23 | 33 | E 20 | 24 | 1 | 4 | E 104 | j 30 | j 6 | j (s) | E 24 | 370 |
| July | 22 | 36 | E 21 | 25 | 1 | 4 | E 109 | j 35 | j 3 | j (s) | E 32 | 372 |
| August | 23 | 34 | E 21 | 26 | 1 | 4 | E 108 | j 36 | j 3 | j (s) | E 33 | 352 |
| September | 22 | 33 | E 20 | 25 | 1 | 4 | E 105 | j 29 | j 4 | j (s) | E 25 | 301 |
| October | 20 | 34 | E 20 | 26 | 1 | 5 | E 105 | j 18 | j 4 | j (s) | E 14 | 285 |
| November | 19 | 33 | E 20 | 26 | 1 | 4 | E 103 | j 24 | j 4 | j (s) | E 20 | 307 |
| December | 21 | 33 | E 20 | 27 | (s) | 4 | E 105 | j 23 | j 12 | j (s) | E 12 | 306 |
| **Total** | **264** | **401** | E **240** | **295** | **9** | **51** | E **1,260** | **325** | **56** | **0** | **269** | **4,173** |
| **2001** January | 18 | 34 | E 19 | 27 | E (s) | 4 | E 102 | j 22 | j 8 | 0 | E 14 | 295 |
| February | 18 | 30 | E 21 | 24 | E (s) | 5 | E 99 | j 21 | j 14 | 0 | E 7 | 274 |
| March | 21 | 34 | E 20 | 25 | E (s) | 6 | E 106 | j 22 | j 9 | 0 | E 13 | 314 |
| April | 25 | 31 | E 23 | 23 | E 1 | 7 | E 109 | j 24 | j 7 | 0 | E 17 | 293 |
| May | 23 | 32 | E 22 | 23 | E 1 | 8 | E 109 | j 28 | j 8 | 0 | E 20 | 311 |
| June | 21 | 33 | E 22 | 23 | E 1 | 7 | E 107 | j 23 | j 7 | 0 | E 17 | 320 |
| July | 15 | 38 | E 22 | 25 | E 1 | 7 | E 108 | j 22 | j 6 | 0 | E 16 | 296 |
| August | 12 | 35 | E 21 | 24 | E 1 | 7 | E 101 | j 24 | j 6 | 0 | E 18 | 302 |
| September | 10 | 33 | E 20 | 24 | E 1 | 6 | E 94 | j 12 | j 7 | 0 | E 5 | 248 |
| October | 9 | 37 | E 20 | 24 | E 1 | 6 | E 97 | j 11 | j 4 | 0 | E 7 | 253 |
| November | 11 | 36 | E 21 | 24 | E 1 | 5 | E 98 | j 14 | j 5 | 0 | E 8 | 256 |
| December | 15 | 36 | E 22 | 25 | E 0 | 6 | E 105 | j 20 | j 3 | 0 | E 17 | 308 |
| **Total** | **196** | **411** | E **253** | **291** | **9** | **75** | E **1,235** | **244** | **85** | **0** | **159** | **3,470** |
| **2002** January | 19 | 35 | E 21 | 24 | E 0 | 5 | E 105 | j 21 | j 4 | 0 | E 17 | 325 |

[a] Includes the portion of nonutility power producers' use of renewable energy to produce electricity; excludes the portion used to produce useful thermal output, which is included in "Industrial" on Table E2.

[b] Through 1988, all electricity imports and exports are included in "Hydropower." From 1989, includes only electricity imports and exports derived from hydroelectric power or geothermal energy.

[c] Conventional hydroelectric power.

[d] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[e] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw. For 1999 forward, data also include electricity net generation from batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam.

[f] Geothermal electricity net generation.

[g] Solar thermal and photovoltaic electricity net generation.

[h] Wind electricity net generation.

[i] Included in "Hydropower Imports."

[j] 1999 and 2000 monthly data are estimated by allocating the annual values into the months in proportion to each month's share of the year's total electricity imports or exports (see Table 7.1). Monthly 2001 estimates use the 2000 shares.

NA=Not available. E=Estimate. (s)=Less than 0.5 trillion Btu.

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

Sources: See end of section.

## Sources for Table 10.2

**Wood, Residential**
1973-1979—Energy Information Administration (EIA), *Estimates of U.S. Wood Energy Consumption from 1949 to 1981,* Table A2.
1980-1983—EIA, *Estimates of U.S. Wood Energy Consumption 1980-1983*, Table ES1.
1984—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 1.
1985 and 1986—Values interpolated.
1987—EIA, *Estimates of Biofuels Consumption in the United States During 1987*, Table 2.
1988—Value interpolated.
1989—EIA, *Estimates of U.S. Biofuels Consumption 1990,* Table 1.
1990-1993—EIA, *Renewable Energy Annual 1995*, Table 6.
1994-1997—EIA, *Renewable Energy Annual 1999*, Table 6.
1998 forward—EIA, Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), estimates.

**Wood, Commercial**
1973-1979—EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981,* Table A2.
1980-1983—EIA, *Estimates of U.S. Wood Energy Consumption 1980-1983*, Table ES1.
1984—EIA, CNEAF, estimate.
1985-1992—Values interpolated.
1993—EIA, *Renewable Energy Annual 1995*, Table 6.
1994-1996—EIA, *Renewable Energy Annual 1999*, Table 6.
1997 forward—EIA, CNEAF, estimates.

**Wood, Industrial**
1973-1979—EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981,* Table A2.
1980-1983—EIA, *Estimates of U.S. Wood Energy Consumption 1980-1983*, Table ES1.
1984—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 1.
1985 and 1986—Values interpolated.
1987—EIA, *Estimates of Biofuels Consumption in the United States During 1987*, Table 2.
1988—Value interpolated.
1989—American Paper Institute, *Fact Sheet on 1990 Energy Use in the U.S. Pulp and Paper Industry* (July 1991), total pulp and paper industry wood consumption, minus nonutility power producers' use of wood to produce electricity (see Table 10.3b).
1990-1993—EIA, *Renewable Energy Annual 1995*, Table 6, total industrial wood consumption, minus nonutility power producers' use of wood to produce electricity (see Table 10.3b).
1994-1998—EIA, *Renewable Energy Annual 1999*, Table 6, total industrial wood consumption, minus nonutility power producers' use of wood to produce electricity (see Table 10.3b).
1999 forward—EIA, CNEAF, estimates for total industrial wood consumption, minus nonutility power producers' use of wood to produce electricity (see Table 10.3b).

**Waste, Industrial**
1981—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8, total waste consumption, minus electric utilities' use of waste to produce electricity (see Table 10.3a).
1982 and 1983—EIA, CNEAF, estimates for total waste consumption, minus electric utilities' use of waste to produce electricity (see Table 10.3a).
1984—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8, total waste consumption, minus electric utilities' use of waste to produce electricity (see Table 10.3a).
1985 and 1986—Values interpolated.
1987—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8, total waste consumption, minus electric utilities' use of waste to produce electricity (see Table 10.3a).
1988—Value interpolated.
1989—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8, total waste consumption, minus electric utilities' and nonutility power producers' use of waste to produce electricity (see Tables 10.3a and 10.3b).
1990-1993—EIA, *Renewable Energy Annual 1995*, Table 6, total waste consumption, minus electric utilities' and nonutility power producers' use of waste to produce electricity (see Tables 10.3a and 10.3b).
1994-1997—EIA, *Renewable Energy Annual 1999*, Table 6, total waste consumption, minus electric utilities' and nonutility power producers' use of waste to produce electricity (see Tables 10.3a and 10.3b).
1998 forward—EIA, CNEAF, estimates for total waste consumption, minus electric utilities' and nonutility power producers' use of waste to produce electricity (see Tables 10.3a and 10.3b).

**Alcohol Fuels**
1981—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 10.
1982 and 1983—EIA, CNEAF, estimates.
1984—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 10.
1985 and 1986—Values interpolated.
1987—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 10.
1988—Value interpolated.
1989—EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 10.
1990—EIA, *Estimates of U.S. Biomass Energy Consumption 1992*, Table D1.
1991—Value interpolated.
1992—EIA, *Estimates of U.S. Biomass Energy Consumption 1992*, Table D1.
1993 forward—EIA, *Petroleum Supply Monthly*, Tables 2 and 28; and Table A1.

**Geothermal**
1989 forward—John Lund, Oregon Institute of Technology Geoheat Center, unpublished data.

**Solar**
1989-1991—EIA, CNEAF, estimates.
1992 and 1993—EIA *Renewable Energy Annual 1997*, Table 2.
1994-1998—EIA *Renewable Energy Annual 1999*, Table 2.

1999 forward—EIA, CNEAF, estimates.

## Sources for Table 10.3b

**Nonutility Power Producers, Hydropower**
1973-1978—Federal Power Commission (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; and Table A6.
1979—FPC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and EIA estimates for all other plants; and Table A6.
1980-1988—Estimated by EIA as the average generation over the 6-year period of 1974-1979; and Table A6.
1989 forward—Tables 7.4 and A6.

**Nonutility Power Producers, All Other Fuels**
1989 forward—Tables 7.4 and A6.

**Electricity Trade**
1973-1988—Tables 7.1 and A6.
1989-1991—EIA, Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), estimates.
1992 and 1993—EIA, *Renewable Energy Annual 1997*, Table 3.
1994-1996—EIA, *Renewable Energy Annual 1999,* Table 3.
1997 forward—EIA, CNEAF, estimates.

# Section 11. International Energy

**Crude Oil Production.** World crude oil production during January 2002 was 67 million barrels per day, down by 0.8 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during January 2002 averaged 26 million barrels per day, down by 0.7 million barrels per day from the level during the previous month. During January 2002, production increased in Iraq by 290 thousand barrels per day. Production decreased in Saudi Arabia by 300 thousand barrels per day; Nigeria by 150 thousand barrels per day; Venezuela by 120 thousand barrels per day; Iran by 106 thousand barrels per day; Kuwait by 90 thousand barrels per day; the United Arab Emirates by 80 thousand barrels per day; Libya by 50 thousand barrels per day; Algeria by 34 thousand barrels per day; and Qatar by 30 thousand barrels per day. Production remained unchanged in Indonesia.

Among the non-OPEC nations, production during January 2002 increased in China by 39 thousand barrels per day and Russia by 9 thousand barrels per day. Production decreased in Norway by 153 thousand barrels per day; the United Kingdom by 37 thousand barrels per day; Mexico by 21 thousand barrels per day; both the United States and Egypt by 14 thousand barrels per day; and Canada by 3 thousand barrels per day.

**Petroleum Consumption.** In November 2001, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 48.1 million barrels per day, less than 1 percent[1] lower than the November 2000 rate. Comparing November rates in 2001 and 2000, consumption was higher in 2001 in France, Germany, and Italy (all +2 percent). The November 2001 consumption rate was lower in the United Kingdom (-8 percent); Canada (-4 percent); Japan (-2 percent); and South Korea and the United States (both less than -1 percent), compared with the rate 1 year earlier.

**Petroleum Stocks.** For all OECD countries, petroleum stocks at the end of November 2001 totaled 3.9 billion barrels, 2 percent higher than the ending stock level in November 2000. Stock levels were higher in November 2001 in the United Kingdom (+10 percent); Canada (+8 percent); the United States (+5 percent); and Japan (+2 percent). Stock levels were lower in Italy (-6 percent); Germany and France (both -4 percent); and South Korea (-2 percent), compared with levels 1 year earlier.

**Nuclear Electricity Generation.** Based on Nucleonics Week[2] information for January 2002, all reporting countries with nuclear capacity generated 239.1 gross terawatthours (one terawatthour equals 1 billion kilowatthours) of nuclear-generated electricity.

As of January 31, 2002, there were 441 operable nuclear generating units in the world.

[1] Percentage changes are based on unrounded data.
[2] A copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 11.1a World Oil Production: OPEC Members

(Thousand Barrels per Day)

| | Algeria | Indonesia | Iran | Iraq | Kuwait[a] | Libya | Nigeria | Qatar | Saudi Arabia[a] | United Arab Emirates | Venezuela | OPEC[b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,097** | **1,339** | **5,861** | **2,018** | **3,020** | **2,175** | **2,054** | **570** | **7,596** | **1,533** | **3,366** | **30,629** |
| **1974 Average** | **1,009** | **1,375** | **6,022** | **1,971** | **2,546** | **1,521** | **2,255** | **518** | **8,480** | **1,679** | **2,976** | **30,351** |
| **1975 Average** | **983** | **1,307** | **5,350** | **2,262** | **2,084** | **1,480** | **1,783** | **438** | **7,075** | **1,664** | **2,346** | **26,771** |
| **1976 Average** | **1,075** | **1,504** | **5,883** | **2,415** | **2,145** | **1,933** | **2,067** | **497** | **8,577** | **1,936** | **2,294** | **30,327** |
| **1977 Average** | **1,152** | **1,686** | **5,663** | **2,348** | **1,969** | **2,063** | **2,085** | **445** | **9,245** | **1,999** | **2,238** | **30,893** |
| **1978 Average** | **1,231** | **1,635** | **5,242** | **2,563** | **2,131** | **1,983** | **1,897** | **487** | **8,301** | **1,831** | **2,165** | **29,464** |
| **1979 Average** | **1,224** | **1,591** | **3,168** | **3,477** | **2,500** | **2,092** | **2,302** | **508** | **9,532** | **1,831** | **2,356** | **30,581** |
| **1980 Average** | **1,106** | **1,577** | **1,662** | **2,514** | **1,656** | **1,787** | **2,055** | **472** | **9,900** | **1,709** | **2,168** | **26,606** |
| **1981 Average** | **1,002** | **1,605** | **1,380** | **1,000** | **1,125** | **1,140** | **1,433** | **405** | **9,815** | **1,474** | **2,102** | **22,481** |
| **1982 Average** | **987** | **1,339** | **2,214** | **1,012** | **823** | **1,150** | **1,295** | **330** | **6,483** | **1,250** | **1,895** | **18,778** |
| **1983 Average** | **968** | **1,343** | **2,440** | **1,005** | **1,064** | **1,105** | **1,241** | **295** | **5,086** | **1,149** | **1,801** | **17,497** |
| **1984 Average** | **1,014** | **1,412** | **2,174** | **1,209** | **1,157** | **1,087** | **1,388** | **394** | **4,663** | **1,146** | **1,798** | **17,442** |
| **1985 Average** | **1,037** | **1,325** | **2,250** | **1,433** | **1,023** | **1,059** | **1,495** | **301** | **3,388** | **1,193** | **1,677** | **16,181** |
| **1986 Average** | **945** | **1,390** | **2,035** | **1,690** | **1,419** | **1,034** | **1,467** | **308** | **4,870** | **1,330** | **1,787** | **18,275** |
| **1987 Average** | **1,048** | **1,343** | **2,298** | **2,079** | **1,585** | **972** | **1,341** | **293** | **4,265** | **1,541** | **1,752** | **18,517** |
| **1988 Average** | **1,040** | **1,342** | **2,240** | **2,685** | **1,492** | **1,175** | **1,450** | **346** | **5,086** | **1,565** | **1,903** | **20,324** |
| **1989 Average** | **1,095** | **1,409** | **2,810** | **2,897** | **1,783** | **1,150** | **1,716** | **380** | **5,064** | **1,860** | **1,907** | **22,071** |
| **1990 Average** | **1,175** | **1,462** | **3,088** | **2,040** | **1,175** | **1,375** | **1,810** | **406** | **6,410** | **2,117** | **2,137** | **23,195** |
| **1991 Average** | **1,230** | **1,592** | **3,312** | **305** | **190** | **1,483** | **1,892** | **395** | **8,115** | **2,386** | **2,375** | **23,275** |
| **1992 Average** | **1,214** | **1,504** | **3,429** | **425** | **1,058** | **1,433** | **1,943** | **423** | **8,332** | **2,266** | **2,371** | **24,398** |
| **1993 Average** | **1,162** | **1,511** | **3,540** | **512** | **1,852** | **1,361** | **1,960** | **413** | **8,198** | **2,159** | **2,450** | **25,119** |
| **1994 Average** | **1,180** | **1,510** | **3,618** | **553** | **2,025** | **1,378** | **1,931** | **415** | **8,120** | **2,193** | **2,588** | **25,510** |
| **1995 Average** | **1,202** | **1,503** | **3,643** | **560** | **2,057** | **1,390** | **1,993** | **442** | **8,231** | **2,233** | **2,750** | **26,004** |
| **1996 Average** | **1,242** | **1,547** | **3,686** | **579** | **2,062** | **1,401** | **2,001** | **510** | **8,218** | **2,278** | **2,938** | **26,461** |
| **1997 Average** | **1,277** | **1,520** | **3,664** | **1,155** | **2,083** | **1,446** | **2,332** | **649** | **8,562** | **2,316** | **3,315** | **28,320** |
| **1998 Average** | **1,246** | **1,518** | **3,634** | **2,150** | **2,085** | **1,390** | **2,153** | **696** | **8,389** | **2,345** | **3,167** | **28,774** |
| **1999 Average** | **1,202** | **1,472** | **3,557** | **2,508** | **1,898** | **1,319** | **2,130** | **665** | **7,833** | **2,169** | **2,826** | **27,579** |
| **2000** January | 1,190 | 1,460 | 3,465 | 2,215 | 1,962 | 1,330 | 2,010 | 695 | 7,863 | 2,245 | 2,790 | 27,225 |
| February | 1,190 | 1,430 | 3,525 | 2,595 | 2,015 | 1,380 | 2,060 | 705 | 7,865 | 2,250 | 2,850 | 27,865 |
| March | 1,190 | 1,430 | 3,735 | 2,215 | 2,040 | 1,390 | 2,080 | 705 | 7,865 | 2,300 | 2,850 | 27,800 |
| April | 1,230 | 1,460 | 3,675 | 2,655 | 2,100 | 1,400 | 2,140 | 715 | 8,100 | 2,380 | 2,900 | 28,755 |
| May | 1,240 | 1,490 | 3,685 | 3,055 | 2,100 | 1,400 | 2,110 | 735 | 8,200 | 2,380 | 2,930 | 29,325 |
| June | 1,250 | 1,490 | 3,705 | 2,565 | 2,150 | 1,420 | 2,140 | 735 | 8,250 | 2,280 | 2,950 | 28,935 |
| July | 1,250 | 1,490 | 3,750 | 2,525 | 2,170 | 1,425 | 2,180 | 755 | 8,390 | 2,320 | 2,970 | 29,225 |
| August | 1,260 | 1,490 | 3,750 | 2,995 | 2,173 | 1,420 | 2,160 | 755 | 8,823 | 2,380 | 2,980 | 30,185 |
| September | 1,250 | 1,490 | 3,755 | 2,875 | 2,170 | 1,430 | 2,110 | 755 | 8,975 | 2,390 | 2,980 | 30,180 |
| October | 1,270 | 1,460 | 3,835 | 3,005 | 2,210 | 1,440 | 2,210 | 760 | 8,800 | 2,410 | 3,050 | 30,450 |
| November | 1,265 | 1,450 | 3,830 | 2,815 | 2,215 | 1,440 | 2,260 | 765 | 8,900 | 2,415 | 3,050 | 30,405 |
| December | 1,280 | 1,455 | 3,905 | 1,355 | 2,210 | 1,445 | 2,265 | 765 | 8,800 | 2,420 | 3,080 | 28,980 |
| **Average** | **1,239** | **1,466** | **3,719** | **2,571** | **2,126** | **1,410** | **2,144** | **737** | **8,404** | **2,348** | **2,949** | **29,113** |
| **2001** January | 1,280 | 1,435 | 3,935 | 1,735 | 2,200 | 1,450 | 2,285 | 775 | 8,700 | 2,440 | 3,100 | 29,335 |
| February | 1,250 | 1,440 | 3,785 | 2,195 | 2,130 | 1,400 | 2,255 | 735 | 8,320 | 2,380 | 3,030 | 28,920 |
| March | 1,250 | 1,395 | 3,835 | 2,855 | 2,100 | 1,390 | 2,285 | 735 | 8,300 | 2,420 | 3,000 | 29,565 |
| April | 1,235 | 1,352 | 3,785 | 2,930 | 2,010 | 1,380 | 2,210 | 715 | 7,950 | 2,330 | 2,920 | 28,817 |
| May | 1,250 | 1,362 | 3,685 | 2,905 | 1,993 | 1,360 | 2,140 | 725 | 8,000 | 2,277 | 2,890 | 28,587 |
| June | 1,270 | 1,382 | 3,785 | 1,105 | 2,030 | 1,370 | 2,205 | 735 | 8,050 | 2,260 | 2,900 | 27,092 |
| July | 1,280 | 1,370 | 3,875 | 2,145 | 2,020 | 1,380 | 2,140 | 735 | 8,250 | 2,240 | 2,890 | 28,325 |
| August | 1,280 | 1,360 | 3,785 | 2,875 | 2,035 | 1,380 | 2,207 | 725 | 8,070 | 2,227 | 2,880 | 28,824 |
| September | 1,250 | 1,350 | 3,655 | 2,673 | 1,970 | 1,350 | 2,360 | 685 | 7,800 | 2,150 | 2,720 | 27,963 |
| October | 1,230 | 1,340 | 3,535 | 2,911 | 1,950 | 1,320 | 2,350 | 685 | 7,670 | 2,120 | 2,750 | 27,861 |
| November | 1,240 | 1,340 | 3,535 | 2,805 | 1,940 | 1,310 | 2,350 | 665 | 7,670 | 2,120 | 2,740 | 27,715 |
| December | 1,240 | 1,310 | 3,491 | 2,025 | 1,940 | 1,310 | 2,290 | 655 | 7,600 | 2,120 | 2,750 | 26,731 |
| **Average** | **1,255** | **1,369** | **3,724** | **2,432** | **2,026** | **1,367** | **2,256** | **714** | **8,031** | **2,256** | **2,880** | **28,311** |
| **2002** January | 1,206 | 1,310 | 3,385 | 2,315 | 1,850 | 1,260 | 2,140 | 625 | 7,300 | 2,040 | 2,630 | 26,061 |

[a] Includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone from 1973 through July 1990 and in June 1991. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. In January 2002, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 600 thousand barrels per day.

[b] Current members of OPEC are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Ecuador and Gabon, which withdrew from OPEC membership at the end of 1992 and 1994, respectively, are excluded from all OPEC totals.

Notes: Crude oil includes lease condensate but excludes natural gas plant liquids. 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: See end of section.

# Table 11.1b World Oil Production: Persian Gulf Nations, Non-OPEC, and World

(Thousand Barrels per Day)

| | Persian Gulf Nations[a] | Selected Non-OPEC Producers | | | | | | | | | Total Non-OPEC | World |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Canada | China | Egypt | Mexico | Norway | Former U.S.S.R. | Russia | United Kingdom | United States | | |
| **1973 Average** | **20,668** | **1,798** | **1,090** | **165** | **465** | **32** | **8,324** | **NA** | **2** | **9,208** | **25,050** | **55,679** |
| **1974 Average** | **21,282** | **1,551** | **1,315** | **150** | **571** | **35** | **8,912** | **NA** | **2** | **8,774** | **25,366** | **55,716** |
| **1975 Average** | **18,934** | **1,430** | **1,490** | **235** | **705** | **189** | **9,523** | **NA** | **12** | **8,375** | **26,058** | **52,828** |
| **1976 Average** | **21,514** | **1,314** | **1,670** | **330** | **831** | **279** | **10,060** | **NA** | **245** | **8,132** | **27,018** | **57,344** |
| **1977 Average** | **21,725** | **1,321** | **1,874** | **415** | **981** | **280** | **10,603** | **NA** | **768** | **8,245** | **28,814** | **59,707** |
| **1978 Average** | **20,606** | **1,316** | **2,082** | **485** | **1,209** | **356** | **11,105** | **NA** | **1,082** | **8,707** | **30,694** | **60,158** |
| **1979 Average** | **21,066** | **1,500** | **2,122** | **525** | **1,461** | **403** | **11,384** | **NA** | **1,568** | **8,552** | **32,094** | **62,674** |
| **1980 Average** | **17,961** | **1,435** | **2,114** | **595** | **1,936** | **528** | **11,706** | **NA** | **1,622** | **8,597** | **32,994** | **59,600** |
| **1981 Average** | **15,245** | **1,285** | **2,012** | **598** | **2,313** | **501** | **11,850** | **NA** | **1,811** | **8,572** | **33,595** | **56,076** |
| **1982 Average** | **12,156** | **1,271** | **2,045** | **670** | **2,748** | **520** | **11,912** | **NA** | **2,065** | **8,649** | **34,703** | **53,481** |
| **1983 Average** | **11,081** | **1,356** | **2,120** | **727** | **2,689** | **614** | **11,972** | **NA** | **2,291** | **8,688** | **35,759** | **53,256** |
| **1984 Average** | **10,784** | **1,438** | **2,296** | **822** | **2,780** | **697** | **11,861** | **NA** | **2,480** | **8,879** | **37,047** | **54,489** |
| **1985 Average** | **9,630** | **1,471** | **2,505** | **887** | **2,745** | **788** | **11,585** | **NA** | **2,530** | **8,971** | **37,801** | **53,982** |
| **1986 Average** | **11,696** | **1,474** | **2,620** | **813** | **2,435** | **870** | **11,895** | **NA** | **2,539** | **8,680** | **37,952** | **56,227** |
| **1987 Average** | **12,103** | **1,535** | **2,690** | **896** | **2,548** | **1,022** | **12,050** | **NA** | **2,406** | **8,349** | **38,149** | **56,666** |
| **1988 Average** | **13,457** | **1,616** | **2,730** | **848** | **2,512** | **1,158** | **12,053** | **NA** | **2,232** | **8,140** | **38,413** | **58,737** |
| **1989 Average** | **14,837** | **1,560** | **2,757** | **865** | **2,520** | **1,554** | **11,715** | **NA** | **1,802** | **7,613** | **37,792** | **59,863** |
| **1990 Average** | **15,278** | **1,553** | **2,774** | **873** | **2,553** | **1,704** | **10,975** | **NA** | **1,820** | **7,355** | **37,371** | **60,566** |
| **1991 Average** | **14,741** | **1,548** | **2,835** | **874** | **2,680** | **1,890** | **9,992** | **NA** | **1,797** | **7,417** | **36,932** | **60,207** |
| **1992 Average** | **15,970** | **1,605** | **2,845** | **881** | **2,669** | **2,229** | **8,541** | **7,632** | **1,825** | **7,171** | **35,815** | **60,213** |
| **1993 Average** | **16,715** | **1,679** | **2,890** | **890** | **2,673** | **2,350** | **–** | **6,730** | **1,915** | **6,847** | **35,117** | **60,236** |
| **1994 Average** | **16,964** | **1,746** | **2,939** | **896** | **2,685** | **2,521** | **–** | **6,135** | **2,375** | **6,662** | **35,481** | **60,991** |
| **1995 Average** | **17,208** | **1,805** | **2,990** | **920** | **2,618** | **2,768** | **–** | **5,995** | **2,489** | **6,560** | **36,331** | **62,335** |
| **1996 Average** | **17,367** | **1,837** | **3,131** | **922** | **2,855** | **3,104** | **–** | **5,850** | **2,568** | **6,465** | **37,250** | **63,711** |
| **1997 Average** | **18,470** | **1,922** | **3,200** | **856** | **3,023** | **3,143** | **–** | **5,920** | **2,518** | **6,452** | **38,100** | **66,420** |
| **1998 Average** | **19,337** | **1,981** | **3,198** | **834** | **3,070** | **3,017** | **–** | **5,854** | **2,616** | **6,252** | **38,188** | **66,962** |
| **1999 Average** | **18,667** | **1,907** | **3,195** | **852** | **2,906** | **3,018** | **–** | **E 6,079** | **2,684** | **5,881** | **38,291** | **65,870** |
| **2000** January | 18,481 | 1,979 | 3,250 | 740 | 3,032 | 3,233 | – | E 6,239 | 2,721 | 5,784 | 38,938 | 66,163 |
| February | 18,991 | 1,991 | 3,280 | 735 | 2,897 | 3,348 | – | E 6,248 | 2,644 | 5,852 | 38,919 | 66,784 |
| March | 18,896 | 1,892 | 3,280 | 730 | 2,998 | 3,248 | – | E 6,321 | 2,678 | 5,918 | 39,016 | 66,816 |
| April | 19,661 | 1,894 | 3,300 | 735 | 3,041 | 3,052 | – | E 6,308 | 2,549 | 5,854 | 38,712 | 67,467 |
| May | 20,191 | 1,990 | 3,250 | 725 | 3,040 | 3,149 | – | E 6,352 | 2,311 | 5,847 | 38,625 | 67,950 |
| June | 19,721 | 2,020 | 3,295 | 720 | 3,056 | 2,984 | – | E 6,421 | 2,446 | 5,823 | 38,813 | 67,748 |
| July | 19,946 | 1,986 | 3,280 | 706 | 2,876 | 3,398 | – | E 6,494 | 2,535 | 5,739 | 39,153 | 68,378 |
| August | 20,911 | 1,955 | 3,205 | 695 | 3,162 | 3,025 | – | E 6,546 | 2,370 | 5,789 | 38,979 | 69,164 |
| September | 20,956 | 2,007 | 3,220 | 690 | 3,173 | 3,012 | – | E 6,590 | 2,315 | 5,758 | 39,009 | 69,189 |
| October | 21,056 | 1,961 | 3,210 | 685 | 2,861 | 3,247 | – | E 6,711 | 2,334 | 5,809 | 39,176 | 69,626 |
| November | 20,976 | 2,029 | 3,206 | 680 | 2,965 | 3,327 | – | E 6,737 | 2,389 | 5,833 | 39,769 | 70,174 |
| December | 19,491 | 2,021 | 3,212 | 677 | 3,043 | 3,336 | – | E 6,771 | 2,413 | 5,855 | 39,930 | 68,910 |
| **Average** | **19,941** | **1,977** | **3,249** | **710** | **3,012** | **3,197** | **–** | **E 6,479** | **2,475** | **5,822** | **39,087** | **68,200** |
| **2001** January | 19,820 | 2,032 | 3,220 | 669 | 3,087 | 3,325 | – | E 6,875 | 2,338 | E 5,836 | 39,737 | 69,072 |
| February | 19,580 | 2,052 | 3,330 | 659 | 3,136 | 3,153 | – | E 6,966 | 2,279 | E 5,840 | 39,714 | 68,634 |
| March | 20,280 | 2,070 | 3,376 | 655 | 3,151 | 3,215 | – | E 6,808 | 2,323 | E 5,878 | 39,686 | 69,251 |
| April | 19,755 | 2,046 | 3,302 | 652 | 3,008 | 3,279 | – | E 6,855 | 2,318 | E 5,854 | 39,519 | 68,336 |
| May | 19,620 | 2,027 | 3,310 | 596 | 3,031 | 3,011 | – | E 6,917 | 2,262 | E 5,859 | 39,091 | 67,678 |
| June | 18,000 | 1,971 | 3,312 | 627 | 3,140 | 3,013 | – | E 6,956 | 2,128 | E 5,799 | 39,030 | 66,122 |
| July | 19,300 | 1,953 | 3,262 | 630 | 3,185 | 3,349 | – | E 7,124 | 2,234 | E 5,806 | 39,798 | 68,123 |
| August | 19,752 | 1,954 | 3,303 | 634 | 3,175 | 2,959 | – | E 7,125 | 2,211 | E 5,823 | 39,526 | 68,350 |
| September | 18,968 | 2,009 | 3,288 | 638 | 3,177 | 3,235 | – | E 7,189 | 2,230 | E 5,829 | R 40,030 | R 67,993 |
| October | 18,906 | 2,046 | 3,313 | 633 | 2,993 | 3,343 | – | E 7,233 | 2,361 | E 5,812 | R 39,972 | R 67,833 |
| November | 18,770 | 2,082 | 3,316 | 639 | 3,168 | 3,208 | – | E 7,306 | 2,280 | E 5,946 | R 40,367 | R 68,082 |
| December | 17,866 | R 2,110 | 3,272 | 641 | 3,274 | 3,323 | – | E 7,233 | R 2,418 | E 5,948 | R 40,852 | R 67,583 |
| **Average** | **19,219** | **R 2,029** | **3,300** | **639** | **3,127** | **3,202** | **–** | **E 7,049** | **R 2,282** | **E 5,853** | **R 39,778** | **R 68,089** |
| **2002** January | 17,550 | 2,107 | 3,311 | 627 | 3,253 | 3,170 | – | E 7,242 | 2,381 | E 5,934 | 40,726 | 66,787 |

[a] 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."

R=Revised. NA=Not available. – =Not applicable. E=Estimate.

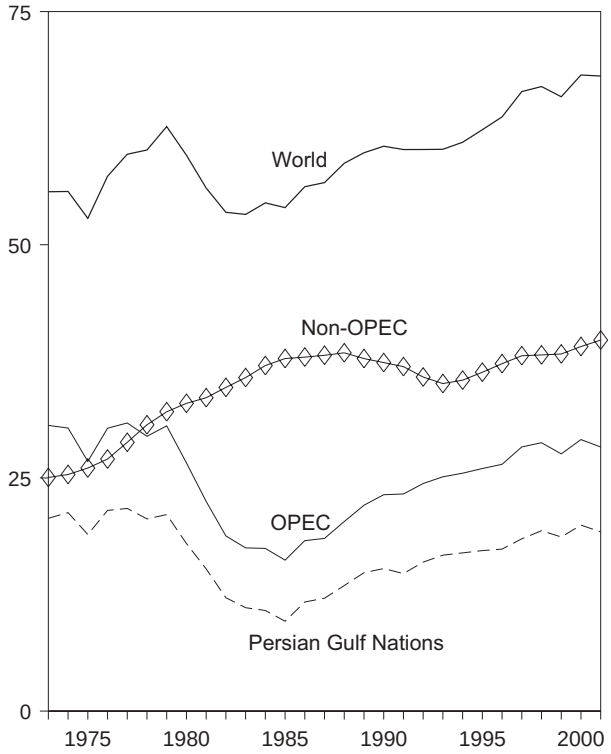
Notes: Crude oil includes lease condensate but excludes natural gas plant liquids. Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available. Data for countries may not sum to World totals due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

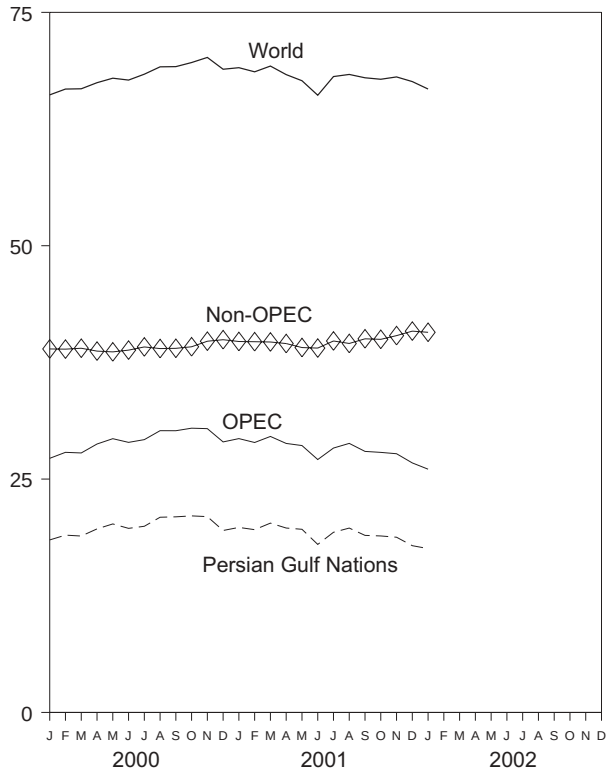
## Figure 11.1 Crude Oil Production

(Million Barrels per Day)

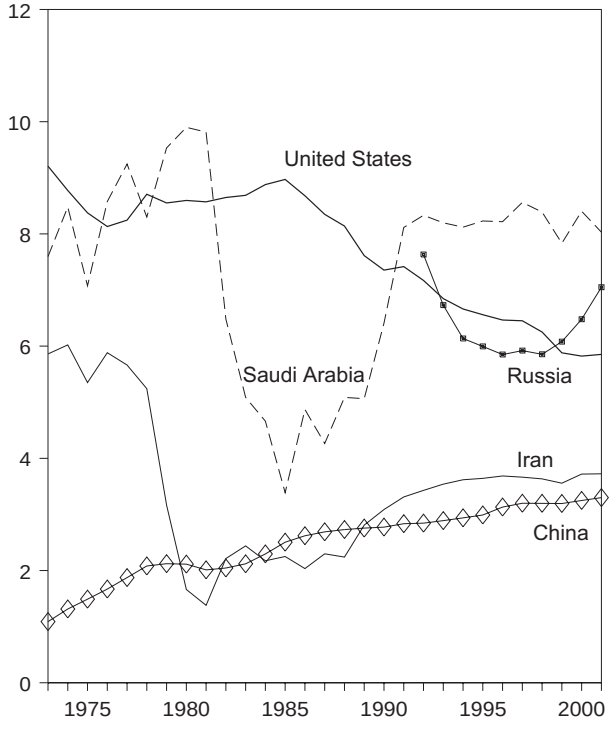
World Production, 1973-2001



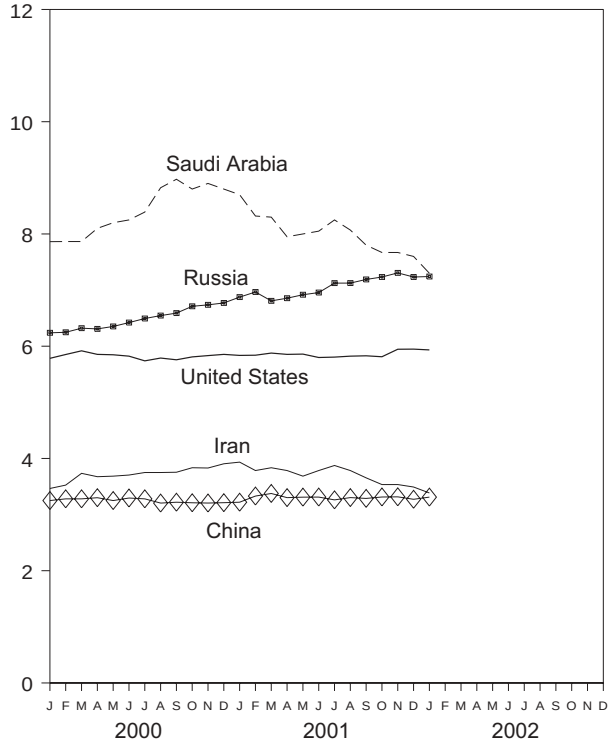

World Production, Monthly




Selected Producers, 1973-2001



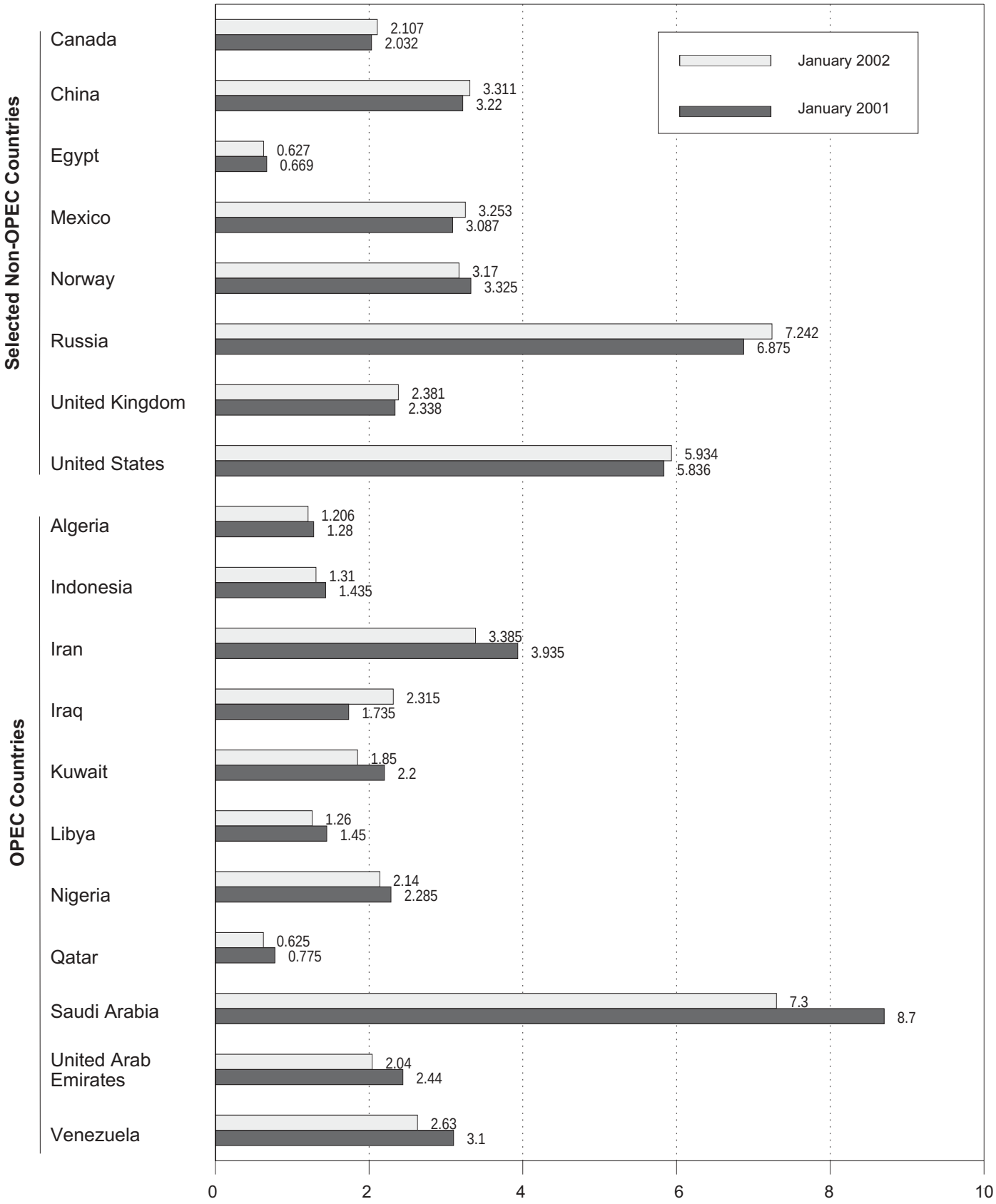

Selected Producers, Monthly




Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 11.1a and 11.1b.

## Figure 11.2 Crude Oil Production by Selected Country

(Million Barrels per Day)

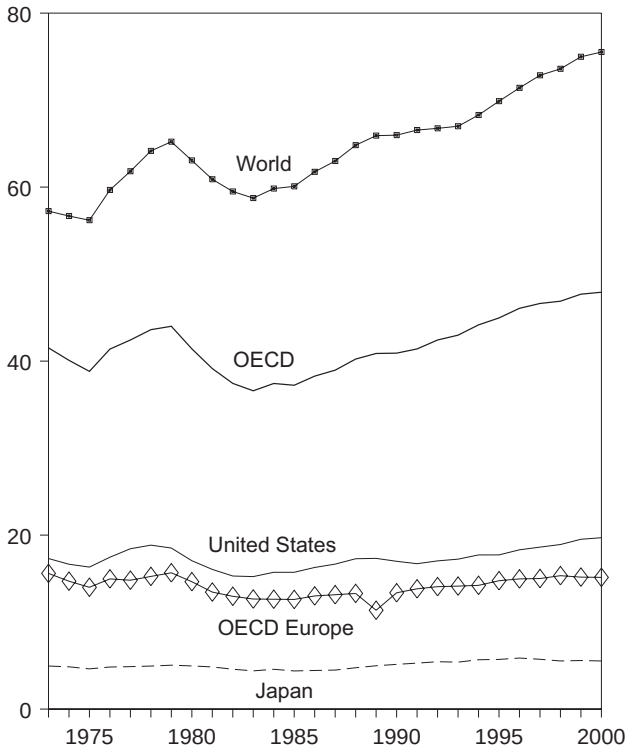



Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 11.1a and 11.1b.

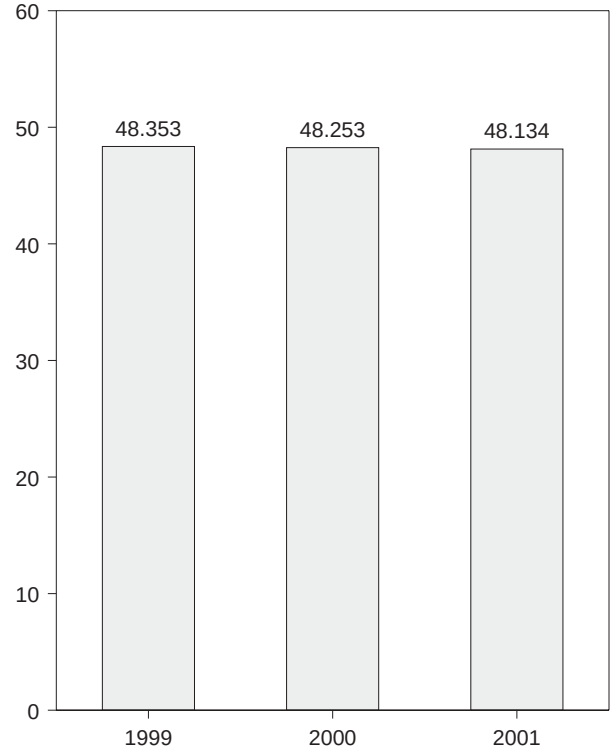
## Figure 11.3 Petroleum Consumption in OECD Countries

(Million Barrels per Day)

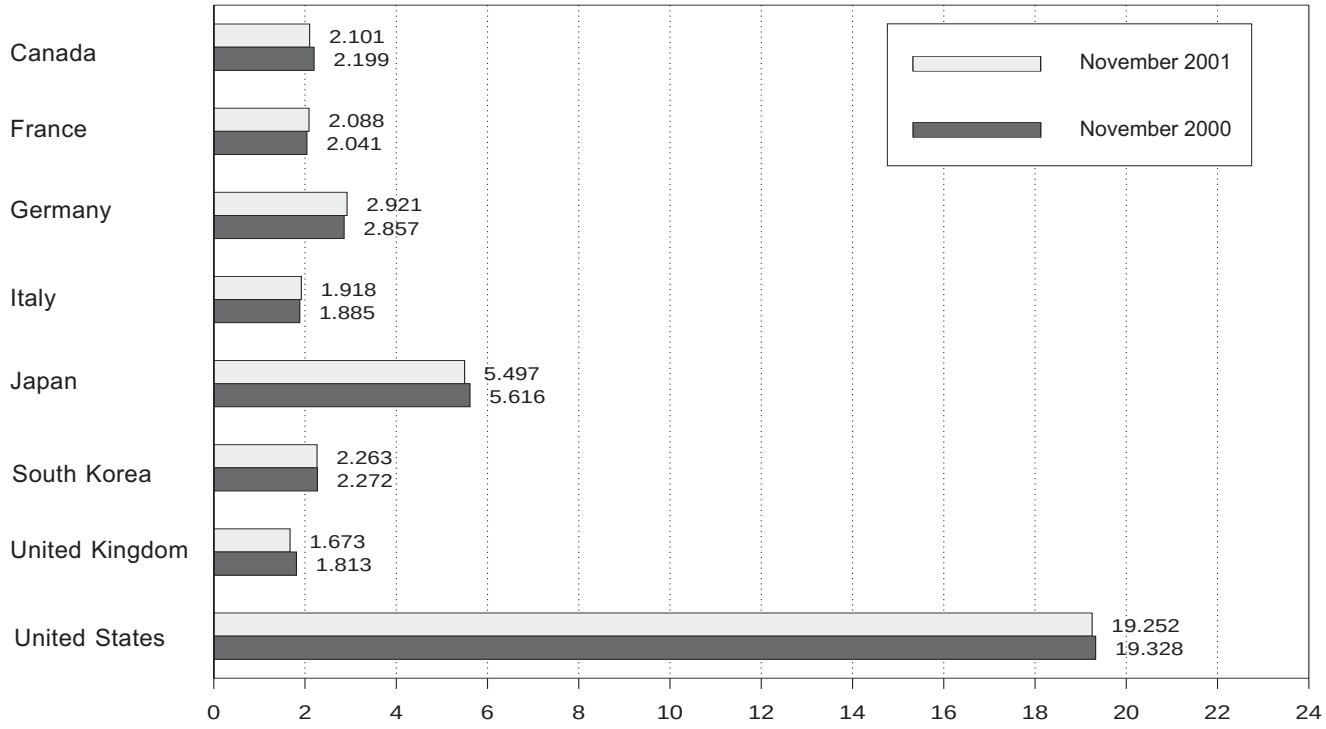
Overview, 1973-2000




OECD Total, November




By Selected OECD Country




Notes: • OECD is the Organization for Economic Cooperation and Development.
• Because vertical scales differ, graphs should not be compared.
Source: Table 11.2.

# Table 11.2 Petroleum Consumption in OECD Countries

(Thousand Barrels per Day)

| | Canada | France | Germany[a] | Italy | Japan | South Korea | United Kingdom | United States | OECD Europe[b] | Other OECD[c] | OECD[d] | World |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Average** | **1,729** | **2,601** | **3,324** | **2,068** | **4,949** | **281** | **2,341** | **17,308** | **15,598** | **1,658** | **41,523** | **57,237** |
| **1974 Average** | **1,779** | **2,447** | **3,030** | **2,004** | **4,864** | **287** | **2,210** | **16,653** | **14,699** | **1,806** | **40,089** | **56,677** |
| **1975 Average** | **1,779** | **2,252** | **2,957** | **1,855** | **4,621** | **311** | **1,911** | **16,322** | **13,998** | **1,794** | **38,825** | **56,198** |
| **1976 Average** | **1,818** | **2,420** | **3,206** | **1,971** | **4,837** | **357** | **1,892** | **17,461** | **14,964** | **1,946** | **41,382** | **59,673** |
| **1977 Average** | **1,850** | **2,294** | **3,212** | **1,897** | **4,880** | **422** | **1,905** | **18,431** | **14,810** | **2,035** | **42,429** | **61,826** |
| **1978 Average** | **1,902** | **2,408** | **3,290** | **1,952** | **4,945** | **482** | **1,938** | **18,847** | **15,247** | **2,194** | **43,616** | **64,158** |
| **1979 Average** | **1,971** | **2,463** | **3,373** | **2,039** | **5,050** | **525** | **1,971** | **18,513** | **15,668** | **2,278** | **44,005** | **65,220** |
| **1980 Average** | **1,873** | **2,256** | **3,082** | **1,934** | **4,960** | **537** | **1,725** | **17,056** | **14,640** | **2,342** | **41,408** | **63,067** |
| **1981 Average** | **1,768** | **2,023** | **2,804** | **1,874** | **4,848** | **536** | **1,590** | **16,058** | **13,452** | **2,479** | **39,141** | **60,903** |
| **1982 Average** | **1,578** | **1,880** | **2,743** | **1,781** | **4,582** | **534** | **1,590** | **15,296** | **12,965** | **2,484** | **37,439** | **59,503** |
| **1983 Average** | **1,448** | **1,835** | **2,661** | **1,750** | **4,395** | **561** | **1,531** | **15,231** | **12,650** | **2,303** | **36,588** | **58,739** |
| **1984 Average** | **1,472** | **1,754** | **2,662** | **1,646** | **4,576** | **587** | **1,849** | **15,726** | **12,629** | **2,442** | **37,432** | **59,831** |
| **1985 Average** | **1,504** | **1,775** | **2,700** | **1,717** | **4,384** | **569** | **1,634** | **15,726** | **12,603** | **2,441** | **37,228** | **60,091** |
| **1986 Average** | **1,506** | **1,772** | **2,860** | **1,738** | **4,439** | **607** | **1,649** | **16,281** | **13,009** | **2,436** | **38,277** | **61,759** |
| **1987 Average** | **1,548** | **1,789** | **2,767** | **1,855** | **4,484** | **639** | **1,603** | **16,665** | **13,142** | **2,479** | **38,957** | **62,999** |
| **1988 Average** | **1,693** | **1,797** | **2,744** | **1,836** | **4,752** | **731** | **1,697** | **17,283** | **13,291** | **2,489** | **40,238** | **64,819** |
| **1989 Average** | **1,733** | **1,857** | **2,581** | **1,930** | **4,983** | **843** | **1,738** | **17,325** | **11,359** | **2,638** | **40,881** | **65,917** |
| **1990 Average** | **1,690** | **1,818** | **2,664** | **1,872** | **5,140** | **1,025** | **1,752** | **16,988** | **13,368** | **2,706** | **40,917** | **65,974** |
| **1991 Average** | **1,622** | **1,935** | **2,828** | **1,863** | **5,284** | **1,202** | **1,801** | **16,714** | **13,827** | **2,751** | **41,400** | **66,559** |
| **1992 Average** | **1,643** | **1,926** | **2,843** | **1,937** | **5,446** | **1,456** | **1,803** | **17,033** | **14,073** | **2,773** | **42,424** | **66,758** |
| **1993 Average** | **1,688** | **1,875** | **2,900** | **1,852** | **5,401** | **1,690** | **1,815** | **17,237** | **14,140** | **2,826** | **42,982** | **66,996** |
| **1994 Average** | **1,727** | **1,833** | **2,879** | **1,841** | **5,674** | **1,856** | **1,837** | **17,718** | **14,226** | **2,966** | **44,167** | **68,286** |
| **1995 Average** | **1,755** | **1,896** | **2,875** | **2,048** | **5,711** | **2,027** | **1,845** | **17,725** | **14,756** | **2,989** | **44,962** | **69,878** |
| **1996 Average** | **1,797** | **1,935** | **2,911** | **2,058** | **5,867** | **2,183** | **1,845** | **18,309** | **14,964** | **2,953** | **46,072** | **71,411** |
| **1997 Average** | **1,923** | **1,957** | **2,915** | **1,908** | **5,728** | **2,260** | **1,805** | **18,620** | **15,009** | **3,084** | **46,626** | **72,852** |
| **1998 Average** | **1,947** | **2,030** | **2,921** | **1,945** | **5,528** | **1,930** | **1,789** | **18,917** | **15,335** | **3,228** | **46,885** | **73,601** |
| **1999** January | 1,948 | 2,025 | 2,575 | 1,915 | 5,902 | 2,280 | 1,688 | 19,029 | 14,677 | 3,111 | 46,947 | NA |
| February | 2,068 | 2,220 | 3,185 | 1,963 | 6,490 | 2,271 | 1,881 | 19,107 | 16,270 | 3,299 | 49,504 | NA |
| March | 1,954 | 2,125 | 3,563 | 1,871 | 6,208 | 2,278 | 1,856 | 19,497 | 16,556 | 3,536 | 50,029 | NA |
| April | 1,920 | 2,006 | 2,445 | 1,750 | 5,335 | 2,052 | 1,715 | 19,152 | 14,550 | 3,249 | 46,257 | NA |
| May | 1,990 | 1,730 | 2,486 | 1,633 | 4,805 | 1,733 | 1,646 | 18,705 | 13,772 | 3,184 | 44,190 | NA |
| June | 2,053 | 2,008 | 2,701 | 1,817 | 4,982 | 1,779 | 1,709 | 19,836 | 14,944 | 3,453 | 47,048 | NA |
| July | 2,021 | 1,996 | 2,601 | 1,817 | 5,110 | 1,935 | 1,693 | 19,820 | 14,629 | 3,208 | 46,725 | NA |
| August | 2,040 | 1,887 | 2,749 | 1,664 | 5,292 | 1,895 | 1,696 | 20,093 | 14,394 | 3,311 | 47,025 | NA |
| September | 2,114 | 1,986 | 2,891 | 1,924 | 5,375 | 2,032 | 1,722 | 19,483 | 15,188 | 3,240 | 47,431 | NA |
| October | 2,027 | 2,014 | 2,939 | 1,844 | 5,100 | 2,023 | 1,722 | 19,868 | 15,119 | 3,294 | 47,431 | NA |
| November | 2,109 | 2,154 | 2,982 | 1,932 | 5,747 | 2,199 | 1,809 | 19,087 | 15,946 | 3,263 | 48,353 | NA |
| December | 2,104 | 2,195 | 2,943 | 1,980 | 6,755 | 2,430 | 1,742 | 20,498 | 16,084 | 3,611 | 51,483 | NA |
| **Average** | **2,029** | **2,027** | **2,836** | **1,841** | **5,587** | **2,075** | **1,739** | **19,519** | **15,169** | **3,313** | **47,692** | **74,983** |
| **2000** January | 1,919 | 2,168 | 2,408 | 1,825 | 5,452 | 2,364 | 1,690 | 19,026 | 14,688 | 3,378 | 46,825 | NA |
| February | 2,175 | 2,144 | 2,722 | 1,986 | 6,394 | 2,401 | 1,780 | 19,635 | 15,633 | 3,318 | 49,555 | NA |
| March | 1,992 | 2,125 | 2,752 | 1,896 | 6,254 | 2,283 | 1,876 | 19,218 | 15,437 | 3,468 | 48,652 | NA |
| April | 1,885 | 1,950 | 2,658 | 1,775 | 5,233 | 2,138 | 1,631 | 18,816 | 14,475 | 3,213 | 45,760 | NA |
| May | 2,111 | 1,860 | 2,693 | 1,750 | 4,915 | 2,093 | 1,645 | 19,605 | 14,672 | 3,381 | 46,776 | NA |
| June | 2,077 | 1,969 | 2,717 | 1,909 | 4,930 | 2,001 | 1,677 | 20,054 | 14,984 | 3,308 | 47,353 | NA |
| July | 2,022 | 1,970 | 2,755 | 1,812 | 5,271 | 1,832 | 1,616 | 19,696 | 14,605 | 3,206 | 46,633 | NA |
| August | 2,111 | 1,980 | 3,073 | 1,815 | 5,526 | 2,034 | 1,747 | 20,496 | 15,581 | 3,456 | 49,204 | NA |
| September | 2,140 | 1,807 | 2,995 | 1,928 | 5,476 | 2,037 | 1,778 | 19,899 | 15,400 | 3,263 | 48,214 | NA |
| October | 2,127 | 2,257 | 2,767 | 1,859 | 5,047 | 1,978 | 1,773 | 19,798 | 15,537 | 3,303 | 47,790 | NA |
| November | 2,199 | 2,041 | 2,857 | 1,885 | 5,616 | 2,272 | 1,813 | 19,328 | 15,488 | 3,351 | 48,253 | NA |
| December | 2,129 | 1,976 | 2,841 | 1,977 | 6,246 | 2,336 | 1,626 | 20,814 | 15,207 | 3,324 | 50,057 | NA |
| **Average** | **2,073** | **2,021** | **2,770** | **1,867** | **5,528** | **2,146** | **1,721** | **19,701** | **15,140** | **3,331** | **47,920** | **75,525** |
| **2001** January | 2,065 | 2,176 | 2,679 | 1,836 | 6,076 | 2,441 | 1,715 | 19,900 | R 15,234 | 3,290 | R 49,006 | NA |
| February | 2,095 | 2,110 | 2,625 | 1,929 | 6,409 | 2,297 | 1,710 | 19,597 | R 15,212 | 3,372 | R 48,981 | NA |
| March | 1,948 | 2,019 | 2,777 | 1,815 | 5,889 | 2,251 | 1,810 | 19,892 | R 15,168 | 3,453 | R 48,599 | NA |
| April | 1,861 | 2,021 | 2,710 | 1,723 | 5,137 | 1,994 | 1,719 | 19,591 | R 14,676 | 3,215 | R 46,475 | NA |
| May | 1,982 | 1,905 | 2,726 | 1,814 | 4,930 | 1,990 | 1,681 | 19,491 | R 14,805 | 3,396 | R 46,594 | NA |
| June | 1,963 | 1,974 | 2,859 | 1,785 | 4,867 | 2,046 | 1,681 | 19,608 | R 14,887 | 3,302 | R 46,673 | NA |
| July | 1,975 | 2,057 | 2,985 | 1,925 | 5,147 | 1,825 | 1,664 | 19,884 | R 15,359 | 3,253 | R 47,443 | NA |
| August | 2,122 | 1,996 | 3,023 | 1,837 | 5,226 | 1,919 | 1,696 | 20,085 | R 15,379 | 3,319 | R 48,050 | NA |
| September | 1,894 | 2,093 | 2,894 | 2,040 | 4,979 | 2,161 | 1,727 | 19,082 | R 15,724 | 3,094 | R 46,934 | NA |
| October | 2,070 | 2,067 | 2,907 | 1,915 | 4,955 | 1,937 | 1,609 | 19,651 | R 15,499 | 3,317 | R 47,428 | NA |
| November | 2,101 | 2,088 | 2,921 | 1,918 | 5,497 | 2,263 | 1,673 | 19,252 | 15,748 | 3,274 | 48,134 | NA |
| **11-Mo. Avg.** | **2,007** | **2,045** | **2,829** | **1,867** | **5,368** | **2,100** | **1,698** | **19,643** | **15,245** | **3,299** | **47,661** | **NA** |
| **2000 11-Mo. Avg.** | **2,068** | **2,025** | **2,763** | **1,857** | **5,461** | **2,129** | **1,729** | **19,598** | **15,134** | **3,332** | **47,722** | **NA** |
| **1999 11-Mo. Avg.** | **2,021** | **2,012** | **2,826** | **1,829** | **5,479** | **2,042** | **1,739** | **19,428** | **15,084** | **3,286** | **47,340** | **NA** |

[a] Data are for unified Germany, i.e., the former East Germany and West Germany.

[b] "OECD Europe" consists of Austria, Belgium, Czech Republic (beginning in 1993), Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

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

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

R=Revised. NA=Not available.

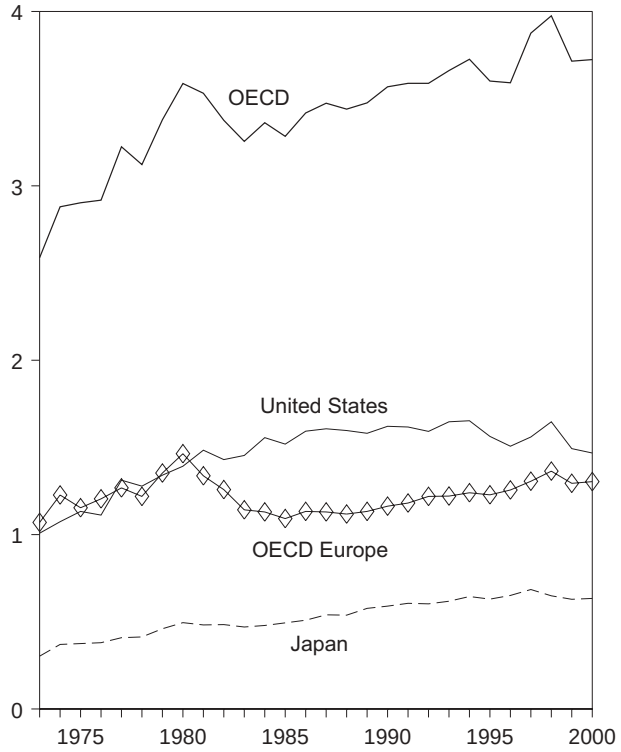
Notes: Data through 1996 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **United States:** Table 3.1a. **All Other Data: 1973-1979—**International Energy Agency (IEA), *Annual Oil and Gas Statistics of OECD Countries.* **1980 forward**—IEA, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances.*

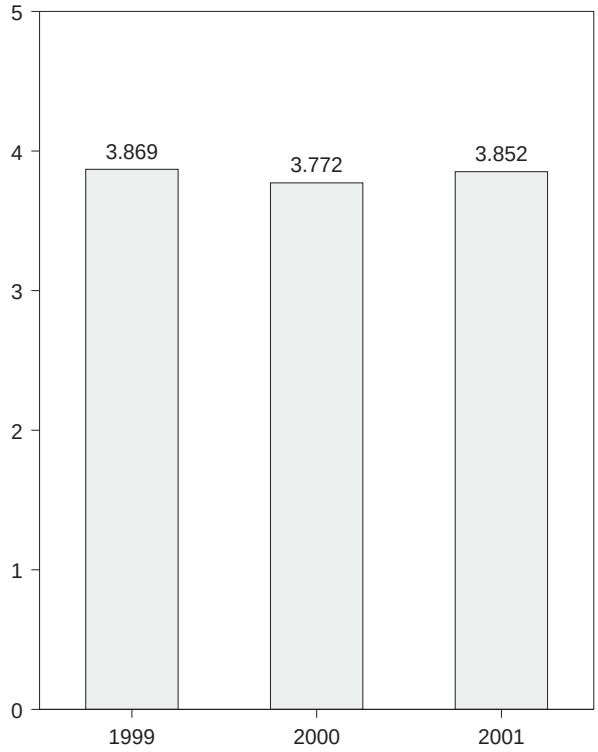
## Figure 11.4 Petroleum Stocks in OECD Countries

(Billion Barrels)

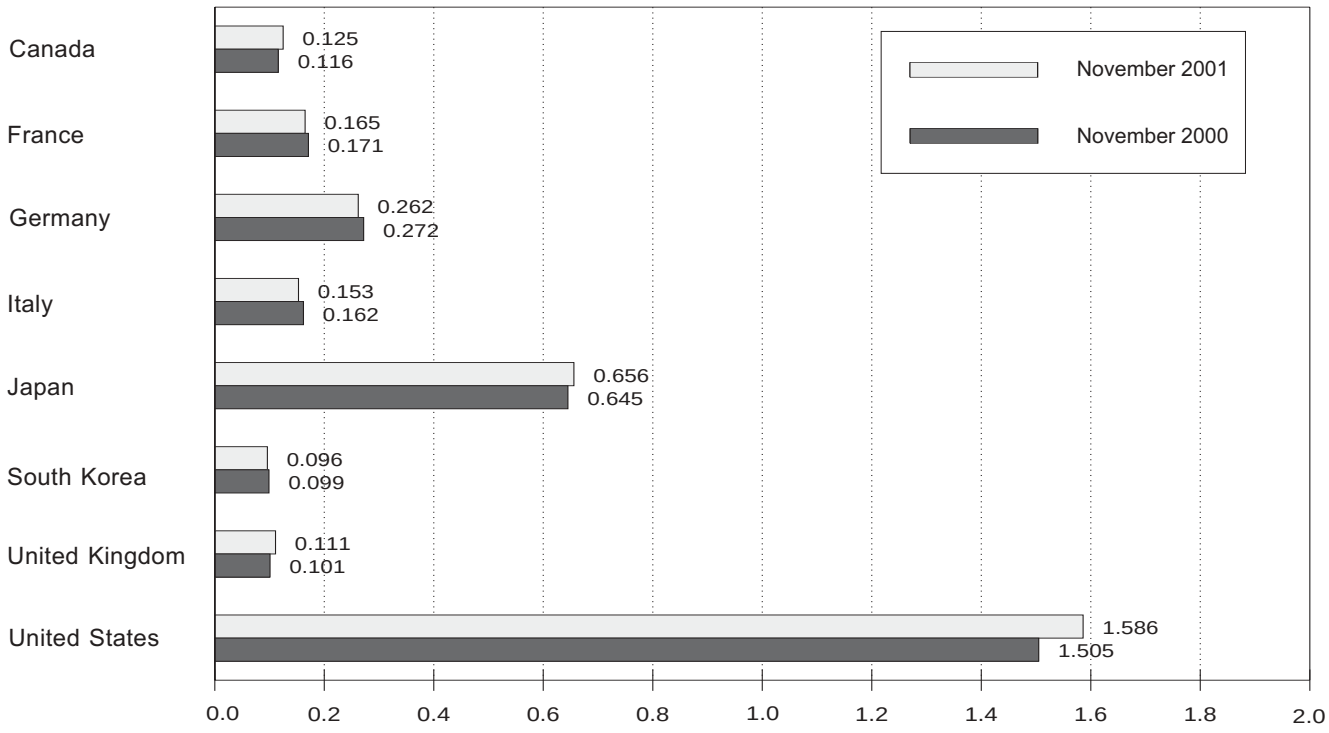
Overview, End of Year, 1973-2000




OECD Stocks, End of Month, November




By Selected Country, End of Month




Notes: • OECD is the Organization for Economic Cooperation and Development.
• Because vertical scales differ, graphs should not be compared.
Source: Table 11.3.

# Table 11.3 Petroleum Stocks in OECD Countries

(Million Barrels)

| | Canada | France | Germany[a] | Italy | Japan | South Korea | United Kingdom | United States | OECD Europe[b] | Other OECD[c] | OECD[d] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1973 Year** | **140** | **201** | **181** | **152** | **303** | **NA** | **156** | **1,008** | **1,070** | **67** | **2,588** |
| **1974 Year** | **145** | **249** | **213** | **167** | **370** | **NA** | **191** | **1,074** | **1,227** | **64** | **2,880** |
| **1975 Year** | **174** | **225** | **187** | **143** | **375** | **NA** | **165** | **1,133** | **1,154** | **67** | **2,903** |
| **1976 Year** | **153** | **234** | **208** | **143** | **380** | **NA** | **165** | **1,112** | **1,205** | **68** | **2,918** |
| **1977 Year** | **167** | **239** | **225** | **161** | **409** | **NA** | **148** | **1,312** | **1,268** | **68** | **3,224** |
| **1978 Year** | **144** | **201** | **238** | **154** | **413** | **NA** | **157** | **1,278** | **1,219** | **68** | **3,122** |
| **1979 Year** | **150** | **226** | **272** | **163** | **460** | **NA** | **169** | **1,341** | **1,353** | **75** | **3,379** |
| **1980 Year** | **164** | **243** | **319** | **170** | **495** | **NA** | **168** | **1,392** | **1,464** | **72** | **3,587** |
| **1981 Year** | **161** | **214** | **297** | **167** | **482** | **NA** | **143** | **1,484** | **1,337** | **67** | **3,531** |
| **1982 Year** | **136** | **193** | **272** | **179** | **484** | **NA** | **125** | **1,430** | **1,258** | **68** | **3,376** |
| **1983 Year** | **121** | **153** | **249** | **149** | **470** | **NA** | **118** | **1,454** | **1,142** | **68** | **3,255** |
| **1984 Year** | **128** | **152** | **239** | **159** | **479** | **NA** | **112** | **1,556** | **1,130** | **69** | **3,362** |
| **1985 Year** | **113** | **139** | **233** | **157** | **494** | **NA** | **123** | **1,519** | **1,092** | **66** | **3,284** |
| **1986 Year** | **111** | **127** | **252** | **155** | **509** | **NA** | **124** | **1,593** | **1,133** | **72** | **3,418** |
| **1987 Year** | **126** | **127** | **259** | **169** | **540** | **NA** | **121** | **1,607** | **1,130** | **71** | **3,474** |
| **1988 Year** | **116** | **140** | **266** | **155** | **538** | **NA** | **112** | **1,597** | **1,118** | **71** | **3,440** |
| **1989 Year** | **114** | **138** | **271** | **164** | **577** | **NA** | **118** | **1,581** | **1,133** | **71** | **3,476** |
| **1990 Year** | **121** | **140** | **265** | **172** | **590** | **NA** | **112** | **1,621** | **1,163** | **73** | **3,568** |
| **1991 Year** | **119** | **153** | **288** | **160** | **606** | **NA** | **119** | **1,617** | **1,181** | **65** | **3,588** |
| **1992 Year** | **107** | **146** | **310** | **174** | **603** | **NA** | **113** | **1,592** | **1,219** | **67** | **3,588** |
| **1993 Year** | **105** | **158** | **309** | **163** | **618** | **NA** | **118** | **1,647** | **1,221** | **69** | **3,661** |
| **1994 Year** | **119** | **158** | **312** | **164** | **645** | **NA** | **115** | **1,653** | **1,240** | **69** | **3,726** |
| **1995 Year** | **109** | **159** | **301** | **162** | **630** | **NA** | **107** | **1,563** | **1,228** | **71** | **3,601** |
| **1996 Year** | **103** | **158** | **300** | **152** | **651** | **NA** | **108** | **1,507** | **1,256** | **74** | **3,591** |
| **1997 Year** | **115** | **164** | **298** | **147** | **685** | **88** | **105** | **1,560** | **1,306** | **122** | **3,876** |
| **1998 Year** | **118** | **161** | **321** | **153** | **649** | **85** | **109** | **1,647** | **1,364** | **112** | **3,975** |
| **1999** January | 119 | 181 | 329 | 154 | 645 | 87 | 111 | 1,642 | 1,423 | 123 | 4,039 |
| February | 119 | 175 | 320 | 146 | 633 | 85 | 109 | 1,635 | 1,382 | 120 | 3,973 |
| March | 121 | 179 | 306 | 149 | 634 | 72 | 109 | 1,620 | 1,368 | 116 | 3,931 |
| April | 119 | 173 | 316 | 153 | 636 | 71 | 110 | 1,624 | 1,392 | 119 | 3,962 |
| May | 120 | 182 | 317 | 154 | 637 | 74 | 107 | 1,658 | 1,403 | 120 | 4,011 |
| June | 117 | 177 | 310 | 146 | 638 | 84 | 103 | 1,642 | 1,363 | 118 | 3,962 |
| July | 115 | 174 | 313 | 145 | 645 | 85 | 103 | 1,644 | 1,371 | 122 | 3,983 |
| August | 114 | 178 | 307 | 151 | 661 | 76 | 109 | 1,622 | 1,383 | 126 | 3,982 |
| September | 116 | 173 | 300 | 150 | 652 | 85 | 106 | 1,615 | 1,348 | 124 | 3,939 |
| October | 118 | 169 | 295 | 151 | 658 | 91 | 106 | 1,585 | 1,347 | 118 | 3,917 |
| November | 116 | 169 | 290 | 150 | 659 | 88 | 104 | 1,571 | 1,316 | 120 | 3,869 |
| December | **109** | **163** | **287** | **148** | **629** | **84** | **105** | **1,493** | **1,294** | **106** | **3,715** |
| **2000** January | 108 | 166 | 297 | 153 | 622 | 80 | 105 | 1,477 | 1,287 | 110 | 3,684 |
| February | 108 | 167 | 288 | 149 | 613 | 79 | 106 | 1,466 | 1,281 | 113 | 3,661 |
| March | 110 | 170 | 285 | 154 | 606 | 79 | 106 | 1,476 | 1,278 | 103 | 3,652 |
| April | 112 | 171 | 281 | 152 | 618 | 79 | 104 | 1,505 | 1,259 | 110 | 3,684 |
| May | 110 | 172 | 280 | 148 | 634 | 80 | 98 | 1,518 | 1,247 | 112 | 3,701 |
| June | 112 | 174 | 278 | 152 | 632 | 87 | 99 | 1,526 | 1,263 | 108 | 3,728 |
| July | 117 | 171 | 280 | 150 | 639 | 103 | 106 | 1,540 | 1,280 | 114 | 3,791 |
| August | 117 | 171 | 274 | 153 | 639 | 87 | 102 | 1,532 | 1,272 | 106 | 3,753 |
| September | 117 | 173 | 274 | 156 | 627 | 92 | 99 | 1,527 | 1,283 | 122 | 3,767 |
| October | 114 | 170 | 276 | 160 | 642 | 97 | 102 | 1,507 | 1,277 | 115 | 3,752 |
| November | 116 | 171 | 272 | 162 | 645 | 99 | 101 | 1,505 | 1,283 | 123 | 3,772 |
| December | **112** | **174** | **271** | **157** | **634** | **89** | **103** | **1,468** | **1,304** | **117** | **3,724** |
| **2001** January | 113 | 168 | 273 | 163 | 628 | 80 | 100 | 1,477 | 1,291 | 116 | 3,705 |
| February | 111 | 172 | 275 | 159 | 620 | 86 | 101 | 1,471 | 1,292 | 118 | 3,698 |
| March | 117 | 171 | 270 | 158 | 636 | 80 | 103 | 1,477 | 1,293 | 116 | 3,718 |
| April | 116 | 171 | 271 | 159 | 646 | 86 | 102 | 1,517 | 1,285 | 107 | 3,758 |
| May | 119 | 171 | 270 | 156 | 647 | 80 | 102 | 1,553 | R 1,283 | 109 | 3,791 |
| June | 116 | 171 | 263 | 149 | 641 | 83 | 105 | 1,559 | 1,280 | 113 | 3,792 |
| July | 123 | 164 | 262 | 149 | 636 | 90 | 107 | 1,565 | R 1,274 | 112 | R 3,800 |
| August | 122 | 168 | 261 | 156 | 647 | 93 | 103 | 1,545 | R 1,289 | 116 | R 3,813 |
| September | 125 | 167 | 257 | 152 | 654 | 92 | 101 | 1,575 | 1,284 | 122 | R 3,851 |
| October | 125 | 170 | 261 | 151 | 670 | 95 | 110 | 1,576 | R 1,281 | 119 | R 3,866 |
| November | 125 | 165 | 262 | 153 | 656 | 96 | 111 | 1,586 | 1,276 | 112 | 3,852 |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom, and, for 1997 forward, Czech Republic, Hungary, and Poland.

[c] "Other OECD" consists of Australia, New Zealand, and the U.S. Territories, and, for 1997 forward, Mexico.

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

R=Revised. NA=Not available.

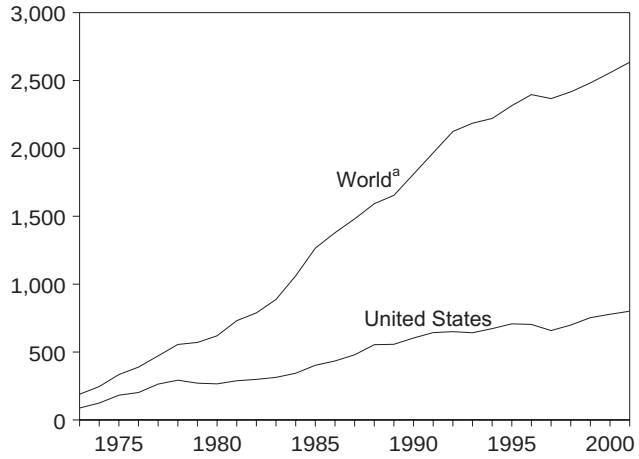
Notes: Stocks are at end of period. Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data exclude oil held in pipelines (except for those in the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, and tankers at sea. In the United States in January 1975, 1981, and 1983, numerous respondents were added to bulk terminal and pipeline surveys, thereby affecting subsequent stocks reported. New-basis end-of-year U.S. stocks, in million barrels, would have been 1,121 in 1974, 1,425 in 1980, and 1,461 in 1982. Data through 1996 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **United States:** Table 3.1a. **All Other Data:** International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances.*

## Figure 11.5 Nuclear Electricity Gross Generation

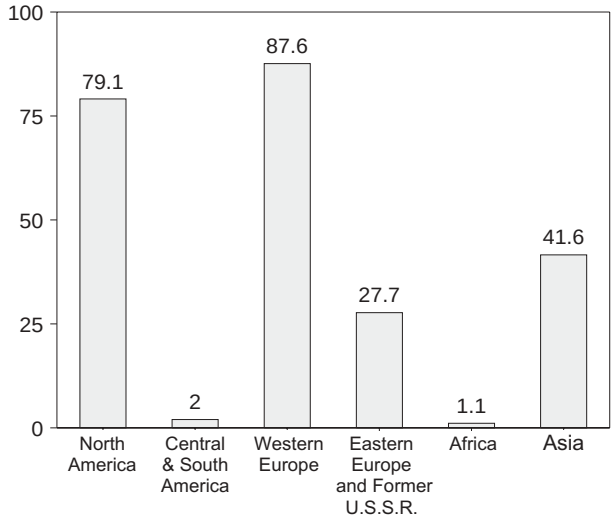
(Billion Kilowatthours)

### U.S. and World, 1973-2001

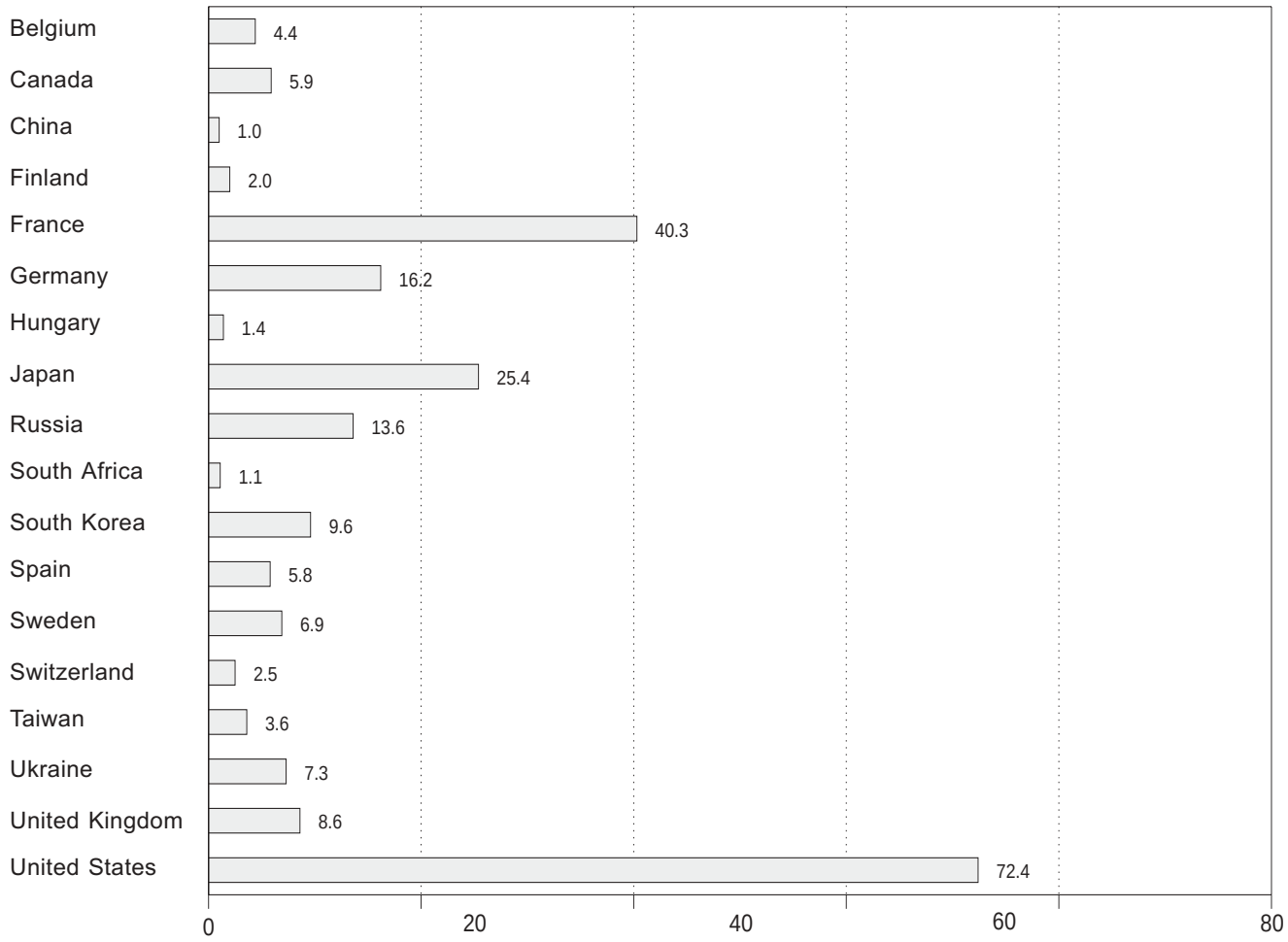



[a]Eastern Europe and the Former U.S.S.R. are included beginning in 1992.

### By Region, January 2002




### By Selected Country, January 2002




Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 11.4a-11.4e.

# Table 11.4a Nuclear Electricity Gross Generation: Regions and World

(Billion Kilowatthours)

| | North America | Central and South America | Western Europe[a] | Eastern Europe and Former U.S.S.R.[a] | Africa | Asia[a] | World[a,b] |
|---|---|---|---|---|---|---|---|
| **1973 Total** | **103.1** | **–** | **73.9** | **NA** | **–** | **12.3** | **189.3** |
| **1974 Total** | **139.7** | **1.0** | **83.9** | **NA** | **–** | **21.4** | **246.0** |
| **1975 Total** | **195.5** | **2.5** | **111.7** | **NA** | **–** | **24.4** | **334.1** |
| **1976 Total** | **219.8** | **2.6** | **126.2** | **NA** | **–** | **40.3** | **388.9** |
| **1977 Total** | **290.8** | **1.6** | **148.1** | **NA** | **–** | **31.5** | **472.0** |
| **1978 Total** | **325.4** | **2.9** | **166.9** | **NA** | **–** | **60.6** | **555.9** |
| **1979 Total** | **309.0** | **2.7** | **184.3** | **NA** | **–** | **74.7** | **570.7** |
| **1980 Total** | **305.8** | **2.3** | **214.2** | **NA** | **–** | **97.4** | **619.8** |
| **1981 Total** | **331.8** | **2.8** | **293.4** | **NA** | **–** | **102.9** | **730.9** |
| **1982 Total** | **341.2** | **1.9** | **321.8** | **NA** | **–** | **123.6** | **788.5** |
| **1983 Total** | **366.6** | **3.6** | **377.2** | **NA** | **–** | **140.1** | **887.5** |
| **1984 Total** | **397.6** | **6.6** | **485.4** | **NA** | **4.2** | **167.7** | **1,061.5** |
| **1985 Total** | **465.6** | **9.1** | **582.8** | **NA** | **5.9** | **202.0** | **1,265.4** |
| **1986 Total** | **508.8** | **5.8** | **631.5** | **NA** | **9.3** | **223.6** | **1,378.9** |
| **1987 Total** | **560.1** | **6.2** | **648.3** | **NA** | **6.6** | **259.5** | **1,480.7** |
| **1988 Total** | **639.7** | **5.5** | **688.1** | **NA** | **11.1** | **248.5** | **1,592.8** |
| **1989 Total** | **640.2** | **6.6** | **732.2** | **NA** | **11.7** | **263.4** | **1,654.1** |
| **1990 Total** | **681.3** | **9.4** | **NA** | **NA** | **8.9** | **284.3** | **NA** |
| **1991 Total** | **733.4** | **9.2** | **NA** | **NA** | **9.7** | **303.3** | **NA** |
| **1992 Total** | **735.2** | **8.8** | **787.8** | **267.5** | **9.9** | **315.2** | **[b] E 2,124.5** |
| **1993 Total** | **744.6** | **8.1** | **820.9** | **259.0** | **7.7** | **345.2** | **E 2,185.6** |
| **1994 Total** | **787.3** | **8.2** | **820.2** | **E 227.8** | **10.3** | **E 366.7** | **E 2,220.4** |
| **1995 Total** | **816.1** | **9.6** | **E 835.7** | **E 234.9** | **11.9** | **E 407.0** | **E 2,315.1** |
| **1996 Total** | **806.4** | **9.8** | **E 879.5** | **E 261.6** | **12.5** | **E 426.4** | **E 2,396.3** |
| **1997 Total** | **E 752.8** | **11.1** | **E 886.5** | **E 247.1** | **13.3** | **E 456.2** | **E 2,367.0** |
| **1998 Total** | **E 781.0** | **10.8** | **E 884.2** | **E 248.9** | **14.3** | **E 477.2** | **E 2,416.4** |
| **1999 Total** | **E 837.3** | **E 11.1** | **E 878.1** | **E 264.7** | **13.5** | **E 478.0** | **E 2,482.6** |
| **2000** January | E 77.7 | 1.2 | E 82.0 | E 27.2 | 1.3 | E 40.7 | E 230.1 |
| February | E 70.4 | 1.1 | E 76.5 | E 25.7 | 1.3 | E 38.0 | E 212.9 |
| March | E 69.7 | .9 | E 80.5 | E 26.3 | 1.1 | E 42.9 | E 221.4 |
| April | E 63.6 | E .8 | E 72.7 | E 21.4 | .8 | E 41.5 | E 200.9 |
| May | E 69.9 | .5 | E 69.6 | E 20.7 | .7 | E 41.5 | E 202.8 |
| June | E 73.8 | .7 | E 68.7 | E 21.8 | 1.2 | E 40.5 | E 206.6 |
| July | E 79.1 | .8 | E 66.5 | E 20.4 | 1.3 | E 43.7 | E 211.7 |
| August | E 76.5 | E 1.0 | E 66.6 | E 19.0 | 1.1 | E 43.3 | E 207.6 |
| September | E 69.2 | .8 | E 70.2 | E 23.6 | 1.2 | E 39.6 | E 204.6 |
| October | E 63.2 | .8 | E 77.6 | E 25.2 | 1.4 | E 40.2 | E 208.5 |
| November | E 68.5 | 1.6 | E 78.8 | E 25.0 | 1.2 | E 41.6 | E 216.7 |
| December | E 78.5 | 1.4 | E 83.5 | E 26.0 | 1.1 | E 42.9 | E 233.5 |
| **Total** | **E 860.3** | **E 11.5** | **E 893.1** | **E 282.2** | **13.6** | **E 496.5** | **E 2,557.2** |
| **2001** January | E 80.0 | 1.5 | 86.7 | E 27.0 | .8 | E 41.4 | E 237.3 |
| February | E 72.6 | 1.6 | E 76.5 | E 26.4 | .6 | E 39.4 | E 217.1 |
| March | E 73.2 | 1.8 | E 79.2 | E 26.8 | 1.1 | E 44.6 | E 226.6 |
| April | E 65.7 | 1.3 | E 74.2 | E 23.2 | 1.0 | E 41.5 | E 206.9 |
| May | E 69.8 | 1.3 | 69.6 | E 21.4 | 1.3 | E 39.7 | E 203.0 |
| June | E 74.1 | E 1.4 | E 68.1 | E 20.8 | 1.3 | E 39.4 | E 205.1 |
| July | E 77.0 | 2.1 | E 70.9 | E 20.0 | .8 | E 42.5 | E 213.3 |
| August | E 75.7 | 2.2 | E 72.2 | E 21.1 | .5 | E 45.6 | E 217.2 |
| September | E 72.4 | 2.1 | 76.0 | E 23.5 | .7 | E 44.8 | E 219.5 |
| October | E 69.1 | E 2.2 | 80.9 | E 25.8 | .5 | E 43.6 | E 222.0 |
| November | E 68.0 | 5.5 | 81.8 | E 26.7 | 1.2 | E 42.7 | E 225.9 |
| December | E 75.9 | 2.1 | 87.7 | E 30.1 | 1.4 | E 43.6 | E 240.8 |
| **Total** | **E 873.5** | **E 24.9** | **E 923.6** | **E 292.8** | **11.3** | **E 508.8** | **E 2,634.9** |
| **2002** January | E 79.1 | E 2.0 | E 87.6 | E 27.7 | 1.1 | E 41.6 | E 239.1 |

[a] Sum of available data only.

[b] There is a discontinuity in this time series between 1991 and 1992; beginning in 1992, includes data for Eastern Europe and the Former U.S.S.R.

NA=Not available. – =Not applicable. E=Estimate.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for regions may not sum to totals due to independent rounding.

Source: Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 11.4b Nuclear Electricity Gross Generation: North, Central, and South America

(Billion Kilowatthours)

| | North America | | | | Central and South America | | |
|---|---|---|---|---|---|---|---|
| | Canada | Mexico | United States | Total | Argentina | Brazil | Total |
| **1973 Total** | **15.3** | **–** | **87.8** | **103.1** | **–** | **–** | **–** |
| **1974 Total** | **15.4** | **–** | **124.3** | **139.7** | **1.0** | **–** | **1.0** |
| **1975 Total** | **13.2** | **–** | **182.3** | **195.5** | **2.5** | **–** | **2.5** |
| **1976 Total** | **18.0** | **–** | **201.8** | **219.8** | **2.6** | **–** | **2.6** |
| **1977 Total** | **26.6** | **–** | **264.2** | **290.8** | **1.6** | **–** | **1.6** |
| **1978 Total** | **33.0** | **–** | **292.4** | **325.4** | **2.9** | **–** | **2.9** |
| **1979 Total** | **38.4** | **–** | **270.6** | **309.0** | **2.7** | **–** | **2.7** |
| **1980 Total** | **40.4** | **–** | **265.4** | **305.8** | **2.3** | **–** | **2.3** |
| **1981 Total** | **43.3** | **–** | **288.5** | **331.8** | **2.8** | **–** | **2.8** |
| **1982 Total** | **42.6** | **–** | **298.6** | **341.2** | **1.9** | **0.1** | **1.9** |
| **1983 Total** | **53.0** | **–** | **313.6** | **366.6** | **3.4** | **.2** | **3.6** |
| **1984 Total** | **53.8** | **–** | **343.8** | **397.6** | **4.5** | **2.1** | **6.6** |
| **1985 Total** | **62.9** | **–** | **402.7** | **465.6** | **5.8** | **3.4** | **9.1** |
| **1986 Total** | **74.6** | **–** | **434.1** | **508.8** | **5.7** | **.1** | **5.8** |
| **1987 Total** | **80.6** | **–** | **479.5** | **560.1** | **5.2** | **1.0** | **6.2** |
| **1988 Total** | **85.6** | **–** | **554.1** | **639.7** | **5.1** | **.3** | **5.5** |
| **1989 Total** | **83.2** | **–** | **557.0** | **640.2** | **5.0** | **1.6** | **6.6** |
| **1990 Total** | **75.8** | **2.1** | **603.4** | **681.3** | **7.4** | **2.0** | **9.4** |
| **1991 Total** | **86.1** | **4.2** | **643.0** | **733.4** | **7.7** | **1.4** | **9.2** |
| **1992 Total** | **81.3** | **3.9** | **650.0** | **735.2** | **7.1** | **1.8** | **8.8** |
| **1993 Total** | **97.6** | **4.9** | **642.0** | **744.6** | **7.7** | **.4** | **8.1** |
| **1994 Total** | **110.7** | **4.2** | **672.4** | **787.3** | **8.2** | **.0** | **8.2** |
| **1995 Total** | **100.4** | **7.9** | **707.7** | **816.1** | **7.1** | **2.5** | **9.6** |
| **1996 Total** | **95.2** | **7.9** | **703.3** | **806.4** | **7.4** | **2.4** | **9.8** |
| **1997 Total** | **84.1** | **10.4** | **E 658.3** | **E 752.8** | **8.0** | **3.2** | **11.1** |
| **1998 Total** | **E 72.7** | **9.5** | **E 698.7** | **E 781.0** | **7.5** | **3.3** | **10.8** |
| **1999 Total** | **E 73.9** | **10.0** | **E 753.4** | **E 837.3** | **E 7.1** | **E 4.0** | **E 11.1** |
| **2000** January | 7.1 | .7 | E 69.9 | E 77.7 | .7 | .4 | 1.2 |
| February | 6.3 | .6 | E 63.6 | E 70.4 | .7 | .4 | 1.1 |
| March | 6.2 | .6 | E 63.0 | E 69.7 | .5 | .4 | .9 |
| April | 5.2 | .5 | E 57.9 | E 63.6 | E .5 | .4 | E .8 |
| May | 6.0 | .5 | E 63.4 | E 69.9 | .5 | .0 | .5 |
| June | 6.1 | .6 | E 67.0 | E 73.8 | .7 | .0 | .7 |
| July | 7.2 | .8 | E 71.1 | E 79.1 | .7 | (s) | .8 |
| August | 6.8 | .5 | E 69.2 | E 76.5 | E .7 | .2 | E 1.0 |
| September | 5.1 | .5 | E 63.6 | E 69.2 | .4 | .4 | .8 |
| October | 5.0 | 1.0 | E 57.3 | E 63.2 | .3 | .5 | .8 |
| November | 5.9 | .9 | E 61.7 | E 68.5 | .5 | 1.1 | 1.6 |
| December | 7.0 | 1.0 | E 70.6 | E 78.5 | .2 | 1.2 | 1.4 |
| **Total** | **73.8** | **8.2** | **E 778.3** | **E 860.3** | **E 6.3** | **E 5.2** | **E 11.5** |
| **2001** January | 7.5 | 1.0 | E 71.4 | E 80.0 | .5 | 1.0 | 1.5 |
| February | E 7.4 | .8 | E 64.4 | E 72.6 | .4 | 1.1 | 1.6 |
| March | E 7.1 | 1.0 | E 65.1 | E 73.2 | .5 | 1.3 | 1.8 |
| April | 5.3 | .9 | E 59.5 | E 65.7 | .5 | .8 | 1.3 |
| May | 4.5 | .4 | E 64.9 | E 69.8 | .5 | .8 | 1.3 |
| June | 4.3 | .5 | E 69.4 | E 74.1 | .5 | E .8 | E 1.4 |
| July | 4.8 | .7 | E 71.5 | E 77.0 | .7 | 1.4 | 2.1 |
| August | 4.5 | .9 | E 70.4 | E 75.7 | .7 | 1.4 | 2.2 |
| September | 4.3 | .8 | E 67.2 | E 72.4 | .7 | 1.4 | 2.1 |
| October | 4.1 | .9 | E 64.1 | E 69.1 | E .7 | 1.4 | E 2.2 |
| November | 4.1 | .5 | E 63.5 | E 68.0 | .6 | 4.9 | 5.5 |
| December | 6.2 | .5 | E 69.2 | E 75.9 | .7 | 1.4 | 2.1 |
| **Total** | **E 64.1** | **8.7** | **E 800.6** | **E 873.5** | **E 7.0** | **E 17.8** | **E 24.9** |
| **2002** January | E 5.9 | .9 | E 72.4 | E 79.1 | E .7 | E 1.3 | E 2.0 |

– =Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Source: Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 11.4c Nuclear Electricity Gross Generation: Western Europe

(Billion Kilowatthours)

| | Western Europe | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Belgium | Finland | France | Germany[a] | Italy[b] | Nether-lands | Slovenia | Spain | Sweden | Switzer-land | United Kingdom[c] | Total[d] |
| **1973 Total** | **0.0** | **–** | **14.7** | **11.9** | **3.1** | **1.1** | **–** | **6.5** | **2.1** | **6.2** | **28.2** | **73.9** |
| **1974 Total** | **.1** | **–** | **14.7** | **12.0** | **3.4** | **3.3** | **–** | **7.2** | **2.3** | **7.0** | **33.8** | **83.9** |
| **1975 Total** | **6.8** | **–** | **18.3** | **21.7** | **3.8** | **3.3** | **–** | **7.5** | **12.0** | **7.7** | **30.5** | **111.7** |
| **1976 Total** | **10.0** | **–** | **15.8** | **24.5** | **3.8** | **3.9** | **–** | **7.6** | **16.0** | **7.9** | **36.8** | **126.2** |
| **1977 Total** | **11.9** | **2.7** | **17.9** | **36.0** | **3.4** | **3.7** | **–** | **6.5** | **19.9** | **8.1** | **38.1** | **148.1** |
| **1978 Total** | **12.5** | **3.3** | **30.6** | **35.7** | **4.5** | **4.1** | **–** | **7.6** | **23.8** | **8.3** | **36.6** | **166.9** |
| **1979 Total** | **11.4** | **6.7** | **39.9** | **42.2** | **2.6** | **3.5** | **–** | **6.7** | **21.0** | **11.8** | **38.5** | **184.3** |
| **1980 Total** | **12.5** | **7.0** | **61.2** | **43.7** | **2.2** | **4.2** | **–** | **5.2** | **26.7** | **14.3** | **37.2** | **214.2** |
| **1981 Total** | **12.8** | **14.5** | **105.2** | **53.4** | **2.7** | **3.7** | **–** | **9.4** | **37.7** | **15.2** | **38.9** | **293.4** |
| **1982 Total** | **15.6** | **16.5** | **108.9** | **63.4** | **6.8** | **3.9** | **–** | **8.8** | **38.8** | **15.0** | **44.1** | **321.8** |
| **1983 Total** | **24.1** | **17.4** | **144.2** | **65.8** | **5.8** | **3.6** | **NA** | **10.7** | **40.4** | **15.5** | **49.6** | **377.2** |
| **1984 Total** | **27.7** | **18.5** | **191.2** | **92.6** | **6.9** | **3.8** | **NA** | **23.1** | **51.3** | **16.3** | **54.1** | **485.4** |
| **1985 Total** | **34.5** | **18.8** | **224.0** | **125.8** | **7.0** | **3.9** | **NA** | **28.0** | **58.6** | **22.4** | **59.7** | **582.8** |
| **1986 Total** | **38.6** | **18.8** | **254.3** | **118.9** | **8.7** | **4.2** | **NA** | **37.5** | **69.9** | **22.5** | **58.2** | **631.5** |
| **1987 Total** | **41.9** | **19.4** | **265.5** | **130.2** | **.2** | **3.6** | **NA** | **41.2** | **67.2** | **23.0** | **56.2** | **648.3** |
| **1988 Total** | **43.1** | **19.3** | **274.9** | **145.2** | **.0** | **3.7** | **NA** | **50.4** | **69.4** | **22.7** | **59.4** | **688.1** |
| **1989 Total** | **41.2** | **18.8** | **302.5** | **149.6** | **.0** | **4.0** | **NA** | **56.1** | **65.6** | **22.8** | **71.6** | **732.2** |
| **1990 Total** | **42.7** | **18.9** | **314.1** | **147.2** | **.0** | **3.4** | **NA** | **54.3** | **68.2** | **23.6** | **66.1** | **NA** |
| **1991 Total** | **42.9** | **19.2** | **331.4** | **147.3** | **.0** | **3.3** | **NA** | **55.6** | **76.8** | **22.9** | **70.4** | **NA** |
| **1992 Total** | **43.5** | **19.0** | **337.6** | **158.8** | **.0** | **3.8** | **4.0** | **55.8** | **63.5** | **23.4** | **78.5** | **787.8** |
| **1993 Total** | **41.9** | **19.6** | **366.7** | **153.5** | **.0** | **3.9** | **4.0** | **56.1** | **61.4** | **23.3** | **90.4** | **820.9** |
| **1994 Total** | **40.6** | **19.1** | **359.1** | **151.1** | **.0** | **4.0** | **4.6** | **55.1** | **72.8** | **24.2** | **89.5** | **820.2** |
| **1995 Total** | **41.4** | **18.9** | **377.6** | **154.3** | **.0** | **4.0** | **4.8** | **54.5** | **69.9** | **24.8** | **E 85.5** | **E 835.7** |
| **1996 Total** | **43.3** | **19.5** | **397.0** | **161.7** | **.0** | **4.2** | **4.6** | **59.1** | **76.2** | **25.0** | **E 88.8** | **E 879.5** |
| **1997 Total** | **47.4** | **20.9** | **389.3** | **170.4** | **.0** | **3.1** | **5.4** | **55.4** | **E 70.6** | **25.3** | **E 98.8** | **E 886.5** |
| **1998 Total** | **46.1** | **21.9** | **384.4** | **161.0** | **.0** | **3.8** | **5.3** | **E 58.6** | **73.8** | **25.7** | **E 103.7** | **E 884.2** |
| **1999 Total** | **49.0** | **23.0** | **E 377.4** | **E 167.8** | **.0** | **3.8** | **4.7** | **58.9** | **E 74.5** | **24.8** | **E 94.1** | **E 878.1** |
| **2000** January | 4.3 | 2.1 | E 36.2 | 15.8 | .0 | .4 | .5 | E 5.6 | 7.1 | 2.5 | 7.5 | E 82.0 |
| February | 3.2 | 1.9 | E 35.3 | 13.9 | .0 | .3 | .5 | 5.3 | 6.8 | 2.3 | 7.0 | E 76.5 |
| March | 4.1 | 2.1 | E 37.4 | 13.3 | .0 | .3 | .5 | 5.2 | 6.5 | 2.5 | 8.6 | E 80.5 |
| April | 3.7 | 1.9 | E 34.0 | 12.9 | .0 | .3 | E .5 | 4.7 | 5.3 | 2.4 | E 6.9 | E 72.7 |
| May | 3.9 | 1.5 | E 32.8 | 13.9 | .0 | .4 | .0 | 5.1 | 3.3 | E 2.4 | E 6.4 | E 69.6 |
| June | E 3.6 | 1.8 | E 32.8 | 12.3 | .0 | .3 | .2 | 5.5 | 3.0 | 2.3 | 7.0 | E 68.7 |
| July | 3.5 | 1.8 | E 31.0 | 14.0 | .0 | .4 | .5 | 5.6 | 2.1 | 1.4 | 6.2 | E 66.5 |
| August | 4.0 | 1.5 | E 31.7 | 13.2 | .0 | .3 | .5 | 5.2 | 2.6 | 1.1 | 6.5 | E 66.6 |
| September | E 4.1 | 1.7 | E 33.2 | E 13.2 | .0 | .3 | .4 | 4.2 | 4.1 | 2.1 | 6.9 | E 70.2 |
| October | 4.5 | 2.0 | E 35.9 | 15.3 | .0 | .2 | .5 | 4.6 | 5.1 | 2.5 | 7.0 | E 77.6 |
| November | 4.4 | 2.0 | E 36.5 | 14.9 | .0 | .3 | .5 | 5.3 | 5.4 | 2.4 | E 7.0 | E 78.8 |
| December | 4.5 | 2.1 | E 38.4 | 15.6 | .0 | .4 | .5 | 5.8 | 5.8 | 2.5 | 7.9 | E 83.5 |
| **Total** | **E 47.8** | **22.5** | **415.2** | **E 168.3** | **.0** | **3.9** | **E 5.0** | **E 62.0** | **57.2** | **E 26.3** | **E 84.9** | **E 893.1** |
| **2001** January | 4.5 | 2.1 | 40.7 | 15.9 | .0 | .4 | .5 | 5.7 | 7.0 | 2.5 | 7.5 | 86.7 |
| February | 3.9 | 1.9 | 34.9 | 14.1 | .0 | .3 | .5 | 5.0 | E 6.6 | 2.3 | E 7.1 | E 76.5 |
| March | 3.4 | 2.0 | 35.4 | 15.3 | .0 | .4 | .5 | 4.9 | 6.9 | 2.5 | E 7.8 | E 79.2 |
| April | 3.7 | 2.0 | 33.1 | 13.9 | .0 | .3 | .4 | 4.8 | 6.2 | 2.4 | E 7.4 | E 74.2 |
| May | 3.5 | 1.5 | 30.4 | 13.2 | .0 | .4 | .1 | 5.8 | 5.8 | 2.5 | 6.5 | 69.6 |
| June | E 3.5 | 2.0 | 30.1 | 12.9 | .0 | .3 | .2 | 5.3 | E 4.9 | 2.2 | 6.6 | E 68.1 |
| July | 3.3 | 2.0 | 32.8 | 13.6 | .0 | .3 | .5 | 5.7 | 4.5 | 1.5 | E 6.6 | E 70.9 |
| August | E 3.3 | 1.7 | 32.4 | 14.7 | .0 | .3 | .5 | 5.6 | 4.9 | 1.2 | 7.7 | E 72.2 |
| September | 3.6 | 1.7 | 34.6 | 14.6 | .0 | .2 | .5 | 4.9 | 5.9 | 2.2 | 8.0 | 76.0 |
| October | 4.5 | 2.0 | 37.5 | 13.5 | .0 | .4 | .5 | 5.0 | 6.9 | 2.5 | 8.0 | 80.9 |
| November | 4.1 | 2.0 | 38.9 | 13.5 | .0 | .3 | .5 | 5.4 | 6.6 | 2.4 | 8.0 | 81.8 |
| December | 4.5 | 2.0 | 40.3 | 16.0 | .0 | .4 | .5 | 5.7 | 6.6 | 2.5 | 9.1 | 87.7 |
| **Total** | **E 45.8** | **22.8** | **421.1** | **171.3** | **.0** | **4.0** | **5.3** | **63.7** | **E 72.8** | **26.7** | **E 90.3** | **E 923.6** |
| **2002** January | 4.4 | 2.0 | E 40.3 | 16.2 | .0 | .4 | .5 | 5.8 | E 6.9 | 2.5 | E 8.6 | E 87.6 |

[a] Through December 1990, the data for Germany are for the former West Germany only. Beginning with January 1991, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

[b] In 1987, Italy's citizens voted for a nuclear power moratorium, which shut down their nuclear power plants indefinitely.

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

[d] Sum of available data only.

NA=Not available. – =Not applicable. E=Estimate.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding.

Source: Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc., used with permission, except for France's 2000 and 2001 monthly and annual values, which are from the Ministry of Industry, General Directorate for Energy and Raw Material, France.

# Table 11.4d Nuclear Electricity Gross Generation: Eastern Europe and Former U.S.S.R.

(Billion Kilowatthours)

| | Eastern Europe and Former U.S.S.R. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Armenia[a] | Bulgaria | Czech Republic[b] | Hungary | Kazakhstan[b] | Lithuania[b] | Romania | Russia | Slovakia[b] | Ukraine | Total[c] |
| **1973 Total** | – | – | – | – | NA | – | – | NA | NA | – | NA |
| **1974 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1975 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1976 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1977 Total** | – | NA | – | – | NA | – | – | NA | NA | – | NA |
| **1978 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1979 Total** | – | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1980 Total** | NA | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1981 Total** | NA | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1982 Total** | NA | NA | – | – | NA | – | – | NA | NA | NA | NA |
| **1983 Total** | NA | NA | – | NA | NA | – | – | NA | NA | NA | NA |
| **1984 Total** | NA | NA | – | NA | NA | – | – | NA | NA | NA | NA |
| **1985 Total** | NA | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1986 Total** | NA | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1987 Total** | NA | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1988 Total** | NA | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1989 Total** | NA | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1990 Total** | .0 | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1991 Total** | .0 | NA | NA | NA | NA | NA | – | NA | NA | NA | NA |
| **1992 Total** | .0 | E 12.2 | E 12.9 | E 13.8 | E .5 | E 16.4 | – | E 125.6 | E 11.7 | E 74.6 | E 267.5 |
| **1993 Total** | .0 | 14.0 | E 13.2 | 13.8 | E .4 | E 12.9 | – | 120.4 | E 11.6 | E 72.7 | E 259.0 |
| **1994 Total** | .0 | 14.9 | E 12.7 | 14.0 | E .4 | E 7.0 | – | 97.7 | E 12.7 | 68.4 | E 227.8 |
| **1995 Total** | NA | 17.2 | E 12.8 | 14.0 | E .4 | E 9.7 | – | 98.3 | E 12.0 | 70.4 | E 234.9 |
| **1996 Total** | NA | 18.7 | E 13.5 | 14.2 | E .1 | E 13.6 | E 1.0 | 108.8 | E 11.8 | 80.0 | E 261.6 |
| **1997 Total** | 1.4 | E 15.5 | .0 | 14.0 | E .3 | 12.1 | 3.9 | 108.1 | 11.0 | 80.8 | E 247.1 |
| **1998 Total** | 1.6 | E 19.2 | E 7.6 | 13.9 | NA | 13.5 | 5.1 | 103.7 | 10.3 | E 74.0 | E 248.9 |
| **1999 Total** | E 2.4 | E 19.0 | 13.4 | 14.2 | NA | 9.9 | E 5.2 | 118.0 | 10.5 | 72.2 | E 264.7 |
| **2000** January | .3 | E 1.4 | E 1.2 | 1.4 | .0 | .9 | .5 | 13.2 | 1.1 | 7.2 | E 27.2 |
| February | .3 | E 1.4 | 1.2 | 1.3 | .0 | .6 | .5 | 12.3 | 1.3 | 6.7 | E 25.7 |
| March | .3 | E 1.5 | 1.1 | 1.1 | .0 | .7 | .5 | 12.9 | 1.3 | 6.7 | E 26.3 |
| April | .3 | E 1.5 | 1.0 | 1.0 | .0 | .5 | .5 | 9.8 | 1.0 | 5.8 | E 21.4 |
| May | .3 | E 1.5 | 1.0 | 1.0 | .0 | .5 | .5 | 9.2 | 1.1 | 5.4 | E 20.7 |
| June | .3 | E 1.5 | 1.0 | 1.0 | .0 | .7 | .5 | 9.5 | 1.4 | 5.9 | E 21.8 |
| July | E .0 | E 1.5 | 1.1 | 1.0 | .0 | .6 | .4 | 8.5 | 1.3 | 6.0 | E 20.4 |
| August | .0 | E 1.5 | E 1.1 | .9 | .0 | .7 | .4 | 9.8 | 1.3 | E 3.2 | E 19.0 |
| September | .0 | E 1.5 | E 1.1 | 1.3 | .0 | .9 | E .5 | 10.1 | 1.5 | 6.7 | E 23.6 |
| October | .0 | E 1.5 | 1.2 | 1.4 | .0 | .8 | .1 | 10.8 | 1.6 | 7.7 | E 25.2 |
| November | (s) | E 1.5 | 1.3 | 1.3 | .0 | E .8 | .5 | 10.6 | 1.7 | 7.3 | E 25.0 |
| December | .3 | E 1.5 | 1.3 | 1.4 | .0 | .9 | .4 | 12.2 | 1.7 | 6.1 | E 26.0 |
| **Total** | E 1.9 | E 18.2 | E 13.8 | 14.2 | .0 | E 8.7 | E 5.5 | 128.9 | 16.2 | E 74.8 | E 282.2 |
| **2001** January | .3 | E 1.6 | 1.3 | 1.4 | .0 | .8 | .5 | 12.5 | 1.5 | 7.0 | E 27.0 |
| February | .2 | E 1.6 | E 1.4 | 1.3 | .0 | .9 | .4 | 11.7 | 1.7 | 7.1 | E 26.4 |
| March | .2 | E 1.6 | 1.4 | 1.2 | .0 | .6 | .5 | 12.4 | 1.3 | 7.5 | E 26.8 |
| April | .2 | E 1.6 | 1.1 | 1.1 | .0 | .5 | .5 | 10.4 | 1.2 | 6.6 | E 23.2 |
| May | .3 | E 1.6 | 1.1 | 1.1 | .0 | .6 | .5 | 9.6 | 1.2 | 5.4 | E 21.4 |
| June | .2 | E 1.6 | 1.1 | 1.1 | .0 | .7 | E .5 | 9.5 | 1.3 | 4.7 | E 20.8 |
| July | .1 | E 1.6 | 1.1 | .9 | .0 | .8 | .5 | 8.9 | 1.3 | 4.9 | E 20.0 |
| August | E .1 | E 1.6 | E 1.1 | .9 | .0 | .8 | .1 | 9.0 | 1.5 | 6.0 | E 21.1 |
| September | E .1 | E 1.6 | 1.0 | 1.0 | .0 | .9 | .3 | 11.1 | E 1.5 | E 6.0 | E 23.5 |
| October | .0 | E 1.6 | 1.4 | 1.4 | .0 | E .9 | .5 | 12.2 | 1.6 | 6.0 | E 25.8 |
| November | .1 | E 1.6 | 1.4 | E 1.4 | .0 | E .9 | .5 | 12.9 | 1.7 | 6.0 | E 26.7 |
| December | .1 | E 1.6 | 1.3 | 1.3 | .0 | 1.7 | .5 | 14.3 | 1.8 | 7.3 | E 30.1 |
| **Total** | E 2.0 | 19.6 | E 14.8 | E 14.2 | .0 | E 10.2 | E 5.4 | 134.4 | E 17.5 | E 74.6 | E 292.8 |
| **2002** January | .3 | NA | 1.3 | 1.4 | .0 | 1.5 | .5 | 13.6 | E 1.8 | E 7.3 | E 27.7 |

[a] According to the International Atomic Energy Agency's *Nuclear Power Reactors in the World,* Tables 7 and 10, Vienna, Austria, April 2001, Armenia's two commercial reactors were shut down in 1989. One re-started in 1995 but the other is permanently shut down.

[b] The total gross generation estimates for Czech Republic, Kazakhstan, Lithuania, and Slovakia are calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency and published in the Energy Information Administration annual reports**—1992 and 1993:** *World Nuclear Outlook 1994,* December 1994, Table 1. **1994:** *Nuclear Power Generation and Fuel Cycle Report 1996,* October 1996, Table 1. **1995 and 1996:** *Nuclear Power Generation and Fuel Cycle Report 1997,* September 1997, Table D4. **1997 forward:** Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

[c] Sum of available data only.

NA=Not available. – =Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves.

Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding.

Source: **Czech Republic, Kazakhstan, Lithuania, Slovakia, and Eastern European Countries:** See footnote b. **Bulgaria and Czech Republic:** 2001 annual total is from NucNet, a copyrighted on-line source at info@worldnuclear.org. Used with permission. **All Other:** Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

# Table 11.4e Nuclear Electricity Gross Generation: Africa and Asia

(Billion Kilowatthours)

| | Africa | Asia | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | South Africa[a] | China[b] | India | Japan | Pakistan | South Korea | Taiwan | Total[c] |
| **1973 Total** | **–** | **–** | **2.5** | **9.4** | **0.5** | **–** | **–** | **12.3** |
| **1974 Total** | **–** | **–** | **1.9** | **18.9** | **.6** | **–** | **–** | **21.4** |
| **1975 Total** | **–** | **–** | **2.5** | **21.3** | **.5** | **–** | **–** | **24.4** |
| **1976 Total** | **–** | **–** | **3.2** | **36.6** | **.5** | **–** | **–** | **40.3** |
| **1977 Total** | **–** | **–** | **2.8** | **28.2** | **.3** | **0.1** | **0.1** | **31.5** |
| **1978 Total** | **–** | **–** | **2.3** | **53.1** | **.2** | **2.3** | **2.7** | **60.6** |
| **1979 Total** | **–** | **–** | **3.2** | **62.0** | **(s)** | **3.2** | **6.3** | **74.7** |
| **1980 Total** | **–** | **–** | **2.9** | **82.8** | **.1** | **3.5** | **8.2** | **97.4** |
| **1981 Total** | **–** | **–** | **3.1** | **86.0** | **.2** | **2.9** | **10.7** | **102.9** |
| **1982 Total** | **–** | **–** | **2.2** | **104.5** | **.1** | **3.8** | **13.1** | **123.6** |
| **1983 Total** | **–** | **–** | **2.9** | **109.1** | **.2** | **9.0** | **18.9** | **140.1** |
| **1984 Total** | **4.2** | **–** | **4.1** | **127.2** | **.3** | **11.8** | **24.3** | **167.7** |
| **1985 Total** | **5.9** | **–** | **4.5** | **152.0** | **.3** | **16.5** | **28.7** | **202.0** |
| **1986 Total** | **9.3** | **–** | **5.1** | **164.8** | **.5** | **26.1** | **26.9** | **223.6** |
| **1987 Total** | **6.6** | **–** | **5.5** | **182.8** | **.3** | **37.8** | **33.1** | **259.5** |
| **1988 Total** | **11.1** | **–** | **6.1** | **173.6** | **.2** | **38.7** | **29.9** | **248.5** |
| **1989 Total** | **11.7** | **–** | **4.0** | **183.7** | **.1** | **47.2** | **28.3** | **263.4** |
| **1990 Total** | **8.9** | **–** | **6.3** | **191.9** | **.4** | **52.8** | **32.9** | **284.3** |
| **1991 Total** | **9.7** | **–** | **5.4** | **205.8** | **.4** | **56.3** | **35.3** | **303.3** |
| **1992 Total** | **9.9** | **–** | **6.3** | **218.0** | **.6** | **56.4** | **33.8** | **315.2** |
| **1993 Total** | **7.7** | **E 2.6** | **6.2** | **243.5** | **.4** | **58.1** | **34.3** | **E 345.2** |
| **1994 Total** | **10.3** | **E 14.2** | **5.0** | **253.8** | **.6** | **58.3** | **34.8** | **E 366.7** |
| **1995 Total** | **11.9** | **E 13.0** | **8.0** | **286.1** | **.5** | **64.0** | **35.3** | **E 407.0** |
| **1996 Total** | **12.5** | **E 14.3** | **8.3** | **293.2** | **.4** | **72.5** | **37.8** | **E 426.4** |
| **1997 Total** | **13.3** | **E 11.4** | **E 11.0** | **318.0** | **.4** | **78.9** | **36.6** | **E 456.2** |
| **1998 Total** | **14.3** | **E 14.5** | **E 11.2** | **326.9** | **.4** | **87.3** | **36.9** | **E 477.2** |
| **1999 Total** | **13.5** | **E 14.6** | **13.2** | **317.4** | **.1** | **94.6** | **38.2** | **E 478.0** |
| **2000** January | 1.3 | E .9 | 1.2 | 25.6 | (s) | 9.4 | 3.6 | E 40.7 |
| February | 1.3 | E .7 | 1.2 | 24.2 | (s) | 8.6 | 3.2 | E 38.0 |
| March | 1.1 | E 1.3 | 1.2 | 28.3 | .1 | 8.9 | 3.1 | E 42.9 |
| April | .8 | E 1.4 | E 1.1 | 28.0 | .1 | 8.3 | 2.6 | E 41.5 |
| May | .7 | E 1.4 | E 1.1 | 27.0 | .1 | 8.8 | 3.1 | E 41.5 |
| June | 1.2 | E 1.4 | 1.2 | 25.9 | .1 | 8.4 | 3.6 | E 40.5 |
| July | 1.3 | E 1.4 | E 1.1 | 28.2 | (s) | 9.3 | 3.6 | E 43.7 |
| August | 1.1 | E 1.5 | E 1.1 | 27.5 | .1 | 9.8 | 3.5 | E 43.3 |
| September | 1.2 | E 1.4 | 1.2 | 24.5 | (s) | 9.6 | 2.9 | E 39.6 |
| October | 1.4 | E 1.4 | 1.4 | 25.5 | .0 | 8.9 | 3.0 | E 40.2 |
| November | 1.2 | 1.1 | E 1.2 | 27.7 | .0 | 8.8 | 2.8 | E 41.6 |
| December | 1.1 | E .7 | E 1.3 | 27.3 | .0 | 10.1 | 3.5 | E 42.9 |
| **Total** | **13.6** | **E 14.7** | **E 14.2** | **319.8** | **.4** | **108.9** | **38.5** | **E 496.5** |
| **2001** January | .8 | E 1.0 | 1.6 | 25.0 | .2 | 10.1 | 3.5 | E 41.4 |
| February | .6 | E .7 | 1.6 | 25.0 | .2 | 9.0 | 2.9 | E 39.4 |
| March | 1.1 | E .7 | E 1.6 | 30.5 | .1 | 9.0 | 2.6 | E 44.6 |
| April | 1.0 | E 1.1 | E 1.6 | 27.4 | .3 | 9.5 | 1.6 | E 41.5 |
| May | 1.3 | E 1.1 | E 1.6 | 25.2 | .2 | 9.1 | 2.5 | E 39.7 |
| June | 1.3 | E 1.1 | E 1.6 | 24.5 | .1 | 8.5 | 3.5 | E 39.4 |
| July | .8 | 1.4 | E 1.6 | 26.7 | .1 | 9.4 | 3.3 | E 42.5 |
| August | .5 | E 1.5 | E 1.6 | 28.4 | .1 | 10.4 | 3.7 | E 45.6 |
| September | .7 | E 1.4 | E 1.6 | E 28.4 | .2 | E 10.4 | 2.8 | E 44.8 |
| October | .5 | E 1.5 | E 1.6 | E 28.4 | .2 | 9.0 | 3.0 | E 43.6 |
| November | 1.2 | E 1.4 | E 1.6 | 26.9 | .2 | 9.6 | 3.1 | E 42.7 |
| December | 1.4 | E .7 | E 1.6 | 28.7 | .2 | 9.4 | 3.0 | E 43.6 |
| **Total** | **11.3** | **E 13.7** | **E 19.2** | **E 324.9** | **2.2** | **E 113.3** | **35.5** | **E 508.8** |
| **2002** January | 1.1 | E 1.0 | E 1.9 | 25.4 | .2 | 9.6 | 3.6 | E 41.6 |

[a] South Africa possesses all of Africa's nuclear electricity generation.

[b] The total gross generation estimates for China are calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency (IAEA) and are published in the Energy Information Administration annual reports**—1993:** *World Nuclear Outlook 1994,* December 1994, Table 1. **1994:** *Nuclear Power Generation and Fuel Cycle Report 1996,* October 1996, Table 1. **1995 and 1996:** *Nuclear Power Generation and Fuel Cycle Report 1997,* September 1997, Table D4. **1997 forward:** Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

[c] Sum of available data only.

– =Not applicable. E=Estimate. (s)=Less than 0.05 billion kilowatthours.

Notes: Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants themselves. Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. Data for countries may not sum to regional totals due to independent rounding.

Source: **China:** See footnote b. **India:** 2001 annual total is from NucNet, a copyrighted on-line source at info@worldnuclear.org. Used with permission. **All Other:** Based on data from *Nucleonics Week,* a copyrighted publication of The McGraw-Hill Publishing Companies, Inc. Used with permission.

## Sources for Tables 11.1a and 11.1b

**United States**—See Table 3.1a.

**All Other Countries: Monthly Data**
1999-forward: *Petroleum Intelligence Weekly, Oil and Gas Journal,* and other industry sources.

**All Other Countries: Annual Data**
1973-1979: Energy Information Administration (EIA), *International Energy Annual 1981*, Table 8.
1980-1999: Office of Energy Markets and End Use, International Energy Database, December 2000.
2000: Average of monthly data.

**World: Monthly Data**
1999-forward: EIA, *International Petroleum Monthly,* sum of all countries' monthly data.

**World: Annual Data**
1973-1979: EIA, *International Energy Annual 1981,* Table 8.
1980-1999: Office of Energy Markets and End Use, International Energy Database, December 2000.
2000: Average of monthly data.

# Appendix A. Thermal Conversion Factors

The thermal conversion factors presented in the following tables can be used to estimate the heat content in British thermal units (Btu) of a given amount of energy measured in physical units, such as barrels or cubic feet. For example, 10 barrels of asphalt has a heat content of approximately 66.36 million Btu (10 barrels x 6.636 million Btu per barrel = 66.36 million Btu).

The heat content rates (i.e., thermal conversion factors) provided in this section represent the gross (or upper) energy content of the fuels. Gross heat content rates are applied in all Btu calculations for the *Monthly Energy Review* and are commonly used in energy calculations in the United States; net (or lower) heat content rates are typically used in European energy calculations. The difference between the two rates is the amount of energy that is consumed to vaporize water that is created during the combustion process. Generally, the difference ranges from 2 percent to 10 percent, depending on the specific fuel and its hydrogen content. Some fuels, such as unseasoned wood, can be more than 40 percent different in their gross and net heat content rates.

In general, the annual thermal conversion factors presented in Tables A1 through A6 are computed from final annual data or from the best available data and labeled "preliminary." Often, the previous year's factor is used as a preliminary value until data become available to calculate the factor appropriate to the year. The source of each factor is described in the section entitled "Thermal Conversion Factor Source Documentation," which follows Table A6 in this appendix.

Thermal conversion factors for hydrocarbon mixes (Table A1) 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 the thermal conversion factor for propane.

## Table A1. Approximate Heat Content of Petroleum Products

(Million Btu per Barrel)

| Petroleum Product | Heat Content | Petroleum Product | Heat Content |
|---|---|---|---|
| Asphalt | 6.636 | Natural Gasoline and Isopentane | 4.620 |
| Aviation Gasoline | 5.048 | Pentanes Plus | 4.620 |
| Butane | 4.326 | Petrochemical Feedstocks | |
| Butane-Propane Mixture[a] | 4.130 | Naptha Less Than 401° F | 5.248 |
| Distillate Fuel Oil | 5.825 | Other Oils Equal to or Greater Than 401° F | 5.825 |
| Ethane | 3.082 | Still Gas | 6.000 |
| Ethane-Propane Mixture[b] | 3.308 | Petroleum Coke | 6.024 |
| Isobutane | 3.974 | Plant Condensate | 5.418 |
| Jet Fuel, Kerosene Type | 5.670 | Propane | 3.836 |
| Jet Fuel, Naphtha Type | 5.355 | Residual Fuel Oil | 6.287 |
| Kerosene | 5.670 | Road Oil | 6.636 |
| Lubricants | 6.065 | Special Naphthas | 5.248 |
| Motor Gasoline | | Still Gas | 6.000 |
| Conventional[c] | 5.253 | Unfinished Oils | 5.825 |
| Reformulated[c] | 5.150 | Unfractionated Stream | 5.418 |
| Oxygenated[c] | 5.150 | Waxes | 5.537 |
| Fuel Ethanol[d] | 3.539 | Miscellaneous | 5.796 |

[a] 60 percent butane and 40 percent propane.
[b] 70 percent ethane and 30 percent propane.
[c] See Table A3 for motor gasoline annual weighted averages beginning in 1994.
[d] Fuel ethanol, which is derived from agricultural feedstocks (primarily corn), is not a petroleum product but is blended into motor gasoline. Its gross heat content (3.539 million Btu per barrel) is used in *Monthly Energy Review* calculations; its net heat content (3.192 million Btu per barrel) is used in the Energy Information Administration's *Renewable Energy Annual* calculations.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

# Table A2. Approximate Heat Content of Crude Oil, Crude Oil and Products, and Natural Gas Plant Liquids

(Million Btu per Barrel)

| | Crude Oil | | | Crude Oil and Products | | Natural Gas Plant Liquids Production |
|---|---|---|---|---|---|---|
| | 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 | 5.800 | 5.906 | 5.800 | 5.833 | 5.857 | 3.826 |
| 1990 | 5.800 | 5.934 | 5.800 | 5.849 | 5.833 | 3.822 |
| 1991 | 5.800 | 5.948 | 5.800 | 5.873 | 5.823 | 3.807 |
| 1992 | 5.800 | 5.953 | 5.800 | 5.877 | 5.777 | 3.804 |
| 1993 | 5.800 | 5.954 | 5.800 | 5.883 | 5.779 | 3.801 |
| 1994 | 5.800 | 5.950 | 5.800 | 5.861 | 5.779 | 3.794 |
| 1995 | 5.800 | 5.938 | 5.800 | 5.855 | 5.746 | 3.796 |
| 1996 | 5.800 | 5.947 | 5.800 | 5.847 | 5.736 | 3.777 |
| 1997 | 5.800 | 5.954 | 5.800 | 5.862 | 5.734 | 3.762 |
| 1998 | 5.800 | 5.953 | 5.800 | 5.861 | 5.720 | 3.769 |
| 1999 | 5.800 | 5.942 | 5.800 | 5.840 | 5.699 | 3.744 |
| 2000 | 5.800 | 5.959 | 5.800 | 5.849 | 5.658 | 3.733 |
| 2001[a] | 5.800 | 5.976 | 5.800 | 5.866 | 5.737 | 3.735 |
| 2002[a] | 5.800 | 5.976 | 5.800 | 5.866 | 5.737 | 3.735 |

[a] Preliminary.

Note: Crude oil includes lease condensate.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

## Table A3. Approximate Heat Content of Petroleum Products, Weighted Averages

(Million Btu per Barrel)

| | Consumption | | | | | | Imports | Exports | Liquefied Petroleum Gases Consumption | Motor Gasoline Consumption |
|---|---|---|---|---|---|---|---|---|---|---|
| | Residential | Commercial | Industrial | Transportation | Electric Utilities | Total | | | | |
| 1973 | 5.205 | 5.749 | 5.568 | 5.395 | 6.245 | 5.515 | 5.983 | 5.752 | 3.746 | 5.253 |
| 1974 | 5.196 | 5.740 | 5.538 | 5.394 | 6.238 | 5.504 | 5.959 | 5.773 | 3.730 | 5.253 |
| 1975 | 5.192 | 5.704 | 5.528 | 5.392 | 6.250 | 5.494 | 5.935 | 5.747 | 3.715 | 5.253 |
| 1976 | 5.215 | 5.726 | 5.538 | 5.395 | 6.251 | 5.504 | 5.980 | 5.743 | 3.711 | 5.253 |
| 1977 | 5.213 | 5.733 | 5.555 | 5.400 | 6.249 | 5.518 | 5.908 | 5.796 | 3.677 | 5.253 |
| 1978 | 5.213 | 5.716 | 5.553 | 5.404 | 6.251 | 5.519 | 5.955 | 5.814 | 3.669 | 5.253 |
| 1979 | 5.298 | 5.769 | 5.418 | 5.428 | 6.258 | 5.494 | 5.811 | 5.864 | 3.680 | 5.253 |
| 1980 | 5.245 | 5.803 | 5.376 | 5.440 | 6.254 | 5.479 | 5.748 | 5.841 | 3.674 | 5.253 |
| 1981 | 5.191 | 5.751 | 5.313 | 5.432 | 6.258 | 5.448 | 5.659 | 5.837 | 3.643 | 5.253 |
| 1982 | 5.167 | 5.751 | 5.263 | 5.422 | 6.258 | 5.415 | 5.664 | 5.829 | 3.615 | 5.253 |
| 1983 | 5.022 | 5.642 | 5.273 | 5.415 | 6.255 | 5.406 | 5.677 | 5.800 | 3.614 | 5.253 |
| 1984 | 5.129 | 5.700 | 5.223 | 5.422 | 6.251 | 5.395 | 5.613 | 5.867 | 3.599 | 5.253 |
| 1985 | 5.115 | 5.660 | 5.221 | 5.423 | 6.247 | 5.387 | 5.572 | 5.819 | 3.603 | 5.253 |
| 1986 | 5.130 | 5.691 | 5.286 | 5.427 | 6.257 | 5.418 | 5.624 | 5.839 | 3.640 | 5.253 |
| 1987 | 5.095 | 5.659 | 5.253 | 5.430 | 6.249 | 5.403 | 5.599 | 5.860 | 3.659 | 5.253 |
| 1988 | 5.118 | 5.657 | 5.248 | 5.434 | 6.250 | 5.410 | 5.618 | 5.842 | 3.652 | 5.253 |
| 1989 | 5.057 | 5.615 | 5.233 | 5.440 | 6.241 | 5.410 | 5.641 | 5.869 | 3.683 | 5.253 |
| 1990 | 4.952 | 5.612 | 5.272 | 5.445 | 6.247 | 5.411 | 5.614 | 5.838 | 3.625 | 5.253 |
| 1991 | 4.912 | 5.591 | 5.192 | 5.442 | 6.248 | 5.384 | 5.636 | 5.827 | 3.614 | 5.253 |
| 1992 | 4.943 | 5.579 | 5.188 | 5.445 | 6.243 | 5.378 | 5.623 | 5.774 | 3.624 | 5.253 |
| 1993 | 4.943 | 5.573 | 5.200 | 5.438 | 6.241 | 5.379 | 5.620 | 5.777 | 3.606 | 5.253 |
| 1994 | 4.940 | 5.583 | 5.170 | 5.427 | 6.231 | 5.361 | 5.534 | 5.777 | 3.635 | [b]5.230 |
| 1995 | 4.928 | 5.549 | 5.140 | 5.419 | 6.210 | 5.341 | 5.483 | 5.740 | 3.623 | 5.215 |
| 1996 | 4.871 | 5.497 | 5.136 | 5.421 | 6.212 | 5.336 | 5.468 | 5.728 | 3.613 | 5.216 |
| 1997 | 4.873 | 5.463 | 5.139 | 5.417 | 6.220 | 5.336 | 5.469 | 5.726 | 3.616 | 5.213 |
| 1998 | 4.844 | 5.447 | 5.156 | 5.416 | 6.220 | 5.349 | 5.462 | 5.710 | 3.614 | 5.212 |
| 1999 | 4.751 | 5.368 | 5.115 | 5.419 | 6.208 | 5.328 | 5.421 | 5.684 | 3.616 | 5.211 |
| 2000 | 4.760 | 5.395 | 5.089 | 5.427 | 6.193 | 5.326 | 5.432 | 5.651 | 3.607 | 5.210 |
| 2001[a] | 4.760 | 5.395 | 5.089 | 5.427 | 6.193 | 5.346 | 5.460 | 5.736 | 3.614 | 5.210 |
| 2002[a] | 4.760 | 5.395 | 5.089 | 5.427 | 6.193 | 5.346 | 5.460 | 5.736 | 3.614 | 5.210 |

[a] Preliminary.
[b] Beginning in 1994, the single constant factor is replaced with a quantity-weighted average of motor gasoline's major components. See Table A1.
Note: Weighted averages of the products included in each category are calculated by using heat content values shown in Table A1.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

# Table A4. Approximate Heat Content of Natural Gas

(Btu per Cubic Foot)

| | Production | | Consumption | | | | |
|---|---|---|---|---|---|---|---|
| | Dry | Marketed | Sectors Other Than Electric Utilities | Electric Utilities | Total | Imports | Exports |
| 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 | 1,031 | 1,107 | 1,031 | 1,030 | 1,031 | 1,004 | 1,019 |
| 1990 | 1,031 | 1,105 | 1,030 | 1,034 | 1,031 | 1,012 | 1,018 |
| 1991 | 1,030 | 1,108 | 1,031 | 1,024 | 1,030 | 1,014 | 1,022 |
| 1992 | 1,030 | 1,110 | 1,031 | 1,022 | 1,030 | 1,011 | 1,018 |
| 1993 | 1,027 | 1,106 | 1,028 | 1,022 | 1,027 | 1,020 | 1,016 |
| 1994 | 1,028 | 1,105 | 1,029 | 1,022 | 1,028 | 1,022 | 1,011 |
| 1995 | 1,027 | 1,106 | 1,027 | 1,025 | 1,027 | 1,021 | 1,011 |
| 1996 | 1,027 | 1,109 | 1,027 | 1,024 | 1,027 | 1,022 | 1,011 |
| 1997 | 1,026 | 1,107 | 1,027 | 1,019 | 1,026 | 1,023 | 1,011 |
| 1998 | 1,031 | 1,109 | 1,033 | 1,019 | 1,031 | 1,023 | 1,011 |
| 1999 | 1,027 | 1,107 | 1,028 | 1,019 | 1,027 | 1,022 | 1,006 |
| 2000[a] | 1,025 | 1,107 | 1,026 | 1,020 | 1,025 | 1,023 | 1,006 |
| 2001[a] | 1,025 | 1,107 | 1,026 | 1,020 | 1,025 | 1,023 | 1,006 |
| 2002[a] | 1,025 | 1,107 | 1,026 | 1,020 | 1,025 | 1,023 | 1,006 |

[a] Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

## Table A5. Approximate Heat Content of Coal and Coal Coke

(Million Btu per Short Ton)

| | Coal | | | | | | | | | Coal Coke |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Consumption | | | | | | | | |
| | | End-Use Sectors | | | Electric Power Sector | | | | | |
| | | | Industrial | | | | | | | |
| | Production | Residential and Commercial | Coke Plants | Other[a] | Electric Utilities | Other Power Producers[b] | Total | Imports | Exports | Imports and Exports |
| 1973 | 23.376 | 22.831 | 26.780 | 22.586 | 22.246 | NA | 23.057 | 25.000 | 26.596 | 24.800 |
| 1974 | 23.072 | 22.479 | 26.778 | 22.419 | 21.781 | NA | 22.677 | 25.000 | 26.700 | 24.800 |
| 1975 | 22.897 | 22.261 | 26.782 | 22.436 | 21.642 | NA | 22.506 | 25.000 | 26.562 | 24.800 |
| 1976 | 22.855 | 22.774 | 26.781 | 22.530 | 21.679 | NA | 22.498 | 25.000 | 26.601 | 24.800 |
| 1977 | 22.597 | 22.919 | 26.787 | 22.322 | 21.508 | NA | 22.265 | 25.000 | 26.548 | 24.800 |
| 1978 | 22.248 | 22.466 | 26.789 | 22.207 | 21.275 | NA | 22.017 | 25.000 | 26.478 | 24.800 |
| 1979 | 22.454 | 22.242 | 26.788 | 22.452 | 21.364 | NA | 22.100 | 25.000 | 26.548 | 24.800 |
| 1980 | 22.415 | 22.543 | 26.790 | 22.690 | 21.295 | NA | 21.947 | 25.000 | 26.384 | 24.800 |
| 1981 | 22.308 | 22.474 | 26.794 | 22.585 | 21.085 | NA | 21.713 | 25.000 | 26.160 | 24.800 |
| 1982 | 22.239 | 22.695 | 26.797 | 22.712 | 21.194 | NA | 21.674 | 25.000 | 26.223 | 24.800 |
| 1983 | 22.052 | 22.775 | 26.798 | 22.691 | 21.133 | NA | 21.576 | 25.000 | 26.291 | 24.800 |
| 1984 | 22.010 | 22.844 | 26.799 | 22.543 | 21.101 | NA | 21.573 | 25.000 | 26.402 | 24.800 |
| 1985 | 21.870 | 22.646 | 26.798 | 22.020 | 20.959 | NA | 21.366 | 25.000 | 26.307 | 24.800 |
| 1986 | 21.913 | 22.947 | 26.798 | 22.198 | 21.084 | NA | 21.462 | 25.000 | 26.292 | 24.800 |
| 1987 | 21.922 | 23.404 | 26.799 | 22.381 | 21.136 | NA | 21.517 | 25.000 | 26.291 | 24.800 |
| 1988 | 21.823 | 23.571 | 26.799 | 22.360 | 20.900 | NA | 21.328 | 25.000 | 26.299 | 24.800 |
| 1989 | 21.765 | 23.650 | 26.800 | 22.347 | 20.848 | 21.474 | 21.268 | 25.000 | 26.160 | 24.800 |
| 1990 | 21.822 | 23.137 | 26.799 | 22.457 | 20.929 | 20.539 | 21.324 | 25.000 | 26.202 | 24.800 |
| 1991 | 21.681 | 23.114 | 26.799 | 22.460 | 20.755 | 19.933 | 21.131 | 25.000 | 26.188 | 24.800 |
| 1992 | 21.682 | 23.105 | 26.799 | 22.250 | 20.787 | 18.983 | 21.107 | 25.000 | 26.161 | 24.800 |
| 1993 | 21.418 | 22.994 | 26.800 | 22.123 | 20.639 | 19.040 | 20.947 | 25.000 | 26.335 | 24.800 |
| 1994 | 21.394 | 23.112 | 26.800 | 22.068 | 20.673 | 19.485 | 20.979 | 25.000 | 26.329 | 24.800 |
| 1995 | 21.326 | 23.118 | 26.800 | 21.950 | 20.495 | 19.471 | 20.815 | 25.000 | 26.180 | 24.800 |
| 1996 | 21.322 | 23.011 | 26.800 | 22.105 | 20.525 | 19.427 | 20.826 | 25.000 | 26.174 | 24.800 |
| 1997 | 21.296 | 22.494 | 26.800 | 22.172 | 20.548 | 19.596 | 20.836 | 25.000 | 26.251 | 24.800 |
| 1998 | 21.418 | 22.620 | 27.426 | 23.164 | 20.513 | 20.143 | 20.868 | 25.000 | 26.800 | 24.800 |
| 1999 | 21.070 | 23.880 | 27.426 | 22.489 | 20.401 | 20.718 | 20.753 | 25.000 | 26.081 | 24.800 |
| 2000[c] | 21.072 | 23.880 | 27.426 | 22.489 | 20.401 | 20.718 | 20.753 | 25.000 | 26.117 | 24.800 |
| 2001[c] | 21.072 | 23.880 | 27.426 | 22.489 | 20.401 | 20.718 | 20.753 | 25.000 | 26.117 | 24.800 |
| 2002[c] | 21.072 | 23.880 | 27.426 | 22.489 | 20.401 | 20.718 | 20.753 | 25.000 | 28.117 | 24.800 |

[a] Includes transportation.
[b] Nonutility wholesale producers of electricity, and nonutility cogeneration plants that are not included in the end-use sectors.
[c] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

# Table A6. Approximate Heat Rates for Electricity

(Btu per Kilowatthour)

| | Electricity Net Generation | | | |
|---|---|---|---|---|
| | Fossil-Fueled Steam-Electric Plants[a] | Nuclear Steam-Electric Plants | Geothermal Energy Plants[b] | Electricity Consumption |
| 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 | 10,440 | 10,843 | 21,303 | 3,412 |
| 1985 | 10,447 | 10,813 | 21,263 | 3,412 |
| 1986 | 10,446 | 10,799 | 21,263 | 3,412 |
| 1987 | 10,419 | 10,776 | 21,263 | 3,412 |
| 1988 | 10,324 | 10,743 | 21,096 | 3,412 |
| 1989 | 10,432 | 10,724 | 21,096 | 3,412 |
| 1990 | 10,402 | 10,680 | 21,096 | 3,412 |
| 1991 | 10,436 | 10,740 | 20,997 | 3,412 |
| 1992 | 10,342 | 10,678 | 20,914 | 3,412 |
| 1993 | 10,309 | 10,682 | 20,914 | 3,412 |
| 1994 | 10,316 | 10,676 | 20,914 | 3,412 |
| 1995 | 10,312 | 10,658 | 20,914 | 3,412 |
| 1996 | 10,340 | 10,623 | 20,960 | 3,412 |
| 1997 | 10,357 | 10,623 | 20,960 | 3,412 |
| 1998 | 10,346 | 10,623 | 21,017 | 3,412 |
| 1999 | 10,346 | 10,623 | 21,017 | 3,412 |
| 2000[c] | 10,346 | 10,623 | 21,017 | 3,412 |
| 2001[c] | 10,346 | 10,623 | 21,017 | 3,412 |
| 2002[c] | 10,346 | 10,623 | 21,017 | 3,412 |

[a] Used as the thermal conversion factor for hydroelectric power generation, and for wood and waste, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

[b] Used as the thermal conversion factor for geothermal energy consumed at electric utilities.

[c] Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows this table.

# Thermal Conversion Factor Source Documentation

## Approximate Heat Content of Petroleum and Natural Gas Plant Liquids

**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 Bureau of Mines thermal conversion factor of 5.048 million Btu per barrel for "Gasoline, Aviation" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985,* a 1968 release of historical and projected statistics.

**Butane.** EIA adopted the Bureau of Mines thermal conversion factor of 4.326 million Btu per barrel 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**.

**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 through 1996, by determining the average American Petroleum Institute (API) gravity of crude imported from each foreign country from Form ERA-60 in 1977, or for 1997 and later, by determining the weighted average API gravity from the Form EIA-814, and converting average API gravity to average Btu content by 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**.

**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 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**.

**Fuel Ethanol Blended Into Motor Gasoline.** EIA adopted the thermal conversion factor of 3.539 million Btu per barrel published in "Oxygenate Flexibility for Future Fuels," a paper presented by William J. Piel of the ARCO Chemical Company at the National Conference on Reformulated Gasolines and Clean Air Act Implementation, Washington, D.C., October 1991.

**Isobutane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel in the *California Oil World and 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 for "Jet Fuel, Commercial" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985,* a 1968 release of historical and projected statistics.

**Jet Fuel, Naphtha Type**. EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel for "Jet Fuel, Military" as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947-1985,* a 1968 release of historical and projected statistics.

**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."

**Liquefied Petroleum Gases.** • 1960 through 1966: U.S. Department of the Interior, Bureau of Mines, Mineral Industry Surveys, *Crude Petroleum and Petroleum Products, 1956,* Table 4 footnote, constant value of 4.011 million Btu per barrel. • 1967 forward: Calculated annually by EIA as a weighted average by multiplying the quantity consumed of each of the component products by each product's conversion factor, listed in this appendix, and dividing the sum of those heat contents by the sum of the quantities consumed.

The component products are ethane (including ethylene), propane (including propylene), normal butane (including butylene), butane-propane mixtures, ethane-propane mixtures, and isobutane. Quantities consumed are from: 1967 through 1980: EIA, Energy Data Reports, *Petroleum Statement, Annual,* Table 1. 1981 forward: EIA, *Petroleum Supply Annual,* Table 2.

**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, Annual, 1956.*

**Motor Gasoline.** • 1960 through 1993: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for "Gasoline, Motor Fuel" as published by the Texas Eastern Transmission Corporation in Appendix V of Competition and Growth in American Energy Markets 1947-1985, a 1968 release of historical and projected statistics. • 1994 forward: EIA calculated national annual quantity-weighted average conversion factors for conventional, reformulated, and oxygenated motor gasolines (shown in appendix Table C1). The factor for conventional motor gasoline is 5.253 million Btu per barrel, as used for previous years. The factors for reformulated and oxygenated gasolines, both currently 5.150 million Btu per barrel, are based on data published in the Environmental Protection Agency, Office of Mobile Sources, National Vehicle and Fuel Emissions Laboratory report EPA 420-F-95-003, Fuel Economy Impact Analysis of Reformulated Gasoline.

**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.

**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 factor for special naphthas. See **Special Naphthas.**

**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 memorandum, "Bureau of Mines Standard Average Heating Value of Various Fuels, Adopted January 3, 1950." The Bureau of Mines calculated this factor by dividing 30.120 million 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.

**Petroleum Products, Total 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.** 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.*

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

**Petroleum Products, Consumption by Residential and Commercial Users.** 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*.

**Petroleum Products, Consumption by Transportation Users**. 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*.

**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.

**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 in the *California Oil World and Petroleum Industry,* First Issue, April 1942.

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

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

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

**Unfinished Oils.** 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.*

**Waxes.** 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 Natural Gas

**Natural Gas, Total 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 publication. 1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity of natural gas consumed. The heat content and quantity consumed are from Form EIA-176. Published sources are: 1980-1989: EIA, *Natural Gas Annual 1992, Volume 2,* Table 15. 1990-1992: EIA, *Natural Gas Annual 1992, Volume 2,* Table 16. 1993 forward: 1992 value used as an estimate.

**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 Sectors Other Than Electric Utilities**. Calculated annually by EIA by dividing the heat content of all natural gas consumed less the heat content of natural gas consumed at electric utilities by the quantity of all natural gas consumed less the quantity of natural gas consumed at electric utilities. 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 Total 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.

## Approximate Heat Content of Coal and Coal Coke

**Coal, Total Consumption.** Calculated annually by EIA by dividing the sum of the heat content of coal (including anthracite culm and waste coal) consumption by the total tonnage.

**Coal, Consumption by Electric Utilities**. Calculated annually by EIA by dividing the sum of the heat content of coal (including anthracite culm and waste coal) received at electric utilities by the sum of the tonnage received.

**Coal, Consumption by Other Power Producers.** Calculated annually by dividing the total heat content of coal (including anthracite culm and waste coal) consumed by other power producers by their total consumption tonnage.

**Coal, Consumption by the Electric Power Sector.** Calculated annually by dividing the total heat content of coal (including anthracite culm and waste coal) by total consumption tonnage of the electric power sector.

**Coal, Consumption by End-Use Sectors.** Calculated annually by EIA by dividing the sum of the heat content of coal (including anthracite culm and waste coal) consumed by the end-use sectors by the sum of the total tonnage.

**Coal, Exports**. Calculated annually by EIA by dividing the sum of the heat content of coal exported by the sum of the total tonnage.

**Coal, Imports.** Calculated annually by EIA by dividing the sum of the heat content of coal imported by the sum of the total tonnage.

**Coal, Production.** Calculated annually by EIA by dividing the sum of the total heat content of coal (including some anthracite culm) produced by the sum of the total tonnage.

**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-Fueled Steam-Electric 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. Therefore, EIA uses data from Form EIA-767 to calculate a rate factor 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. 1973-1991: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published by EIA in *Electric Plant Cost and Power Production Expenses 1991*, Table 9. 1992 forward: Unpublished factors calculated on the basis of data from Form EIA-767.

**Geothermal Energy Plant Generation.** 1973-1981: Calculated annually by EIA by weighting the annual average heat rates of operating geothermal units by the installed nameplate capacities as reported on Form FPC-12. 1982 forward: Estimated annually by EIA on the basis of an informal survey of relevant plants.

**Nuclear Steam-Electric Plant Generation.** 1973-1991: Calculated annually by EIA by dividing the total heat content consumed in nuclear generating units by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation are reported on Form FERC-1, "Annual Report of Major Electric Utilities, Licenses, and Others"; Form EIA-412, "Annual Report of Public Electric Utilities"; and predecessor forms. The factors, beginning with 1982 data, are published in the following EIA reports—1982: *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982,* page 215. 1983-1991: *Electric Plant Cost and Power Production Expenses 1991*, Table 13. 1992 forward: Calculated annually by EIA by dividing the total heat content of the steam leaving the nuclear generating units to generate electricity by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation data are reported in Nuclear Regulatory Commission, *Licensed Operating Reactors—Status Summary Report.*

# Appendix B. Metric and Other Physical Conversion Factors

Data presented in the *Monthly Energy Review* and in other Energy Information Administration publications are expressed predominately in units that historically have been used in the United States, such as British thermal units, barrels, cubic feet, and short tons. However, because U.S. commerce involves other nations, most of which use metric units of measure, the U.S. Government is committed to the transition to the metric system, as stated in the Metric Conversion Act of 1975 (Public Law 94–168), amended by the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100–418), and Executive Order 12770 of July 25, 1991.

The metric conversion factors presented in Table B1 can be used to calculate the metric-unit equivalents of values expressed in U.S. customary units. For example, 500 short tons are the equivalent of 453.6 metric tons (500 short tons x 0.9071847 metric tons/short ton = 453.6 metric tons).

In the metric system of weights and measures, the names of multiples and subdivisions of any unit may be derived by combining the name of the unit with prefixes, such as deka, hecto, and kilo, meaning, respectively, 10, 100, 1,000, and deci, centi, and milli, meaning, respectively, one-tenth, one-hundredth, and one-thousandth. Common metric prefixes can be found in Table B2.

The conversion factors presented in Table B3 can be used to calculate equivalents in various physical units commonly used in energy analyses. For example, 10 barrels are the equivalent of 420 U.S. gallons (10 barrels x 42 gallons/barrel = 420 gallons).

## Table B1. Metric Conversion Factors

| Type of Unit | U.S. Unit | *multiplied by* | Conversion Factor | *equals* | Metric Unit |
|---|---|---|---|---|---|
| **Mass** | short tons (2,000 lb) | x | 0.907 184 7 | = | metric tons (t) |
| | long tons | x | 1.016 047 | = | metric tons (t) |
| | pounds (lb) | x | .453 592 37[a] | = | kilograms (kg) |
| | pounds uranium oxide (lb $U_3O_8$) | x | 0.384 647[b] | = | kilograms uranium (kgU) |
| | ounces, avoirdupois (avdp oz) | x | 28.349 52 | = | grams (g) |
| **Volume** | barrels of oil (bbl) | x | 0.158 987 3 | = | cubic meters ($m^3$) |
| | cubic yards ($yd^3$) | x | 0.764 555 | = | cubic meters ($m^3$) |
| | cubic feet ($ft^3$) | x | 0.028 316 85 | = | cubic meters ($m^3$) |
| | U.S. gallons (gal) | x | 3.785 412 | = | liters (L) |
| | ounces, fluid (fl oz) | x | 29.573 53 | = | milliliters (mL) |
| | cubic inches ($in^3$) | x | 16.387 06 | = | milliliters (mL) |
| **Length** | miles (mi) | x | 1.609 344[a] | = | kilometers (km) |
| | yards (yd) | x | 0.914 4[a] | = | meters (m) |
| | feet (ft) | x | 0.304 8[a] | = | meters (m) |
| | inches (in) | x | 2.54[b] | = | centimeters (cm) |
| **Area** | acres | x | 0.404 69 | = | hectares (ha) |
| | square miles ($mi^2$) | x | 2.589 988 | = | square kilometers ($km^2$) |
| | square yards ($yd^2$) | x | 0.836 127 4 | = | square meters ($m^2$) |
| | square feet ($ft^2$) | x | 0.092 903 04[a] | = | square meters ($m^2$) |
| | square inches ($in^2$) | x | 6.451 6[b] | = | square centimeters ($cm^2$) |
| **Temperature** | degrees Fahrenheit ($^oF$) | x | 5/9 (after subtracting 32)[a,c] | = | degrees Celsius ($^oC$) |
| **Energy** | British thermal units (Btu) | x | 1,055.055 852 62[a,d] | = | joules (J) |
| | calories (cal) | x | 4.186 8[a] | = | joules (J) |
| | Kilowatthours (kWh) | x | 3.6[a] | = | megajoules (MJ) |

[a]Exact conversion.
[b]Calculated by the Energy Information Administration.
[c]To convert degrees Celsius ($^oC$) to degrees Fahrenheit ($^oF$) exactly, multiply by 9/5, then add 32.
[d]The Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

Notes: • Spaces have been inserted after every third digit to the right of the decimal for ease of reading. • Most metric units belong to the International System of Units (SI), and the liter, hectare, and metric ton are accepted for use with the SI units. For more information about the SI units, contact Dr. Barry Taylor at Building 221, Room B610, National Institute of Standards and Technology, Gaithersburg, MD 20899, or on telephone number 301–975–4220.

Sources: • General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 27, 1993), pp. 9–11, 13, and 16. • National Institute of Standards and Technology, Special Publications 330, 811, and 814. • American National Standards Institute/Institute of Electrical and Electronic Engineers, ANSI/IEEE Std 268–1992, pp. 28 and 29.

## Table B2. Metric Prefixes

| Unit Multiple | Prefix | Symbol | Unit Subdivision | Prefix | Symbol |
|---|---|---|---|---|---|
| $10^{1}$ | deka | da | $10^{-1}$ | deci | d |
| $10^{2}$ | hecto | h | $10^{-2}$ | centi | c |
| $10^{3}$ | kilo | k | $10^{-3}$ | milli | m |
| $10^{6}$ | mega | M | $10^{-6}$ | micro | |
| $10^{9}$ | giga | G | $10^{-9}$ | nano | n |
| $10^{12}$ | tera | T | $10^{-12}$ | pico | p |
| $10^{15}$ | peta | P | $10^{-15}$ | femto | f |
| $10^{18}$ | exa | E | $10^{-18}$ | atto | a |
| $10^{21}$ | zetta | Z | $10^{-21}$ | zepto | z |
| $10^{24}$ | yotta | Y | $10^{-24}$ | yocto | y |

Source: U.S. Department of Commerce, National Institute of Standards and Technology, *The International System of Units (SI),* NIST Special Publication 330, 1991 Edition (Washington, DC, August 1991), p.10.

## Table B3. Other Physical Conversion Factors

| Energy Source | Original Unit | *multiplied by* | Conversion Factor | *equals* | Final Unit |
|---|---|---|---|---|---|
| **Petroleum** | barrels (bbl) | x | 42[a] | = | U.S. gallons (gal) |
| **Coal** | short tons | x | 2,000[a] | = | pounds (lb) |
| | long tons | x | 2,240[a] | = | pounds (lb) |
| | metric tons (t) | x | 1,000[a] | = | kilograms (kg) |
| **Wood** | cords (cd) | x | 1.25[b] | = | shorts tons |
| | cords (cd) | x | 128[a] | = | cubic feet ($ft^3$) |

[a]Exact conversion.
[b]Calculated by the Energy Information Administration.
Source: U.S. Department of Commerce, National Institute of Standards and Technology, *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices,* NIST Handbook 44, 1994 Edition (Washington, DC, October 1993), pp. B-10, C-17 and C-21.

# Appendix C. Carbon Dioxide Emission Factors for Coal

Table C1 presents U.S. average carbon dioxide emission factors for coal by sector. The factors measure the emissions produced during the combustion of coal and were derived by the Energy Information Administration (EIA) from 5,426 sample analyses in EIA's Coal Analysis File. The factors are ratios of the carbon dioxide emitted to the heat content of the coal burned, assuming complete combustion. Factors vary according to the rank and geographic origin of the coal. Sectoral factors reflect the rank and origin of the coal consumed in the sector.

**Table C1. Average Carbon Dioxide Emission Factors for Coal by Sector**
(Pounds of Carbon Dioxide per Million Btu)

| Year | Residential and Commercial | Industrial | | Electric Utilities | U.S. Average[b] |
|---|---|---|---|---|---|
| | | Coke Plants[a] | Other Coal | | |
| 1980 | 210.6 | 205.8 | 205.9 | 206.7 | 206.5 |
| 1981 | 212.0 | 205.8 | 205.9 | 206.9 | 206.7 |
| 1982 | 210.4 | 205.7 | 206.0 | 207.0 | 206.9 |
| 1983 | 209.2 | 205.5 | 205.9 | 207.1 | 207.0 |
| 1984 | 209.5 | 205.6 | 206.2 | 207.1 | 207.0 |
| 1985 | 209.3 | 205.6 | 206.4 | 207.3 | 207.1 |
| 1986 | 209.2 | 205.4 | 206.5 | 207.3 | 207.1 |
| 1987 | 209.4 | 205.2 | 206.4 | 207.3 | 207.2 |
| 1988 | 209.1 | 205.3 | 206.4 | 207.6 | 207.3 |
| 1989 | 209.7 | 205.3 | 206.6 | 207.5 | 207.3 |
| 1990 | 209.5 | 206.2 | 206.8 | 207.6 | 207.4 |
| 1991 | 210.2 | 206.2 | 206.9 | 207.7 | 207.5 |
| 1992 | 211.2 | 206.2 | 207.1 | 207.7 | 207.6 |
| 1993 | 209.9 | 206.2 | 207.0 | 207.8 | 207.7 |
| 1994 | 209.8 | 206.3 | 207.2 | 207.9 | 207.8 |
| 1995 | 210.2 | 206.4 | 207.2 | 208.1 | 207.9 |
| 1996 | 209.5 | 206.5 | 207.0 | 208.1 | 208.0 |
| 1997 | 210.2 | 206.6 | 207.2 | 208.2 | 208.0 |
| 1998 | 209.7 | 206.7 | 206.9 | 204.4 | 206.9 |
| 1999 | 208.8 | 206.7 | 207.0 | 204.6 | 204.8 |

[a]No allowances have been made for carbon retained in non-energy coal chemical byproducts from the carbonization process.
[b]Weighted average. The weights used are consumption values by sector.
Source: Energy Information Administration, Office of Coal, Nuclear, Electric and Alternate Fuels.

# Appendix D. List of Features

The following is a complete list of features that have appeared in the *Monthly Energy Review* since the first issue was published in October 1974. There are several categories of features on the list: "Energy Plugs" are synopses of recently released EIA products. "Articles" cover a wide range of energy-related subjects in depth; "Highlights" summarize the most important information presented in the subject Energy Information Administration (EIA) report; "Energy Previews" provide brief overviews of EIA preliminary energy data on a given topic; "EIA Data News" items present information on recent changes in the scope, design, methodology, and findings of EIA's energy surveys and databases; and "Energy Snapshots" use graphics to set off key data from EIA survey reports.

| Feature | Cover Date |
|---|---|
| **2002** | |
| Energy Plug: *Performance Profiles of Major Energy Producers 2000* | January 2002 |
| Energy Plug: *Voluntary Reporting of Greenhouse Gases 2000* | February 2002 |
| Energy Plug: *Analysis of Corporate Average Fuel Economy Standards for Light Trucks and Increased Alternative Fuel Use* | March 2002 |
| **2001** | |
| Energy Plug: Energy Education Resources | January 2001 |
| Energy Plug: *Impact of Interruptible Natural Gas Service on Northeast Heating Oil Demand* | February 2001 |
| Energy Plug: *Performance Profiles of Major Energy Producers 1999* | February 2001 |
| Energy Plug: *Renewable Energy 2000: Issues and Trends* | March 2001 |
| Energy Plug: *Summer 2001 Motor Gasoline Outlook* | April 2001 |
| Energy Plug: *International Energy Outlook 2001* | April 2001 |
| Energy Plug: *State Energy Data Report 1999: Consumption Estimates* | May 2001 |
| Energy Plug: *The Transition to Ultra-Low-Sulfur Diesel Fuel: Effects on Prices and Supply* | May 2001 |
| Energy Plug: Energy Market Maps | June 2001 |
| Energy Plug: *Coal Industry Annual 1999* | July 2001 |
| Energy Plug: *Annual Energy Review 2000* | August 2001 |
| Energy Plug: *World Energy "Areas To Watch"* | August 2001 |
| Energy Plug: *Electric Power Annual 2000, Volume I* | September 2001 |
| Energy Plug: *Winter Fuels Outlook: 2001-2002* | October 2001 |
| Energy Plug: *Fuel Oil and Kerosene Sales 2000* | October 2001 |
| Energy Plug: *The Majors' Shift to Natural Gas* | October 2001 |
| Energy Plug: *Annual Energy Outlook 2002, Early Release* | November 2001 |
| Energy Plug: *Emissions of Greenhouse Gases in the United States 2000* | November 2001 |
| Energy Plug: *State Energy Price and Expenditure Report 1999* | November 2001 |
| Energy Plug: *Energy Education Resources* | December 2001 |
| Energy Plug: *U.S. Natural Gas Markets: Mid-Term Prospects for Natural Gas Supply* | December 2001 |
| **2000** | |
| Energy Plug: *Inventory of Nonutility Electric Power Plants in the United States 1998* | January 2000 |
| Energy Plug: *The Changing Structure of the Electric Power Industry 1999: Mergers and Other Corporate Combinations* | January 2000 |
| Energy Plug: *International Energy Annual 1998* | February 2000 |
| Energy Plug: *Performance Profiles of Major Energy Producers 1998* | February 2000 |
| Energy Plug: OPEC Revenues Fact Sheet | March 2000 |
| Energy Plug: *Country Analysis Brief: Iran* | March 2000 |
| Energy Plug: *International Energy Outlook 2000* | April 2000 |
| Energy Plug: *Outlook for Biomass Ethanol Production and Demand* | April 2000 |
| Energy Plug: *Summer 2000 Motor Gasoline Outlook* | May 2000 |
| Energy Plug: *State Energy Price and Expenditure Report 1997* | June 2000 |
| Energy Plug: *Energy Consumption and Renewable Energy Development Potential on Indian Lands* | June 2000 |
| Energy Plug: *Annual Energy Review 1999* | July 2000 |
| Energy Plug: *A Primer on Gasoline Prices* | August 2000 |
| Energy Plug: *Long-Term World Oil Supply: A Resource Base/Production Path Analysis* | August 2000 |
| Energy Plug: *U.S. Carbon Dioxide Emissions From Energy Sources: 1999 Flash Estimate* | September 2000 |
| Energy Plug: *The Electric Transmission Network: A Multi-Region Analysis* | September 2000 |

## 2000 (Continued)

Energy Plug: *Propane Prices: What Consumers Should Know* . . . October 2000
Energy Plug: *Winter Fuels Outlook: 2000-2001* . . . October 2000
Energy Plug: *Advance Summary: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 1999 Annual Report* . . . October 2000
Energy Plug: *Residential Natural Gas Prices: What Consumers Should Know* . . . November 2000
Energy Plug: *The Changing Structure of the Electric Power Industry 2000: An Update* . . . November 2000
Energy Plug: *Annual Energy Outlook 2001 Early Release* . . . December 2000
Energy Plug: *Residential Heating Oil Prices: What Consumers Should Know* . . . December 2000

## 1999

Energy Plug: *Performance Profiles of Major Energy Producers 1997* . . . January 1999
Energy Plug: *State Energy Data Report 1996* . . . February 1999
Energy Plug: *State Electricity Profiles* . . . March 1999
Energy Plug: *International Energy Annual 1997* . . . April 1999
Energy Plug: *International Energy Outlook 1999* . . . April 1999
Energy Plug: *Natural Gas 1998: Issues and Trends* . . . May 1999
Energy Plug: *Electric Power Annual 1998, Volume I* . . . June 1999
Energy Plug: *Annual Energy Review 1998* . . . July 1999
Energy Plug: *Energy in the Americas* . . . August 1999
Energy Plug: *State Energy Data Report 1997* . . . September 1999
Energy Plug: *The U.S. Coal Industry in the 1990s: Low Prices and Record Production* . . . September 1999
Energy Plug: *Issues in Midterm Analysis and Forecasting 1999* . . . October 1999
Energy Plug: *1999-2000 Winter Fuels Outlook* . . . November 1999
Energy Plug: *Emissions of Greenhouse Gases in the United States 1998* . . . November 1999
Energy Plug: *Annual Energy Outlook 2000* . . . December 1999
Energy Plug: *Energy in Africa* . . . December 1999

## 1998

Energy Plug: *Performance Profiles of Major Energy Producers 1996* . . . January 1998
Energy Plug: *International Energy Annual 1996* . . . February 1998
Energy Plug: *Assessment of Summer 1997 Motor Gasoline Price Increase* . . . April 1998
Energy Plug: *Deliverability on the Interstate Natural Gas Pipeline System* . . . May 1998
Energy Plug: *The Changing Structure of the Electric Power Industry: Selected Issues, 1998* . . . June 1998
Energy Plug: *Annual Energy Review 1997* . . . July 1998
Energy Plug: *State Energy Price and Expenditure Report 1995* . . . August 1998
Energy Plug: A View of the Forest Products Industry From a Wood Energy Perspective . . . August 1998
Energy Plug: 25th Anniversary of the 1973 Oil Embargo: Energy Trends Since the First Major U.S. Energy Crisis . . . September 1998
Energy Plug: Energy Education Resources: Kindergarten Through 12th Grade . . . September 1998
Energy Plug: *Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity* . . . October 1998
Energy Plug: *Emissions of Greenhouse Gases in the United States 1997* . . . October 1998
Energy Plug: *Wind Energy Developments: Incentives in Selected Countries* . . . November 1998
Energy Plug: *Annual Energy Outlook 1999* . . . November 1998

## 1997

Energy Plug: *Annual Energy Outlook 1997* . . . January 1997
Energy Plug: *The Changing Structure of the Electric Power Industry: An Update* . . . January 1997
Energy Plug: *Performance Profiles of Major Energy Producers 1995* . . . January 1997
Energy Plug: *The Effects of Title IV of the Clean Air Act Amendments of 1990 on Electric Utilities: An Update* . . . March 1997
Energy Plug: *International Energy Outlook 1997* . . . April 1997
Energy Plug: *Restructuring Energy Industries: Lessons From Natural Gas* . . . May 1997
Energy Plug: *An Analysis of U.S. Propane Markets: Winter 1996-97* . . . June 1997
Energy Plug: *State Energy Price and Expenditure Report 1994* . . . June 1997
Energy Plug: *Annual Energy Review 1996* . . . July 1997
Energy Plug: *Motor Gasoline Assessment 1997* . . . July 1997
Energy Plug: *Commercial Buildings Characteristics 1995* . . . July 1997
Energy Plug: *Household Vehicles Energy Consumption 1994* . . . August 1997
Energy Plug: *Electricity Prices in a Competitive Environment* . . . August 1997
Energy Plug: *Petroleum 1996: Issues and Trends* . . . September 1997
Energy Plug: The Intricate Puzzle of Oil and Gas "Reserves Growth" . . . September 1997
Energy Plug: *Emissions of Greenhouse Gases in the United States 1996* . . . October 1997
Energy Plug: *Electricity Reform Abroad and U.S. Investment* . . . October 1997
Energy Plug: *Annual Energy Outlook 1998* . . . November 1997
Energy Plug: Winter Heating Fuels Assessments . . . December 1997
Energy Plug: *Oil and Gas Resources of the West Siberian Basin, Russia* . . . December 1997

## 1996

Energy Plug: *Renewable Energy Annual 1995* . . . January 1996
Energy Plug: *State Energy Price and Expenditure Report 1993* . . . January 1996
Energy Plug: *Annual Energy Outlook 1996* . . . February 1996
Energy Plug: *Alternatives to Traditional Transportation Fuels 1994, Volume 1* . . . February 1996

## 1996 (Continued)



## 1995



## 1994



## 1993

## 1992

Energy Preview: Residential Energy Consumption and Expenditures Preliminary Estimates, 1990 . . . . . April 1992
EIA Data News: Oxygenate Data Collection Begins . . . . . May 1992
Highlights: *Lighting in Commercial Buildings* . . . . . June 1992
Article: Demand, Supply, and Price Outlook for Oxygenated Gasoline, Winter 1992-1993 . . . . . August 1992
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management . . . . . September 1992
EIA Data News: EIA Statistics on Nonutility Power Producers . . . . . October 1992
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management . . . . . November 1992
Article: Energy Efficiency in the Manufacturing Sector . . . . . December 1992

## 1991

Highlights: *U.S. Energy Industry Financial Developments, 1990 Fourth Quarter* . . . . . March 1991
Article: U.S. Wholesale Electricity Transactions . . . . . April 1991

## 1990

Article: Refining Results Highlight Energy Companies' First-Half Profit Performance . . . . . June 1990
Highlights: *U.S. Oil and Gas Reserves by Year of Field Discovery* . . . . . August 1990

## 1989

Article: A Review of Valdez Oil Spill Market Impacts . . . . . March 1989
Article: Monthly U.S. Crude Oil Production Estimates . . . . . March 1989
Article: Superconductivity and Energy Production and Consumption . . . . . May 1989
Highlights: *Commercial Buildings Consumption and Expenditures 1986* . . . . . May 1989
Article: Higher Prices Yield Improved Energy Industry Financial Results in the First Half of 1989 . . . . . June 1989
Article: The Future Structure of the U.S. Commercial Nuclear Power Equipment Manufacturing Industry . . . . . July 1989
Highlights: *Potential Costs of Restricting Chlorofluorocarbon Use* . . . . . September 1989
Highlights: *Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985* . . . . . October 1989
Highlights: *Household Energy Consumption and Expenditures 1987, Part 1: National Data* . . . . . November 1989
Article: Improved Energy Profits Offset by Refining Results in 1989 . . . . . December 1989

## 1988

Article: Measures of Energy Consumption, Expenditures, and Prices . . . . . May 1988
Article: The U.S. Energy Industry's Financial Recovery Continued in the First Half of 1988 . . . . . June 1988
Article: A U.S. Perspective on Condensate . . . . . June 1988
Highlights: *Characteristics of Commercial Buildings 1986* . . . . . June 1988
Article: State Energy Severance Taxes, 1972-1987 . . . . . July 1988
Highlights: *Manufacturing Energy Consumption Survey: Consumption of Energy, 1985* . . . . . September 1988
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1987* . . . . . October 1988
Highlights: *Manufacturing Energy Consumption Survey: Fuel Switching, 1985* . . . . . November 1988
Article: Increased Refining Income Led U.S. Energy Industry Financial Recovery in 1988 . . . . . December 1988

## 1987

Article: Manufacturing Sector Energy Consumption, 1985 Provisional Estimates . . . . . January 1987
Highlights: *Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data* . . . . . April 1987
Highlights: *Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data* . . . . . May 1987
Article: U.S. Energy Industry Financial Developments, 1987 Second Quarter . . . . . June 1987
Article: End-Use Consumption of Residential Energy . . . . . July 1987
Highlights: *Uranium Industry Annual 1986* . . . . . September 1987
Highlights: *Potential Oil Production from ANWR* . . . . . October 1987
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1986* . . . . . November 1987
Article: The U.S. Energy Industry in 1987: A Slow Recovery . . . . . December 1987

## 1986

Article: State Motor Gasoline Taxes, 1960-1985 . . . . . March 1986
Article: The Impact of Low Oil Prices on Electric Utility Fuel Choice . . . . . June 1986
Article: U.S. Energy Industry Financial Developments, 1986 Second Quarter . . . . . June 1986
Highlights: *International Energy Annual 1985* . . . . . September 1986
Article: U.S. Energy Industry Financial Developments, 1986 . . . . . December 1986

## 1985

Highlights: *Annual Energy Review 1984* . . . . . January 1985
Highlights: *Performance Profiles of Major Energy Producers 1983* . . . . . February 1985
Article: Estimating Well Completions . . . . . March 1985
Highlights: *State Energy Price and Expenditure Report 1970-1982* . . . . . March 1985
Highlights: *State Energy Data Report, Consumption Estimates, 1960-1983* . . . . . April 1985
Highlights: *Annual Outlook for U.S. Electric Power 1985* . . . . . June 1985
Highlights: *Short-Term Energy Outlook, Volume 1, October 1985* . . . . . August 1985
Highlights: Analysis of Growth in Electricity Demand, 1980-1984 . . . . . August 1985
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1984* . . . . . November 1985
Highlights: *Performance Profiles of Major Energy Producers 1984* . . . . . December 1985

## 1984

Highlights: *Annual Energy Review 1983* . . . . . February 1984
Highlights: *Annual Energy Outlook 1983* . . . . . March 1984
Highlights: *State Energy Data Report, Consumption Estimates, 1960-1982* . . . . . March 1984
Highlights: *State Energy Price and Expenditure Report, 1970-1981* . . . . . May 1984
Highlights: *Solar Collector Manufactruring Activity 1983* . . . . . June 1984
Highlights: *International Energy Annual 1983* . . . . . September 1984
Highlights: *Estimates of U.S. Wood Energy Consumption, 1980-1983* . . . . . September 1984
Highlights: *Energy Conservation Indicators 1983 Annual Report*. . . . . November 1984
Highlights: *Annual Energy Outlook 1984* . . . . . December 1984

## 1983

Highlights: *Residential Energy Consumption Survey: Consumption and Expenditures* . . . . . January 1983
Highlights: *Residential Energy Consumption Survey: Housing Characteristics* . . . . . February 1983
Article: The Effect of Weather on Energy Use . . . . . April 1983
Article: Trends in U.S. Energy Since 1973 . . . . . May 1983
Article: Data Series on Petroleum Use at Electric Utilities . . . . . July 1983
Highlights: *Energy Price and Expenditure Data Report, 1970-1980* . . . . . July 1983
Highlights: *Railroad Deregulation: Impact on Coal* . . . . . August 1983
Highlights: *Port Deepening and User Fees: Impact on U.S. Coal Exports* . . . . . August 1983
Highlights: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report* . . . . . September 1983
Article: Residential Energy Consumption, 1978 Through 1981 . . . . . September 1983
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Article: Aggregate Statistics: Accurate or Misleading? . . . . . December 1983[3]

## 1982

Article: The Interstate and Intrastate Natural Gas Markets . . . . . January 1982
Article: Natural Gas Drilling and Production Under the Natural Gas Policy Act . . . . . February 1982
Highlights: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1981 Annual Report* . . . . . September 1982
Article: Impacts of Financial Constraints on the Electric Utility Industry . . . . . October 1982
Highlights: *Energy Company Development Patterns in the Postembargo Era* . . . . . November 1982

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Article: Changes in 1981 Petroleum Data Series . . . . . May 1981
Article: Information Services of the Energy Information Administration . . . . . September 1981
Article: An Overview of Natural Gas Markets . . . . . December 1981

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Article: The Solar Collector Industry and Solar Energy . . . . . February 1980
Article: Trends in the Installation of Energy Using Equipment in New Residential Buildings . . . . . March 1980
Article: The Energy Information Administration's Oil and Gas Reserves Program—The First Year's Report . . . . . June 1980
Article: Energy From Urban Waste . . . . . August 1980
Article: Natural Gas Liquids: Revisions to 1979 Data . . . . . October 1980
Article: EIA Weekly Petroleum Data: Data Collection and Methods of Estimation . . . . . November 1980
Article: The Department of Energy Disclosure Policy for Individually Identifiable Information Maintained by the Energy Information Administration . . . . . December 1980

## 1979

Article: The Energy Requirements of U.S. Agriculture . . . . . July 1979
Article: Three Mile Island—Possible Regulatory Responses and Their Impacts on the Nation's Short-Term Electric Utility Fuel Outlook . . . . . October 1979
Article: Reduction in Natural Gas Requirements Due to Fuel Switching . . . . . December 1979

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Article: Short-Term Petroleum Supply and Demand . . . . . May 1978

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Article: Crude Oil Entitlements Program . . . . . January 1977
Article: Motor Gasoline Supply and Demand . . . . . July 1977

## 1976

Article: Curtailments of Natural Gas Service . . . . . January 1976
Article: Home Heating Conservation Alternatives and the Solar Collector Industry . . . . . March 1976
Article: Trends in United States Petroleum Imports . . . . . September 1976

## 1975

Article: Energy Consumption . . . . . March 1975
Article: Nuclear Power . . . . . April 1975
Article: The Price of Crude Oil . . . . . June 1975
Article: U.S. Coal Resources and Reserves . . . . . July 1975
Article: Propane—A National Energy Resource . . . . . September 1975
Article: Short-Term Energy Supply and Demand Forecasting at FEA . . . . . October 1975

# Glossary

**Alcohol Fuels**: See **Fuel Ethanol**.

**Anthracite:** The highest rank of coal. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. It is used primarily for residential and commercial space heating. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million Btu per ton on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). Note: Since the 1980s anthracite refuse or mine waste has been used for steam-electric power generation. This fuel typically has a heat content of 15 million Btu per ton or less.

**Anthracite Culm:** Waste from Pennsylvania anthracite preparation plants, consisting of coarse rock fragments containing as much as 30 percent small-sized coal; sometimes defined as including very fine coal particles called silt. Its heat value ranges from 8 to 17 million Btu per short ton.

**Asphalt:** A dark-brown-to-black cement-like material containing bitumens as the predominant constituents obtained by petroleum processing. The definition includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts.

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

**Aviation Gasoline Blending Components:** Naphthas that are used for blending or compounding into finished aviation gasoline (e.g., straight-run gasoline, alkylate, and reformate). Excludes oxygenates (alcohols and ethers), butane, and pentanes plus.

**Aviation Gasoline, Finished:** All special grades of gasoline used in aviation reciprocating engines, as given in ASTM Specification D910 and Military Specification MIL-G-5572. Excludes blending components that will be used in blending or compounding into finished aviation gasoline.

**Barrel (Petroleum):** A unit of volume equal to 42 U.S. gallons.

**Base (Cushion) 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 dense, black coal, often with well-defined bands of bright and dull material. Bituminous coal is the most abundant coal in active U.S. mining regions. It is used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make coke. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million Btu per ton on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**British Thermal Unit (Btu):** The quantity of heat needed to raise the temperature of 1 pound of water by 1° F at or near 39.2° F. See **Heat Content of a Quantity of Fuel, Gross** and **Heat Content of a Quantity of Fuel, Net**.

**Bunker Oil:** Fuels supplied to ships and aircraft in international transportation, irrespective of the flag of the carrier, consisting primarily of residual, distillate, and jet fuel oils.

**Butane:** A normally gaseous straight-chain or branched-chain hydrocarbon ($C_4H_{10}$). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

*Isobutane:* A normally gaseous branched-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams.

*Normal Butane*: A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 31.1° F. It is extracted from natural gas or refinery gas streams.

**Butylene:** An olefinic hydrocarbon ($C_4H_8$) recovered from refinery processes.

**Capacity Factor:** The ratio of the electrical energy produced by a generating unit for a given period of time to the electrical energy that could have been produced at continuous full-power operation during the same period.

**Chained Dollars:** A measure used to express real prices. Real prices are those that have been adjusted to remove the effect of changes in the purchasing power of the dollar; they usually reflect buying power relative to a reference year. Prior to 1996, real prices were expressed in constant dollars, a measure based on the weights of goods and services in a single year, usually a recent year. In 1996, the U.S. Department of Commerce introduced the chained-dollar measure. The new measure is based on the average weights of goods and services in successive pairs of years. It is "chained" because the second year in each pair, with its weights,

becomes the first year of the next pair. The advantage of using the chained-dollar measure is that it is more closely related to any given period and is therefore subject to less distortion over time.

**CIF:** See **Cost, Insurance, Freight**.

**City Gate:** A point or measuring station at which a distribution gas utility receives gas from a natural gas pipeline company or transmission system.

**Coal:** A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

**Coal Coke:** See **Coke, Coal**.

**Coal Rank:** The classification of coals according to their degree of progressive alteration from lignite to anthracite. In the U.S. classification, the ranks include lignite, subbituminous coal, bituminous coal, and anthracite, and are based on fixed carbon, volatile matter, heating value, and agglomerating (or caking) properties.

**Coal Stocks**: Coal quantities that are held in storage for future use and disposition. Note: When coal data are collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of the period.

**Cogenerator:** A generating facility that produces electricity and another form of useful energy (such as heat or steam) used for industrial, commercial, heating, or cooling purposes. See **Nonutility Power Producers.**

**Coke, Coal**: A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000° F so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke (coal) has a heating value of 24.8 million Btu per ton.

**Coke, Petroleum:** A residue high in carbon content and low in hydrogen that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion is 5 barrels (42 U.S. gallons each) per short ton. Coke (petroleum) has a heating value of 6.024 million Btu per barrel.

**Coking Coal:** Bituminous coal suitable for making coke. See **Coke, Coal**.

**Commercial Sector:** An energy-consuming sector that consists of service-providing facilities of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes **institutional living quarters**. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment.

**Completion:** The installation of permanent equipment for the production of oil or gas. If a well is equipped to produce only oil or gas from one zone or reservoir, the definition of a well (classified as an oil well or gas well) and the definition of a completion are identical. However, if a well is equipped to produce oil and/or gas separately from more than one reservoir, a well is not synonymous with a completion.

**Constant Dollars:** See **Chained Dollars.**

**Conventional Gasoline:** Finished motor gasoline not included in the oxygenated or reformulated gasoline categories. Note: This category excludes reformulated gasoline blendstock for oxygenate blending (RBOB) as well as other blendstock.

**Conventional Hydroelectric Power**: **Hydroelectric power** that is not generated by **pumped storage**.

**Conversion Factor:** A number that translates units of one system into corresponding values of another system. Conversion factors can be used to translate physical units of measure for various fuels into Btu equivalents. See **British Thermal Unit.**

**Cost, Insurance, Freight (CIF):** A sales transaction in which the seller pays for the transportation and insurance of the goods to the port of destination specified by the buyer.

**Crude Oil:** A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include: 1) small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included; 2) small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals; and 3) drip gases, and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale.

Liquids produced at natural gas processing plants are excluded. Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel and jet fuels; lubricants; asphalt; ethane, propane, and butane; and many other products used for their energy or chemical content.

**Crude Oil f.o.b. Price:** The crude oil price actually charged at the oil-producing country's port of loading. Includes deductions for any rebates and discounts or additions of premiums, where applicable. It is the actual price paid with no adjustment for credit terms.

**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. Where identifiable, liquids produced at natural gas pro-

cessing plants and mixed with crude oil are likewise excluded.

**Crude Oil Landed Cost:** The price of crude oil at the port of discharge, including charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. The cost does not include charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage).

**Crude Oil Refinery Input:** The total crude oil put into processing units at refineries.

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

**Crude Oil Used Directly:** Crude oil consumed as fuel by crude oil pipelines and on crude oil leases.

**Cubic Foot (Natural Gas):** A unit of volume equal to 1 cubic foot at a pressure base of 14.73 pounds standard per square inch absolute and a temperature base of 60° F.

**Degree-Day Normals:** Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1961-1990). The averages may be simple degree-day normals or population-weighted degree-day normals.

**Degree-Days, Cooling (CDD):** A measure of how warm a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the base temperature (65 degrees) from the average of the day's high and low temperatures, with negative values set equal to zero. Each day's cooling degree-days are summed to create a cooling degree-day measure for a specified reference period. Cooling degree-days are used in energy analysis as an indicator of air conditioning energy requirements or use.

**Degree-Days, Heating (HDD):** A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree-days are summed to create a heating degree-day measure for a specified reference period. Heating degree-days are used in energy analysis as an indicator of space heating energy requirements or use.

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

**Design Electrical Rating, Net:** The nominal net electrical output of a nuclear unit as specified by the electric utility for the purpose of plant design.

**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:** A general classification for one of the petroleum fractions produced in conventional distillation operations. Included are products known as No. 1, No. 2, and No. 4 fuel oils and No. 1, No. 2, and No. 4 diesel fuels. It is 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.

**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.

**Dry Natural Gas Production:** See **Natural Gas (Dry) Production.**

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

**Electricity:** A form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change.

**Electricity Capacity:** The maximum load of electric power, commonly expressed in **kilowatts** (kW) or megawatts (MW), by which generators, turbines, transformers, transmission circuits, stations, and systems are rated.

**Electricity Generation:** The process of producing electric energy, or the amount of electric energy produced by transforming other forms of energy, commonly expressed in **kilowatthours** (kWh) or megawatthours (MWh).

**Electricity Generation, Gross:** The total amount of electric energy produced by generating units and measured at the generating terminal in **kilowatthours** (kWh) or megawatthours (MWh).

**Electricity Generation, Net:** The amount of **gross electricity generation** less the electrical energy consumed at the generating station(s) for station service or auxiliaries. *Note:* Electricity required for pumping at **pumped-storage** plants is regarded as electricity for station service and is deducted from gross generation.

**Electricity Sales:** The amount of kilowatthours sold in a given period of time; usually grouped by classes of service, such as residential, commercial, industrial, and other. "Other" sales include sales for public street and highway lighting and other sales to public authorities, sales to railroads and railways, and interdepartmental sales.

**Electric Power:** The rate at which electric energy is transferred. Electric power is measured by capacity and is commonly expressed in **kilowatts** (kW) or megawatts (MW).

**Electric Power Plant:** A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

**Electric Power Sector:** An energy-consuming sector that consists of all utility and nonutility facilities and equipment used to generate, transmit, and/or distribute electricity. See **Electric Utility** and **Nonutility Power Producer**.

**Electric Utility:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns and/or operates facilities for the generation, transmission, distribution, or sale of electric energy for use primarily by the public. Utilities provide electricity within a designated franchised service area and file forms listed in the *Code of Federal Regulations*, Title 18, Part 141. *Note:* Facilities that qualify as **cogenerators** or **small power producers** under the Public Utility Regulatory Policies Act (PURPA) are not considered electric utilities. See **Nonutility Power Producer**.

**End-Use Sectors:** The **residential**, **commercial**, **industrial**, and **transportation** sectors of the economy.

**Energy:** The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

**Energy Consumption:** The use of energy as a source of heat or power or as an input in the manufacturing process.

**Energy-Use Sectors:** A group of major energy-consuming components of U.S. society developed to measure and analyze energy use. The sectors most commonly referred to in EIA are: **residential**, **commercial**, **industrial**, **transportation**, and **electric power**.

**Ethane:** A normally gaseous straight-chain hydrocarbon ($C_2H_6$). It is a colorless, paraffinic gas that boils at a temperature of -127.48° F. It is extracted from natural gas and refinery gas streams.

**Ethanol:** See **Fuel Ethanol**.

**Ethylene:** An olefinic hydrocarbon ($C_2H_4$) recovered from refinery processes or petrochemical processes.

**Exploratory Well:** A well drilled to find and produce oil or gas in an area previously considered an unproductive area, to find a new reservoir in a known field (i.e., one previously found to be producing 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 and to Puerto Rico, the Virgin Islands, and other U.S. possessions and territories.

**Extraction Loss:** The reduction in volume of natural gas due to the removal of natural gas liquid constituents, such as ethane, propane, and butane, at natural gas processing plants.

**f.a.s.:** See **Free Alongside Ship**.

**Federal Energy Administration (FEA):** A predecessor of the Energy Information Administration.

**Federal Energy Regulatory Commission (FERC):** The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the Department of Energy and is the successor to the Federal Power Commission.

**Federal Power Commission (FPC):** The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. It was abolished on September 30, 1977, when the Department of Energy was created. Its functions were divided between the Department of Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

**First Purchase Price:** The marketed first sales price of domestic crude oil, consistent with the removal price defined by the provisions of the Windfall Profits Tax on Domestic Crude Oil (Public Law 96-223, Sec. 4998 (c)).

**Flared Natural Gas:** Natural gas burned in flares on the base site or at gas processing plants.

**f.o.b.:** See **Free on Board**.

**Footage Drilled:** Total footage for wells in various categories, as reported for any specified period, includes (1) the deepest total depth (length of well bores) of all wells drilled from the surface, (2) the total of all bypassed footage drilled in connection with reported wells, and (3) all new footage drilled for directional sidetrack wells. Footage reported for directional sidetrack wells does not include footage in the common bore, which is reported as footage for the original well. In the case of old wells drilled deeper, the reported footage is that which was drilled below the total depth of the old well.

**Former U.S.S.R.:** See **U.S.S.R.**

**Fossil Fuel:** An energy source formed in the Earth's crust from decayed organic material, such as **petroleum**, **coal**, and **natural gas**.

**Fossil-Fueled 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.

**Free Alongside Ship (f.a.s.):** The value of a commodity at the port of exportation, generally including the purchase price, plus all charges incurred in placing the commodity alongside the carrier at the port of exportation.

**Free on Board (f.o.b.):** A sales transaction in which the seller makes the product available at a given port and price and the buyer pays for the transportation and insurance.

**Fuel Ethanol:** An anhydrous, denatured aliphatic alcohol ($C_2H_5OH$) intended for motor gasoline blending. See **Oxygenates.**

**Full-Power Operation:** Operation of a nuclear generating unit at 100 percent of its design capacity. Full-power operation precedes commercial operation.

**Gasohol:** A blend of finished motor gasoline containing 10 percent or less alcohol (generally ethanol but sometimes methanol). See **Motor Gasoline, Oxygenated**.

**Gas-Turbine Electric Power Plant:** A plant in which the prime mover is a gas turbine. A gas turbine typically consists of an axial-flow air compressor, one or more combustion chambers where liquid or gaseous fuel is burned and the hot gases expand to drive the generator and then are used to run the compressor.

**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:** Hot water or steam extracted from geothermal reservoirs in the earth's crust and used for geothermal heat pumps, water heating, or electricity generation.

**Gross Domestic Product (GDP):** The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier (that is, the workers and, for property, the owners) may be either U.S. residents or residents of foreign countries.

**GT/IC:** Gas turbine and internal combustion plants.

**Heat Content of a Quantity of Fuel, Gross:** The total amount of heat released when a fuel is burned. Coal, crude oil, and natural gas all include chemical compounds of carbon and hydrogen. When those fuels are burned, the carbon and hydrogen combine with oxygen in the air to produce carbon dioxide and water. Some of the energy released in burning goes into transforming the water into steam and is usually lost. The amount of heat spent in transforming the water into steam is counted as part of gross heat content but is not counted as part of net heat content. It is also referred to as the higher heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heat Content of a Quantity of Fuel, Net:** The amount of usable heat energy released when a fuel is burned under conditions similar to those in which it is normally used. Also referred to as the lower heating value. Btu conversion factors typically used in EIA represent gross heat content.

**Heavy Oil:** The fuel oils remaining after the lighter oils have been distilled off during the refining process. Except for start-up and flame stabilization, virtually all petroleum used in steam-electric power plants is heavy oil.

**Household:** A family, an individual, or a group of up to nine unrelated persons occupying the same housing unit. "Occupy" means that the housing unit is the person's usual or permanent place of residence.

**Hydrocarbon:** An organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, the primary constituent of natural gas) to the very heavy and very complex.

**Hydroelectric Power:** The production of electricity from the kinetic energy of falling water.

**Hydroelectric Power Plant:** A plant in which the turbine generators are driven by falling water.

**Hydroelectric Pumped Storage:** Hydroelectricity that is generated during peak load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

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

**Independent Power Producer:** A corporation, person, agency, authority, or other legal entity or instrumentality which is a wholesale electricity producer that operates within the franchised service territory of a host **electric utility** and is usually authorized to sell at market-based rates. Unlike traditional electric utilities, independent power producers do not possess transmission facilities, unless authorized by law, nor do they sell electricity in the retail market. Independent power producers are considered to be **nonutility power producers.**

**Industrial Sector:** An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing; agriculture, forestry, and fisheries; mining; and construction. Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products.

**Injections (Natural Gas):** Natural gas injected into storage reservoirs.

**Institutional Living Quarters:** Space provided by a business or organization for long-term housing of individuals whose reason for shared residence is their association with the business or organization. Such quarters commonly have both individual and group living spaces, and the business or organization is responsible for some aspects of resident life beyond the simple provision of living quarters. Examples include prisons; nursing homes and other long-term medical care facilities; military barracks; college dormitories; and convents and monasteries.

**Internal Combustion Electric Power Plant:** A power plant in which the prime mover is an internal combustion engine. Diesel or gas-fired engines are the principal

types used in electric power plants. The plant is usually operated during periods of high demand for electricity.

**Isobutane:** A normally gaseous branch-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9 F. It is extracted from natural gas or refinery gas streams. See **Butane.**

**Isobutylene:** An olefinic hydrocarbon recovered from refinery processes or petrochemical processes.

**Isopentane:** A saturated branched-chain hydrocarbon obtained by fractionation of natural gasoline or isomerization of normal pentane.

**Jet Fuel:** A refined petroleum product used in jet aircraft engines. It includes kerosene-type jet fuel and naphtha-type jet fuel.

**Jet Fuel, Kerosene-Type:** A kerosene-based product with a maximum distillation temperature of 400 F at the 10-percent recovery point and a final maximum boiling point of 572° F. Fuel specifications are provided in ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8). It is used primarily for commercial turbojet and turboprop aircraft engines.

**Jet Fuel, Naphtha-Type:** A fuel in the heavy naphtha boiling range, with an average gravity of 52.8 degrees API, 20 to 90 percent distillation temperatures of 290 to 470 F and meeting Military Specification MIL-T-5624L (Grade JP-4). It is used by the military for turbojet and turboprop engines.

**Kerosene:** A petroleum distillate having a maximum distillation temperature of 401° F at the 10-percent recovery point, a final boiling point of 572° F, and a minimum flash point of 100° F. Included are the two grades designated in ASTM D3699 (No. 1-K and No. 2-K) and all grades of kerosene called range or stove oil. Kerosene is used in space heaters, cook stoves, and water heaters; it is suitable for use as an illuminant when burned in wick lamps.

**Kilowatt:** A unit of electrical power equal to 1,000 **watts**.

**Kilowatthour (kWh):** A measure of electricity defined as a unit of work or energy, measured as 1 **kilowatt** (1,000 **watts**) of power expended for 1 hour. One kilowatthour is equivalent to 3,412 Btu. See **Watthour.**

**Landed Costs:** The dollar-per-barrel price of crude oil at the port of discharge. Included are the charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Not included are charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage charges).

**Lease and Plant Fuel:** Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and used as fuel in natural gas processing plants.

**Lease Condensate:** A mixture consisting primarily of pentanes and heavier hydrocarbons, which is recovered as a liquid from natural gas in lease or field separation facilities. Note: This category excludes natural gas liquids, such as butane and propane, which are recovered at natural gas processing plants or facilities.

**Light Oil:** Lighter fuel oils distilled off during the refining process. Virtually all petroleum used in internal combustion and gas-turbine engines is light oil.

**Lignite:** The lowest rank of coal. Often referred to as brown coal, it is used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million Btu per ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 14 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Liquefied Natural Gas (LNG):** Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260° F at atmospheric pressure.

**Liquefied Petroleum Gases (LPG):** Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate new natural gas plant liquids.

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

**Lubricants:** Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricant categories are paraffinic and naphthenic.

**Marketed Production:** Gross withdrawals less gas used for repressuring, quantities vented and flared, and nonhydrocarbon gases removed in treating or processing operations. Includes all quantities of gas used in field and processing operations.

**Metallurgical Coal:** Coking coal and pulverized coal consumed in making steel.

**Methane:** A colorless, flammable, odorless, hydrocarbon gas ($CH_4$) that is the principal constituent of natural gas. It is also an important source of hydroge in various industrial processes.

**Methyl Tertiary Butyl Ether (MTBE):** An ether, $(CH_3)_3COCH_3$, intended for motor gasoline blending. See **Oxygenates**.

**Methanol:** A light, volatile alcohol ($CH_3OH$) eligible for motor gasoline blending. See **Oxygenates.**

**Miscellaneous Petroleum Products:** All finished petroleum products not classified elsewhere—for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

**Motor Gasoline Blending:** Mechanical mixing of motor gasoline blending components and oxygenates as required, to produce finished motor gasoline. Finished motor gasoline may be further mixed with other motor gasoline blending components or oxygenates, resulting in increased volumes of finished motor gasoline and/or changes in the formulation of finished motor gasoline (e.g., conventional motor gasoline mixed with MTBE to produce oxygenated motor gasoline).

**Motor Gasoline Blending Components:** Naphtha (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, xylene) used for blending or compounding into finished motor gasoline. These components include reformulated gasoline blendstock (RBOB) but exclude oxygenates (alcohols, ethers), butane, and pentanes plus. Note: oxygenates are reported as individual components and are included in the total for other hydrocarbons, hydrogens, and oxygenates.

**Motor Gasoline, Finished:** A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition. Motor gasoline, as defined in ASTM Specification D-4814 or Federal Specification VV-G-1690C, is characterized as having a boiling range of 122ºF to 158ºF at the 10-percent recovery point to 365ºF to 374ºF at the 90-percent recovery point. "Motor gasoline" includes conventional gasoline, all types of oxygenated gasoline including gasohol, and reformulated gasoline, but excludes aviation gasoline. Note: Volumetric data on blending components, as well as oxygenates, are not counted in data on finished motor gasoline until the blending components are blended into the gasoline.

**Motor Gasoline Grades:** The classification of gasoline by octane ratings. Each type of gasoline (conventional, oxygenated, and reformulated) is classified by three grades: regular, midgrade, and premium. Note: Gasoline sales are reported by grade in accordance with their classification at the time of sale. In general, automotive octane requirements are lower at high altitudes. Therefore, in some areas of the United States, such as the Rocky Mountain States, the octane ratings for the gasoline grades may be 2 or more octane points lower.

*Regular Gasoline:* Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. Note: Octane requirements may vary by altitude. See **Motor Gasoline Grades**.

*Midgrade Gasoline:* Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. Note: Octane requirements may vary by altitude. See **Motor Gasoline Grades.**

*Premium Gasoline:* Gasoline having an antiknock index, i.e., octane rating, greater than 90. *Note*: Octane requirements may vary by altitude. See **Motor Gasoline Grades.**

**Motor Gasoline, Oxygenated:** Finished motor gasoline, other than reformulated gasoline, having an oxygen content of 2.7 percent or higher by weight and required by the U.S. Environmental Protection Agency (EPA) to be sold in areas designated by EPA as carbon monoxide (CO) nonattainment areas. Note: Oxygenated gasoline excludes oxygenated fuels program reformulated gasoline (OPRG) and reformulated gasoline blendstock for oxygenate blending (RBOB). Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside CO nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline.

**Motor Gasoline, Reformulated:** Finished motor gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under Section 211(k) of the Clean Air Act. Note: This category includes oxygenated fuels program reformulated gasoline (OPRG) but excludes reformulated gasoline blendstock for oxygenate blending (RBOB).

**Motor Gasoline Retail Prices:** Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). Those prices are collected 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-service.

**Motor Gasoline (Total):** For stock level data, a sum including finished motor gasoline stocks plus stocks of motor gasoline blending components but excluding stocks of oxygenates.

**MTBE:** See **Methyl Tertiary Butyl Ether.**

**Nameplate Capacity:** The maximum design production capacity specified by the manufacturer of a processing unit or the maximum amount of a product that can be produced running the manufacturing unit at full capacity.

**Naphtha:** A generic term applied to a petroleum fraction with an approximate boiling range between 122 and 400° F.

**Natural Gas:** A gaseous mixture of hydrocarbon compounds, primarily methane, used as a fuel for electricity generation and in a variety of ways in buildings, and as raw material input and fuel for industrial processes.

**Natural Gas, Dry:** Natural gas which remains after: 1) the liquefiable hydrocarbon portion has been removed from the gas stream (i.e., gas after lease, field, and/or plant separation); and 2) any volumes of nonhydrocarbon gases have been removed where they occur in sufficient quantity to render the gas unmarketable. *Note:* Dry natural gas is also known as consumer-grade natural gas. The parameters for measurement are cubic feet at 60 degrees Fahrenheit and 14.73 pounds per square inch absolute.

**Natural Gas (Dry) Production:** The process of producing consumer-grade natural gas. Natural gas withdrawn from reservoirs is reduced by volumes used at the production (lease) site and by processing losses. Volumes used at the production site include 1) the volume returned to reservoirs in cycling, repressuring of oil reservoirs, and conservation operations; and 2) gas vented and flared. Processing losses include 1) nonhydrocarbon gases (e.g., water vapor, carbon dioxide, helium, hydrogen sulfide, and nitrogen) removed from the gas stream; and 2) gas converted to liquid

form, such as lease condensate and plant liquids. Volumes of dry gas withdrawn from gas storage reservoirs are not considered part of production. Dry natural gas production equals marketed production less extraction loss.

**Natural Gas Marketed Production:** Gross withdrawals of natural gas from production reservoirs, less gas used for reservoir repressuring; nonhydrocarbon gases removed in treating and processing operations; and quantities vented and flared.

**Natural Gas Plant Liquids (NGPL):** Natural gas liquids recovered from natural gas in processing plants and, in some situations, from natural gas field facilities, as well as those extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the Gas Processors Association and the American Society for Testing and Material as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

**Natural Gas Wellhead Price:** The wellhead price of natural gas is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing States and the U.S. Minerals Management Service. 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.

**Natural Gasoline:** A mixture of hydrocarbons (mostly pentanes and heavier) extracted from natural gas that meets vapor pressure, end-point, and other specifications for natural gasoline set by the Gas Processors Association. Includes isopentane, which is a saturated branch-chain hydrocarbon obtained by fractionation of natural gasoline or isomerization of normal pentane.

**Net Summer Capability:** The maximum output, commonly expressed in **kilowatts** (kW) or megawatts (MW), that generating equipment can supply to system load, as demonstrated by a multi-hour test, at the time of summer peak demand. This output reflects a reduction in capacity due to electricity use for station service or auxiliaries.

**Neutral Zone:** A 6,200 square-mile area shared equally between Kuwait and Saudi Arabia under a 1992 agreement. The Neutral Zone contains an estimated 5 billion barrels of oil and 8 trillion cubic feet of natural gas.

**Nonhydrocarbon Gases:** Typical nonhydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide, and nitrogen.

**Nonutility Power Producer:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns or operates facilities for electric generation and is not an **electric utility**. Nonutility power producers include qualifying **cogenerators**, qualifying **small power producers**, and other nonutility generators (including **independent power producers**). Nonutility power producers are without a designated, franchised service area and do not file forms listed in the Code of Federal Regulations, Title 18, Part 141.

**Nuclear Electric Power:** 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.

**Nuclear Electric Power Plant:** A single-unit or multiunit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

**Nuclear Reactor:** An apparatus in which the nuclear fission chain can be initiated, maintained, and controlled so that energy is released at a specific rate. The reactor includes fissionable material (fuel), such as uranium or plutonium; fertile material; moderating material (unless it is a fast reactor); a heavy-walled pressure vessel; shielding to protect personnel; provision for heat removal; and control elements and instrumentation.

**Octane Rating:** A number used to indicate gasoline's antiknock performance in motor vehicle engines. The two recognized laboratory engine test methods for determining the antiknock rating of gasolines are the Research method and the Motor method. To provide a single number as guidance to the consumer, the antiknock index (R + M)/2, which is the average of the Research and Motor octane numbers, was developed.

**Offshore:** That geographic area that lies seaward of the coastline. In general, the coastline is the line of ordinary low water along with that portion of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland water.

**Oil:** See **Crude Oil**.

**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.

**Operable Unit (Nuclear):** In the United States, a nuclear generating unit that has completed low-power testing and been issued a full-power operating license by the Nuclear Regulatory Commission, or equivalent permission to operate.

**Organization for Economic Cooperation and Development (OECD):** Members are Australia, Austria, Belgium, Canada, Denmark, Faeroe Islands, Finland, France, Germany, Greece, Greenland, Hawaiian Trade Zone, Iceland, Ireland, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States and its territories (Guam, Puerto Rico, and the Virgin Islands). In addition, Czech Republic, Hungary, Poland, and South Korea joined the OECD in 1996.

**Organization of Petroleum Exporting Countries (OPEC):** Countries that have organized for the purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members are Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

**Oxygenates:** Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. Ethanol, MTBE, and methanol are common oxygenates.

**PAD Districts:** Petroleum Administration for Defense Districts. Geographic aggregations of the 50 States and the District of Columbia into five districts for the Petroleum Administration for Defense in 1950. The districts were originally instituted for economic and geographic reasons as Petroleum Administration for War (PAW) Districts, which were established in 1942.

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

**Petrochemical Feedstocks:** Chemical feedstocks derived from petroleum principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics.

**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:** See **Coke, Petroleum.**

**Petroleum Coke, Catalyst:** The carbonaceous residue that is deposited on and deactivates the catalyst used in many catalytic operations (e.g., catalytic cracking). Carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon, which is used as a fuel in the refining process. That carbon or coke is not recoverable in a concentrated form.

**Petroleum Coke, Marketable:** Those grades of coke produced in delayed or fluid cokers that may be recovered as relatively pure carbon. Marketable petroleum coke may be sold as is or may be further purified by calcining.

**Petroleum Consumption:** The sum of all refined petroleum products supplied. For each refined petroleum product, the amount supplied is calculated by adding production and imports, then subtracting changes in primary stocks (net withdrawals are a plus quantity and net additions are a minus quantity) and exports.

**Petroleum Imports:** Imports of petroleum into the 50 States and the District of Columbia from foreign countries and from 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:** Products 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, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

**Petroleum Products Supplied:** An approximate measure of consumption. It measures the disappearance of the products from primary sources, i.e., refineries, blending plants, and bulk terminals. In general, products supplied in any given period is computed as follows: field production, plus imports, plus unaccounted-for crude oil (plus net receipts when calculated on a PAD District basis) minus stock change, minus crude oil losses, minus refinery inputs, and minus exports. See also **Petroleum Consumption.**

**Petroleum Stocks, Primary:** For individual products, quantities that are held at refineries, in pipelines, and at bulk terminals that have a capacity of 50,000 barrels or more, or that are in transit thereto. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but are included in other oils estimates and total.

**Photovoltaic Energy:** Direct-current electricity generated from sunlight through solid-state semiconductor devices that have no moving parts.

**Pipeline Fuel:** Gas consumed in the operation of pipelines, primarily in compressors.

**Plant Condensate**: One of the natural gas liquids, mostly pentanes and heavier hydrocarbons, recovered and separated as liquid at gas inlet separators or scrubbers in processing plants.

**Prime Mover:** The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly.

**Primary Consumption:** Includes consumption of coal, natural gas, petroleum, nuclear electric power, hydroelectric power, wood, waste, alcohol fuels, geothermal, solar, wind, net imports of coal coke, and net imports of electricity.

**Propane**: A normally gaseous straight-chain hydrocarbon ($C_3H_8$). It is a colorless paraffinic gas that boils at a temperature of -43.67° F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

**Propylene:** An olefinic hydrocarbon ($C_3H_6$) recovered from refinery or petrochemical processes.

**Pumped Storage**: See **Hydroelectric Pumped Storage.**

**Refiner Acquisition Cost of Crude Oil:** 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.

**Refinery (Petroleum):** An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and alcohol.

**Renewable Energy:** Energy obtained from sources that are essentially inexhaustible (unlike, for example, the **fossil fuels**, of which there is a finite supply). Renew-

able sources of energy include **conventional hydroelectric power, wood, waste, alcohol fuels, geothermal, solar,** and **wind.**

**Repressuring:** The injection of a pressurized fluid (such as air, gas, or water) into oil and gas reservoir formations to effect greater ultimate recovery.

**Residential Sector:** An energy-consuming sector that consists of living quarters for private **households**. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes **institutional living quarters**.

**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, for electricity generation, and to power ships. Imports of residual fuel oil include imported crude oil burned as fuel.

**Road Oil:** Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades, from 0, the most liquid, to 5, the most viscous.

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

**Short Ton (Coal):** A unit of weight equal to 2,000 pounds.

**SIC:** See **Standard Industrial Classification**.

**Small Power Producer:** Under the Public Utility Regulatory Policies Act, a small power production facility (small power producer) generates electricity by using waste or renewable energy (biomass, conventional hydroelectric, wind, solar, and geothermal) as a primary energy source. Fossil fuels can be used, but renewable resources must provide at least 75 percent of the total energy input. See **Nonutility Power Producer.**

**Solar Energy:** See **solar thermal energy** and **photovoltaic energy**.

**Solar Thermal Energy:** The radiant energy of the sun that can be converted into other forms of energy, such as heat or **electricity**. Electricity produced from solar energy heats a medium that powers an electricity-generating device.

**Special Naphthas:** All finished products within the naphtha boiling ranges that are used as paint thinner, cleaners or solvents. Those products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specifications D1836 and D484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline, or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks, are excluded.

**Spent Liquor:** The liquid residue left after an industrial process; can be a component of waste materials used as fuel.

**Standard Industrial Classification (SIC):** A set of codes developed by the Office of Management and Budget which categorizes industries into groups with similar economic activities.

**Startup Test Phase of Nuclear Power Plant:** A nuclear power plant that has been licensed by the Nuclear Regulatory Commission to operate but is still in the initial testing phase, during which the production of electricity may not be continuous. In general, when the electric utility is satisfied with the plant's performance, it formally accepts the plant from the manufacturer and places it in commercial operation status. A request is then submitted to the appropriate utility rate commission to include the power plant in the rate base calculation.

**Steam Coal:** All nonmetallurgical coal.

**Steam-Electric Power Plant:** A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

**Still Gas (Refinery Gas):** Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, and propylene. It is used primarily as refinery fuel and petrochemical feedstock.

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

**Subbituminous Coal:** A coal that ranges in properties from those of lignite to those of bituminous coal. It may be dull, dark brown or black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. It is used primarily as fuel for steam-electric power generation. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million Btu per ton on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Supplemental Gaseous Fuels:** Any gaseous substance that, introduced into or commingled with natural gas, increases the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, or air or inert gases added for Btu stabilization.

**Synthetic Natural Gas (SNG):** A manufactured product chemically similar in most respects to natural gas, resulting from the conversion or reforming of petroleum hydrocarbons. It may easily be substituted for, or interchanged with, pipeline quality natural gas. Also referred to as substitute natural gas.

**Thermal Conversion Factor:** See **Conversion Factor.**

**Transportation Sector:** An energy-consuming sector that consists of all vehicles whose primary purpose is

transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use.

**Unaccounted-for Crude Oil:** Arithmetic difference between the calculated supply and the calculated disposition of crude oil. The calculated supply is the sum of crude oil production and imports, less changes in crude oil stocks. The calculated 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.

**Unfinished Oils**: All oils requiring further refinery processing except those requiring only mechanical blending. Includes naphthas and lighter oils, kerosene and light gas oils, heavy gas oils and residuum.

**Unfractionated Stream:** Mixtures of unsegregated natural gas liquid components, excluding those in plant condensate. This product is extracted from natural gas.

**Underground Storage:** The storage of natural gas in underground reservoirs at a different location from which it was produced.

**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.

**Useful Thermal Output:** The thermal energy made available for use in any industrial or commercial process, or used in any heating or cooling application, i.e., total thermal energy made available for processes and applications other than electrical generation.

**U.S.S.R.:** The Union of Soviet Socialist Republics consisted of 15 constituent republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. As a political entity, the U.S.S.R. ceased to exist as of December 31, 1991.

**Vented Natural Gas:** Gas released into the air on the base site or at processing plants.

**Vessel Bunkering:** Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

**Waste Energy:** Industrial, agricultural, and urban refuse used to generate electricity, such as municipal solid waste, landfill gas, methane, digester gas, liquid acetronitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

**Watt (W):** The unit of electrical power equal to 1 ampere under a pressure of 1 volt. A watt is equal to 1/746 horsepower.

**Watthour (Wh):** The electrical energy unit of measure equal to 1 **watt** of power supplied to, or taken from, an electric circuit steadily for 1 hour.

**Waxes:** Solid or semisolid material derived from petroleum distillates or residues. Waxes are light-colored, more or less translucent crystalline masses, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Included are all marketable waxes, whether crude scale or fully refined. Waxes are used primarily as industrial coating for surface protection.

**Wellhead Price:** The value of crude oil or natural gas at the mouth of the well.

**Well Servicing Unit:** Truck-mounted equipment generally used for downhole services after a well is drilled. Services include well and recompletions, maintenance, repairs, workovers, and well plugging and abandonments. Jobs range from minor operations, such as pulling the rods and rod pumps out of an oil well, replacing the pump and rerunning the assemblage into the well, to major workovers, such as milling out and repairing collapsed casing. Well depth and characteristics determine the type of equipment used.

**Wind Energy:** The kinetic energy of wind converted into mechanical energy by wind turbines (e.g., blades rotating from a hub) that drive generators to produce electricity.

**Withdrawals (Natural Gas):** Total volume of gas withdrawn during the applicable reporting period.

**Wood Energy:** Wood and wood products used as fuel, including round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, pulp waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

**Working Gas:** The gas in a reservoir that is in addition to the base (cushion) gas. 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 given season.

# Integrated Historical Energy Data Reports

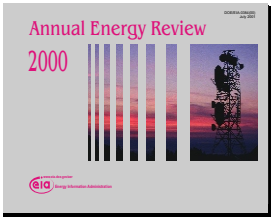
...from the Energy Information Administration

***Monthly Energy Review***
(www.eia.doe.gov/emeu/mer/contents.html)

Current monthly data on production, consumption, stocks, trade, and prices of the principal energy commodities in the United States.

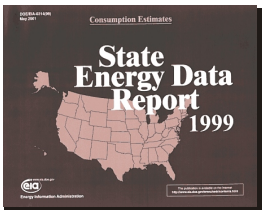

***Annual Energy Review***
(www.eia.doe.gov/emeu/aer/contents.html)

Long-term historical annual data on U.S. energy production, consumption, stocks, trade, and prices. Most series begin in 1949.



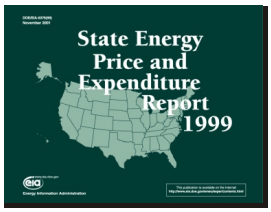

***State Energy Data Report***
(www.eia.doe.gov/emeu/sedr/contents.html)

Annual energy consumption estimates at the State and national levels by energy source and by major sector (i.e., residential, commercial, industrial, transportation, and electric utilities), beginning with 1960.



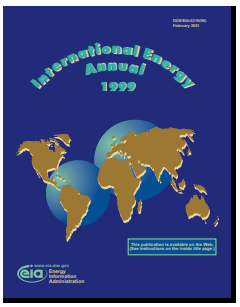

***State Energy Price and Expenditure Report***
(www.eia.doe.gov/emeu/seper/contents.html)

Annual energy price and expenditure estimates at the State and national levels by energy source and by major sector (i.e., residential, commercial, industrial, transportation, and electric utilities), beginning with 1970.




***International Energy Annual***
(www.eia.doe.gov/emeu/iea/contents.html)

Annual data for production, consumption, and trade of primary energy commodities in more than 220 countries, dependencies, and areas of special sovereignty. Also included are prices of crude oil and petroleum products in selected countries.

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