Monthly Energy Review

The *Monthly Energy Review* (*MER*) presents an overview of the Energy Information Administration's recent monthly energy statistics. The statistics cover the major activities of U.S. production, consumption, trade, stocks, and prices for petroleum, natural gas, coal, electricity, and nuclear energy. Also included are international energy and thermal and metric conversion factors.

Publication of this report is in keeping with responsibilities given to the Energy Information Administration (EIA) in Public Law 95–91 (Department of Energy Organization Act), which states, in part, in Section 205(a)(2), that:

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

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Energy Information Administration
Forrestal Building, Room 1E–238
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202–586–8800
Fax: 202–586–0727
Internet E-Mail: infoctr@eia.doe.gov
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• ASCII text, Lotus (wk1), and Excel (XLS) versions of the data tables (http://www.eia.doe.gov/mer)

• A portable document format (pdf) file of the entire report including text, tables, and graphs (http://www.eia.doe.gov/bookshelf/multi.html)

• ASCII comma delimited files (previously available on diskettes) (ftp://ftp.eia.doe.gov/pub/energy.overview/monthly.energy/current.mer)

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Monthly Energy Review

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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 Chuck Allen, 202-586-5828 (chuck.allen@eia.doe.gov), Diane 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 dianne.dunn@eia.doe.gov
Section	**2.**	**Energy Consumption**	Dianne R. Dunn	202-586-2792 dianne.dunn@eia.doe.gov
Section	**3.**	**Petroleum**	Michael Conner	202-586-1795 michael.conner@eia.doe.gov
Section	**4.**	**Natural Gas**	Ann M. Ducca	202-586-6137 ann.ducca@eia.doe.gov
Section	**5.**	**Oil and Gas Resource Development**	Robert F. King	202-586-4787 robert.king@eia.doe.gov
Section	**6.**	**Coal**	Mary L. Lilly	202-426-1154 mary.lilly@eia.doe.gov
Section	**7.**	**Electricity**		
		Electric Utilities	Melvin E. Johnson	202-426-1172 melvin.johnson@eia.doe.gov
		Nonutility Power Producers	Barbara A. Rucker	202-426-1192 barbara.rucker@eia.doe.gov
		Retail Sales	Deborah Johnson	202-426-1235 deborah.johnson@eia.doe.gov
Section	**8.**	**Nuclear Energy**	John R. Moens	202-426-1247 john.moens@eia.doe.gov
Section	**9.**	**Energy Prices**		
		Petroleum	Patricia Wells	202-586-4885 patricia.wells@eia.doe.gov
		Natural Gas	Roy Kass	202-586-4790 roy.kass@eia.doe.gov
		Electricity Retail Prices	Deborah Johnson	202-426-1235 deborah.johnson@eia.doe.gov
		Electricity Fossil-Fuel Receipts	Kenneth M. McClevey	202-426-1144 kenneth.mcclevey@eia.doe.gov
Section	**10.**	**International Energy**		
		Petroleum Production	Patricia Smith	202-586-6925 patricia.smith@eia.doe.gov
		Petroleum Consumption and Stocks	H. Vicky McLaine	202-586-9412 harriet.mclaine@eia.doe.gov
		Nuclear Electricity Gross Generation	John R. Moens	202-426-1247 john.moens@eia.doe.gov

Contents

Tables

Tables (Continued)

Tables (Continued)

Figures

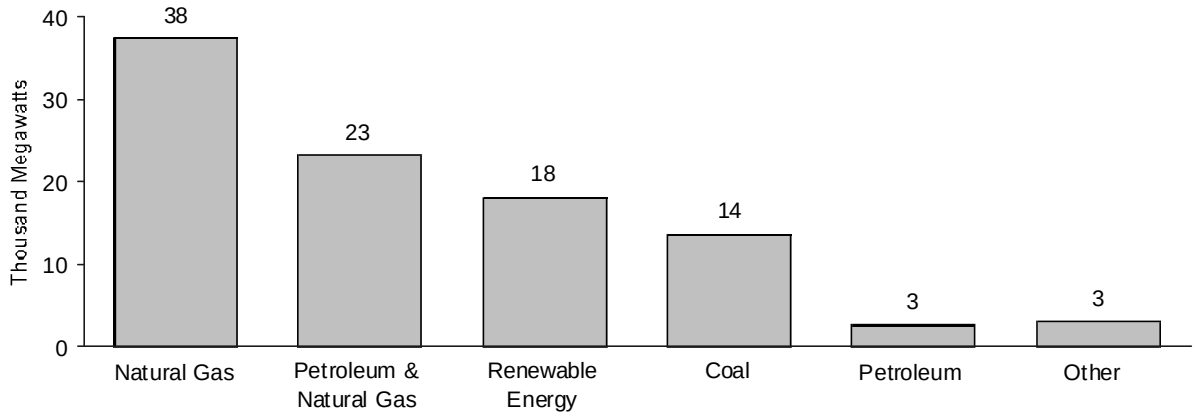
Energy Plug

Inventory of Nonutility Electric Power Plants in the United States 1998

Nonutility power plant generating capacity in the United States increased 33 percent in 1998, to 98,085 megawatts (nameplate capacity). Most of the increase represented purchases of electric utility assets by nonutilities rather than construction of new generating units. At the end of the year, nonutility generating capacity equaled about 12 percent of total electricity industry capacity.

Natural gas was the most prominent energy source at nonutility power plants in 1998, accounting for 38 percent of total capacity (see figure). Petroleum and natural gas combined (in dual-fired plants) accounted for 24 percent, followed by renewable energy (18 percent), coal (14 percent), and petroleum only (3 percent). All other sources accounted for 3 percent. In 1998, 5,367 megawatts of new capacity began operation, 39 percent of it gas-fired and another 28 percent fired by petroleum and natural gas combined. Nonutilities announced plans for 61,456 megawatts of new capacity, more than 70 percent of it gas-fired, through 2003.

Capacity at U.S. Nonutilities by Energy Source, 1998



Notes: • Capacity is nameplate rating. • Natural gas includes "other gas". • "Other" includes batteries, chemicals, hydrogen, sulfur, and purchased steam. • Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration.

The report, published this year for the first time, summarizes U.S. nonutility data for 1998, including detailed data on existing and planned nameplate capacity and net summer capability by energy source and prime mover, as well as information on facility owners and locations.

***Inventory of Nonutility Electric Power Plants in the United States 1998*,** DOE/EIA-0095(98)/2; 259 pages, 11 figures, 16 tables. To order a hard copy of the report, use the form in the back of this publication. To access it via the Internet, go to www.eia.doe.gov and click on "Electricity" and "What's New in Electricity." If you have problems, contact wmaster@eia.doe.gov or call 202–586–8959. Questions about the report's content should be directed to Roger Sacquety, Office of Coal, Nuclear, Electric and Alternate Fuels, at roger.sacquety@eia.doe.gov or 202–426–1160. General questions about energy should be directed to the National Energy Information Center at infoctr@eia.doe.gov or 202–586–8800.

Note to Readers

As many readers of the *Monthly Energy Review* (*MER*) are aware, the U.S. electricity industry is undergoing a major restructuring, as State and Federal legislation and regulatory actions create a climate of greater competition among utility and nonutility providers of electricity. Both Energy Plugs this month focus on aspects of this transformation. The reports described in the Plugs, and many others on electricity restructuring, can be found at EIA's website (www.eia.doe.gov). This issue of the *MER* also introduces an extensively reconfigured Section 7 (Electricity), which now provides statistics on net generation, imports, exports, and end use, as well as net generation by fuel source, for the industry as a whole. Section 7 begins on page 93.

Energy Plug

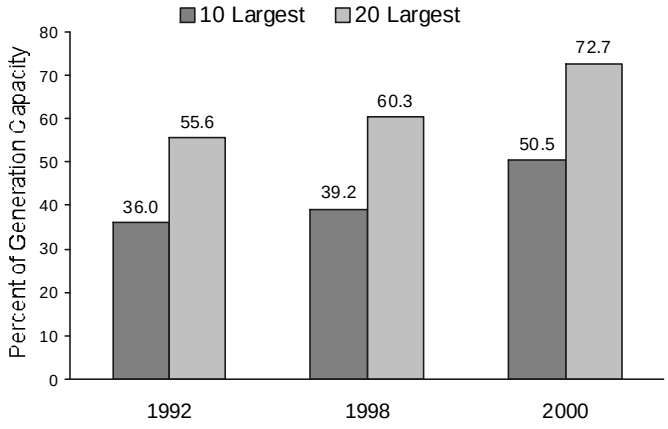
The Changing Structure of the Electric Power Industry 1999: Mergers and Other Corporate Combinations

Increasing competition in the electric power industry is driving utilities to cut costs and reconfigure themselves for survival in a less regulated world. Among the strategies pursued are mergers, acquisitions, asset divestitures, and other corporate combinations, according to *The Changing Structure of the Electric Power Industry 1999*. The report discusses developments in several key areas:

Organizational components of the industry. The 3,170 U.S. utilities fall into four ownership categories: investor-owned utilities (IOUs), which number only 239 but account for about 68 percent of all U.S. generation; federally owned (10); pub licly owned (2,009); and cooperatively owned (912). Nonutility generators, also called independent power producers (IPPs), generate electricity for their own use and/or for sale; they totaled 1,934 in 1998. Other institutio ns th at have sprung up under deregulation include power marketers, regional independent transmission system operators, power exchanges, and futures con tracts markets.

Mergers and acquisitions involving IOUs. Since the 1992 enactment of the Federal Energy Policy Act, 42 merg ers or acquisitions have been completed or an nounced between IOUs or between IOUs and nonutilities, reflecting a tendency toward greater concentration of generating capacity (see figure). In 1992, the 10 largest utilities owned 36 percent of all IOU capacity. Assuming that all mergers pending as of September 1999 are completed, the 10 largest IOUs' share of capacity will increase to 51 percent in 2000. In addition, if the mergers are completed, the total number of IOUs owning generating capacity will decline from 170 in 1992 to 143 in 2000, while the number of holding companies owning IOU-held capacity will go from 70 companies with a 78-percent share to 53 companies with an 89-percent share.

Concentration of Ownership of Investor-Owned Utility Generation Capacity, 1992, 1998, 2000



Notes: • The ten largest companies are public utility holding companies that own one or more operating electric utilities. • The 2000 data are estimated and assume that all pending mergers as of September 1999 will be completed by year-end 2000. • Capacity owned by subsidiaries of IOUs was not counted when computing the rankings.

Source: Energy Information Administration.

Convergence mergers. Increased competition has also prompted mergers between electric utilities and natural gas com panies seeking increased efficiencies, product diversification, sharing of energy market expertise and experience, and opportunities to capitalize on widening use of gas-fired power plant s. In the period 1997 through September 1999, 20 conver gence mergers were completed or pending.

IOU divestiture of generating assets. Prompted mainly by Federal and State regulations requiring utilities to separate ownership of power generation assets and distribution assets, IOUs are selling off generation plants at unprecedented levels, especially coal- and gas-fired plants. Nearly all of the 102 gigawatts of divested capacity for which a new owner has been announced has been acquired by IPPs, and 82 percent has been acquired by utility-affiliated IPPs.

The Changing Structure of the Electric Power Industry 1999: Mergers and Other Corporate Combinations, DOE/EIA-0562(99); 125 pages, 21 tables, 49 figures. To order a hard copy of the report, use the form in the back of this publication. To access it via the Internet, go to www.eia.doe.gov and click on "Electricity" and then "What's New in Electricity." Contact wmaster@eia.doe.gov or call 202–586–8959 if you have problems. Questions about the report's content should be directed to William Lagged, Office of Coal, Nuclear, Electric, and Alternate Fuels, at william.liggett@eia.doe.gov or 202–426–1139. 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 October 1999 totaled 5.7 quadrillion Btu, a 2.5-percent decrease from the level of production during October 1998. Production of coal decreased 5.1 percent, crude oil and natural gas plant liquids combined decreased 1.9 percent, and natural gas increased 0.9 percent. Production of all other forms of energy combined were down 3.6 percent from the level of production during October 1998.

Energy consumption during October 1999 totaled 7.4 quadrillion Btu, 1.4 percent above the level of consumption during October 1998. Consumption of petroleum products increased 3.5 percent, natural gas increased 1.4 percent, and coal decreased 1.4 percent. Consumption of all other forms of energy combined decreased 1.3 percent from the level 1 year earlier.

Net imports of energy during October 1999 totaled 1.9 quadrillion Btu, 0.6 percent below the level of net imports 1 year earlier. Net imports of natural gas rose 18.2 percent and net imports of petroleum decreased 5.1 percent. Net exports of coal fell 11.0 percent from the level in October 1998.

Table 1.1 Energy Summary for October 1999

(Quadrillion Btu)

	October			Cumulative January Through October				
	1999	1998	Percent Change[a]	1999	1999 Daily Rate	1998	1998 Daily Rate	Percent Change[a]
Production	**5.656**	**5.801**	**-2.5**	**56.988**	**0.187**	**57.794**	**0.190**	**-1.4**
Coal	1.962	2.067	-5.1	19.358	.064	19.826	.065	-2.4
Natural Gas (Dry)	E 1.634	1.620	.9	E 16.080	.053	16.140	.053	-.4
Crude Oil[b] and Natural Gas Plant Liquids	E 1.283	1.308	-1.9	E 12.532	.041	13.111	.043	-4.4
Other[c]	.777	.806	-3.6	9.018	.030	8.717	.029	3.5
Consumption	**7.357**	**7.259**	**1.4**	**76.398**	**.251**	**75.513**	**.248**	**1.2**
Coal	1.687	1.710	-1.4	17.421	.057	17.718	.058	-1.7
Natural Gas[d]	F 1.548	1.528	1.4	E 18.156	.060	17.950	.059	1.1
Petroleum Products[e]	3.304	3.192	3.5	31.506	.104	30.820	.101	2.2
Other[f]	.818	.829	-1.3	9.315	.031	9.025	.030	3.2
Net Imports	**1.935**	**1.946**	**-.6**	**19.508**	**.064**	**18.756**	**.062**	**4.0**
Coal[g]	-.140	-.157	-11.0	-1.113	-.004	-1.558	-.005	-28.6
Natural Gas	E .306	.259	18.2	E 2.867	.009	2.547	.008	12.6
Petroleum[h]	1.727	1.821	-5.1	17.456	.057	17.459	.057	.0
Other[i]	.041	.023	79.0	.297	.001	.308	.001	-3.5

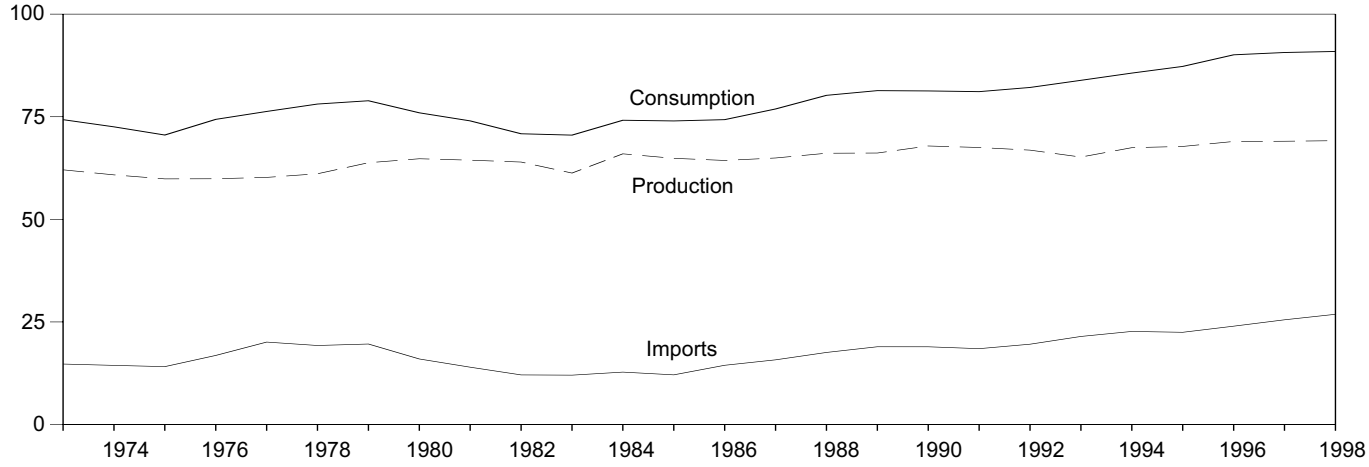
[a] Based on daily rates prior to rounding.
[b] Includes lease condensate.
[c] "Other" is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d] Includes supplemental gaseous fuels.
[e] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.
[f] "Other" is hydroelectric and nuclear electric power; electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy; and net imports of electricity and coal coke.
[g] Minus sign indicates exports are greater than imports.
[h] Crude oil, lease condensate, petroleum products, pentanes plus, unfinished oils, gasoline blending components, and imports of crude oil for the Strategic Petroleum Reserve.
[i] "Other" is net imports of electricity and coal coke.
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.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. For 1998 consumption, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

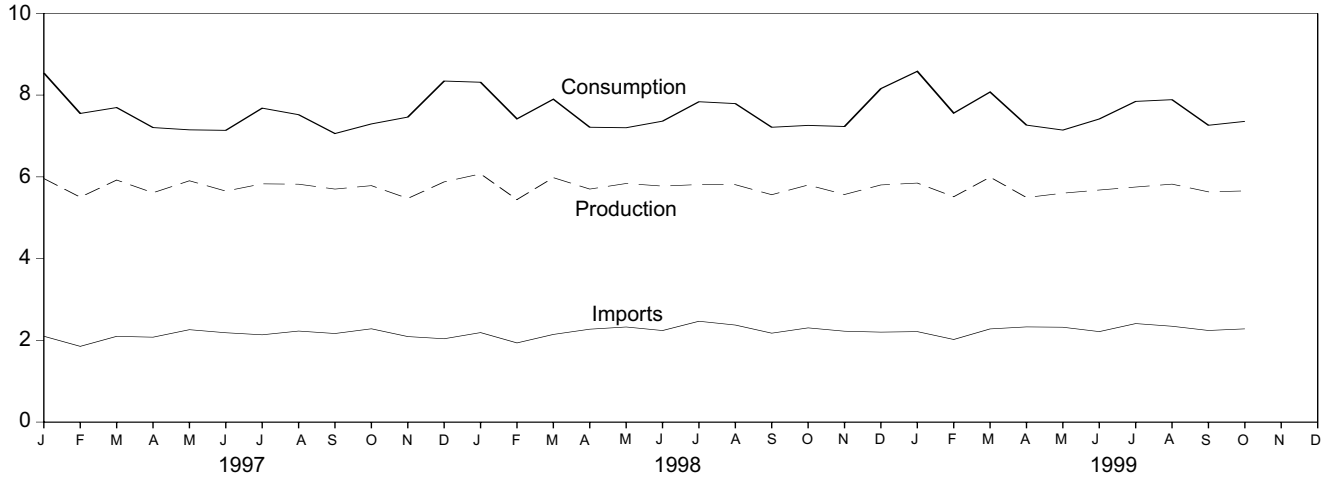
Figure 1.1 Energy Overview

(Quadrillion Btu)

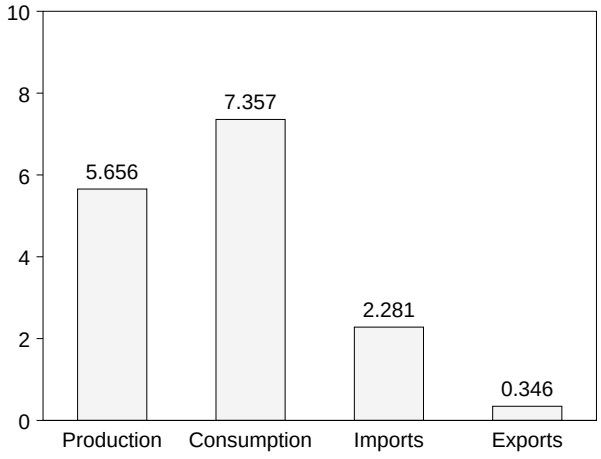
Consumption, Production, and Imports, 1973-1998



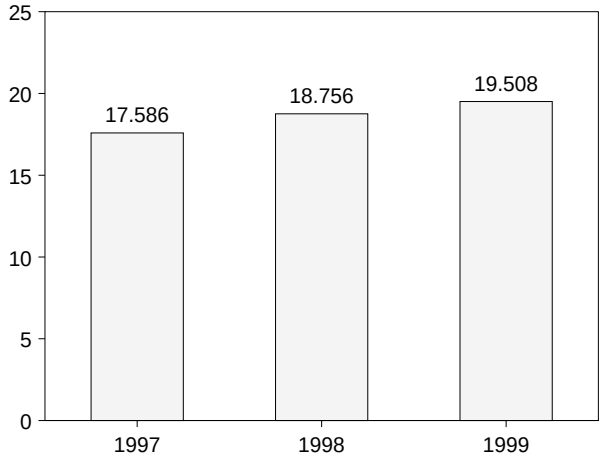
Consumption, Production, and Imports, Monthly



Overview, October 1999



Net Imports, January-October



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	**62.060**	**74.282**	**14.731**	**2.051**	**12.680**
1974 Total	**60.835**	**72.543**	**14.413**	**2.223**	**12.190**
1975 Total	**59.860**	**70.546**	**14.111**	**2.359**	**11.752**
1976 Total	**59.892**	**74.362**	**16.837**	**2.188**	**14.648**
1977 Total	**60.219**	**76.288**	**20.090**	**2.071**	**18.019**
1978 Total	**61.103**	**78.089**	**19.254**	**1.931**	**17.323**
1979 Total	**63.801**	**78.898**	**19.616**	**2.870**	**16.746**
1980 Total	**64.761**	**75.955**	**15.971**	**3.723**	**12.247**
1981 Total	**64.421**	**73.990**	**13.975**	**4.329**	**9.646**
1982 Total	**63.962**	**70.848**	**12.092**	**4.633**	**7.460**
1983 Total	**61.279**	**70.524**	**12.027**	**3.717**	**8.310**
1984 Total	**65.962**	**74.144**	**12.767**	**3.804**	**8.963**
1985 Total	**64.871**	**73.981**	**12.103**	**4.231**	**7.872**
1986 Total	**64.350**	**74.297**	**14.438**	**4.055**	**10.382**
1987 Total	**64.952**	**76.894**	**15.764**	**3.853**	**11.911**
1988 Total	**66.105**	**80.218**	**17.564**	**4.415**	**13.149**
1989 Total	**66.160**	**81.358**	**18.950**	**4.767**	**14.182**
1990 Total	**67.872**	**81.287**	**18.946**	**4.865**	**14.081**
1991 Total	**67.508**	**81.115**	**18.489**	**5.157**	**13.332**
1992 Total	**66.863**	**82.132**	**19.568**	**4.957**	**14.611**
1993 Total	**65.171**	**83.875**	**21.467**	**4.283**	**17.184**
1994 Total	**67.459**	**85.637**	**22.684**	**4.076**	**18.608**
1995 Total	**67.762**	**87.259**	**22.479**	**4.538**	**17.941**
1996 Total	**68.982**	**90.091**	**23.965**	**4.659**	**19.306**
1997 January	5.959	8.542	2.100	.396	1.705
February	5.502	7.552	1.853	.337	1.516
March	5.922	7.695	2.098	.372	1.726
April	5.611	7.206	2.077	.360	1.717
May	5.904	7.150	2.261	.363	1.898
June	5.652	7.138	2.186	.360	1.826
July	5.829	7.681	2.136	.377	1.759
August	5.820	7.521	2.227	.440	1.787
September	5.701	7.060	2.167	.382	1.785
October	5.785	7.295	2.283	.416	1.867
November	5.472	7.462	2.092	.362	1.730
December	5.877	8.344	2.039	.412	1.627
Total	**69.034**	**90.652**	**25.519**	**4.576**	**20.943**
1998 January	6.073	R 8.315	R 2.190	.414	R 1.776
February	5.445	R 7.419	1.937	.324	R 1.614
March	5.981	R 7.899	R 2.145	.366	1.778
April	5.701	R 7.213	R 2.273	.376	R 1.897
May	5.837	R 7.202	R 2.327	.407	R 1.921
June	5.774	R 7.363	R 2.240	.377	R 1.863
July	5.812	R 7.838	R 2.467	.372	R 2.096
August	5.808	R 7.792	R 2.374	.333	R 2.041
September	5.563	R 7.213	R 2.176	.351	R 1.825
October	5.801	R 7.259	R 2.305	.359	R 1.946
November	5.568	R 7.232	R 2.223	.313	R 1.911
December	5.802	R 8.159	R 2.201	.354	R 1.847
Total	**69.165**	R **90.910**	R **26.860**	**4.346**	R **22.514**
1999 January	5.848	8.583	R 2.214	.307	1.907
February	5.513	7.560	R 2.021	.253	R 1.768
March	5.993	8.076	R 2.280	.292	R 1.988
April	5.494	7.266	R 2.329	.357	R 1.972
May	5.600	7.144	R 2.321	.306	R 2.016
June	5.678	7.416	R 2.214	.322	R 1.892
July	R 5.751	R 7.846	R 2.410	R .323	R 2.087
August	R 5.822	R 7.888	R 2.345	R .334	R 2.011
September	R 5.633	R 7.262	R 2.242	R .309	R 1.933
October	5.656	7.357	2.281	.346	1.935
10-Month Total	**56.988**	**76.398**	**22.657**	**3.149**	**19.508**
1998 10-Month Total	**57.794**	**75.513**	**22.435**	**3.679**	**18.756**
1997 10-Month Total	**57.685**	**74.841**	**21.388**	**3.803**	**17.586**

[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.

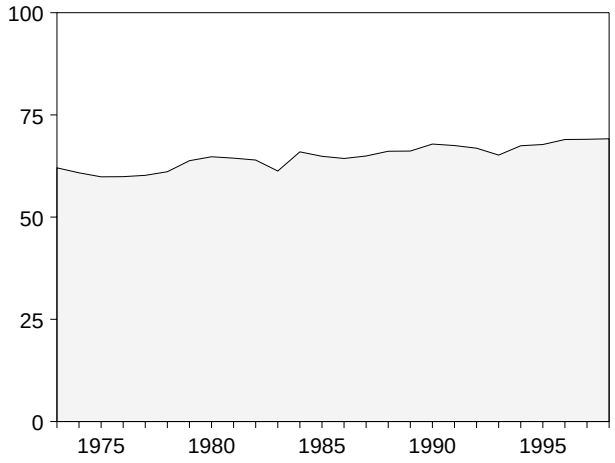
Sources: **Production:** Table 1.3. **Consumption:** Table 1.4. **Imports and Exports:** Tables 3.1b, 4.2, 6.1, A2-A8, and Section 2, "Energy Consumption Notes and Sources," Notes 8 and 9. **Net Imports:** Table 1.5.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. For 1998 consumption, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

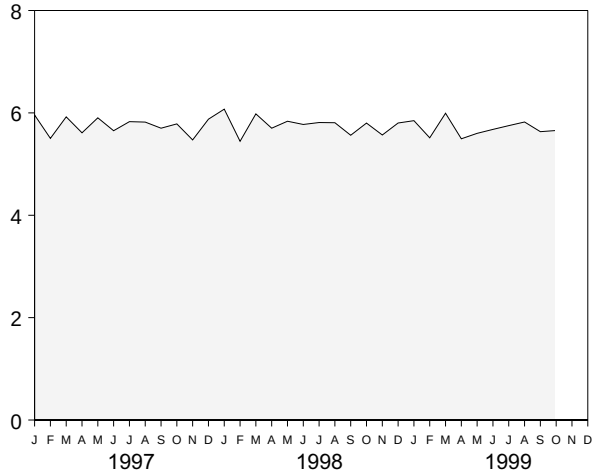
Figure 1.2 Energy Production

(Quadrillion Btu)

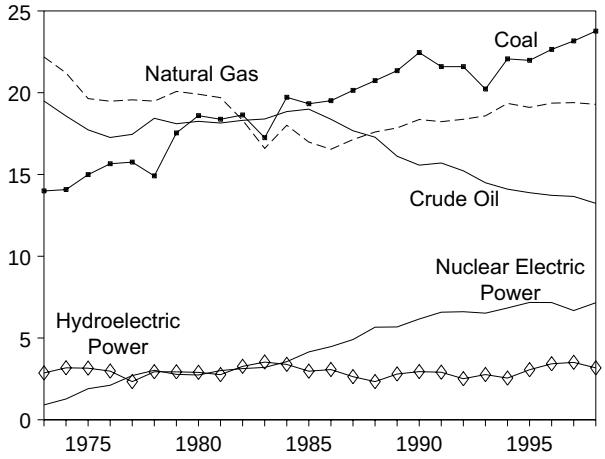
Total, 1973-1998



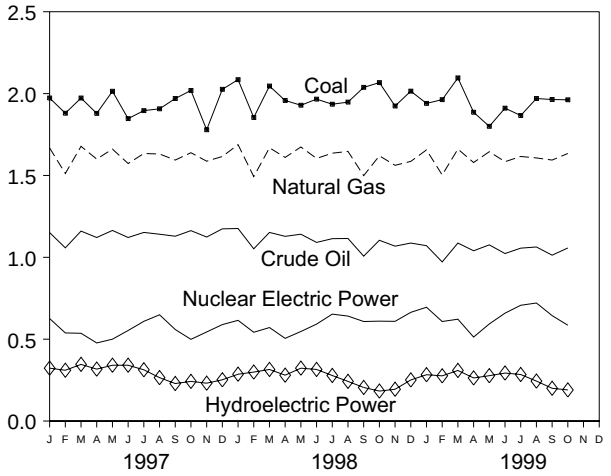
Total, Monthly



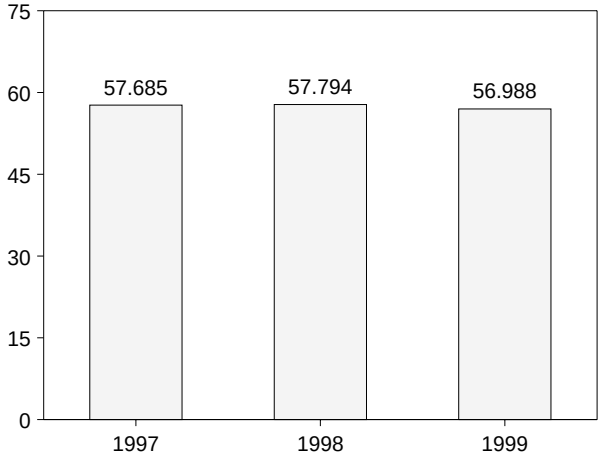
By Major Sources, 1973-1998



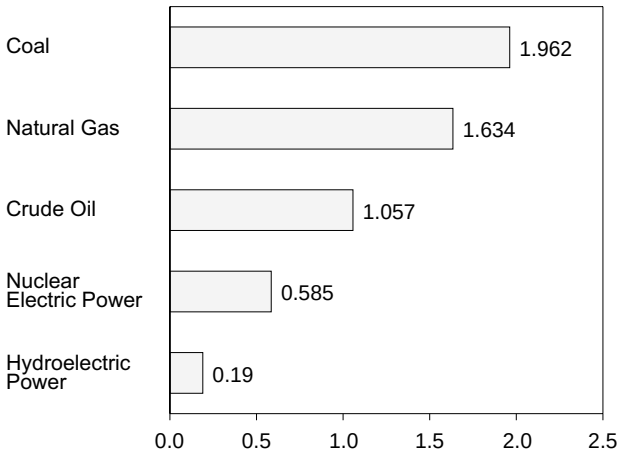
By Major Sources, Monthly



Total, January-October



By Major Sources, October 1999



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

Table 1.3 Energy Production by Source

(Quadrillion Btu)

	Coal	Natural Gas (Dry)	Crude Oil[a]	Natural Gas Plant Liquids	Nuclear Electric Power	Hydro-electric Power[b]	Geothermal Energy	Other[c]	Total
1973 Total	**13.993**	**22.187**	**19.493**	**2.569**	**0.910**	**2.861**	**0.043**	**0.003**	**62.060**
1974 Total	**14.074**	**21.210**	**18.575**	**2.471**	**1.272**	**3.177**	**.053**	**.003**	**60.835**
1975 Total	**14.990**	**19.640**	**17.729**	**2.374**	**1.900**	**3.155**	**.070**	**.002**	**59.860**
1976 Total	**15.654**	**19.480**	**17.262**	**2.327**	**2.111**	**2.976**	**.078**	**.003**	**59.892**
1977 Total	**15.755**	**19.565**	**17.454**	**2.327**	**2.702**	**2.333**	**.077**	**.005**	**60.219**
1978 Total	**14.910**	**19.485**	**18.434**	**2.245**	**3.024**	**2.937**	**.064**	**.003**	**61.103**
1979 Total	**17.539**	**20.076**	**18.104**	**2.286**	**2.776**	**2.931**	**.084**	**.005**	**63.801**
1980 Total	**18.597**	**19.908**	**18.249**	**2.254**	**2.739**	**2.900**	**.110**	**.005**	**64.761**
1981 Total	**18.376**	**19.699**	**18.146**	**2.307**	**3.008**	**2.758**	**.123**	**.004**	**64.421**
1982 Total	**18.639**	**18.319**	**18.309**	**2.191**	**3.131**	**3.266**	**.105**	**.003**	**63.962**
1983 Total	**17.246**	**16.593**	**18.392**	**2.184**	**3.203**	**3.527**	**.129**	**.004**	**61.279**
1984 Total	**19.719**	**18.008**	**18.848**	**2.274**	**3.553**	**3.386**	**.165**	**.009**	**65.962**
1985 Total	**19.325**	**16.980**	**18.992**	**2.241**	**4.149**	**2.970**	**.198**	**.015**	**64.871**
1986 Total	**19.510**	**16.541**	**18.376**	**2.149**	**4.471**	**3.071**	**.219**	**.012**	**64.350**
1987 Total	**20.142**	**17.136**	**17.675**	**2.215**	**4.906**	**2.635**	**.229**	**.016**	**64.952**
1988 Total	**20.737**	**17.599**	**17.279**	**2.260**	**5.661**	**2.334**	**.217**	**.017**	**66.105**
1989 Total	**21.345**	**17.847**	**16.117**	**2.158**	**5.677**	**2.798**	**.197**	**.021**	**66.160**
1990 Total	**22.456**	**18.362**	**15.571**	**2.175**	**6.161**	**2.945**	**.181**	**.022**	**67.872**
1991 Total	**21.594**	**18.229**	**15.701**	**2.306**	**6.579**	**2.908**	**.170**	**.021**	**67.508**
1992 Total	**21.593**	**18.375**	**15.223**	**2.363**	**6.607**	**2.510**	**.169**	**.022**	**66.863**
1993 Total	**20.221**	**18.584**	**14.494**	**2.408**	**6.519**	**2.765**	**.158**	**.021**	**65.171**
1994 Total	**22.068**	**19.348**	**14.103**	**2.391**	**6.837**	**2.547**	**.145**	**.021**	**67.459**
1995 Total	**21.978**	**19.101**	**13.887**	**2.442**	**7.177**	**3.061**	**.099**	**.017**	**67.762**
1996 Total	**22.646**	**19.363**	**13.723**	**2.530**	**7.168**	**3.422**	**.110**	**.020**	**68.982**
1997 January	1.973	1.668	1.151	.208	.626	.323	.009	.002	5.959
February	1.880	1.512	1.058	.197	.538	.310	.006	.002	5.502
March	1.973	1.678	1.160	.219	.536	.346	.009	.002	5.922
April	1.879	1.600	1.121	.206	.477	.317	.010	.002	5.611
May	2.014	1.661	1.164	.212	.500	.341	.010	.002	5.904
June	1.847	1.573	1.121	.206	.553	.341	.008	.002	5.652
July	1.896	1.634	1.152	.212	.609	.313	.011	.002	5.829
August	1.907	1.631	1.141	.214	.649	.265	.011	.002	5.820
September	1.970	1.594	1.129	.208	.559	.229	.010	.002	5.701
October	2.019	1.639	1.163	.211	.499	.242	.010	.002	5.785
November	1.779	1.587	1.124	.195	.544	.231	.010	.002	5.472
December	2.026	1.616	1.174	.207	.589	.252	.011	.002	5.877
Total	**23.164**	**19.394**	**13.658**	**2.495**	**6.678**	**3.510**	**.115**	**.021**	**69.034**
1998 January	2.085	1.688	1.176	.211	.615	.286	.010	.002	6.073
February	1.854	1.493	1.052	.196	.542	.299	.008	.001	5.445
March	2.046	1.669	1.152	.217	.571	.315	.010	.002	5.981
April	1.958	1.610	1.128	.211	.505	.280	.007	.002	5.701
May	1.929	1.674	1.141	.214	.547	.323	.006	.002	5.837
June	1.966	1.604	1.091	.198	.592	.315	.007	.001	5.774
July	1.935	1.636	1.114	.185	.653	.278	.009	.002	5.812
August	1.948	1.647	1.115	.201	.641	.242	.010	.002	5.808
September	2.038	1.499	1.007	.194	.608	.205	.010	.002	5.563
October	2.067	1.620	1.104	.204	.610	.183	.011	.002	5.801
November	1.924	1.562	1.068	.200	.609	.194	.010	.002	5.568
December	2.015	1.586	1.087	.189	.664	.251	.009	.002	5.802
Total	**23.764**	**19.288**	**13.235**	**2.420**	**7.157**	**3.171**	**.108**	**.021**	**69.165**
1999 January	1.940	RE 1.656	E 1.071	.194	.695	.283	.009	.002	5.848
February	1.963	RE 1.503	E .972	.182	.608	.276	.007	.002	5.513
March	2.096	RE 1.661	E 1.087	.208	.622	.309	.008	.001	5.993
April	1.886	RE 1.579	E 1.040	.202	.513	.263	.009	.002	5.494
May	1.800	RE 1.645	E 1.076	.207	.593	.277	(s)	.002	5.600
June	1.911	RE 1.584	E 1.023	.207	.659	.293	(s)	.002	5.678
July	R 1.866	RE 1.616	E 1.056	.220	.707	.284	(s)	.002	R 5.751
August	R 1.970	E 1.607	E 1.063	.215	.721	.244	(s)	.002	R 5.822
September	R 1.964	E 1.594	E 1.013	.216	.644	.200	(s)	.002	R 5.633
October	1.962	E 1.634	E 1.057	.226	.585	.190	(s)	.002	5.656
10-Month Total	**19.358**	**E 16.080**	**E 10.458**	**2.075**	**6.347**	**2.619**	**.035**	**.017**	**56.988**
1998 10-Month Total	**19.826**	**16.140**	**11.080**	**2.031**	**5.883**	**2.727**	**.089**	**.017**	**57.794**
1997 10-Month Total	**19.359**	**16.190**	**11.360**	**2.093**	**5.545**	**3.027**	**.094**	**.017**	**57.685**

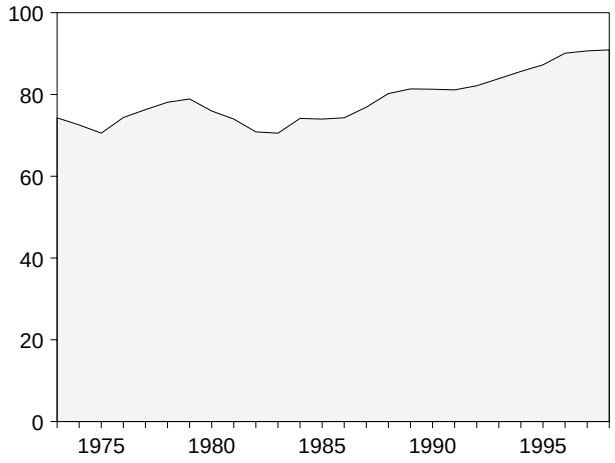
[a] Includes lease condensate.
[b] Electric utility and industrial generation.
[c] "Other" production is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.
R=Revised. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu. E=Estimate.
Notes: 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-A7. **Natural Gas (Dry):** Tables 4.1 and A4. **Crude Oil and Natural Gas Plant Liquids:** Tables 3.1a and A2. **Nuclear Electric Power:** Tables 7.1 and A8. **Hydroelectric Power:** Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. **Geothermal Energy and Other:** Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A8.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total production. In 1998, for example, 3.5 quadrillion Btu of renewable energy produced for use by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu of renewable energy produced for use by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

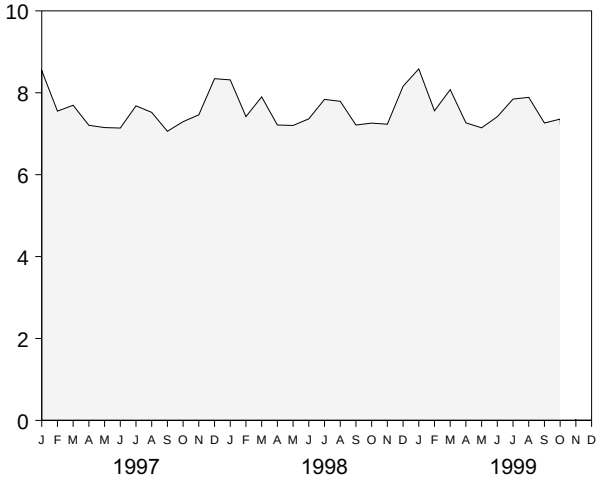
Figure 1.3 Energy Consumption

(Quadrillion Btu)

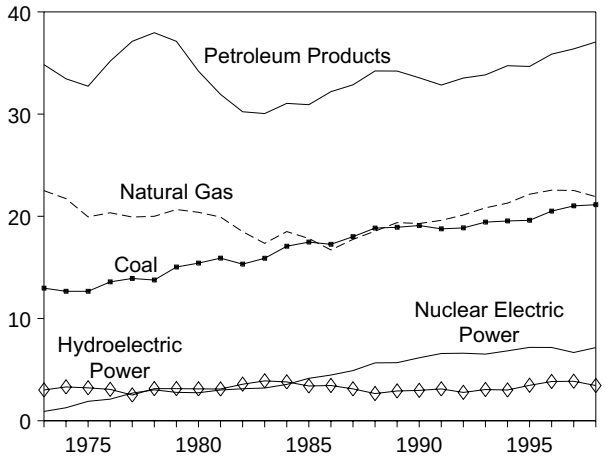
Total, 1973-1998



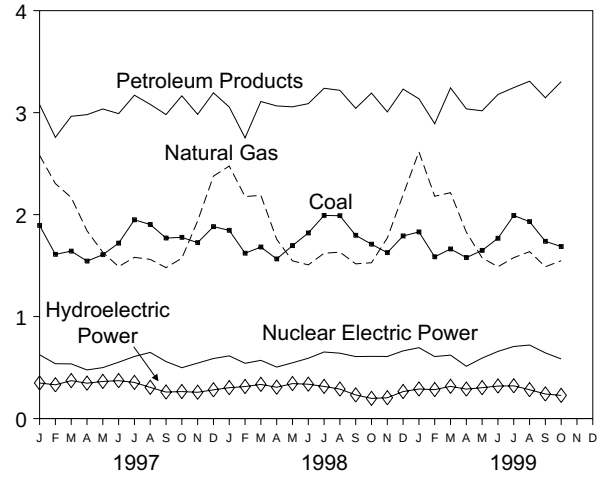
Total, Monthly



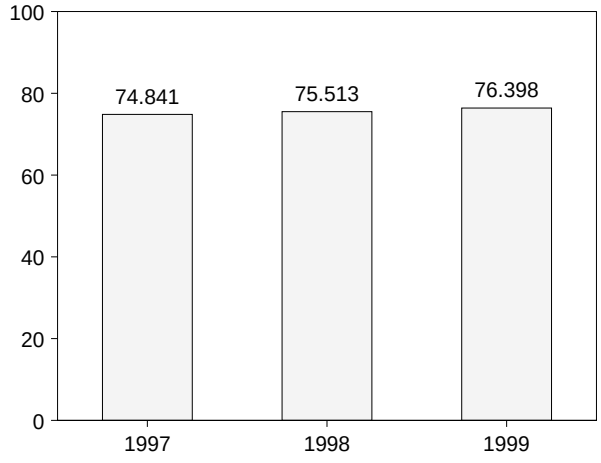
By Major Sources, 1973-1998



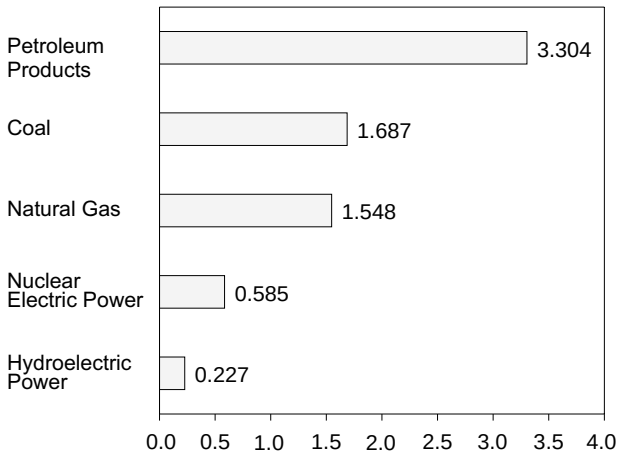
By Major Sources, Monthly



Total, January-October



By Major Sources, October 1999



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

Table 1.4 Energy Consumption by Source

(Quadrillion Btu)

	Coal	Natural Gas[a]	Petroleum Products[b]	Nuclear Electric Power	Hydro-electric Power[c]	Geothermal Energy	Other[d]	Total
1973 Total	**12.971**	**22.512**	**34.840**	**0.910**	**3.010**	**0.043**	**-0.004**	**74.282**
1974 Total	**12.663**	**21.732**	**33.455**	**1.272**	**3.309**	**.053**	**.059**	**72.543**
1975 Total	**12.663**	**19.948**	**32.731**	**1.900**	**3.219**	**.070**	**.016**	**70.546**
1976 Total	**13.584**	**20.345**	**35.175**	**2.111**	**3.066**	**.078**	**.003**	**74.362**
1977 Total	**13.922**	**19.931**	**37.122**	**2.702**	**2.515**	**.077**	**.020**	**76.288**
1978 Total	**13.765**	**20.000**	**37.965**	**3.024**	**3.141**	**.064**	**.128**	**78.089**
1979 Total	**15.039**	**20.666**	**37.123**	**2.776**	**3.141**	**.084**	**.068**	**78.898**
1980 Total	**15.423**	**20.394**	**34.202**	**2.739**	**3.118**	**.110**	**-.031**	**75.955**
1981 Total	**15.907**	**19.928**	**31.931**	**3.008**	**3.105**	**.123**	**-.012**	**73.990**
1982 Total	**15.322**	**18.505**	**30.231**	**3.131**	**3.572**	**.105**	**-.018**	**70.848**
1983 Total	**15.894**	**17.357**	**30.054**	**3.203**	**3.899**	**.129**	**-.012**	**70.524**
1984 Total	**17.071**	**18.507**	**31.051**	**3.553**	**3.800**	**.165**	**-.002**	**74.144**
1985 Total	**17.478**	**17.834**	**30.922**	**4.149**	**3.398**	**.198**	**.001**	**73.981**
1986 Total	**17.261**	**16.708**	**32.196**	**4.471**	**3.446**	**.219**	**-.004**	**74.297**
1987 Total	**18.008**	**17.744**	**32.865**	**4.906**	**3.117**	**.229**	**.024**	**76.894**
1988 Total	**18.846**	**18.552**	**34.222**	**5.661**	**2.662**	**.217**	**.057**	**80.218**
1989 Total	**18.925**	**19.384**	**34.211**	**5.677**	**2.913**	**.197**	**.051**	**81.358**
1990 Total	**19.101**	**19.296**	**33.553**	**6.161**	**2.969**	**.181**	**.026**	**81.287**
1991 Total	**18.770**	**19.606**	**32.845**	**6.579**	**3.113**	**.170**	**.031**	**81.115**
1992 Total	**18.868**	**20.131**	**33.527**	**6.607**	**2.773**	**.169**	**.056**	**82.132**
1993 Total	**19.430**	**20.827**	**33.841**	**6.519**	**3.052**	**.158**	**.048**	**83.875**
1994 Total	**19.544**	**21.288**	**34.735**	**6.837**	**3.009**	**.145**	**.079**	**85.637**
1995 Total	**19.613**	**22.163**	**34.663**	**7.177**	**3.465**	**.099**	**.078**	**87.259**
1996 Total	**20.509**	**22.559**	**35.864**	**7.168**	**3.838**	**.110**	**.043**	**90.091**
1997 January	1.893	2.581	3.079	.626	.349	.009	.005	8.542
February	1.610	2.304	2.758	.538	.331	.006	.004	7.552
March	1.642	2.168	2.964	.536	.372	.009	.005	7.695
April	1.544	1.842	2.980	.477	.347	.010	.005	7.206
May	1.607	1.630	3.036	.500	.364	.010	.004	7.150
June	1.720	1.490	2.990	.553	.372	.008	.006	7.138
July	1.949	1.581	3.171	.609	.354	.011	.007	7.681
August	1.903	1.561	3.081	.649	.306	.011	.010	7.521
September	1.770	1.480	2.981	.559	.260	.010	.001	7.060
October	1.777	1.573	3.165	.499	.265	.010	.007	7.295
November	1.725	1.938	2.983	.544	.258	.010	.004	7.462
December	1.882	2.378	3.194	.589	.282	.011	.007	8.344
Total	**21.020**	**22.530**	**36.381**	**6.678**	**3.861**	**.115**	**.067**	**90.652**
1998 January	R 1.846	2.476	3.055	.615	.303	.010	.010	R 8.315
February	R 1.621	2.177	2.753	.542	.314	.008	.005	R 7.419
March	R 1.682	2.189	3.109	.571	.335	.010	.005	R 7.899
April	R 1.565	1.758	3.066	.505	.307	.007	.006	R 7.213
May	R 1.696	1.547	3.057	.547	.343	.006	.007	R 7.202
June	R 1.820	1.507	3.088	.592	.337	.007	.010	R 7.363
July	R 1.992	1.621	3.239	.653	.315	.009	.009	R 7.838
August	R 1.989	1.632	3.219	.641	.289	.010	.012	R 7.792
September	R 1.797	1.517	3.042	.608	.232	.010	.008	R 7.213
October	R 1.710	1.528	3.192	.610	.198	.011	.009	R 7.259
November	R 1.627	1.771	3.007	.609	.204	.010	.005	R 7.232
December	R 1.791	2.195	3.231	.664	.265	.009	.004	R 8.159
Total	**R 21.135**	**21.921**	**37.058**	**7.157**	**3.442**	**.108**	**.088**	**R 90.910**
1999 January	1.830	2.616	3.136	.695	.290	.009	.007	8.583
February	1.586	2.180	2.891	.608	.284	.007	.004	7.560
March	1.663	2.215	3.243	.622	.316	.008	.008	8.076
April	1.579	1.828	3.037	.513	.289	.009	.011	7.266
May	1.649	1.576	3.018	.593	.303	(s)	.005	7.144
June	1.768	1.489	3.178	.659	.319	(s)	.004	7.416
July	R 1.991	1.578	3.245	.707	.321	(s)	.005	R 7.846
August	R 1.931	R 1.637	3.308	.721	.283	(s)	.008	R 7.888
September	R 1.738	R 1.489	3.146	.644	.241	(s)	.003	R 7.262
October	1.687	F 1.548	3.304	.585	.227	(s)	.005	7.357
10-Month Total	**17.421**	**E 18.156**	**31.506**	**6.347**	**2.873**	**.035**	**.060**	**76.398**
1998 10-Month Total	**17.718**	**17.950**	**30.820**	**5.883**	**2.973**	**.089**	**.079**	**75.513**
1997 10-Month Total	**17.413**	**18.209**	**30.203**	**5.545**	**3.321**	**.094**	**.056**	**74.841**

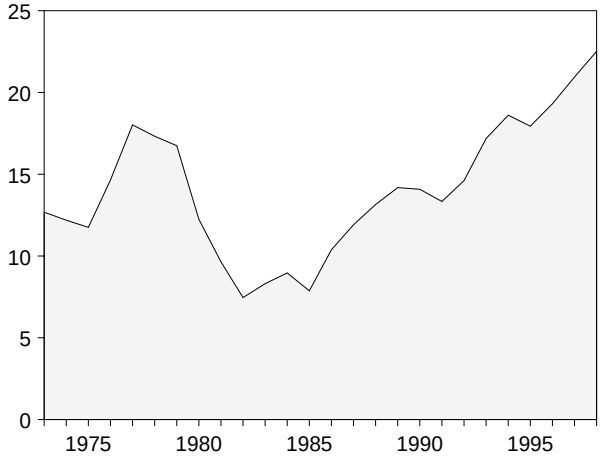
[a] Includes supplemental gaseous fuels.
[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.
[c] Electric utility and industrial generation and net imports of electricity.
[d] Net imports of coal coke and electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.
R=Revised. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu. E=Estimate. F=Forecast.
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-A7. **Natural Gas:** Tables 4.2 and A4. **Petroleum:** Tables 3.1a and A3. **Nuclear Electric Power:** Tables 7.1 and A8. **Hydroelectric Power:** Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. **Geothermal Energy and Other:** Section 2, "Energy Consumption Notes and Sources," Note 7, and Table A8.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1998, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

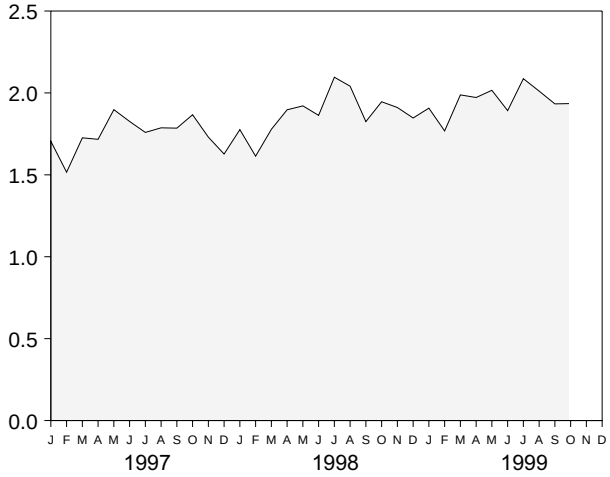
Figure 1.4 Energy Net Imports

(Quadrillion Btu, Except as Noted)

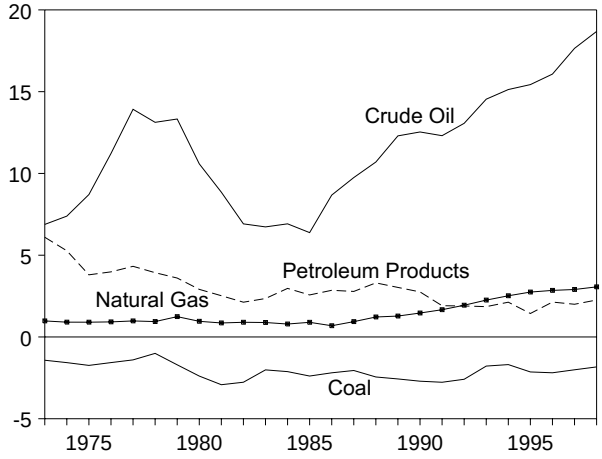
Total, 1973-1998



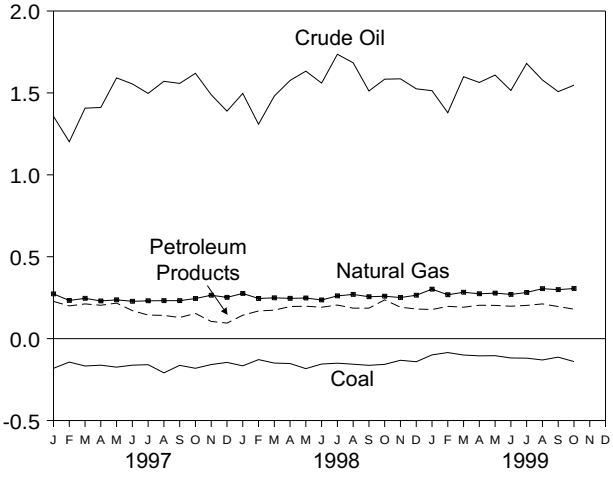
Total, Monthly



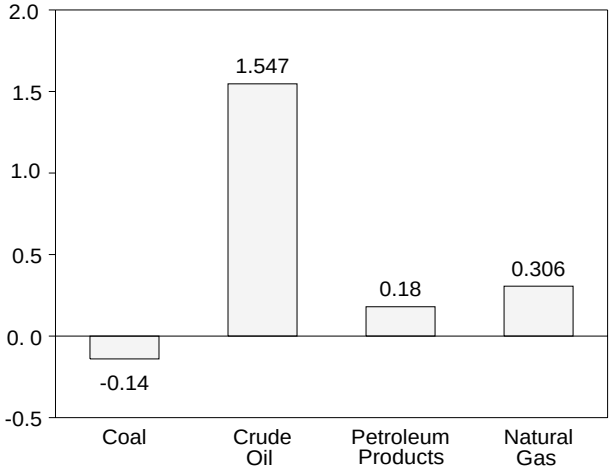
By Major Sources, 1973-1998



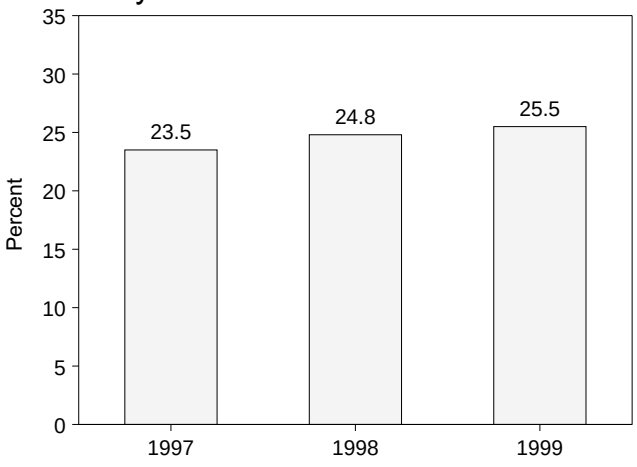
By Major Sources, Monthly



By Major Sources, October 1999



As Share of Consumption, January-October



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)

	Coal	Natural Gas	Crude Oil[a]	Petroleum Products[b]	Electricity[c]	Coal Coke	Total
1973 Total	**-1.422**	**0.981**	**6.883**	**6.097**	**0.148**	**-0.007**	**12.680**
1974 Total	**-1.568**	**.907**	**7.389**	**5.273**	**.133**	**.056**	**12.190**
1975 Total	**-1.738**	**.904**	**8.708**	**3.800**	**.064**	**.014**	**11.752**
1976 Total	**-1.567**	**.922**	**11.221**	**3.982**	**.089**	**(s)**	**14.648**
1977 Total	**-1.401**	**.981**	**13.921**	**4.321**	**.182**	**.015**	**18.019**
1978 Total	**-1.004**	**.941**	**13.125**	**3.932**	**.204**	**.125**	**17.323**
1979 Total	**-1.702**	**1.243**	**13.328**	**3.603**	**.211**	**.063**	**16.746**
1980 Total	**-2.391**	**.957**	**10.586**	**2.912**	**.217**	**-.035**	**12.247**
1981 Total	**-2.918**	**.857**	**8.854**	**2.522**	**.347**	**-.016**	**9.646**
1982 Total	**-2.768**	**.898**	**6.917**	**2.128**	**.306**	**-.022**	**7.460**
1983 Total	**-2.013**	**.885**	**6.731**	**2.351**	**.372**	**-.016**	**8.310**
1984 Total	**-2.119**	**.792**	**6.918**	**2.970**	**.414**	**-.011**	**8.963**
1985 Total	**-2.389**	**.896**	**6.381**	**2.570**	**.428**	**-.013**	**7.872**
1986 Total	**-2.193**	**.686**	**8.676**	**2.855**	**.375**	**-.017**	**10.382**
1987 Total	**-2.049**	**.937**	**9.748**	**2.784**	**.483**	**.009**	**11.911**
1988 Total	**-2.446**	**1.221**	**10.698**	**3.308**	**.328**	**.040**	**13.149**
1989 Total	**-2.566**	**1.278**	**12.296**	**3.029**	**.115**	**.030**	**14.182**
1990 Total	**-2.705**	**1.464**	**12.536**	**2.757**	**.024**	**.005**	**14.081**
1991 Total	**-2.769**	**1.666**	**12.308**	**1.912**	**.205**	**.010**	**13.332**
1992 Total	**-2.587**	**1.941**	**13.065**	**1.895**	**.263**	**.035**	**14.611**
1993 Total	**-1.780**	**2.255**	**14.542**	**1.854**	**.287**	**.027**	**17.184**
1994 Total	**-1.689**	**2.518**	**15.131**	**2.128**	**.462**	**.058**	**18.608**
1995 Total	**-2.138**	**2.745**	**15.432**	**1.437**	**.405**	**.061**	**17.941**
1996 Total	**-2.190**	**2.847**	**16.075**	**2.135**	**.416**	**.023**	**19.306**
1997 January	-.181	.273	1.357	.227	.026	.004	1.705
February	-.143	.233	1.202	.200	.021	.003	1.516
March	-.167	.246	1.407	.212	.026	.003	1.726
April	-.162	.230	1.411	.204	.030	.004	1.717
May	-.174	.237	1.592	.217	.024	.002	1.898
June	-.162	.228	1.555	.171	.031	.004	1.826
July	-.159	.231	1.497	.144	.042	.005	1.759
August	-.209	.232	1.571	.142	.041	.009	1.787
September	-.163	.232	1.558	.129	.030	-.001	1.785
October	-.181	.245	1.620	.154	.023	.005	1.867
November	-.158	.265	1.489	.105	.027	.002	1.730
December	-.145	.252	1.389	.095	.030	.006	1.627
Total	**-2.006**	**2.904**	**17.648**	**1.999**	**.351**	**.046**	**20.943**
1998 January	R -.166	.276	1.497	.143	E .016	.008	R 1.776
February	-.128	.245	1.309	.169	E .015	.003	R 1.614
March	R -.149	.249	1.481	.174	E .020	.003	1.778
April	R -.152	.246	1.576	.196	E .027	.004	R 1.897
May	R -.183	.248	1.633	.198	E .020	.005	R 1.921
June	R -.155	.236	1.560	.192	E .022	.009	R 1.863
July	R -.150	.261	1.736	.205	E .037	.007	R 2.096
August	R -.156	.270	1.684	.186	E .047	.010	R 2.041
September	R -.163	.256	1.512	.186	E .028	.006	R 1.825
October	R -.157	.259	1.584	.237	E .015	.007	R 1.946
November	R -.132	.251	1.586	.192	E .010	.004	R 1.911
December	R -.141	.265	1.525	.181	E .015	.002	R 1.847
Total	R **-1.831**	**3.064**	**18.684**	**2.259**	E **.271**	**.067**	R **22.514**
1999 January	R -.099	.302	1.514	.178	E .007	.005	1.907
February	R -.085	.268	1.379	.197	E .007	.002	R 1.768
March	R -.100	.283	1.599	.192	E .007	.007	R 1.988
April	R -.105	.274	1.564	.204	E .026	.009	R 1.972
May	R -.104	.278	1.609	.203	E .026	.003	R 2.016
June	R -.118	.270	1.515	.198	E .026	.002	R 1.892
July	R -.119	.282	1.680	.203	E .037	.003	R 2.087
August	R -.130	RE .305	1.579	.212	E .040	.006	R 2.011
September	R -.113	RE .299	1.508	.196	E .041	.002	R 1.933
October	-.140	E .306	1.547	.180	E .037	.004	1.935
10-Month Total	**-1.113**	E **2.867**	**15.493**	**1.963**	E **.254**	**.043**	**19.508**
1998 10-Month Total	**-1.558**	**2.547**	**15.572**	**1.886**	**.247**	**.062**	**18.756**
1997 10-Month Total	**-1.703**	**2.387**	**14.770**	**1.799**	**.294**	**.039**	**17.586**

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

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

[c] Assumed to be hydroelectricity and estimated at the average input heat rate for fossil-fuel steam-electric power plant generation, which has ranged from 10.2 thousand Btu to 10.5 thousand Btu per kilowatthour since 1973. Actual heat rates applied in converting kilowatthours to Btu are listed by year in Table A8.

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.

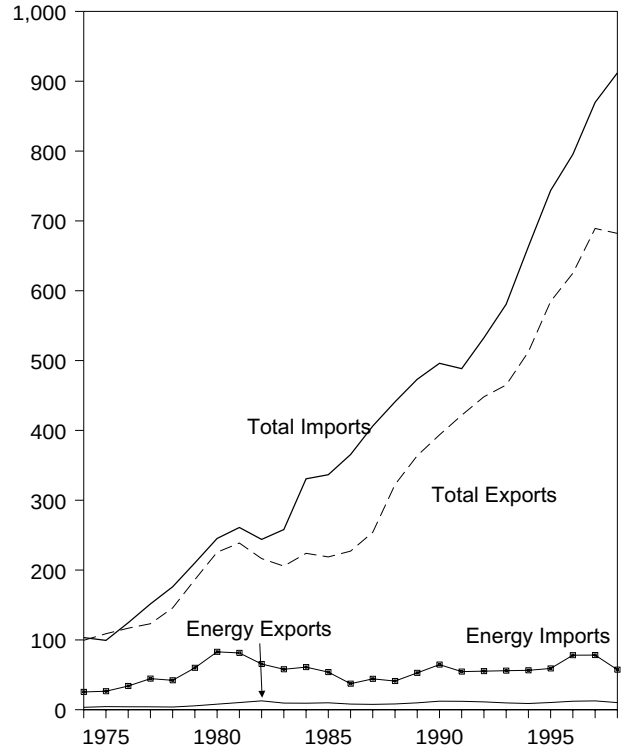
Sources: **Coal:** Tables 6.1 and A5-A7. **Natural Gas:** Tables 4.2 and A4. **Crude Oil and Petroleum Products:** Tables 3.1b and A2. **Electricity:** Section 2, "Energy Consumption Notes and Sources," Note 8, and Table A8. **Coal Coke:** Section 2, "Energy Consumption Notes and Sources," Note 9, and Table A7.

Electricity data are revised from 1990 forward. EIA modified its methodology for calculating import and export data for Canada. EIA's data had been based solely on contracted electricity transfers data from "Presidential Permits," which are collected by DOE, Office of Fuels Programs, Fossil Energy Division. The new methodology for calculating Canadian trade data is based on metered energy and includes firm and interruptible energy. The information is obtained from the National Energy Board of Canada. Changing the methodology gives a more accurate measure of electricity imports and exports. The methodology for calculating Mexico's trade remains the same since metered data are not available.

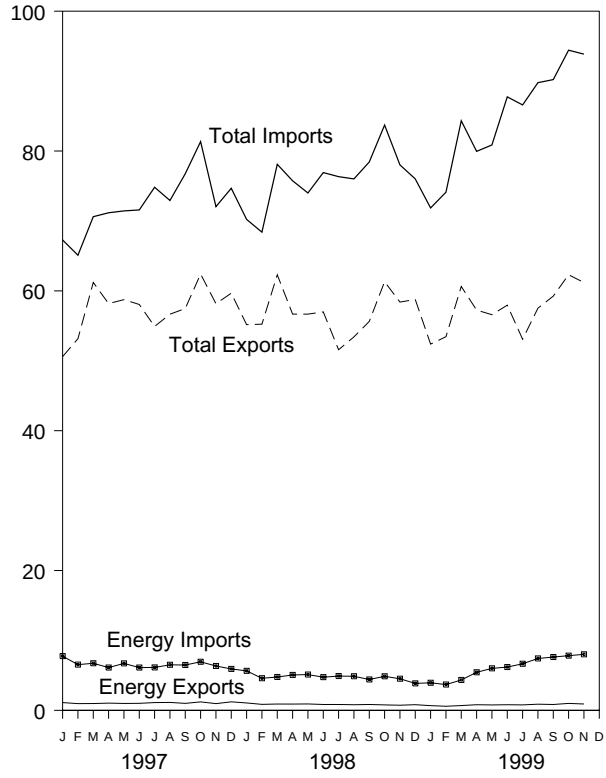
Figure 1.5 Merchandise Trade Value

(Billion Dollars)

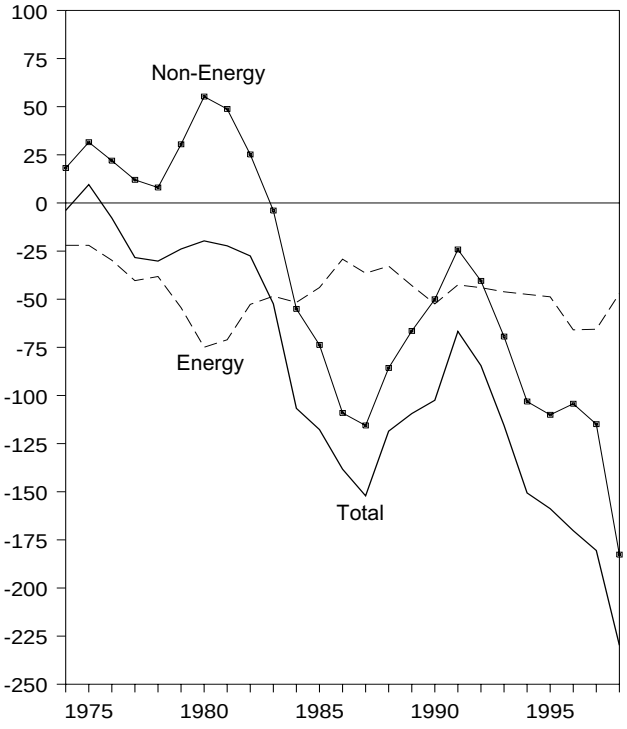
Imports and Exports, 1974-1998



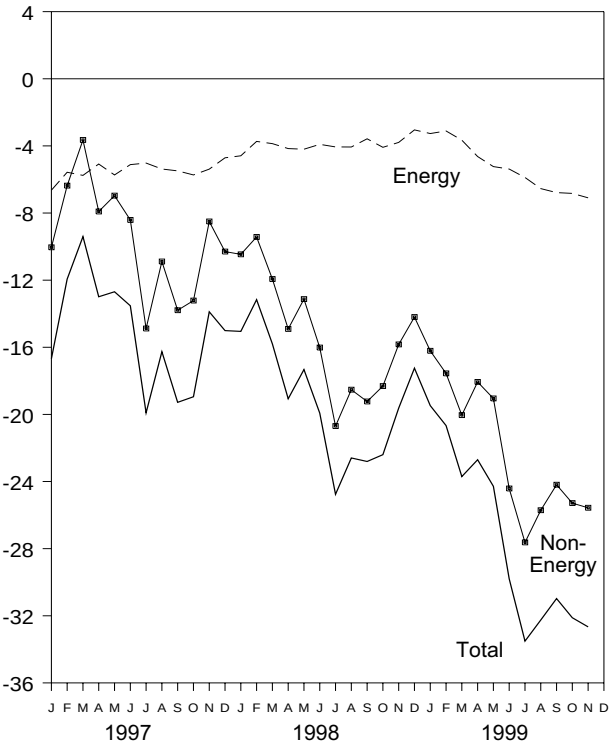
Imports and Exports, Monthly



Trade Balance, 1974-1998



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 January	777	6,824	-6,047	1,111	7,749	-6,638	-10,043	50,591	67,272	-16,681
February	675	5,891	-5,216	965	6,534	-5,569	-6,369	53,153	65,091	-11,938
March	637	6,256	-5,619	974	6,731	-5,757	-3,648	61,201	70,606	-9,405
April	715	5,668	-4,953	1,035	6,115	-5,080	-7,909	58,180	71,169	-12,989
May	655	6,252	-5,597	981	6,710	-5,729	-6,963	58,738	71,430	-12,692
June	679	5,600	-4,921	1,000	6,115	-5,115	-8,412	58,049	71,576	-13,527
July	792	5,613	-4,821	1,110	6,133	-5,023	-14,884	54,909	74,816	-19,907
August	744	5,985	-5,241	1,135	6,510	-5,375	-10,888	56,662	72,925	-16,263
September	670	5,949	-5,279	994	6,481	-5,487	-13,793	57,470	76,751	-19,280
October	787	6,279	-5,492	1,206	6,937	-5,731	-13,217	62,402	81,349	-18,948
November	636	5,574	-4,938	959	6,342	-5,383	-8,503	58,164	72,050	-13,886
December	828	5,262	-4,434	1,212	5,921	-4,709	-10,297	59,664	74,669	-15,006
Total	**8,592**	**71,152**	**-62,560**	**12,682**	**78,277**	**-65,595**	**-114,927**	**689,182**	**869,704**	**-180,522**
1998 January	715	4,996	-4,281	1,056	5,645	-4,589	-10,463	55,172	70,224	-15,052
February	597	4,074	-3,477	855	4,587	-3,732	-9,428	55,234	68,394	-13,160
March	589	4,189	-3,600	905	4,770	-3,865	-11,934	62,297	78,096	-15,799
April	602	4,492	-3,890	896	5,056	-4,160	-14,909	56,675	75,744	-19,069
May	585	4,549	-3,964	915	5,112	-4,197	-13,129	56,672	73,998	-17,326
June	524	4,145	-3,621	836	4,741	-3,905	-16,019	56,994	76,918	-19,924
July	523	4,278	-3,755	840	4,901	-4,061	-20,699	51,577	76,337	-24,760
August	522	4,229	-3,707	802	4,867	-4,065	-18,529	53,420	76,014	-22,594
September	513	3,878	-3,365	833	4,409	-3,576	-19,231	55,627	78,434	-22,807
October	476	4,280	-3,804	780	4,864	-4,084	-18,315	61,313	83,712	-22,399
November	415	3,892	-3,477	728	4,520	-3,792	-15,833	58,395	78,020	-19,625
December	514	3,260	-2,746	806	3,853	-3,047	-14,198	58,762	76,007	-17,245
Total	**6,574**	**50,264**	**-43,690**	**10,251**	**57,323**	**-47,072**	**-182,686**	**682,138**	**911,896**	**-229,758**
1999 January	460	3,258	-2,798	676	3,939	-3,263	-16,212	52,383	71,858	-19,475
February	375	3,160	-2,785	580	3,689	-3,109	-17,557	53,443	74,109	-20,666
March	441	3,709	-3,268	684	4,342	-3,658	-20,046	60,622	84,326	-23,704
April	575	4,775	-4,200	801	5,436	-4,635	-18,067	57,250	79,952	-22,702
May	566	5,403	-4,837	772	6,005	-5,233	-19,051	56,589	80,873	-24,284
June	563	5,603	-5,040	804	6,184	-5,380	-24,417	57,953	87,750	-29,797
July	559	5,945	-5,386	778	6,660	-5,882	-27,630	53,080	86,591	-33,512
August	628	6,691	-6,063	876	7,420	-6,544	-25,711	57,522	89,776	-32,255
September	622	6,942	-6,320	836	7,620	-6,784	-24,191	59,244	90,219	-30,975
October	737	R 7,084	R -6,347	990	7,819	-6,829	R -25,288	R 62,306	R 94,423	R -32,117
November	695	7,138	-6,443	910	8,005	-7,095	-25,566	61,194	93,855	-32,661
11-Month Total	**6,219**	**59,709**	**-53,490**	**8,708**	**67,119**	**-58,411**	**-243,737**	**631,585**	**933,733**	**-302,148**
1998 11-Month Total	**6,061**	**47,002**	**-40,941**	**9,446**	**53,472**	**-44,026**	**-168,489**	**623,376**	**835,891**	**-212,515**
1997 11-Month Total	**7,767**	**65,891**	**-58,124**	**11,470**	**72,357**	**-60,887**	**-104,629**	**629,519**	**795,035**	**-165,516**

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

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

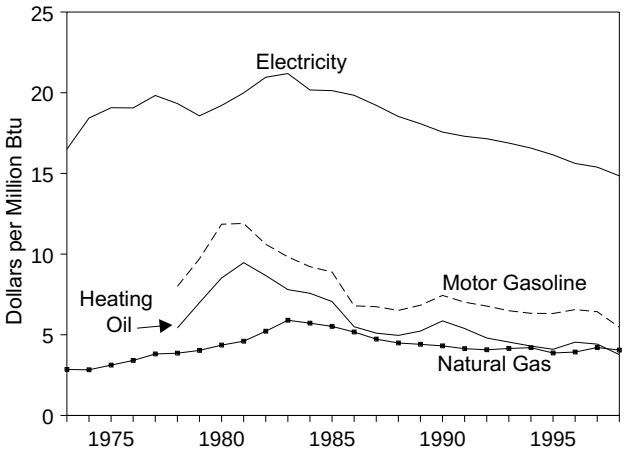
R=Revised.

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.

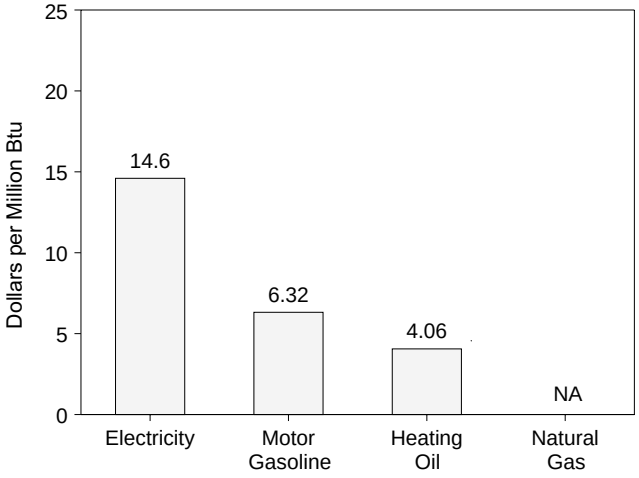
Sources: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

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

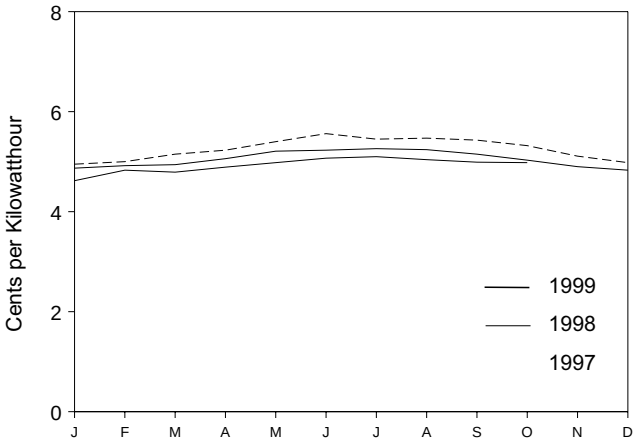
Costs, 1973-1998



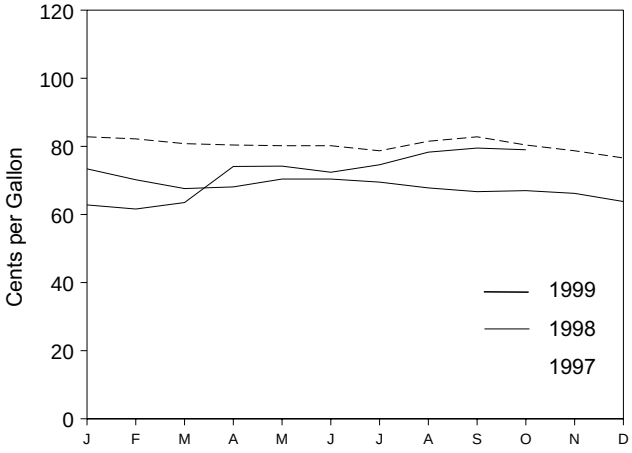
Costs, October 1999



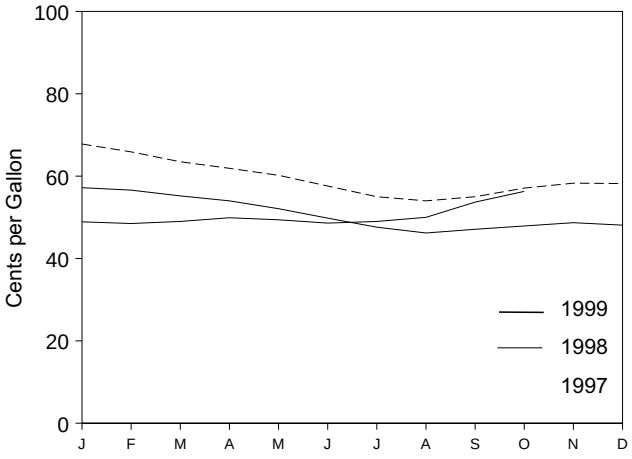
Electricity, Monthly



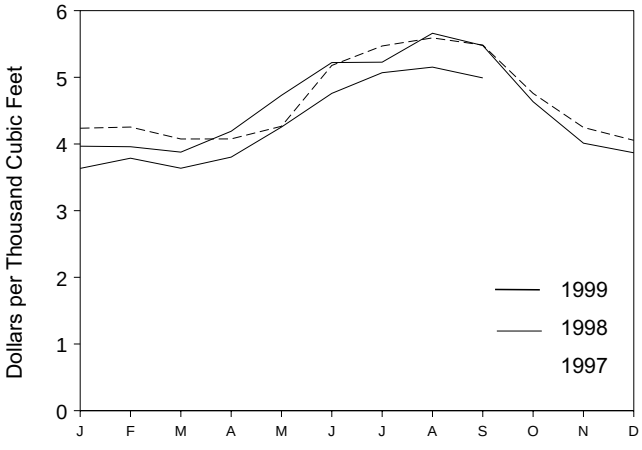
Motor Gasoline, Monthly



Heating Oil, Monthly



Natural Gas, Monthly



NA=Not available.
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 (All Types)		Residential Heating Oil		Residential Natural Gas		Residential Electricity	
	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**	**6.33**	**59.6**	**4.30**	**432.5**	**4.20**	**5.65**	**16.57**
1995 Average	**152.4**	**79.1**	**6.32**	**56.9**	**4.10**	**397.6**	**3.87**	**5.51**	**16.15**
1996 Average	**156.9**	**82.1**	**6.56**	**63.0**	**4.54**	**404.1**	**3.93**	**5.33**	**15.62**
1997 January	159.1	82.8	6.62	67.8	4.89	423.6	4.12	4.95	14.50
February	159.6	82.2	6.57	65.9	4.75	425.4	4.14	5.00	14.65
March	160.0	80.8	6.46	63.5	4.58	407.5	3.97	5.15	15.09
April	160.2	80.4	6.43	61.9	4.46	407.6	3.97	5.23	15.33
May	160.1	80.2	6.41	60.2	4.34	426.6	4.15	5.40	15.83
June	160.3	80.2	6.41	57.6	4.15	517.8	5.04	5.56	16.29
July	160.5	78.7	6.29	55.0	3.97	547.0	5.33	5.45	15.96
August	160.8	81.5	6.51	54.0	3.90	559.1	5.44	5.47	16.04
September	161.2	82.8	6.62	55.0	3.97	548.4	5.34	5.43	15.91
October	161.6	80.4	6.43	57.1	4.12	475.9	4.63	5.32	15.58
November	161.5	78.7	6.29	58.3	4.20	424.8	4.14	5.11	14.97
December	161.3	76.6	6.13	58.2	4.19	405.5	3.95	4.98	14.59
Average	**160.5**	**80.4**	**6.43**	**61.3**	**4.42**	**432.4**	**4.21**	**5.25**	**15.39**
1998 January	161.6	73.4	5.87	57.2	4.13	396.7	3.84	4.87	14.27
February	161.9	70.2	5.62	56.6	4.08	395.9	3.83	4.92	14.43
March	162.2	67.6	5.41	55.2	3.98	387.8	3.75	4.94	14.47
April	162.5	68.1	5.44	54.0	3.89	419.1	4.06	5.06	14.84
May	162.8	70.4	5.63	52.1	3.76	473.0	4.58	5.21	15.28
June	163.0	70.4	5.63	49.8	3.59	522.1	5.05	5.23	15.34
July	163.2	69.5	5.56	47.6	3.43	522.7	5.06	5.26	15.41
August	163.4	67.8	5.42	46.2	3.33	566.1	5.48	5.24	15.37
September	163.6	66.7	5.33	47.1	3.39	547.7	5.30	5.15	15.10
October	164.0	67.0	5.36	47.9	3.46	463.4	4.49	5.03	14.74
November	164.0	66.2	5.29	48.7	3.51	401.2	3.88	4.90	14.37
December	163.9	63.8	5.10	48.1	3.47	386.8	3.74	4.83	14.16
Average	**163.0**	**68.4**	**5.47**	**52.3**	**3.77**	**418.4**	**4.05**	**5.07**	**14.85**
1999 January	164.3	62.8	5.02	48.9	3.53	363.4	3.52	4.62	13.54
February	164.5	61.6	4.93	48.5	3.50	378.7	3.67	4.83	14.15
March	165.0	63.5	5.08	49.0	3.54	363.6	3.52	4.79	14.03
April	166.2	74.1	5.93	49.9	3.60	380.3	3.68	4.89	14.32
May	166.2	74.2	5.93	49.4	3.56	425.4	4.12	4.98	14.60
June	166.2	72.4	5.79	48.6	3.51	475.9	4.61	5.07	14.85
July	166.7	74.6	5.97	49.0	3.53	506.9	4.91	5.10	14.94
August	167.1	78.3	6.26	50.0	3.60	515.3	4.99	5.04	14.77
September	167.9	79.5	6.35	53.7	3.87	499.1	4.83	4.99	14.61
October	168.2	79.0	6.32	56.3	4.06	NA	NA	4.98	14.60

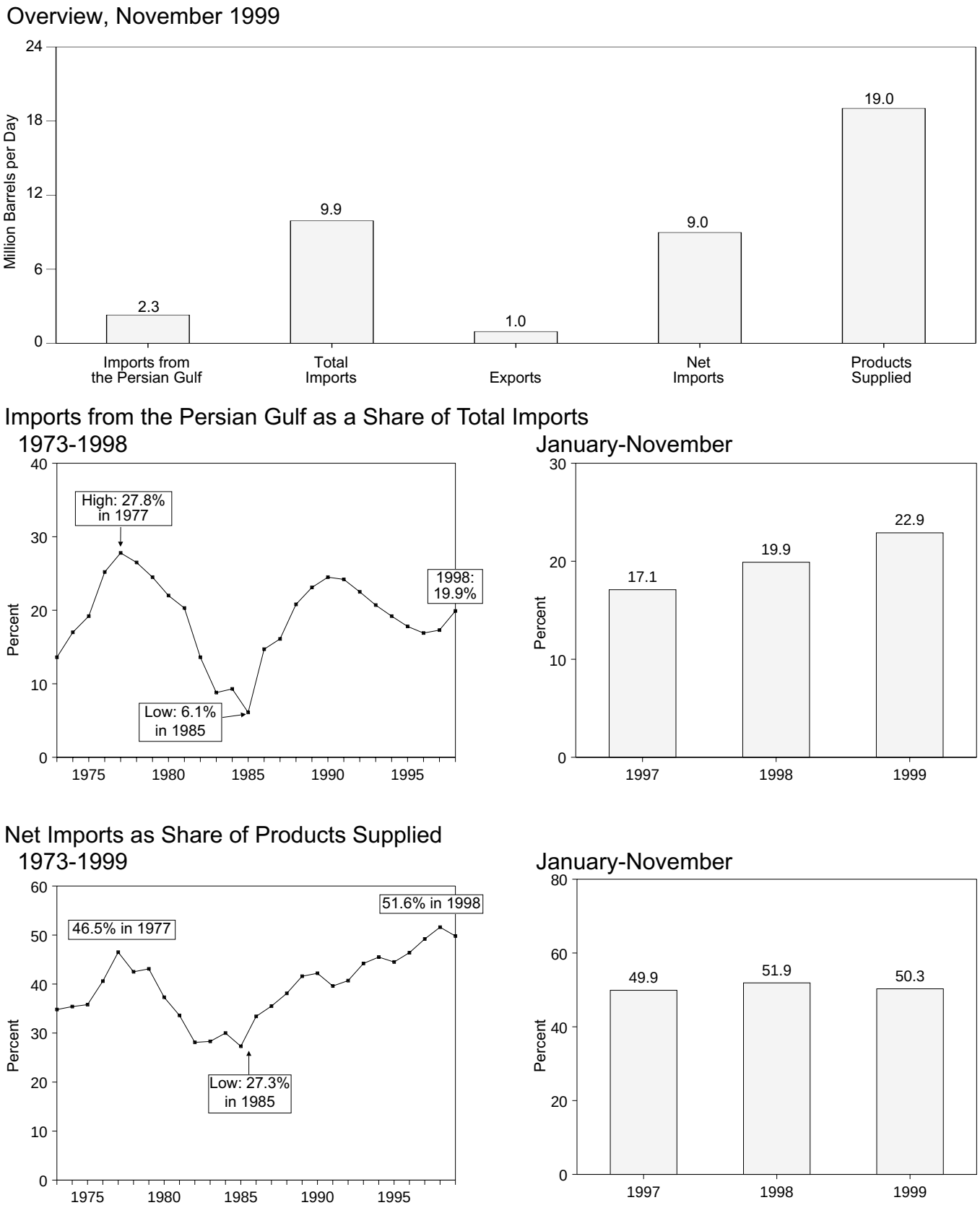
[a] Consumer Price Index, All Urban Consumers, All Items, 1982-1984 = 100.0.

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: **Annual Data:** Annual prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. **Monthly Data:** Monthly prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. **CPI: 1973-1995**—*Economic Report of the President,* February 1999, Table B-60. **1996 forward**—Council of Economic Advisers, *Economic Indicators,* December 1999, "Consumer Prices - All Urban Consumers." **Conversion Factors:** Tables A1, A4, and A8.

Figure 1.7 Overview of U.S. Petroleum Trade



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 the Persian Gulf[a]	Total Imports	Exports	Net Imports	Products Supplied	As Share of Products Supplied: Imports from the Persian Gulf[a]	As Share of Products Supplied: Total Imports	As Share of Products Supplied: Net Imports	Imports from the Persian Gulf[a] as a Share of Total Imports
	Thousand Barrels per Day					Percent			
1973 Average	**848**	**6,256**	**231**	**6,025**	**17,308**	**4.9**	**36.1**	**34.8**	**13.6**
1974 Average	**1,039**	**6,112**	**221**	**5,892**	**16,653**	**6.2**	**36.7**	**35.4**	**17.0**
1975 Average	**1,165**	**6,056**	**209**	**5,846**	**16,322**	**7.1**	**37.1**	**35.8**	**19.2**
1976 Average	**1,840**	**7,313**	**223**	**7,090**	**17,461**	**10.5**	**41.9**	**40.6**	**25.2**
1977 Average	**2,448**	**8,807**	**243**	**8,565**	**18,431**	**13.3**	**47.8**	**46.5**	**27.8**
1978 Average	**2,219**	**8,363**	**362**	**8,002**	**18,847**	**11.8**	**44.4**	**42.5**	**26.5**
1979 Average	**2,069**	**8,456**	**471**	**7,985**	**18,513**	**11.2**	**45.7**	**43.1**	**24.5**
1980 Average	**1,519**	**6,909**	**544**	**6,365**	**17,056**	**8.9**	**40.5**	**37.3**	**22.0**
1981 Average	**1,219**	**5,996**	**595**	**5,401**	**16,058**	**7.6**	**37.3**	**33.6**	**20.3**
1982 Average	**696**	**5,113**	**815**	**4,298**	**15,296**	**4.5**	**33.4**	**28.1**	**13.6**
1983 Average	**442**	**5,051**	**739**	**4,312**	**15,231**	**2.9**	**33.2**	**28.3**	**8.8**
1984 Average	**506**	**5,437**	**722**	**4,715**	**15,726**	**3.2**	**34.6**	**30.0**	**9.3**
1985 Average	**311**	**5,067**	**781**	**4,286**	**15,726**	**2.0**	**32.2**	**27.3**	**6.1**
1986 Average	**912**	**6,224**	**785**	**5,439**	**16,281**	**5.6**	**38.2**	**33.4**	**14.7**
1987 Average	**1,077**	**6,678**	**764**	**5,914**	**16,665**	**6.5**	**40.1**	**35.5**	**16.1**
1988 Average	**1,541**	**7,402**	**815**	**6,587**	**17,283**	**8.9**	**42.8**	**38.1**	**20.8**
1989 Average	**1,861**	**8,061**	**859**	**7,202**	**17,325**	**10.7**	**46.5**	**41.6**	**23.1**
1990 Average	**1,966**	**8,018**	**857**	**7,161**	**16,988**	**11.6**	**47.2**	**42.2**	**24.5**
1991 Average	**1,845**	**7,627**	**1,001**	**6,626**	**16,714**	**11.0**	**45.6**	**39.6**	**24.2**
1992 Average	**1,778**	**7,888**	**950**	**6,938**	**17,033**	**10.4**	**46.3**	**40.7**	**22.5**
1993 Average	**1,782**	**8,620**	**1,003**	**7,618**	**17,237**	**10.3**	**50.0**	**44.2**	**20.7**
1994 Average	**1,728**	**8,996**	**942**	**8,054**	**17,718**	**9.8**	**50.8**	**45.5**	**19.2**
1995 Average	**1,573**	**8,835**	**949**	**7,886**	**17,725**	**8.9**	**49.8**	**44.5**	**17.8**
1996 Average	**1,604**	**9,478**	**981**	**8,498**	**18,309**	**8.8**	**51.8**	**46.4**	**16.9**
1997 January	1,553	9,763	1,038	8,725	18,554	8.4	52.6	47.0	15.9
February	1,533	9,561	1,017	8,544	18,398	8.3	52.0	46.4	16.0
March	1,641	9,833	933	8,900	17,863	9.2	55.0	49.8	16.7
April	1,877	10,114	937	9,177	18,559	10.1	54.5	49.4	18.6
May	1,706	10,818	876	9,941	18,293	9.3	59.1	54.3	15.8
June	1,781	10,736	955	9,782	18,617	9.6	57.7	52.5	16.6
July	1,746	10,008	1,012	8,996	19,107	9.1	52.4	47.1	17.4
August	1,866	10,465	1,074	9,390	18,565	10.0	56.4	50.6	17.8
September	1,921	10,537	997	9,540	18,562	10.3	56.8	51.4	18.2
October	1,919	10,792	1,066	9,726	19,071	10.1	56.6	51.0	17.8
November	1,748	9,948	934	9,014	18,578	9.4	53.5	48.5	17.6
December	1,755	9,328	1,197	8,130	19,250	9.1	48.5	42.2	18.8
Average	**1,755**	**10,162**	**1,003**	**9,158**	**18,620**	**9.4**	**54.6**	**49.2**	**17.3**
1998 January	1,804	10,127	1,133	8,994	18,362	9.8	55.2	49.0	17.8
February	1,826	9,991	1,003	8,988	18,316	10.0	54.5	49.1	18.3
March	2,066	10,034	948	9,087	18,685	11.1	53.7	48.6	20.6
April	2,111	11,105	1,048	10,057	19,044	11.1	58.3	52.8	19.0
May	1,915	11,104	1,053	10,051	18,375	10.4	60.4	54.7	17.3
June	2,207	10,926	987	9,939	19,182	11.5	57.0	51.8	20.2
July	2,351	11,649	998	10,651	19,466	12.1	59.8	54.7	20.2
August	2,486	11,032	780	10,252	19,347	12.8	57.0	53.0	22.5
September	2,383	10,499	863	9,636	18,895	12.6	55.6	51.0	22.7
October	2,194	10,861	851	10,011	19,188	11.4	56.6	52.2	20.2
November	2,153	10,860	782	10,078	18,673	11.5	58.2	54.0	19.8
December	2,116	10,258	893	9,365	19,419	10.9	52.8	48.2	20.6
Average	**2,136**	**10,708**	**945**	**9,764**	**18,917**	**11.3**	**56.6**	**51.6**	**19.9**
1999 January	2,114	10,181	896	9,285	18,850	11.2	54.0	49.3	20.8
February	2,396	10,336	756	9,580	19,240	12.5	53.7	49.8	23.2
March	2,794	10,589	764	9,825	19,489	14.3	54.3	50.4	26.4
April	2,591	11,227	1,196	10,031	18,861	13.7	59.5	53.2	23.1
May	2,449	10,865	915	9,950	18,142	13.5	59.9	54.8	22.5
June	2,484	10,624	907	9,717	19,738	12.6	53.8	49.2	23.4
July	2,393	11,250	918	10,332	19,503	12.3	57.7	53.0	21.3
August	2,422	10,734	902	9,832	19,883	12.2	54.0	49.4	22.6
September	2,474	10,566	889	9,677	19,537	12.7	54.1	49.5	23.4
October	2,356	10,428	944	9,484	19,860	11.9	52.5	47.8	22.6
November	2,294	9,924	950	8,974	19,027	12.1	52.2	47.2	23.1
11-Month Average	**2,433**	**10,614**	**913**	**9,701**	**19,285**	**12.6**	**55.0**	**50.3**	**22.9**
1998 11-Month Average	**2,138**	**10,750**	**949**	**9,801**	**18,871**	**11.3**	**57.0**	**51.9**	**19.9**
1997 11-Month Average	**1,755**	**10,239**	**985**	**9,254**	**18,562**	**9.5**	**55.2**	**49.9**	**17.1**

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

NA=Not available. E=Estimate.

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. **Columns 2 - 4:** Table 3.1b. **Column 5:** Table 3.1a. **Column 6:** Column 1 divided by column 5 times 100. **Column 7:** Column 2 divided by column 5 times 100. **Column 8:**

Figure 1.8 Energy Consumption per Dollar of Gross Domestic Product

(Thousand Btu per Chained (1996) Dollar)

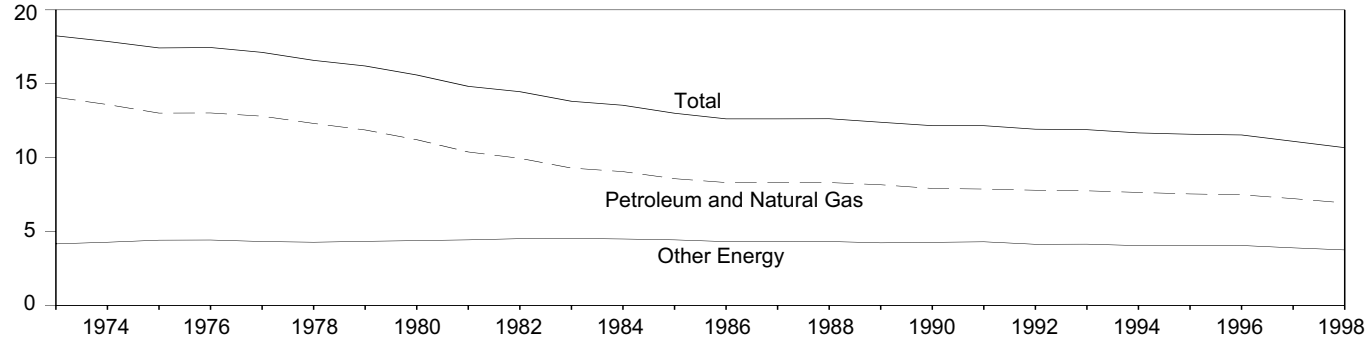


Table 1.9 Energy Consumption per Dollar of Gross Domestic Product

(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[a]		Petroleum and Natural Gas	Other Energy[a]	Total[a]
	Quadrillion Btu			Billion Chained (1996) Dollars	Thousand Btu per Chained (1996) Dollar		
1973 Year	**57.352**	**16.930**	**74.282**	**4,073.1**	**14.08**	**4.16**	**18.24**
1974 Year	**55.187**	**17.356**	**72.543**	**4,061.7**	**13.59**	**4.27**	**17.86**
1975 Year	**52.678**	**17.867**	**70.546**	**4,050.3**	**13.01**	**4.41**	**17.42**
1976 Year	**55.520**	**18.842**	**74.362**	**4,262.6**	**13.02**	**4.42**	**17.45**
1977 Year	**57.053**	**19.236**	**76.288**	**4,455.7**	**12.80**	**4.32**	**17.12**
1978 Year	**57.966**	**20.123**	**78.089**	**4,709.9**	**12.31**	**4.27**	**16.58**
1979 Year	**57.789**	**21.108**	**78.898**	**4,870.1**	**11.87**	**4.33**	**16.20**
1980 Year	**54.596**	**21.359**	**75.955**	**4,872.3**	**11.21**	**4.38**	**15.59**
1981 Year	**51.859**	**22.131**	**73.990**	**4,993.9**	**10.38**	**4.43**	**14.82**
1982 Year	**48.736**	**22.111**	**70.848**	**4,900.3**	**9.95**	**4.51**	**14.46**
1983 Year	**47.411**	**23.114**	**70.524**	**5,105.6**	**9.29**	**4.53**	**13.81**
1984 Year	**49.558**	**24.586**	**74.144**	**5,477.4**	**9.05**	**4.49**	**13.54**
1985 Year	**48.756**	**25.225**	**73.981**	**5,689.8**	**8.57**	**4.43**	**13.00**
1986 Year	**48.904**	**25.393**	**74.297**	**5,885.7**	**8.31**	**4.31**	**12.62**
1987 Year	**50.609**	**26.285**	**76.894**	**6,092.6**	**8.31**	**4.31**	**12.62**
1988 Year	**52.774**	**27.443**	**80.218**	**6,349.1**	**8.31**	**4.32**	**12.63**
1989 Year	**53.595**	**27.763**	**81.358**	**6,568.7**	**8.16**	**4.23**	**12.39**
1990 Year	**52.849**	**28.438**	**81.287**	**6,683.5**	**7.91**	**4.26**	**12.16**
1991 Year	**52.452**	**28.663**	**81.115**	**6,669.2**	**7.87**	**4.30**	**12.16**
1992 Year	**53.657**	**28.474**	**82.132**	**6,891.1**	**7.79**	**4.13**	**11.92**
1993 Year	**54.668**	**29.207**	**83.875**	**7,054.1**	**7.75**	**4.14**	**11.89**
1994 Year	**56.022**	**29.614**	**85.637**	**7,337.8**	**7.64**	**4.04**	**11.67**
1995 Year	**56.827**	**30.432**	**87.259**	**7,537.1**	**7.54**	**4.04**	**11.58**
1996 Year	**58.423**	**31.668**	**90.091**	**7,813.2**	**7.48**	**4.05**	**11.53**
1997 1st Quarter	58.776	32.052	90.828	8,033.4	7.32	3.99	11.31
2nd Quarter	59.369	31.585	90.953	8,134.8	7.30	3.88	11.18
3rd Quarter	58.619	31.611	90.229	8,214.8	7.14	3.85	10.98
4th Quarter	58.864	31.721	90.585	8,277.3	7.11	3.83	10.94
Year	**58.911**	**31.741**	**90.652**	**8,165.1**	**7.22**	**3.89**	**11.10**
1998 1st Quarter	58.030	R 31.667	R 89.697	8,412.7	6.90	R 3.76	R 10.66
2nd Quarter	59.717	R 32.615	R 92.332	8,457.2	7.06	3.86	10.92
3rd Quarter	60.324	R 32.229	R 92.553	8,536.0	7.07	3.78	R 10.84
4th Quarter	57.822	R 31.217	R 89.040	8,659.2	6.68	3.61	R 10.28
Year	**58.979**	R **31.931**	R **90.910**	**8,516.3**	**6.93**	**3.75**	R **10.67**
1999 1st Quarter	R 60.567	R 32.258	R 92.824	8,737.9	6.93	3.69	10.62
2nd Quarter	R 60.049	R 32.248	R 92.296	8,778.6	6.84	3.67	10.51
3rd Quarter	R 60.673	R 32.163	R 92.836	R 8,900.6	R 6.82	R 3.61	R 10.43

[a] Due to a lack of consistent monthly historical data, some renewable energy sources are not included in other energy or total consumption. For example, in 1998, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu of ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

R=Revised.

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: 1973-1997**—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* November 1999, Table 3B. **1998 forward**—U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News,* December 22, 1999, Table 2.

Figure 1.9 Passenger Car Efficiency

(Index, 1973 = 100)

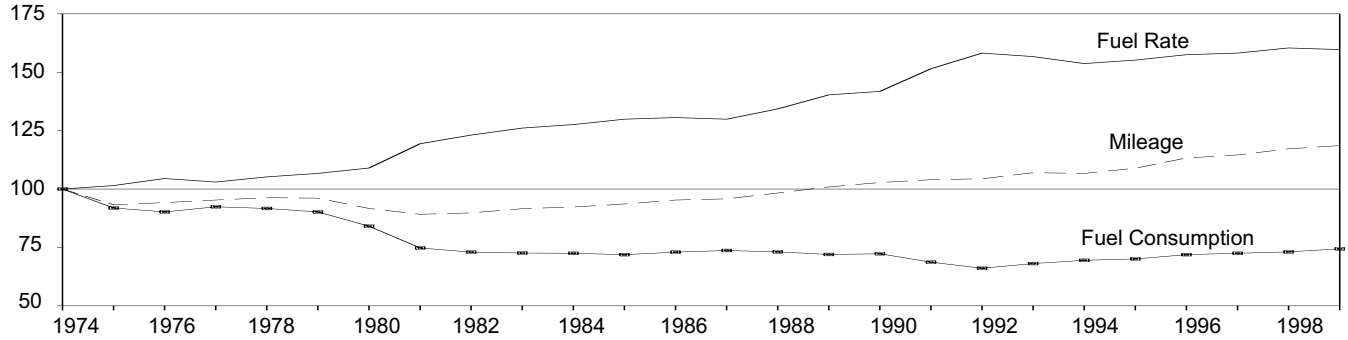


Table 1.10 Passenger Car Efficiency

	Mileage		Fuel Consumption		Fuel Rate	
	Miles per Car	Index 1973=100.0	Gallons per Car	Index 1973=100.0	Miles per Gallon	Index 1973=100.0
1973[a]	**9,884**	**100.0**	**737**	**100.0**	**13.4**	**100.0**
1974[a]	**9,221**	**93.3**	**677**	**91.9**	**13.6**	**101.5**
1975[a]	**9,309**	**94.2**	**665**	**90.2**	**14.0**	**104.5**
1976[a]	**9,418**	**95.3**	**681**	**92.4**	**13.8**	**103.0**
1977[a]	**9,517**	**96.3**	**676**	**91.7**	**14.1**	**105.2**
1978[a]	**9,500**	**96.1**	**665**	**90.2**	**14.3**	**106.7**
1979[a]	**9,062**	**91.7**	**620**	**84.1**	**14.6**	**109.0**
1980[a]	**8,813**	**89.2**	**551**	**74.8**	**16.0**	**119.4**
1981[a]	**8,873**	**89.8**	**538**	**73.0**	**16.5**	**123.1**
1982[a]	**9,050**	**91.6**	**535**	**72.6**	**16.9**	**126.1**
1983[a]	**9,118**	**92.3**	**534**	**72.5**	**17.1**	**127.6**
1984[a]	**9,248**	**93.6**	**530**	**71.9**	**17.4**	**129.9**
1985[a]	**9,419**	**95.3**	**538**	**73.0**	**17.5**	**130.6**
1986[a]	**9,464**	**95.8**	**543**	**73.7**	**17.4**	**129.9**
1987[a]	**9,720**	**98.3**	**539**	**73.1**	**18.0**	**134.3**
1988[a]	**9,972**	**100.9**	**531**	**72.0**	**18.8**	**140.3**
1989[a]	**10,157**	**102.8**	**533**	**72.3**	**19.0**	**141.8**
1990[a]	**10,277**	**104.0**	**506**	**68.7**	**20.3**	**151.5**
1991[a]	**10,322**	**104.4**	**487**	**66.1**	**21.2**	**158.2**
1992[a]	**10,571**	**107.0**	**502**	**68.1**	**21.0**	**156.7**
1993[a]	**10,545**	**106.7**	**512**	**69.5**	**20.6**	**153.7**
1994[a]	**10,759**	**108.9**	**517**	**70.1**	**20.8**	**155.2**
1995	**11,203**	**113.3**	**530**	**71.9**	**21.1**	**157.5**
1996	**11,330**	**114.6**	**534**	**72.5**	**21.2**	**158.2**
1997	**11,581**	**117.2**	**539**	**73.1**	**21.5**	**160.4**
1998[b]	**11,725**	**118.6**	**548**	**74.4**	**21.4**	**159.7**

[a] Includes motorcycles.
[b] Preliminary.
Note: Geographic coverage is the 50 States and the District of Columbia.
Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal Highway Statistics Division. **1973-1994:** *Highway Statistics Summary to 1995,* Table VM-201A. **1995 forward:** *Highway Statistics,* annual, Table VM-1.

Table 1.11 Heating Degree-Days by Census Division

Census Divisions	December 1 through December 31					Cumulative July 1 through December 31				
				Percent Change					Percent Change	
	Normal[a]	1998	1999	Normal to 1999	1998 to 1999	Normal[a]	1998	1999	Normal to 1999	1998 to 1999
New England										
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	1,110	939	981	-11.6	4.5	2,439	2,245	2,231	-8.5	-0.6
Middle Atlantic										
New Jersey, New York, Pennsylvania	1,012	819	900	-11.1	9.9	2,131	1,822	1,881	-11.7	3.2
East North Central										
Illinois, Indiana, Michigan, Ohio, Wisconsin	1,143	957	1,051	-8.0	9.8	2,402	2,010	2,184	-9.1	8.7
West North Central										
Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	1,247	1,096	1,063	-14.8	-3.0	2,596	2,186	2,222	-14.4	1.6
South Atlantic										
Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia	571	456	530	-7.2	16.2	1,084	913	1,021	-5.8	11.8
East South Central										
Alabama, Kentucky, Mississippi, Tennessee	718	619	666	-7.2	7.6	1,380	1,133	1,247	-9.6	10.1
West South Central										
Arkansas, Louisiana, Oklahoma, Texas	523	500	461	-11.9	-7.8	877	770	764	-12.9	-.8
Mountain										
Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	950	948	881	-7.3	-7.1	2,145	2,008	1,874	-12.6	-6.7
Pacific[b]										
California, Oregon, Washington	564	616	513	-9.0	-16.7	1,227	1,288	1,043	-15.0	-19.0
U.S. Average[b]	**836**	**734**	**755**	**-9.7**	**2.9**	**1,724**	**1,516**	**1,537**	**-10.8**	**1.4**

[a] "Normal" is based on calculations of data from 1961 through 1990.
[b] Excludes Alaska and Hawaii.

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	December 1 through December 31					Cumulative January 1 through December 31				
				Percent Change					Percent Change	
	Normal[a]	1998	1999	Normal to 1999	1998 to 1999	Normal[a]	1998	1999	Normal to 1999	1998 to 1999
New England										
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	0	0	0	([c])	([c])	420	470	589	40.2	25.3
Middle Atlantic										
New Jersey, New York, Pennsylvania	0	0	0	([c])	([c])	675	769	823	21.9	7.0
East North Central										
Illinois, Indiana, Michigan, Ohio, Wisconsin	0	0	0	([c])	([c])	736	867	803	9.1	-7.4
West North Central										
Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	0	0	0	([c])	([c])	981	1,097	925	-5.7	-15.7
South Atlantic										
Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia	30	48	24	([c])	([c])	1,926	2,231	2,038	5.8	-8.7
East South Central										
Alabama, Kentucky, Mississippi, Tennessee	3	12	1	([c])	([c])	1,564	1,933	1,746	11.6	-9.7
West South Central										
Arkansas, Louisiana, Oklahoma, Texas	10	23	10	([c])	([c])	2,459	3,036	2,653	7.9	-12.6
Mountain										
Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	0	0	0	([c])	([c])	1,173	1,233	1,235	5.3	.2
Pacific[b]										
California, Oregon, Washington	0	0	0	([c])	([c])	694	717	654	-5.8	-8.8
U.S. Average[b]	**7**	**12**	**5**	**([c])**	**([c])**	**1,192**	**1,385**	**1,280**	**7.4**	**-7.6**

[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.

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 Summary Notes

1. Energy Production: Production of energy includes production of coal, crude oil and lease condensate, natural gas plant liquids, natural gas (dry), electric utility and industrial production of hydroelectric power, and electricity generated from nuclear power. Production also includes electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy but excludes other energy obtained from those sources because consistent historical data are not available. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A.

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

3. Energy Imports: Energy imports include imports of coal, crude oil (including crude oil imported for the Strategic Petroleum Reserve), petroleum products, natural gas, electricity (assumed to be hydroelectricity), and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. For further information on electricity, see "Note for imports and exports of electricity" under Note 8 of Section 2, Energy Consumption Section Notes and Sources.

4. Energy Exports: Energy exports include coal, crude oil, petroleum products, natural gas, electricity produced from hydroelectric power, and coal coke. Approximate heat contents (Btu values) are derived by using the conversion factors provided in Appendix A. For more information on electricity, see "Note for imports and exports of electricity" under Note 8 of Section 2, Energy Consumption Section Notes and Sources.

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," 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," 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," FT-900, monthly.

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: "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

U.S. total energy consumption in October 1999 was 7.4 quadrillion Btu. Petroleum products accounted for 45 percent of the energy consumed in October 1999, while coal accounted for 23 percent and natural gas accounted for 21 percent.

Residential and commercial sector consumption was 2.3 quadrillion Btu in October 1999, 2 percent lower than the October 1998 level. The sector accounted for 31 percent of total consumption, down 1 percentage point from its 32-percent share in October 1998.

Industrial sector consumption was 2.8 quadrillion Btu in October 1999, 3 percent higher than the October 1998 level. The industrial sector accounted for 38 percent of total consumption, about the same share as in October 1998.

Transportation sector consumption of energy was 2.2 quadrillion Btu in October 1999, up 3 percent from the October 1998 level. The sector accounted for 30 percent of total consumption, about the same share as in October 1998.

Electric utility consumption of energy totaled 2.6 quadrillion Btu in October 1999, down 2 percent from the October 1998 level. Coal contributed 57 percent of the energy consumed by electric utilities, while nuclear electric power contributed 23 percent; natural gas and hydroelectric 9 percent each; petroleum 2 percent; and all other, less than 1 percent.

Table 2.1 Energy Consumption Summary for October 1999

(Quadrillion Btu)

Energy Source	End-Use Sectors				Electric Utilities	Total
	Residential and Commercial	Industrial	Transportation	Total[a]		
Coal	0.010	0.197	([b])	0.207	1.480	1.687
Natural Gas[c]	F .401	F .853	F .050	F 1.303	.245	F 1.548
Petroleum Products[d]	.173	.891	2.185	3.249	.055	3.304
Nuclear Electric Power	–	–	–	–	.585	.585
Hydroelectric Power[e]	–	.002	–	.002	.225	.227
Geothermal	–	–	–	–	(s)	(s)
Net Imports of Coal Coke	–	.004	–	.004	–	.004
Other[f]	–	–	–	–	.002	.002
Primary Consumption	**.584**	**1.946**	**2.235**	**4.765**	**2.592**	**7.357**
Electricity	.587	.304	.001	.892	–	–
Net Consumption	**1.171**	**2.251**	**2.236**	**5.657**	–	–
Electrical System Energy Losses	1.118	.580	.002	1.700	–	–
Total Consumption	**2.289**	**2.830**	**2.238**	**7.357**	–	–

[a] Totals for coal and natural gas may not equal sum of sectors due to the use of sector-specific conversion factors.

[b] Small amounts of coal consumed for transportation are reported as industrial sector consumption.

[c] Includes supplemental gaseous fuels. Transportation sector is pipeline fuel only.

[d] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

[e] Includes net imports of electricity.

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

– =Not applicable. (s)=Less than 0.5 trillion Btu. 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.

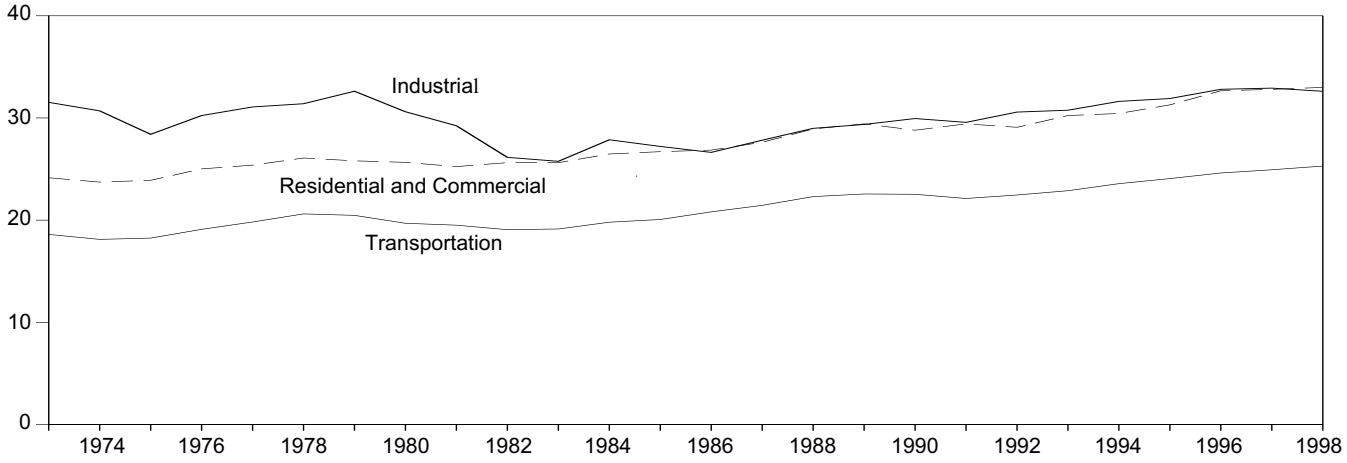
Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. For the full year of 1998, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

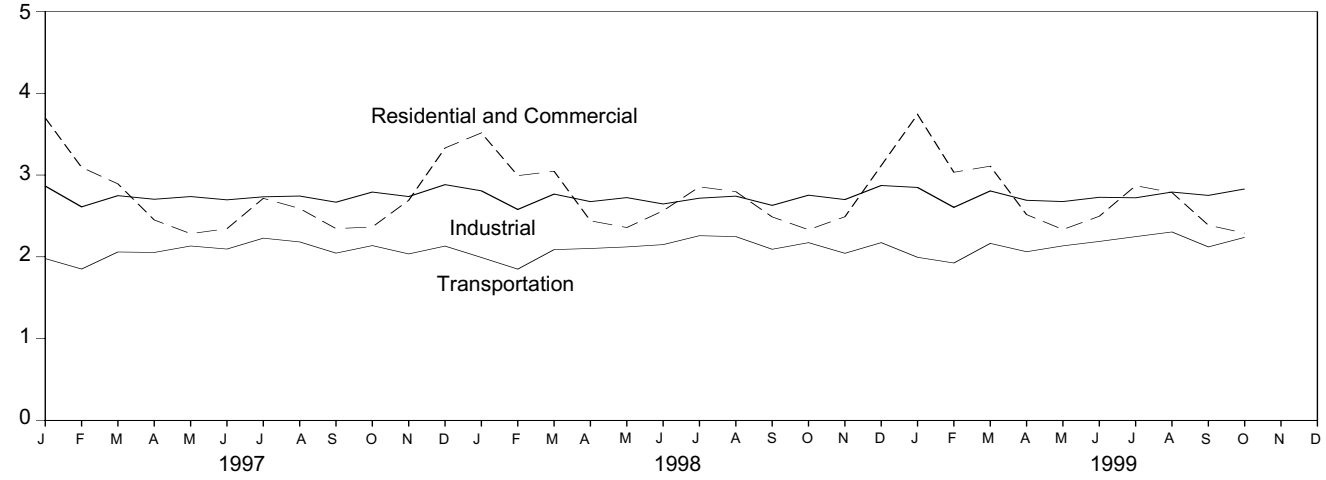
Figure 2.1 Energy Consumption by End-Use Sector

(Quadrillion Btu)

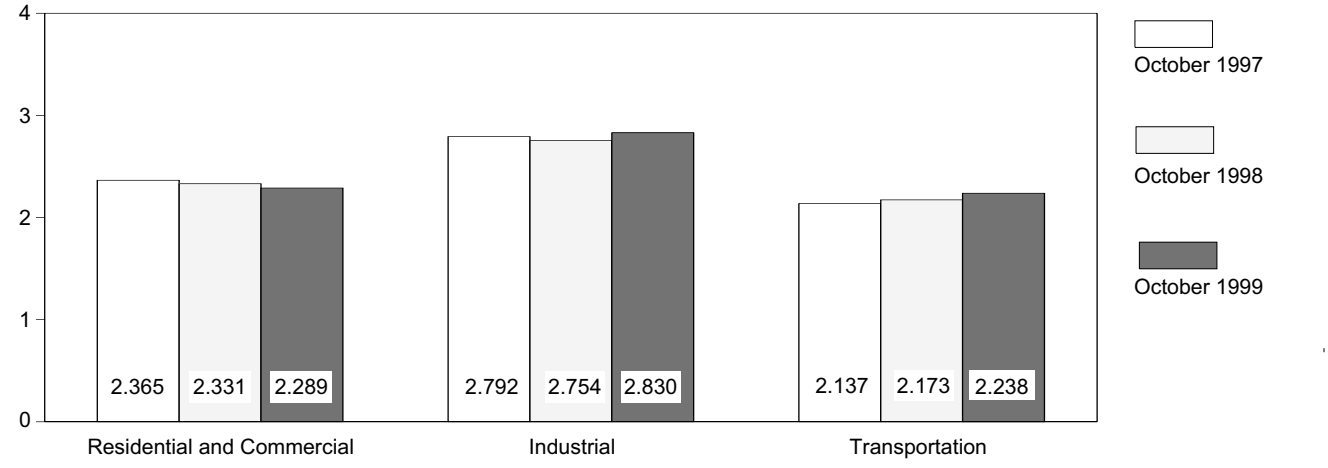
Overview, 1973-1998



Overview, Monthly



Overview, October



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

Table 2.2 Energy Consumption by End-Use Sector

(Quadrillion Btu)

	Residential and Commercial		Industrial		Transportation			
	Net	Total	Net	Total	Net	Total	Net	Total
1973 Total	**15.766**	**24.143**	**25.917**	**31.528**	**18.584**	**18.605**	**60.274**	**74.282**
1974 Total	**15.246**	**23.725**	**24.994**	**30.694**	**18.095**	**18.117**	**58.341**	**72.543**
1975 Total	**15.200**	**23.899**	**22.737**	**28.402**	**18.219**	**18.244**	**56.157**	**70.546**
1976 Total	**15.997**	**25.018**	**24.038**	**30.236**	**19.076**	**19.101**	**59.119**	**74.362**
1977 Total	**15.828**	**25.384**	**24.593**	**31.077**	**19.794**	**19.819**	**60.223**	**76.288**
1978 Total	**16.023**	**26.084**	**24.637**	**31.392**	**20.589**	**20.611**	**61.251**	**78.089**
1979 Total	**15.709**	**25.808**	**25.679**	**32.616**	**20.447**	**20.472**	**61.836**	**78.898**
1980 Total	**15.075**	**25.655**	**23.854**	**30.606**	**19.669**	**19.695**	**58.597**	**75.955**
1981 Total	**14.541**	**25.241**	**22.533**	**29.240**	**19.480**	**19.507**	**56.556**	**73.990**
1982 Total	**14.629**	**25.629**	**20.020**	**26.145**	**19.043**	**19.069**	**53.697**	**70.848**
1983 Total	**14.395**	**25.627**	**19.401**	**25.759**	**19.109**	**19.135**	**52.907**	**70.524**
1984 Total	**14.964**	**26.474**	**21.184**	**27.867**	**19.773**	**19.801**	**55.923**	**74.144**
1985 Total	**14.839**	**26.704**	**20.520**	**27.214**	**20.036**	**20.067**	**55.391**	**73.981**
1986 Total	**14.791**	**26.852**	**20.101**	**26.630**	**20.781**	**20.812**	**55.676**	**74.297**
1987 Total	**15.146**	**27.623**	**21.117**	**27.826**	**21.418**	**21.447**	**57.678**	**76.894**
1988 Total	**16.004**	**28.924**	**22.085**	**28.985**	**22.274**	**22.305**	**60.366**	**80.218**
1989 Total	**16.261**	**29.424**	**22.272**	**29.365**	**22.530**	**22.561**	**61.071**	**81.358**
1990 Total	**15.569**	**28.801**	**22.842**	**29.945**	**22.502**	**22.533**	**60.922**	**81.287**
1991 Total	**15.985**	**29.423**	**22.550**	**29.571**	**22.090**	**22.121**	**60.627**	**81.115**
1992 Total	**16.089**	**29.087**	**23.506**	**30.578**	**22.432**	**22.461**	**62.033**	**82.132**
1993 Total	**16.736**	**30.234**	**23.749**	**30.760**	**22.857**	**22.884**	**63.337**	**83.875**
1994 Total	**16.760**	**30.442**	**24.450**	**31.623**	**23.543**	**23.571**	**64.754**	**85.637**
1995 Total	**17.118**	**31.283**	**24.726**	**31.903**	**24.040**	**24.068**	**65.889**	**87.259**
1996 Total	**18.003**	**32.662**	**25.483**	**32.805**	**24.588**	**24.616**	**68.082**	**90.091**
1997 January	2.348	3.699	2.275	2.865	1.975	1.978	6.598	8.542
February	2.008	3.094	2.088	2.611	1.848	1.850	5.941	7.552
March	1.741	2.892	2.152	2.748	2.057	2.059	5.946	7.695
April	1.417	2.451	2.127	2.704	2.051	2.053	5.592	7.206
May	1.169	2.283	2.098	2.737	2.130	2.132	5.395	7.150
June	1.068	2.344	2.038	2.697	2.093	2.095	5.200	7.138
July	1.145	2.715	2.066	2.734	2.225	2.228	5.441	7.681
August	1.117	2.591	2.081	2.743	2.179	2.182	5.381	7.521
September	1.083	2.345	2.066	2.668	2.043	2.045	5.194	7.060
October	1.196	2.365	2.195	2.792	2.134	2.137	5.526	7.295
November	1.558	2.691	2.139	2.737	2.033	2.035	5.729	7.462
December	2.026	3.331	2.273	2.883	2.128	2.131	6.428	8.344
Total	**17.878**	**32.801**	**25.596**	**32.920**	**24.900**	**24.930**	**68.376**	**90.652**
1998 January	R 2.207	R 3.516	2.233	2.807	1.990	1.992	R 6.429	R 8.315
February	R 1.902	R 2.993	2.036	2.579	1.847	1.849	R 5.784	R 7.419
March	R 1.835	R 3.046	2.159	2.767	2.086	2.088	R 6.079	R 7.899
April	R 1.382	R 2.440	2.098	2.675	2.100	2.102	R 5.576	R 7.213
May	R 1.111	R 2.358	2.043	2.724	2.118	2.121	R 5.272	R 7.202
June	R 1.122	R 2.563	1.978	2.646	2.146	2.149	R 5.250	R 7.363
July	R 1.202	R 2.856	2.062	2.717	2.256	2.258	R 5.526	R 7.838
August	R 1.203	R 2.797	2.081	2.742	2.244	2.247	R 5.535	R 7.792
September	R 1.129	R 2.488	2.042	2.629	2.090	2.092	R 5.265	R 7.213
October	R 1.159	R 2.331	2.174	2.754	2.171	2.173	R 5.504	R 7.259
November	R 1.411	R 2.490	2.120	2.700	2.041	2.043	R 5.571	R 7.232
December	R 1.839	R 3.116	2.252	2.872	2.170	2.173	R 6.260	R 8.159
Total	**R 17.501**	**R 32.993**	**25.279**	**32.612**	**25.264**	**25.293**	**R 68.055**	**R 90.910**
1999 January	2.370	3.742	2.273	2.848	1.992	1.994	6.634	8.583
February	1.905	3.034	2.056	2.605	1.922	1.924	5.880	7.560
March	1.890	3.109	2.201	2.806	2.161	2.164	6.250	8.076
April	1.414	2.516	2.096	2.691	2.060	2.062	5.567	7.266
May	1.142	2.334	2.020	2.676	2.132	2.134	5.292	7.144
June	1.130	2.496	2.076	2.728	2.186	2.188	5.396	7.416
July	R 1.225	R 2.870	R 2.055	R 2.722	2.244	2.247	R 5.532	R 7.846
August	R 1.218	R 2.786	R 2.152	R 2.792	2.301	2.304	R 5.678	R 7.888
September	1.147	R 2.387	R 2.192	R 2.751	R 2.119	R 2.121	R 5.460	R 7.262
October	1.171	2.289	2.251	2.830	2.236	2.238	5.657	7.357
10-Month Total	**14.612**	**27.563**	**21.371**	**27.448**	**21.353**	**21.376**	**57.346**	**76.398**
1998 10-Month Total	**14.251**	**27.387**	**20.907**	**27.040**	**21.047**	**21.072**	**56.219**	**75.513**
1997 10-Month Total	**14.293**	**26.779**	**21.184**	**27.300**	**20.734**	**20.759**	**56.214**	**74.841**

R=Revised.

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

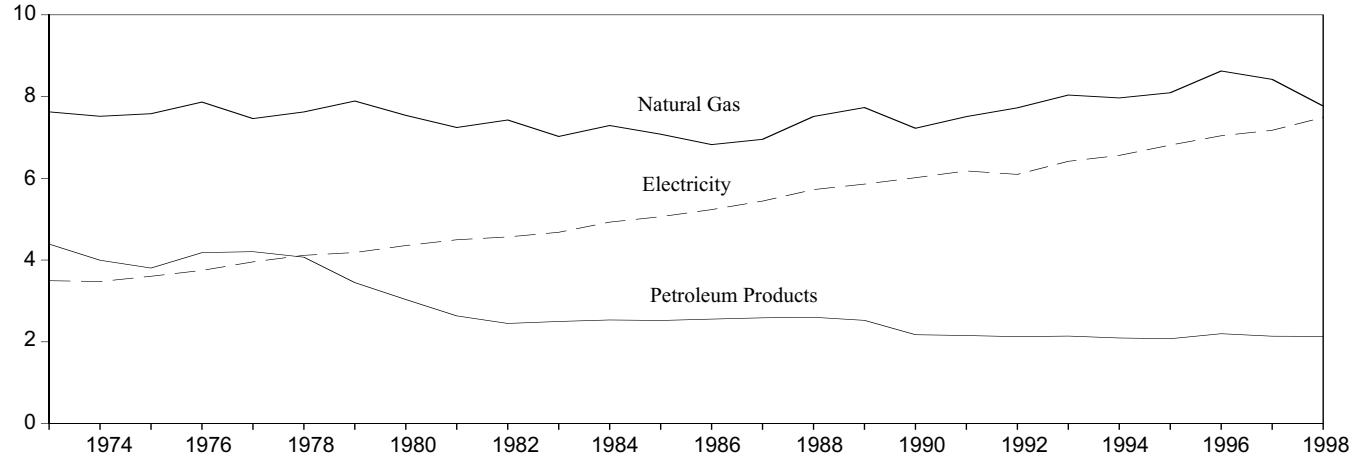
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1998, for example, 3.5 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution and 0.1 quadrillion Btu for ethanol blended into motor gasoline are included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

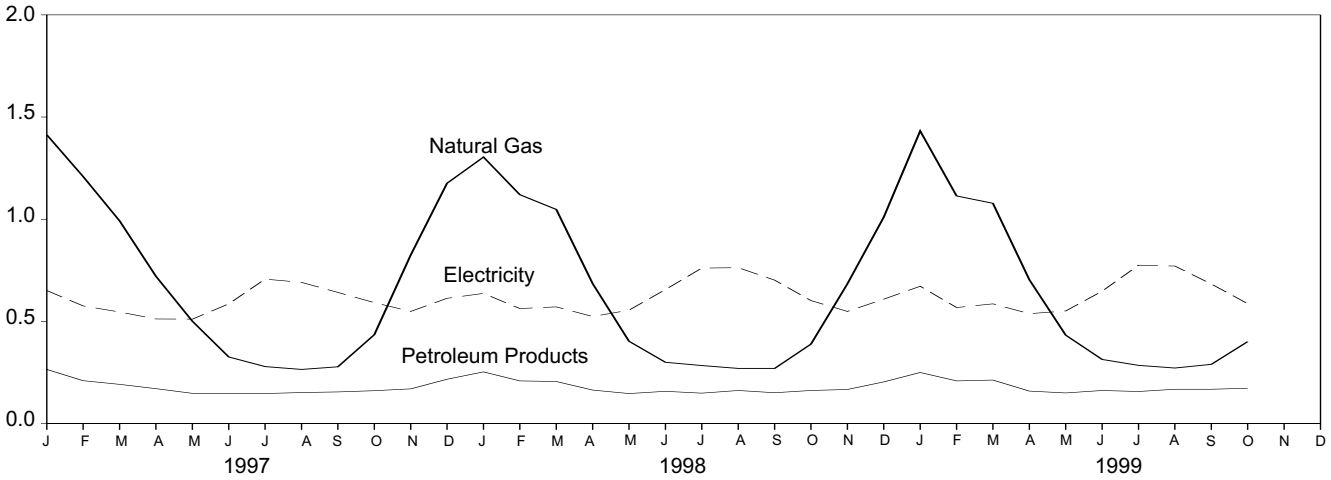
Figure 2.2 Residential and Commercial Energy Consumption

(Quadrillion Btu)

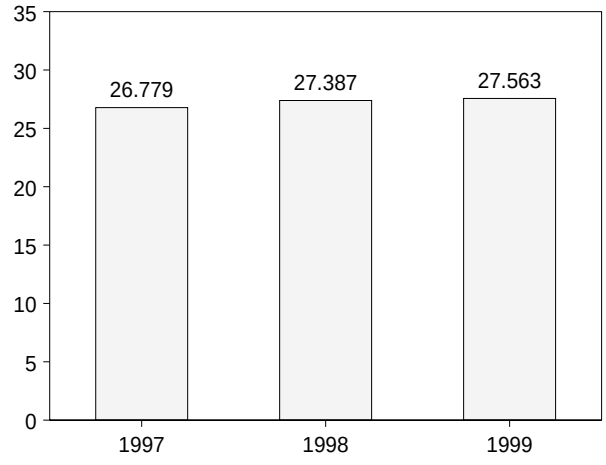
By Major Sources, 1973-1998



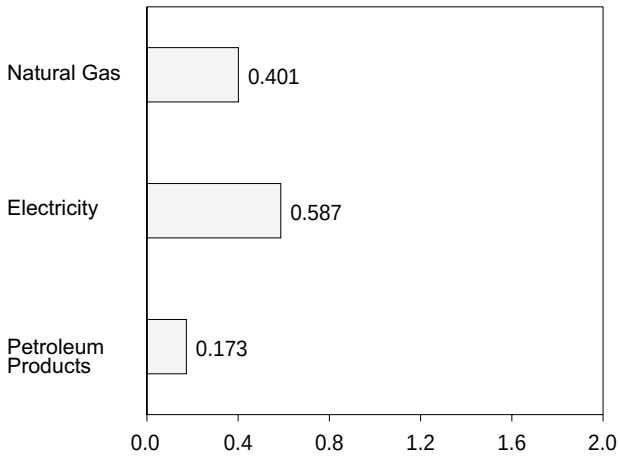
By Major Sources, Monthly



Total, January-October



By Major Sources, October 1999



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

Table 2.3 Residential and Commercial Energy Consumption

(Quadrillion Btu)

	Coal	Natural Gas[a]	Petroleum Products[b]	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption
1973 Total	**0.254**	**7.626**	**4.391**	**12.270**	**3.495**	**15.766**	**8.377**	**24.143**
1974 Total	**.257**	**7.518**	**3.996**	**11.771**	**3.475**	**15.246**	**8.480**	**23.725**
1975 Total	**.209**	**7.581**	**3.805**	**11.595**	**3.604**	**15.200**	**8.700**	**23.899**
1976 Total	**.203**	**7.866**	**4.181**	**12.250**	**3.747**	**15.997**	**9.021**	**25.018**
1977 Total	**.205**	**7.461**	**4.206**	**11.873**	**3.955**	**15.828**	**9.556**	**25.384**
1978 Total	**.214**	**7.624**	**4.070**	**11.908**	**4.116**	**16.023**	**10.061**	**26.084**
1979 Total	**.187**	**7.891**	**3.448**	**11.525**	**4.184**	**15.709**	**10.100**	**25.808**
1980 Total	**.145**	**7.540**	**3.035**	**10.721**	**4.355**	**15.075**	**10.580**	**25.655**
1981 Total	**.167**	**7.243**	**2.634**	**10.043**	**4.497**	**14.541**	**10.700**	**25.241**
1982 Total	**.187**	**7.427**	**2.449**	**10.063**	**4.566**	**14.629**	**11.000**	**25.629**
1983 Total	**.192**	**7.024**	**2.498**	**9.715**	**4.680**	**14.395**	**11.232**	**25.627**
1984 Total	**.209**	**7.292**	**2.535**	**10.036**	**4.928**	**14.964**	**11.510**	**26.474**
1985 Total	**.176**	**7.079**	**2.522**	**9.777**	**5.061**	**14.839**	**11.865**	**26.704**
1986 Total	**.176**	**6.825**	**2.555**	**9.556**	**5.235**	**14.791**	**12.061**	**26.852**
1987 Total	**.162**	**6.954**	**2.587**	**9.703**	**5.443**	**15.146**	**12.477**	**27.623**
1988 Total	**.168**	**7.513**	**2.600**	**10.280**	**5.724**	**16.004**	**12.920**	**28.924**
1989 Total	**.146**	**7.731**	**2.525**	**10.402**	**5.859**	**16.261**	**13.163**	**29.424**
1990 Total	**.156**	**7.224**	**2.174**	**9.554**	**6.015**	**15.569**	**13.232**	**28.801**
1991 Total	**.141**	**7.510**	**2.154**	**9.805**	**6.180**	**15.985**	**13.437**	**29.423**
1992 Total	**.142**	**7.725**	**2.126**	**9.993**	**6.096**	**16.089**	**12.998**	**29.087**
1993 Total	**.143**	**8.037**	**2.140**	**10.320**	**6.416**	**16.736**	**13.498**	**30.234**
1994 Total	**.139**	**7.967**	**2.094**	**10.200**	**6.560**	**16.760**	**13.682**	**30.442**
1995 Total	**.134**	**8.094**	**2.076**	**10.305**	**6.813**	**17.118**	**14.165**	**31.283**
1996 Total	**.138**	**8.626**	**2.198**	**10.963**	**7.041**	**18.003**	**14.659**	**32.662**
1997 January	.019	1.413	.265	1.697	.651	2.348	1.350	3.699
February	.014	1.209	.210	1.433	.576	2.008	1.086	3.094
March	.011	.992	.192	1.195	.546	1.741	1.151	2.892
April	.013	.721	.171	.905	.512	1.417	1.034	2.451
May	.009	.501	.148	.657	.511	1.169	1.114	2.283
June	.008	.326	.148	.482	.586	1.068	1.276	2.344
July	.011	.279	.147	.438	.707	1.145	1.570	2.715
August	.010	.265	.152	.426	.691	1.117	1.474	2.591
September	.008	.278	.155	.441	.642	1.083	1.262	2.345
October	.009	.435	.161	.605	.592	1.196	1.169	2.365
November	.015	.825	.170	1.010	.549	1.558	1.133	2.691
December	.020	1.176	.217	1.414	.613	2.026	1.304	3.331
Total	**.145**	**8.420**	**2.137**	**10.703**	**7.175**	**17.878**	**14.923**	**32.801**
1998 January	R .012	1.304	.253	R 1.570	.637	R 2.207	1.308	R 3.516
February	R .010	1.120	.209	R 1.340	.563	R 1.902	1.091	R 2.993
March	R .010	1.048	.206	R 1.264	.571	R 1.835	1.211	R 3.046
April	R .009	.685	.164	R .858	.524	R 1.382	1.058	R 2.440
May	R .006	.403	.147	R .556	.555	R 1.111	1.247	R 2.358
June	R .007	.300	.158	R .465	.656	R 1.122	1.441	R 2.563
July	R .008	.284	.149	R .441	.761	R 1.202	1.654	R 2.856
August	R .008	.270	.162	R .440	.763	R 1.203	1.594	R 2.797
September	R .006	.270	.151	R .427	.702	R 1.129	1.359	R 2.488
October	R .006	.389	.162	R .557	.602	R 1.159	1.172	R 2.331
November	R .011	.684	.167	R .862	.549	R 1.411	1.079	R 2.490
December	R .016	1.010	.204	R 1.230	.609	R 1.839	1.277	R 3.116
Total	R **.109**	**7.768**	**2.133**	R **10.010**	**7.491**	R **17.501**	**15.492**	R **32.993**
1999 January	.017	1.432	.250	1.698	.672	2.370	1.372	3.742
February	.014	1.114	.209	1.337	.568	1.905	1.129	3.034
March	.014	1.078	.213	1.304	.586	1.890	1.219	3.109
April	.013	.704	.159	.876	.538	1.414	1.102	2.516
May	.008	.433	.150	.590	.551	1.142	1.193	2.334
June	.007	.314	.162	.483	.648	1.130	1.366	2.496
July	R .009	.285	.157	R .450	.775	R 1.225	1.644	R 2.870
August	R .007	.272	R .168	R .447	.771	R 1.218	1.568	R 2.786
September	R .005	R .290	.168	.464	.683	1.147	1.241	R 2.387
October	.010	F .401	.173	.584	.587	1.171	1.118	2.289
10-Month Total	**.104**	F **6.322**	**1.808**	**8.234**	**6.378**	**14.612**	**12.951**	**27.563**
1998 10-Month Total	**.083**	**6.074**	**1.762**	**7.918**	**6.333**	**14.251**	**13.136**	**27.387**
1997 10-Month Total	**.110**	**6.419**	**1.750**	**8.279**	**6.014**	**14.293**	**12.486**	**26.779**

[a] Includes supplemental gaseous fuels.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

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.

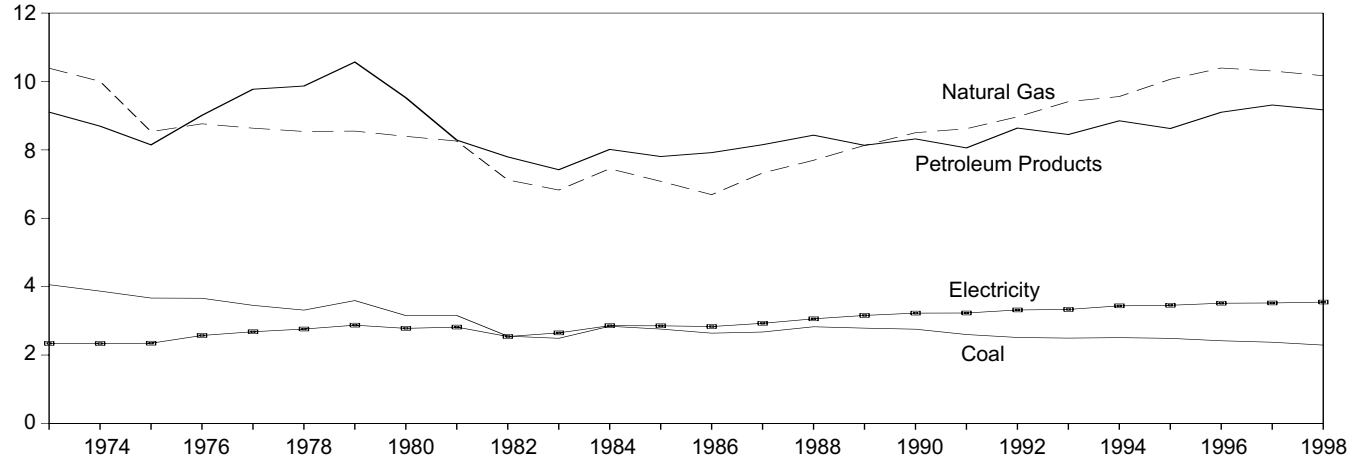
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1998, for example, an estimated 0.5 quadrillion Btu of renewable energy used by the residential and commercial sectors (primarily the residential sector) is not included. See Note 12 at the end of section for details.

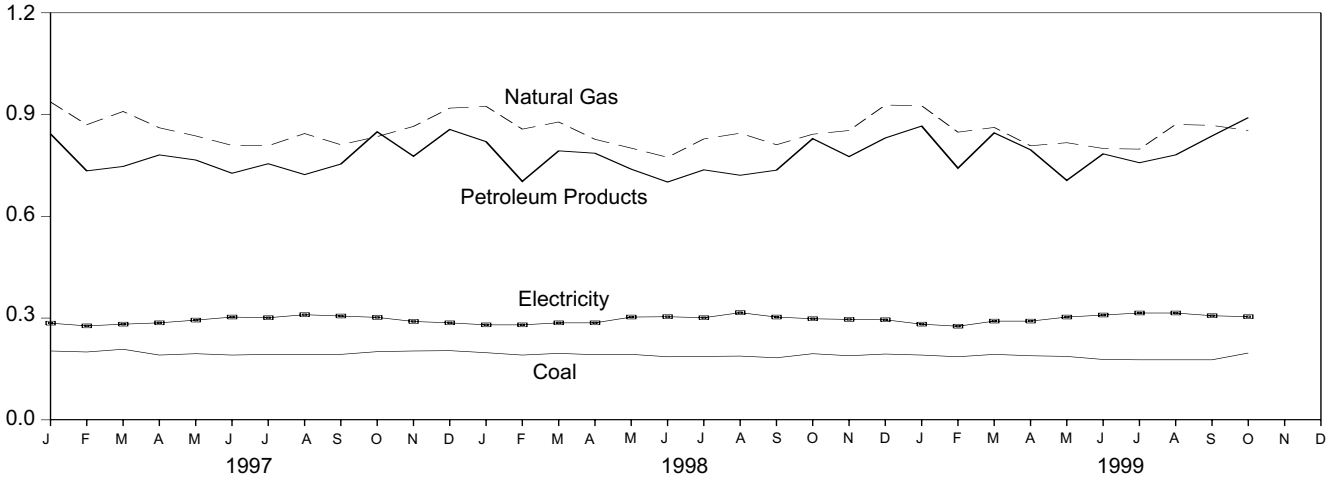
Figure 2.3 Industrial Energy Consumption

(Quadrillion Btu)

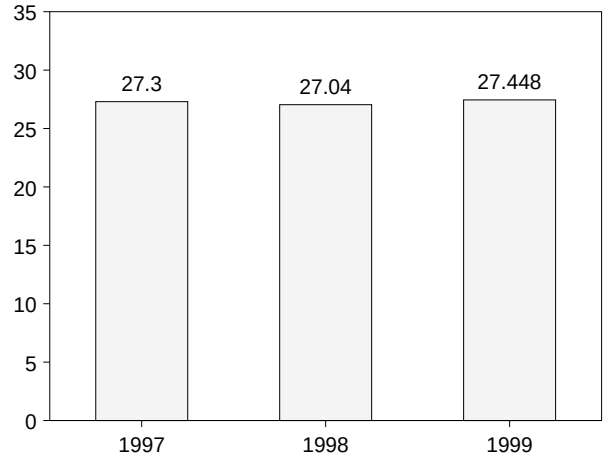
By Major Sources, 1973-1998



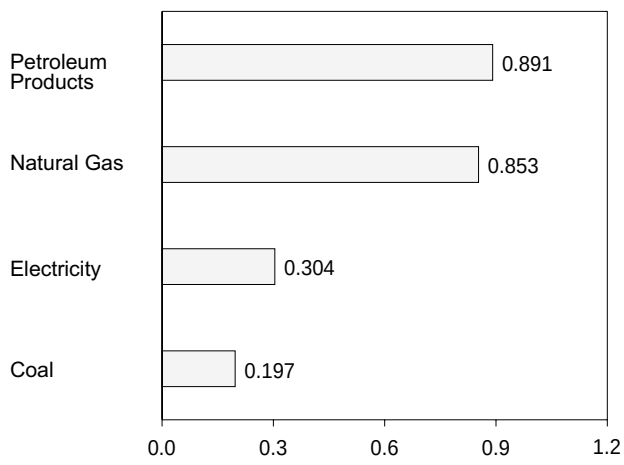
By Major Sources, Monthly



Total, January-October



By Major Sources, October 1999



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

Table 2.4 Industrial Energy Consumption

(Quadrillion Btu)

	Coal	Natural Gas[a]	Petroleum Products[b]	Hydro-electric Power	Net Imports of Coal Coke	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption
1973 Total	**4.057**	**10.388**	**9.104**	**0.035**	**-0.007**	**23.576**	**2.341**	**25.917**	**5.611**	**31.528**
1974 Total	**3.870**	**10.004**	**8.694**	**.033**	**.056**	**22.657**	**2.337**	**24.994**	**5.700**	**30.694**
1975 Total	**3.667**	**8.532**	**8.146**	**.032**	**.014**	**20.391**	**2.346**	**22.737**	**5.665**	**28.402**
1976 Total	**3.661**	**8.762**	**9.010**	**.033**	**(s)**	**21.465**	**2.573**	**24.038**	**6.198**	**30.236**
1977 Total	**3.454**	**8.635**	**9.774**	**.033**	**.015**	**21.911**	**2.682**	**24.593**	**6.484**	**31.077**
1978 Total	**3.314**	**8.539**	**9.867**	**.032**	**.125**	**21.876**	**2.761**	**24.637**	**6.755**	**31.392**
1979 Total	**3.593**	**8.549**	**10.568**	**.034**	**.063**	**22.807**	**2.873**	**25.679**	**6.936**	**32.616**
1980 Total	**3.155**	**8.395**	**9.525**	**.033**	**-.035**	**21.073**	**2.781**	**23.854**	**6.752**	**30.606**
1981 Total	**3.157**	**8.257**	**8.285**	**.033**	**-.016**	**19.715**	**2.817**	**22.533**	**6.707**	**29.240**
1982 Total	**2.552**	**7.121**	**7.794**	**.033**	**-.022**	**17.479**	**2.542**	**20.020**	**6.125**	**26.145**
1983 Total	**2.490**	**6.826**	**7.420**	**.033**	**-.016**	**16.753**	**2.648**	**19.401**	**6.359**	**25.759**
1984 Total	**2.842**	**7.448**	**8.014**	**.033**	**-.011**	**18.325**	**2.859**	**21.184**	**6.683**	**27.867**
1985 Total	**2.760**	**7.080**	**7.805**	**.033**	**-.013**	**17.665**	**2.855**	**20.520**	**6.694**	**27.214**
1986 Total	**2.640**	**6.690**	**7.920**	**.033**	**-.017**	**17.267**	**2.834**	**20.101**	**6.529**	**26.630**
1987 Total	**2.673**	**7.323**	**8.151**	**.033**	**.009**	**18.188**	**2.928**	**21.117**	**6.710**	**27.826**
1988 Total	**2.828**	**7.696**	**8.430**	**.033**	**.040**	**19.026**	**3.059**	**22.085**	**6.901**	**28.985**
1989 Total	**2.787**	**8.131**	**8.133**	**.033**	**.030**	**19.114**	**3.158**	**22.272**	**7.093**	**29.365**
1990 Total	**2.756**	**8.502**	**8.320**	**.033**	**.005**	**19.616**	**3.226**	**22.842**	**7.103**	**29.945**
1991 Total	**2.601**	**8.619**	**8.057**	**.033**	**.010**	**19.320**	**3.230**	**22.550**	**7.020**	**29.571**
1992 Total	**2.515**	**8.967**	**8.638**	**.033**	**.035**	**20.187**	**3.319**	**23.506**	**7.072**	**30.578**
1993 Total	**2.496**	**9.410**	**8.449**	**.033**	**.027**	**20.414**	**3.334**	**23.749**	**7.012**	**30.760**
1994 Total	**2.510**	**9.560**	**8.850**	**.033**	**.058**	**21.011**	**3.439**	**24.450**	**7.173**	**31.623**
1995 Total	**2.488**	**10.064**	**8.624**	**.033**	**.061**	**21.270**	**3.455**	**24.726**	**7.177**	**31.903**
1996 Total	**2.418**	**10.393**	**9.101**	**.033**	**.023**	**21.967**	**3.516**	**25.483**	**7.322**	**32.805**
1997 January	.203	.937	.843	.003	.004	1.990	.285	2.275	.591	2.865
February	.200	.870	.734	.003	.003	1.810	.277	2.088	.523	2.611
March	.208	.909	.747	.003	.003	1.870	.282	2.152	.596	2.748
April	.191	.861	.781	.003	.004	1.841	.286	2.127	.578	2.704
May	.195	.837	.766	.003	.002	1.804	.294	2.098	.640	2.737
June	.191	.809	.727	.003	.004	1.735	.303	2.038	.659	2.697
July	.193	.808	.755	.003	.005	1.765	.301	2.066	.668	2.734
August	.193	.844	.723	.002	.009	1.770	.310	2.081	.662	2.743
September	.193	.811	.754	.002	-.001	1.760	.306	2.066	.602	2.668
October	.201	.835	.849	.002	.005	1.892	.302	2.195	.598	2.792
November	.203	.865	.777	.002	.002	1.850	.290	2.139	.598	2.737
December	.204	.919	.856	.002	.006	1.987	.286	2.273	.609	2.883
Total	**2.375**	**10.307**	**9.312**	**.033**	**.046**	**22.073**	**3.523**	**25.596**	**7.324**	**32.920**
1998 January	.198	.924	.820	.003	.008	1.953	.280	2.233	.575	2.807
February	.191	.857	.703	.003	.003	1.756	.280	2.036	.543	2.579
March	.196	.878	.793	.003	.003	1.873	.286	2.159	.607	2.767
April	.192	.827	.786	.003	.004	1.812	.286	2.098	.577	2.675
May	.193	.801	.739	.003	.005	1.740	.303	2.043	.681	2.724
June	.186	.774	.701	.003	.009	1.673	.304	1.978	.668	2.646
July	.187	.828	.737	.003	.007	1.761	.301	2.062	.655	2.717
August	.188	.845	.721	.002	.010	1.765	.316	2.081	.661	2.742
September	.183	.811	.736	.002	.006	1.739	.303	2.042	.587	2.629
October	.195	.842	.829	.002	.007	1.876	.298	2.174	.580	2.754
November	.189	.853	.776	.002	.004	1.824	.296	2.120	.580	2.700
December	.194	.928	.831	.002	.002	1.957	.295	2.252	.619	2.872
Total	**2.291**	**10.168**	**9.171**	**.033**	**.067**	**21.730**	**3.549**	**25.279**	**7.334**	**32.612**
1999 January	.191	.926	.866	.003	.005	1.991	.282	2.273	.575	2.848
February	.186	.848	.742	.003	.002	1.781	.276	2.056	.548	2.605
March	.193	.862	.846	.003	.007	1.911	.291	2.201	.605	2.806
April	.189	.808	.796	.003	.009	1.805	.291	2.096	.595	2.691
May	.187	.817	.706	.003	.003	1.717	.303	2.020	.656	2.676
June	.178	.800	.784	.003	.002	1.767	.309	2.076	.652	2.728
July	R .177	.798	.758	.003	.003	R 1.740	.315	R 2.055	.668	R 2.722
August	R .177	R .871	R .781	.002	.006	R 1.837	.315	R 2.152	.640	R 2.792
September	R .177	R .868	.837	.002	.002	R 1.885	.307	R 2.192	.558	R 2.751
October	.197	F .853	.891	.002	.004	1.946	.304	2.251	.580	2.830
10-Month Total	**1.851**	F **8.451**	**8.007**	**.028**	**.043**	**18.380**	**2.992**	**21.371**	**6.077**	**27.448**
1998 10-Month Total	**1.908**	**8.387**	**7.565**	**.028**	**.062**	**17.949**	**2.958**	**20.907**	**6.134**	**27.040**
1997 10-Month Total	**1.967**	**8.523**	**7.679**	**.028**	**.039**	**18.236**	**2.947**	**21.184**	**6.116**	**27.300**

[a] Includes supplemental gaseous fuels.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

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

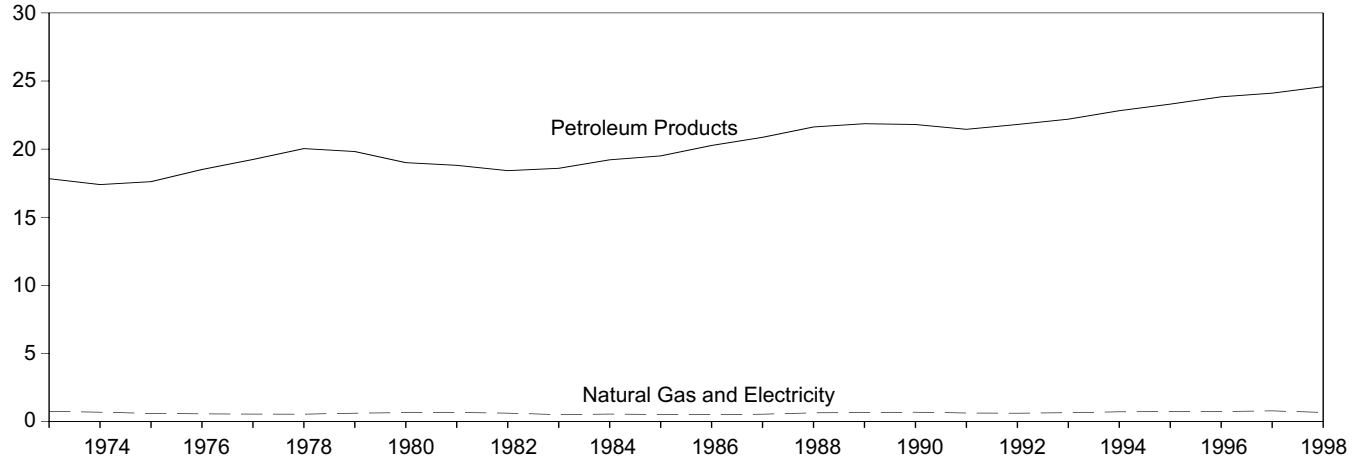
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1998, for example, an estimated 2.9 quadrillion Btu of renewable energy used by the industrial sector (primarily the pulp and paper industry) is not included. See Note 12 at the end of section for details.

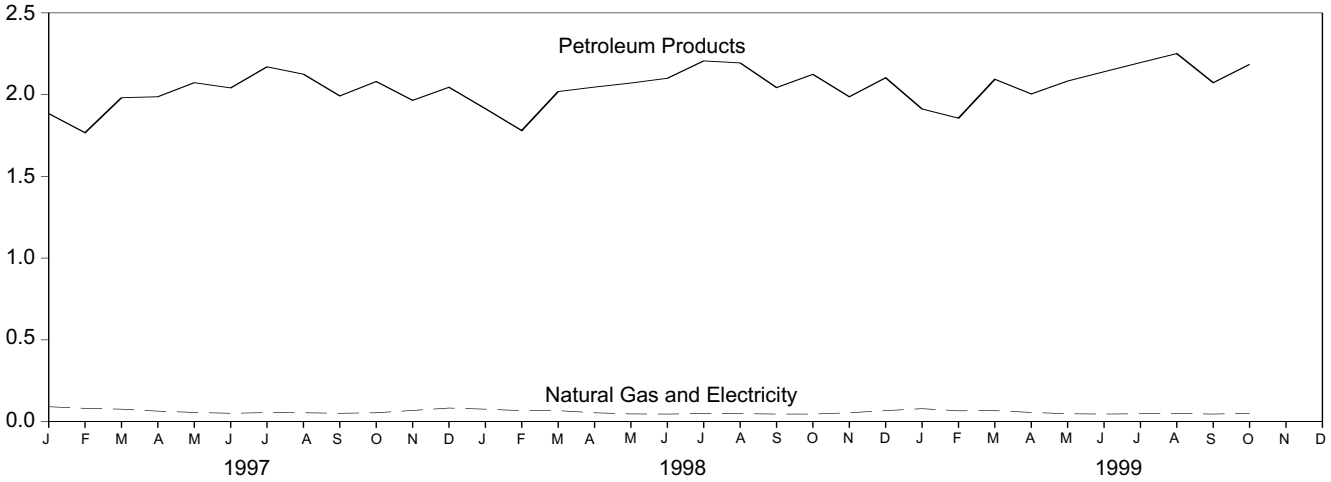
Figure 2.4 Transportation Energy Consumption

(Quadrillion Btu)

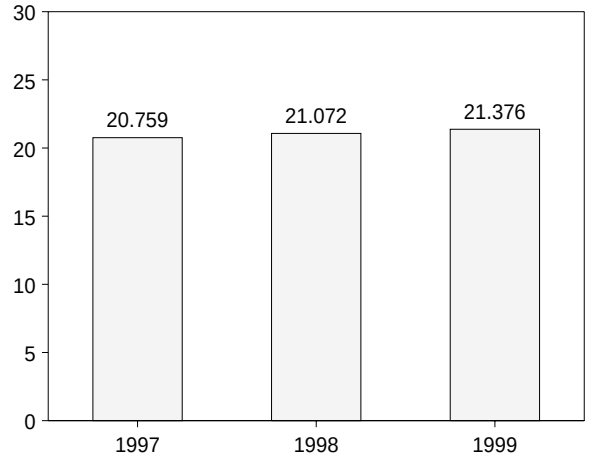
By Major Sources, 1973-1998



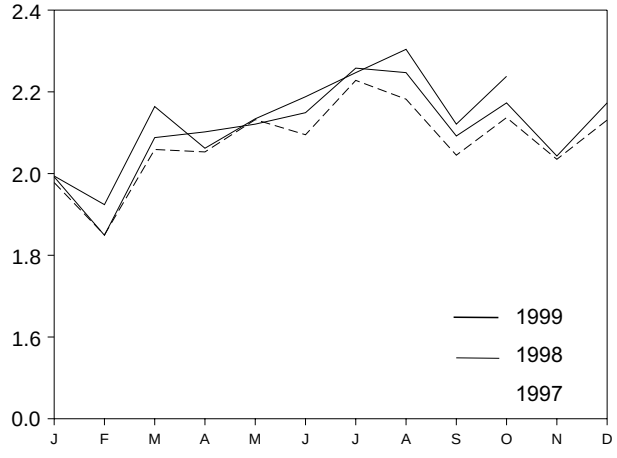
By Major Sources, Monthly



Total, January-October



Total, Monthly



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

Table 2.5 Transportation Energy Consumption

(Quadrillion Btu)

	Coal	Natural Gas[a]	Petroleum Products[b,c]	Primary Consumption	Electricity	Net Consumption	Electrical System Energy Losses	Total Consumption
1973 Total	**0.003**	**0.743**	**17.831**	**18.576**	**0.008**	**18.584**	**0.020**	**18.605**
1974 Total	**.002**	**.685**	**17.399**	**18.086**	**.009**	**18.095**	**.022**	**18.117**
1975 Total	**.001**	**.595**	**17.614**	**18.209**	**.010**	**18.219**	**.025**	**18.244**
1976 Total	(s)	**.559**	**18.506**	**19.065**	**.010**	**19.076**	**.025**	**19.101**
1977 Total	(s)	**.543**	**19.241**	**19.784**	**.010**	**19.794**	**.025**	**19.819**
1978 Total	**([d])**	**.539**	**20.041**	**20.580**	**.009**	**20.589**	**.022**	**20.611**
1979 Total	**([d])**	**.612**	**19.825**	**20.436**	**.010**	**20.447**	**.025**	**20.472**
1980 Total	**([d])**	**.650**	**19.008**	**19.658**	**.011**	**19.669**	**.026**	**19.695**
1981 Total	**([d])**	**.658**	**18.811**	**19.469**	**.011**	**19.480**	**.026**	**19.507**
1982 Total	**([d])**	**.612**	**18.420**	**19.032**	**.011**	**19.043**	**.026**	**19.069**
1983 Total	**([d])**	**.505**	**18.593**	**19.098**	**.011**	**19.109**	**.026**	**19.135**
1984 Total	**([d])**	**.545**	**19.216**	**19.761**	**.012**	**19.773**	**.028**	**19.801**
1985 Total	**([d])**	**.519**	**19.504**	**20.023**	**.013**	**20.036**	**.030**	**20.067**
1986 Total	**([d])**	**.499**	**20.269**	**20.768**	**.013**	**20.781**	**.031**	**20.812**
1987 Total	**([d])**	**.535**	**20.870**	**21.405**	**.013**	**21.418**	**.029**	**21.447**
1988 Total	**([d])**	**.632**	**21.629**	**22.261**	**.014**	**22.274**	**.031**	**22.305**
1989 Total	**([d])**	**.649**	**21.868**	**22.517**	**.014**	**22.530**	**.031**	**22.561**
1990 Total	**([d])**	**.680**	**21.808**	**22.488**	**.014**	**22.502**	**.031**	**22.533**
1991 Total	**([d])**	**.620**	**21.456**	**22.077**	**.014**	**22.090**	**.030**	**22.121**
1992 Total	**([d])**	**.606**	**21.812**	**22.419**	**.014**	**22.432**	**.029**	**22.461**
1993 Total	**([d])**	**.643**	**22.201**	**22.844**	**.013**	**22.857**	**.028**	**22.884**
1994 Total	**([d])**	**.707**	**22.822**	**23.530**	**.014**	**23.543**	**.028**	**23.571**
1995 Total	**([d])**	**.722**	**23.305**	**24.027**	**.013**	**24.040**	**.027**	**24.068**
1996 Total	**([d])**	**.734**	**23.841**	**24.574**	**.013**	**24.588**	**.028**	**24.616**
1997 January	([d])	.090	1.884	1.974	.001	1.975	.002	1.978
February	([d])	.080	1.767	1.847	.001	1.848	.002	1.850
March	([d])	.075	1.981	2.056	.001	2.057	.002	2.059
April	([d])	.063	1.987	2.050	.001	2.051	.002	2.053
May	([d])	.055	2.073	2.129	.001	2.130	.002	2.132
June	([d])	.050	2.041	2.092	.001	2.093	.003	2.095
July	([d])	.054	2.170	2.223	.001	2.225	.003	2.228
August	([d])	.053	2.125	2.178	.001	2.179	.003	2.182
September	([d])	.050	1.992	2.041	.001	2.043	.003	2.045
October	([d])	.053	2.080	2.133	.001	2.134	.002	2.137
November	([d])	.067	1.965	2.032	.001	2.033	.002	2.035
December	([d])	.082	2.045	2.127	.001	2.128	.002	2.131
Total	**([d])**	**.776**	**24.110**	**24.886**	**.014**	**24.900**	**.029**	**24.930**
1998 January	([d])	.075	1.914	1.989	.001	1.990	.002	1.992
February	([d])	.066	1.780	1.846	.001	1.847	.002	1.849
March	([d])	.066	2.019	2.085	.001	2.086	.002	2.088
April	([d])	.053	2.046	2.098	.001	2.100	.002	2.102
May	([d])	.046	2.071	2.117	.001	2.118	.003	2.121
June	([d])	.045	2.100	2.145	.001	2.146	.003	2.149
July	([d])	.048	2.206	2.254	.001	2.256	.003	2.258
August	([d])	.048	2.194	2.243	.001	2.244	.003	2.247
September	([d])	.045	2.043	2.088	.001	2.090	.003	2.092
October	([d])	.045	2.124	2.170	.001	2.171	.002	2.173
November	([d])	.053	1.987	2.040	.001	2.041	.002	2.043
December	([d])	.066	2.103	2.169	.001	2.170	.002	2.173
Total	**([d])**	**.662**	**24.588**	**25.249**	**.014**	**25.264**	**.029**	**25.293**
1999 January	([d])	.078	1.912	1.991	.001	1.992	.002	1.994
February	([d])	.065	1.856	1.921	.001	1.922	.002	1.924
March	([d])	.066	2.094	2.160	.001	2.161	.002	2.164
April	([d])	.055	2.004	2.059	.001	2.060	.002	2.062
May	([d])	.047	2.083	2.131	.001	2.132	.002	2.134
June	([d])	.045	2.140	2.185	.001	2.186	.002	2.188
July	([d])	.047	2.196	2.243	.001	2.244	.003	2.247
August	([d])	.049	2.251	2.300	.001	2.301	.003	2.304
September	([d])	[R].045	2.073	[R]2.118	.001	[R]2.119	.002	[R]2.121
October	([d])	[F].050	2.185	2.235	.001	2.236	.002	2.238
10-Month Total	**([d])**	**[F].547**	**20.794**	**21.341**	**.012**	**21.353**	**.024**	**21.376**
1998 10-Month Total	**([d])**	**.537**	**20.498**	**21.035**	**.012**	**21.047**	**.025**	**21.072**
1997 10-Month Total	**([d])**	**.623**	**20.100**	**20.723**	**.012**	**20.734**	**.025**	**20.759**

[a] Natural gas consumed in the operation of pipelines (primarily in compressors) and small amounts consumed as vehicle fuel. See Table 4.4.

[b] Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds.

[c] Includes small quantities (about 0.1 quadrillion Btu per year since 1989) of renewable energy in the form of ethanol blended into motor gasoline. See Note 12 at end of section.

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

R=Revised. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu.

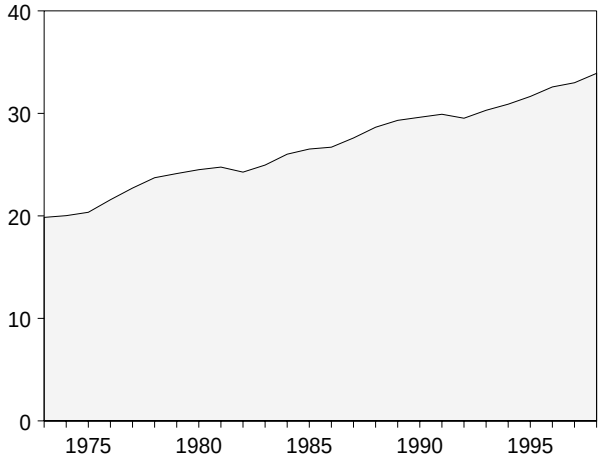
Notes: Totals may not equal sum of components due to independent rounding. Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

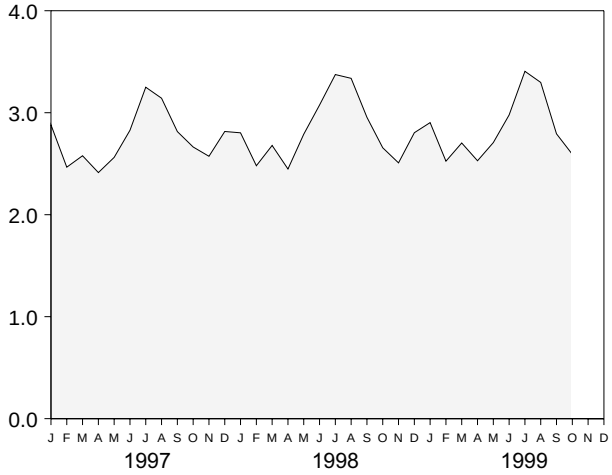
Figure 2.5 Energy Input at Electric Utilities

(Quadrillion Btu)

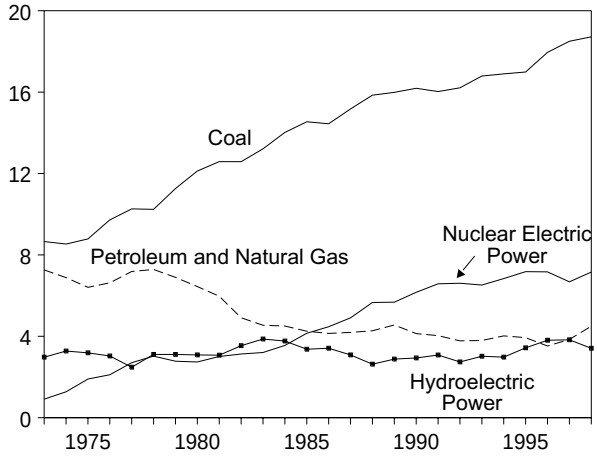
Total, 1973-1998



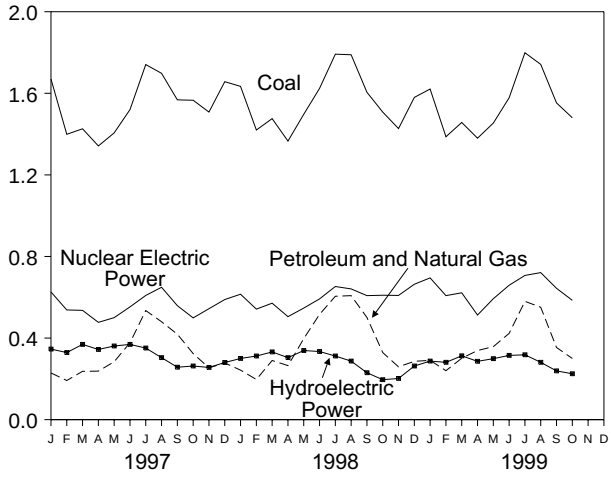
Total, Monthly



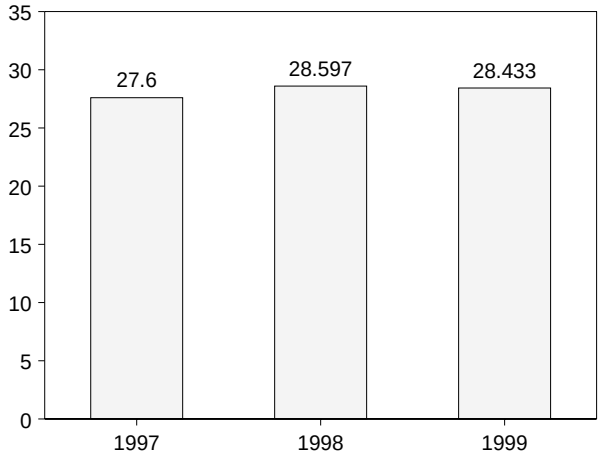
By Major Sources, 1973-1998



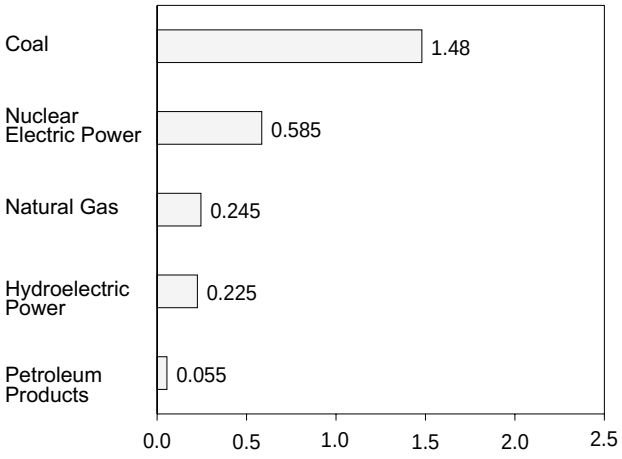
By Major Sources, Monthly



Total, January-October



By Major Sources, October 1999



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

Table 2.6 Energy Input at Electric Utilities

(Quadrillion Btu)

	Coal	Natural Gas[a]	Petroleum Products[b]	Nuclear Electric Power	Hydro-electric Power[c]	Geothermal Energy	Other[d]	Total
1973 Total	**8.658**	**3.748**	**3.515**	**0.910**	**2.975**	**0.043**	**0.003**	**19.852**
1974 Total	**8.534**	**3.519**	**3.365**	**1.272**	**3.276**	**.053**	**.003**	**20.022**
1975 Total	**8.786**	**3.240**	**3.166**	**1.900**	**3.187**	**.070**	**.002**	**20.350**
1976 Total	**9.720**	**3.152**	**3.477**	**2.111**	**3.032**	**.078**	**.003**	**21.574**
1977 Total	**10.262**	**3.284**	**3.901**	**2.702**	**2.482**	**.077**	**.005**	**22.713**
1978 Total	**10.238**	**3.297**	**3.987**	**3.024**	**3.110**	**.064**	**.003**	**23.724**
1979 Total	**11.260**	**3.613**	**3.283**	**2.776**	**3.107**	**.084**	**.005**	**24.128**
1980 Total	**12.123**	**3.810**	**2.634**	**2.739**	**3.085**	**.110**	**.005**	**24.505**
1981 Total	**12.583**	**3.768**	**2.202**	**3.008**	**3.072**	**.123**	**.004**	**24.760**
1982 Total	**12.582**	**3.342**	**1.568**	**3.131**	**3.539**	**.105**	**.003**	**24.270**
1983 Total	**13.213**	**2.998**	**1.544**	**3.203**	**3.866**	**.129**	**.004**	**24.956**
1984 Total	**14.020**	**3.220**	**1.286**	**3.553**	**3.767**	**.165**	**.009**	**26.020**
1985 Total	**14.542**	**3.160**	**1.090**	**4.149**	**3.365**	**.198**	**.015**	**26.519**
1986 Total	**14.444**	**2.691**	**1.452**	**4.471**	**3.413**	**.219**	**.012**	**26.703**
1987 Total	**15.173**	**2.935**	**1.257**	**4.906**	**3.084**	**.229**	**.016**	**27.600**
1988 Total	**15.850**	**2.709**	**1.563**	**5.661**	**2.630**	**.217**	**.017**	**28.648**
1989 Total	**15.988**	**2.871**	**1.685**	**5.677**	**2.880**	**.197**	**.021**	**29.318**
1990 Total	**16.189**	**2.882**	**1.250**	**6.161**	**2.936**	**.181**	**.022**	**29.621**
1991 Total	**16.028**	**2.856**	**1.178**	**6.579**	**3.080**	**.170**	**.021**	**29.912**
1992 Total	**16.211**	**2.826**	**.951**	**6.607**	**2.740**	**.169**	**.022**	**29.527**
1993 Total	**16.790**	**2.741**	**1.052**	**6.519**	**3.019**	**.158**	**.021**	**30.301**
1994 Total	**16.895**	**3.053**	**.968**	**6.837**	**2.976**	**.145**	**.021**	**30.896**
1995 Total	**16.990**	**3.276**	**.658**	**7.177**	**3.433**	**.099**	**.017**	**31.651**
1996 Total	**17.953**	**2.798**	**.725**	**7.168**	**3.805**	**.110**	**.020**	**32.579**
1997 January	1.670	.142	.087	.626	.346	.009	.002	2.881
February	1.399	.146	.046	.538	.329	.006	.002	2.466
March	1.426	.193	.044	.536	.369	.009	.002	2.578
April	1.342	.197	.041	.477	.344	.010	.002	2.413
May	1.406	.236	.048	.500	.361	.010	.002	2.562
June	1.520	.303	.074	.553	.369	.008	.002	2.828
July	1.741	.437	.098	.609	.351	.011	.002	3.250
August	1.698	.399	.081	.649	.304	.011	.002	3.142
September	1.568	.339	.080	.559	.257	.010	.002	2.815
October	1.566	.249	.075	.499	.263	.010	.002	2.664
November	1.508	.183	.071	.544	.256	.010	.002	2.573
December	1.657	.201	.077	.589	.280	.011	.002	2.816
Total	**18.500**	**3.025**	**.822**	**6.678**	**3.828**	**.115**	**.021**	**32.989**
1998 January	1.634	.175	.068	.615	.300	.010	.002	2.803
February	1.420	.137	.060	.542	.312	.008	.001	2.480
March	1.476	.199	.091	.571	.332	.010	.002	2.679
April	1.366	.194	.071	.505	.304	.007	.002	2.448
May	1.497	.297	.100	.547	.339	.006	.002	2.789
June	1.624	.387	.129	.592	.334	.007	.001	3.075
July	1.792	.459	.146	.653	.312	.009	.002	3.374
August	1.789	.467	.141	.641	.287	.010	.002	3.337
September	1.605	.389	.112	.608	.230	.010	.002	2.955
October	1.508	.252	.077	.610	.196	.011	.002	2.656
November	1.427	.182	.077	.609	.202	.010	.002	2.508
December	1.580	.193	.093	.664	.263	.009	.002	2.804
Total	**18.717**	R **3.330**	**1.166**	**7.157**	**3.410**	**.108**	**.021**	R **33.909**
1999 January	1.621	.183	.108	.695	.287	.009	.002	2.903
February	1.387	.155	.085	.608	.281	.007	.002	2.525
March	1.457	.211	.090	.622	.313	.008	.001	2.703
April	1.380	.261	.078	.513	.286	.009	.002	2.529
May	1.454	.279	.079	.593	.299	(s)	.002	2.707
June	1.578	.331	.092	.659	.315	(s)	.002	2.978
July	1.799	.446	.134	.707	.318	(s)	.002	3.406
August	1.742	.443	.108	.721	.281	(s)	.002	3.297
September	1.553	.287	.067	.644	.239	(s)	.002	2.793
October	1.480	.245	.055	.585	.225	(s)	.002	2.592
10-Month Total	**15.451**	**2.841**	**.897**	**6.347**	**2.845**	**.035**	**.017**	**28.433**
1998 10-Month Total	**15.710**	**2.956**	**.996**	**5.883**	**2.946**	**.089**	**.017**	**28.597**
1997 10-Month Total	**15.335**	**2.641**	**.674**	**5.545**	**3.293**	**.094**	**.017**	**27.600**

[a] Includes supplemental gaseous fuels.

[b] Includes residual and distillate fuel oils, petroleum coke, and small amounts of kerosene and jet fuel.

[c] Includes net imports of electricity.

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

R=Revised. (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.

This table reports energy input at electric utilities only and does not include data on nonutility power producers.

Energy Consumption Notes and Sources

The data in this section of the *Monthly Energy Review* (*MER*) are obtained initially from a group of energy-related surveys, typically called "supply surveys," conducted by the Energy Information Administration (EIA). Supply surveys are those surveys 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 the 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 the 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 numbered notes that follow elaborate on essential information in Section 2.

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

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

Residential—All private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector.

Commercial—Business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial.

Industrial—Manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in this sector range from steel mills to small farms to companies assembling electronic components.

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

Electric Utility—Privately and publicly owned establishments that generate, transmit, distribute, and sell electricity primarily for use by the public and meet the definition of an electric utility. Nonutility power producers are not included in the electric utility sector.

Although the end-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 the conversion factors listed in Appendix A.

4. Coal: Coal is anthracite, bituminous coal (including subbituminous coal), and lignite.

Sources:

1973-September 1977: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook* and *Minerals Industry Surveys*.

Electric Utilities

October 1977 forward: Energy Information Administration (EIA), Form EIA-759 (formerly Federal Power Commission (FPC) Form FPC-4), "Monthly Power Plant Report."

Other Industrial

October 1977-December 1979: EIA, Form EIA-3, "Monthly Coal Consumption Report - Manufacturing Plants."
January 1980 forward: EIA, Form EIA-3, "Quarterly Coal Consumption Report -Manufacturing Plants," and Form EIA-6, "Coal Distribution Report," quarterly.

Coke Plants

October 1977-December 1980: EIA, Form EIA-5/5A, "Coke and Coal Chemicals - Monthly/Annual."
January 1981-December 1984: EIA, Form EIA-5/5A, "Coke Plant Report - Quarterly/Annual Supplement";
January 1985 forward: EIA, Form EIA-5/5A, "Coke Plant Report -Quarterly."

Residential and Commercial

October 1977-December 1979: EIA, Form EIA-2, "Monthly Coal Report, Retail Dealers - Upper Lake Docks."
January 1980 forward: EIA, Form EIA-6, "Coal Distribution Report," quarterly.

5. Natural Gas: Natural gas consumption by end use is based on data presented in Table 4.4 of this report. For Section 2 calculations, lease and plant fuel consumption are added to industrial deliveries, and pipeline fuel represents transportation use of natural gas. Values in Btu are derived by using the conversion factors provided in Appendix A.

Sources:

1973-1975: DOI, BOM, *Minerals Yearbook*, "Natural Gas" chapter.
1976-1978: EIA, *Energy Data Reports,* "Natural Gas, Annual."
1979: EIA, *Natural Gas Production and Consumption 1979*.
1980-1992: EIA, *Natural Gas Annual*.
1993 forward: EIA, *Natural Gas Monthly.*

Electric Utilities

1973-1976: Form FPC-4, "Monthly Power Plant Report."
1977-1981: Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report."
1982 forward: EIA, Form EIA-759, "Monthly Power Plant Report."

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

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

Sources for petroleum products supplied by individual products are:

1973-1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
1976-1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
1981-1997: EIA, *Petroleum Supply Annual*.
1998 forward: EIA, *Petroleum Supply Monthly.*

Specific petroleum products' end-use allocation procedures follow:

Aviation Gasoline—All product supplied is assigned to the transportation sector.

Asphalt—All product supplied is assigned to the industrial sector.

Distillate Fuel—Product supplied is assigned to electric utilities and non-electric utilities as follows:

Electric Utilities, All 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. (See Table 7.3)

Sources:

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

Sectors Other Than Electric Utilities, Annual Estimates Through 1997.

The aggregate non-electric utility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The non-electric utility annual consumption totals are allocated to the individual non-electric utility 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.

Sectors Other Than Electric Utilities, Monthly Estimates 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 supplied.

Sectors Other Than Electric Utilities, 1998 Forward.

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 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—Total product supplied monthly is allocated to the major end-use sectors in proportion to annual sales grouped into end-use 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:

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

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

- The quantity of LPG sold each year for consumption in internal combustion engines is allocated between the transportation and industrial sectors 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 36 percent (in 1996) 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 residential 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 end-use 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.
1984-1996: 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.
1997 forward: The 1996 source is used to estimate succeeding periods.

Lubricants—Total product supplied is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to 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—Total product supplied monthly is allocated to the major end-use 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—The portion consumed by electric utilities is from Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4). The remaining petroleum coke is assigned to the industrial sector.

Residual Fuel—Product supplied is assigned to electric utilities and non-electric utilities as follows:

Electric Utilities, All 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. (See Table 7.3)

Sources:

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

Sectors Other Than Electric Utilities, Annual Estimates Through 1997.

The aggregate non-electric utility use of residual fuel is total residual fuel supplied minus the electric utility consumption. The non-electric utility annual totals are allocated into the individual non-electric utility sectors in proportion to the amount of residual fuel 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.

Sectors Other Than Electric Utilities, Monthly Estimates 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.

Sectors Other Than Electric Utilities, 1998 Forward.

Each month's non-electric utility consumption subtotal is disaggregated into the major end-use sectors in proportion to the shares each sector held of the non-electric utility subtotal in the same month in 1997.

Road Oil—All product supplied is assigned to the industrial sector.

All Other Petroleum Products—The product supplied of all remaining petroleum products is assigned to the industrial sector.

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

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

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

Sources for Electric Utilities Sector

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

Sources for Industrial Sector

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

Sources for Imports and Exports of Electricity: See "Sources for Table 7.1" at the end of Section 7.

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

Sources:

1973-1975: 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*.

10. Electricity: End-use consumption of electricity is based on Table 7.2 sales data. "Other," which is primarily for use in government buildings, is added to the commercial sector, except for approximately 4 percent used by railroads and railways and attributed to the transportation sector. Kilowatthours are converted to Btu at the rate of 3,412 Btu per kilowatthour. See Table 7.2 for sources of the electricity sales data.

11. Electrical System Energy Losses: Electrical system energy losses are calculated as the difference between total energy input at electric utilities and the total energy content of electricity sold to end-use consumers. Most of those losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses 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.

12. Renewable Energy: *Monthly Energy Review* (*MER*) consumption and production totals currently capture about half of estimated total renewable energy resources. Coverage is complete for the electric utilities as reported under "Hydroelectric Power," "Geothermal Energy," and "Other" on Table 2.6. Small amounts of hydroelectric power (about -0.05 quadrillion Btu in 1998) included on Table 2.6 are used at pumped storage facilities and are not considered renewable. Small quantities of ethanol (about 0.11 quadrillion Btu in 1998) are blended into motor gasoline, which are accounted for under "Petroleum Products" on Table 2.5 for the transportation sector.

Renewable energy used by residential, commercial, and industrial consumers is not currently included in the *MER* data series because consistent monthly series are not available. On an annual basis, the estimated quantities in quadrillion Btu are:

	Residential and Commercial				Industrial[1]					
Year	Biomass[2]	Geothermal Energy[3]	Solar Energy	**Total**	Biomass[4]	Geothermal Energy[5]	Conventional Hydroelectric Power[6]	Solar Energy	Wind Energy	**Total**
1989	0.918	0.008	0.053	**0.978**	2.010	0.116	0.074	0.005	0.019	**2.224**
1990	0.581	0.008	0.056	**0.645**	1.948	0.155	0.085	0.007	0.023	**2.217**
1991	0.613	0.009	0.058	**0.680**	1.943	0.170	0.085	0.008	0.027	**2.234**
1992	0.645	0.010	0.060	**0.714**	2.042	0.182	0.098	0.008	0.030	**2.360**
1993	0.592	0.010	0.062	**0.664**	2.084	0.206	0.119	0.009	0.031	**2.449**
1994	0.582	0.010	0.064	**0.656**	2.217	0.214	0.136	0.009	0.036	**2.613**
1995	0.641	0.011	0.065	**0.717**	2.286	0.210	0.152	0.008	0.033	**2.690**
1996	0.644	0.012	0.066	**0.722**	2.370	0.217	0.171	0.009	0.035	**2.802**
1997	0.475	0.013	0.065	**0.553**	2.390	0.194	0.185	0.009	0.035	**2.813**
1998[E]	0.468	0.015	0.065	**0.547**	2.460	0.191	0.206	0.010	0.036	**2.902**

[1]Includes electricity generated from nonutility power plant facilities of 1 megawatt or greater capacity.
[2] Wood.
[3]Geothermal heat pump and direct use energy.
[4]Wood, wood waste, wood liquors, peat, railroad ties, wood sludge, spent sulfite liquors, agricultural waste, straw, tires, fish oils, tall oil, sludge waste, waste alcohol, municipal solid waste, landfill gases, and other waste.
[5]Geothermal electricity generation, heat pump, and direct use energy.
[6]Hydroelectricity generated by pumped storage is not included in renewable energy.
E=Estimate.
Source: Energy Information Administration, *Annual Energy Review 1998* (July 1999), Table 10.2.

Note: See the inside front cover of the *Monthly Energy Review* for information about ordering EIA reports, or, for direct access to several reports on the subject of renewable energy, go to our Web site at http://www.eia.doe.gov and tap "Renewables."

Section 3. Petroleum

Total petroleum imports[1] averaged 9.8 million barrels per day in December 1999, 1 percent lower than the previous month's rate and 4 percent lower than the December 1998 rate.

In December 1999, 19.8 million barrels per day of petroleum products were supplied for domestic use, 2 percent higher than the December 1998 rate. Motor gasoline accounted for 43 percent of the total; distillate fuel oil, 20 percent; and kerosene-type jet fuel, 8 percent.

Motor gasoline supplied during December 1999 averaged 8.6 million barrels per day, 4 percent higher than the previous month's rate and 1 percent higher than the December 1998 rate. Total motor gasoline stocks were 192 million barrels at the end of December 1999, 10 million barrels below the stock level in the previous month and 24 million barrels below the level 1 year earlier.

Distillate fuel oil supplied during December 1999 averaged 3.9 million barrels per day, 9 percent higher than the previous month's rate and 12 percent higher than the December 1998 rate. Distillate fuel oil ending stocks for December 1999 were 120 million barrels, 21 million barrels below the stock level in the previous month and 36 million barrels below the level 1 year earlier.

Kerosene-type jet fuel supplied in December 1999 averaged 1.7 million barrels per day, slightly higher than the previous month's rate but 6 percent below the December 1998 rate. Kerosene-type jet fuel stocks measured 41 million barrels at the end of December 1999, the same as the stock level in the previous month but 4 million barrels below the level 1 year earlier.

Estimates (except of crude production) for the most current month are based on Energy Information Administration (EIA) weekly data and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on historical and provisional data through September 1999.

[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	**8,607**	**6,465**	**1,830**	**-124**	**-28**	**18,309**	**1,507**
1997 January	8,470	6,402	1,782	462	-679	18,554	1,501
February	8,708	**6,514**	1,867	-122	-557	18,398	1,482
March	8,646	6,452	1,876	520	444	17,863	1,512
April	8,604	6,441	1,824	197	4	18,559	1,518
May	8,633	6,474	1,822	230	1,172	18,293	1,561
June	8,610	6,442	1,827	-199	658	18,617	1,575
July	8,608	6,409	1,821	-343	-167	19,107	1,559
August	8,535	6,347	1,831	-283	643	18,565	1,570
September	8,679	6,486	1,845	95	642	18,562	1,592
October	8,624	6,467	1,813	393	-214	19,071	1,598
November	8,565	6,459	1,728	252	-195	18,578	1,600
December	8,662	6,531	1,773	-608	-675	19,250	1,560
Average	**8,611**	**6,452**	**1,817**	**51**	**93**	**18,620**	**1,560**
1998 January	8,781	6,541	1,805	389	-66	18,362	1,570
February	8,731	6,476	1,857	37	-79	18,316	1,569
March	8,590	6,408	1,853	538	54	18,685	1,587
April	8,685	6,483	1,869	556	349	19,044	1,614
May	8,529	6,347	1,835	-9	1,232	18,375	1,652
June	8,460	6,267	1,748	-620	577	19,182	1,651
July	8,155	6,194	1,586	187	162	19,466	1,661
August	8,301	6,203	1,722	-293	530	19,347	1,669
September	7,878	5,789	1,716	-641	95	18,895	1,652
October	8,257	6,143	1,744	677	-776	19,188	1,649
November	8,294	6,140	1,768	321	425	18,673	1,672
December	8,066	6,043	1,620	-285	-515	19,419	1,647
Average	**8,392**	**6,252**	**1,759**	**74**	**165**	**18,917**	**1,647**
1999 January	[E] 7,974	[E] 5,954	1,656	67	-321	18,850	1,639
February	[E] 8,109	[E] 5,984	1,722	31	-521	19,240	1,625
March	[E] 8,204	[E] 6,048	1,779	342	-903	19,489	1,608
April	[E] 8,087	[E] 5,977	1,786	-192	434	18,861	1,615
May	[E] 8,185	[E] 5,985	1,768	406	1,064	18,142	1,661
June	[E] 8,097	[E] 5,880	1,827	-402	-425	19,738	1,636
July	[E] 8,055	[E] 5,873	1,880	104	1	19,503	1,639
August	[E] 8,202	[E] 5,912	1,838	-545	-131	19,883	1,618
September	[E] 8,128	[E] 5,820	1,911	-370	29	19,537	1,608
October	[E] 8,222	[E] 5,878	1,938	-74	-856	19,860	1,579
November	[RE] 8,198	[RE] 5,895	[R] 1,939	[R] -315	[R] -230	[R] 19,027	[R] 1,563
December	[E] 8,359	[PE] 6,051	[E] 1,911	[E] -320	[E] -1,260	[E] 19,821	[E] 1,510
Average	[E] **8,152**	[PE] **5,938**	[E] **1,830**	[E] **-104**	[E] **-260**	[E] **19,331**	[E] **1,510**

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are at end of period.
[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.

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

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S1. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S1.

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

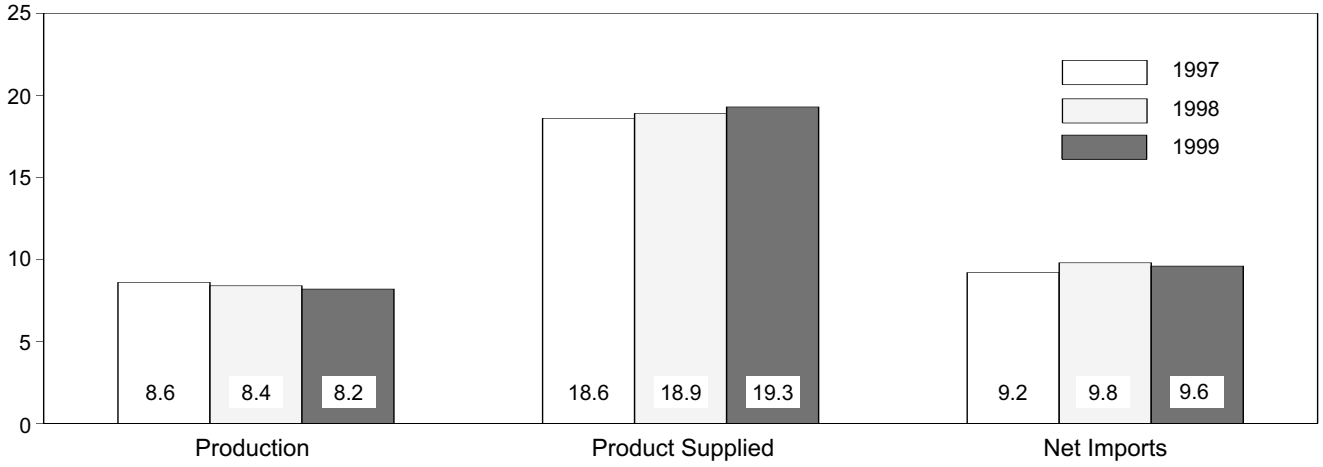
	Imports			Exports			
	Total	Crude Oil[a]	Petroleum Products	Total	Crude Oil	Petroleum Products	Net Imports[b]
	Thousand Barrels per Day						
1973 Average	**6,256**	**3,244**	**3,012**	**231**	**2**	**229**	**6,025**
1974 Average	**6,112**	**3,477**	**2,635**	**221**	**3**	**218**	**5,892**
1975 Average	**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 January	9,763	7,492	2,271	1,038	141	897	8,725
February	9,561	7,434	2,127	1,017	229	787	8,544
March	9,833	7,754	2,079	933	136	796	8,900
April	10,114	7,987	2,127	937	92	845	9,177
May	10,818	8,653	2,165	876	26	851	9,941
June	10,736	8,759	1,978	955	57	898	9,782
July	10,008	8,178	1,830	1,012	70	942	8,996
August	10,465	8,621	1,844	1,074	110	964	9,390
September	10,537	8,840	1,697	997	122	875	9,540
October	10,792	8,927	1,865	1,066	152	914	9,726
November	9,948	8,366	1,582	934	32	901	9,014
December	9,328	7,653	1,675	1,197	131	1,066	8,130
Average	**10,162**	**8,225**	**1,936**	**1,003**	**108**	**896**	**9,158**
1998 January	10,127	8,339	1,788	1,133	231	902	8,994
February	9,991	8,045	1,946	1,003	197	806	8,988
March	10,034	8,124	1,911	948	99	848	9,087
April	11,105	8,985	2,120	1,048	163	885	10,057
May	11,104	8,987	2,117	1,053	144	909	10,051
June	10,926	8,795	2,132	987	63	924	9,939
July	11,649	9,507	2,142	998	104	894	10,651
August	11,032	9,177	1,855	780	51	729	10,252
September	10,499	8,500	1,998	863	34	828	9,636
October	10,861	8,667	2,194	851	87	763	10,011
November	10,860	8,940	1,920	782	60	721	10,078
December	10,258	8,352	1,906	893	90	803	9,365
Average	**10,708**	**8,706**	**2,002**	**945**	**110**	**835**	**9,764**
1999 January	10,181	8,308	1,873	896	107	788	9,285
February	10,336	8,387	1,949	756	119	636	9,580
March	10,589	8,757	1,832	764	95	669	9,825
April	11,227	9,080	2,146	1,196	332	864	10,031
May	10,865	8,806	2,059	915	88	826	9,950
June	10,624	8,601	2,024	907	123	784	9,717
July	11,250	9,222	2,028	918	120	798	10,332
August	10,734	8,684	2,050	902	132	769	9,832
September	10,566	8,470	2,097	889	27	862	9,677
October	10,428	8,439	1,989	944	56	888	9,484
November	[R] 9,924	[R] 8,185	[R] 1,738	[R] 950	[R] 83	[R] 866	[R] 8,974
December	[E] 9,804	[E] 8,083	[E] 1,721	[E] 970	[E] 110	[E] 860	[E] 8,835
Average	[E] **10,545**	[E] **8,587**	[E] **1,958**	[E] **918**	[E] **116**	[E] **802**	[E] **9,628**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S1. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S1.

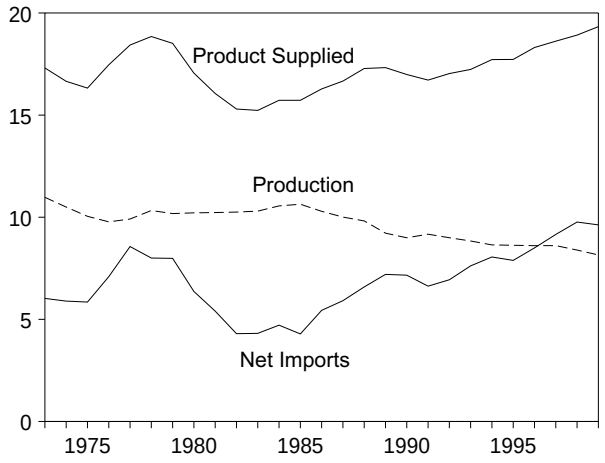
Figure 3.1 Petroleum Overview

(Million Barrels per Day)

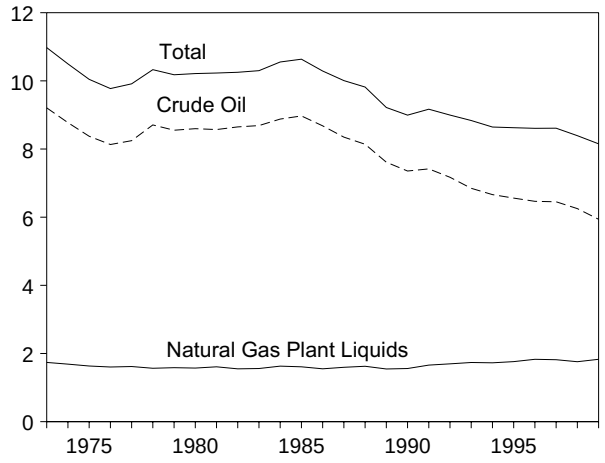
Overview, January-December



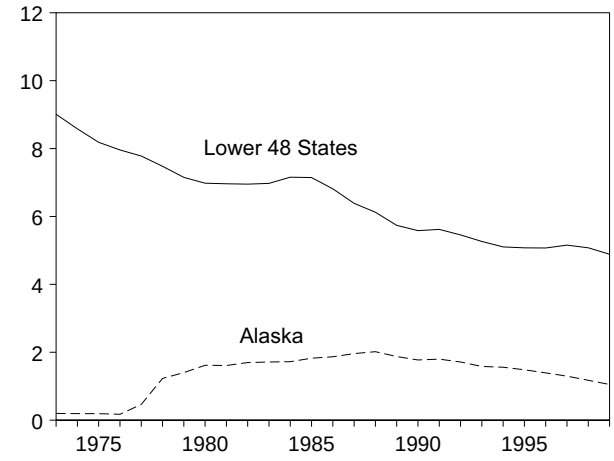
Overview, 1973-1999



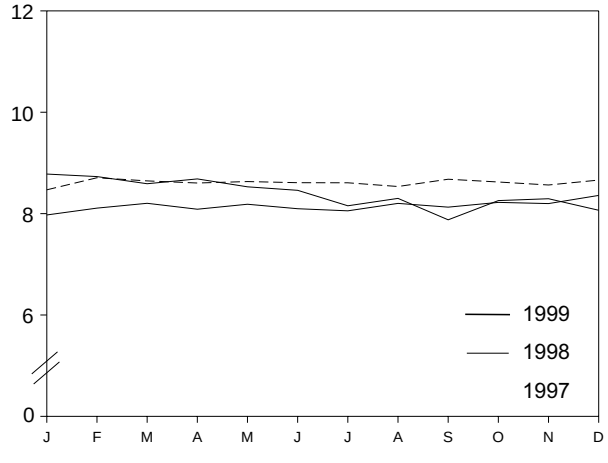
Production, 1973-1999



Crude Oil Production, 1973-1999



Total Production, Monthly

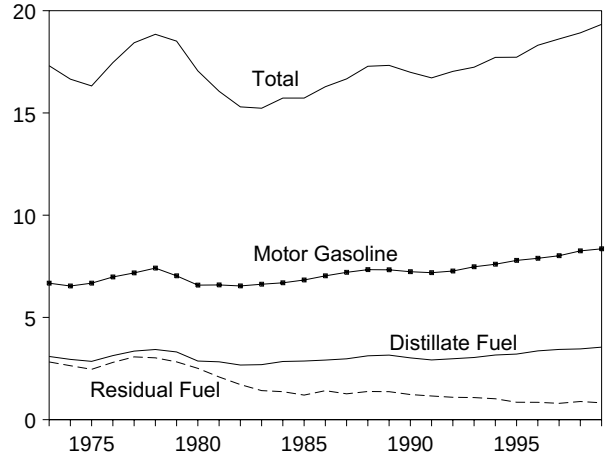


Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.1b, and 3.2a.

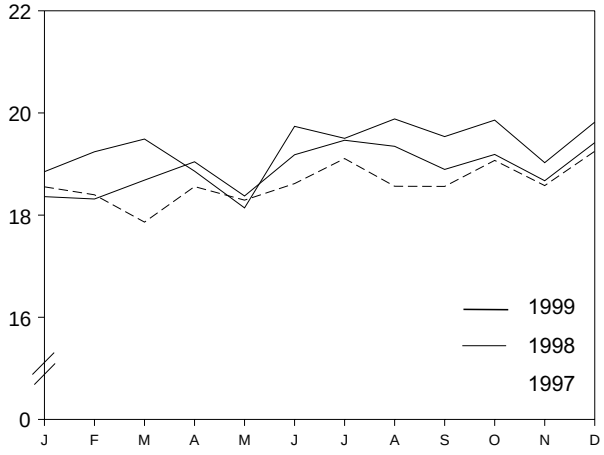
Figure 3.1 Petroleum Overview (Continued)

(Million Barrels per Day, Except as Noted)

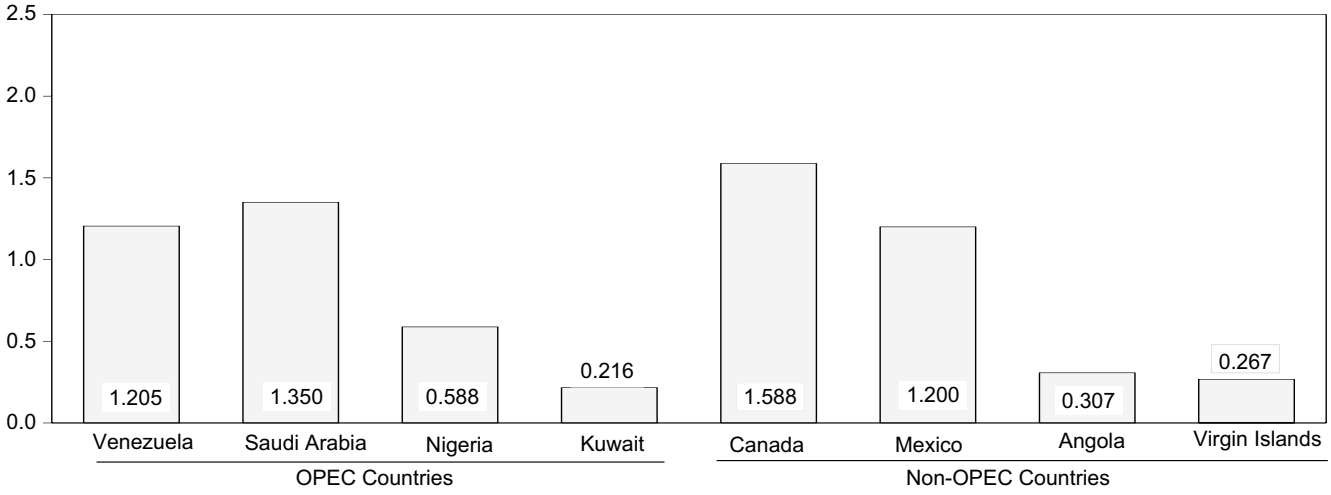
Product Supplied, 1973-1999



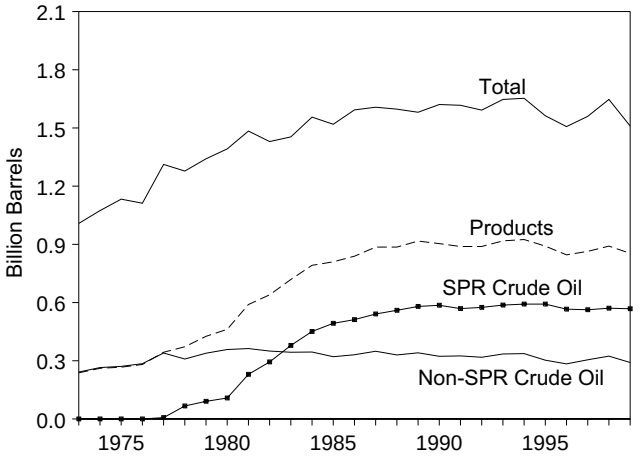
Product Supplied, Monthly



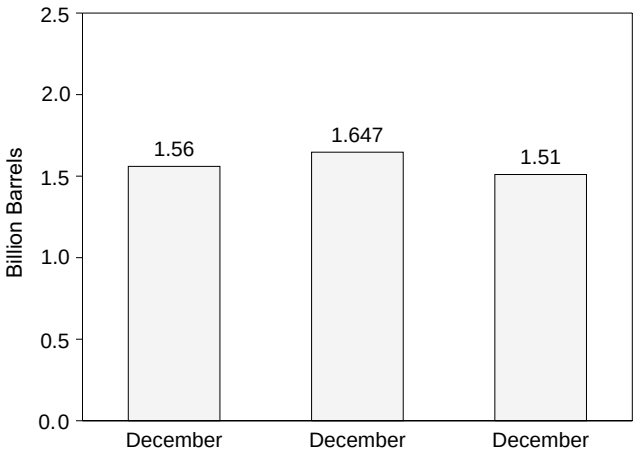
Imports From Selected Countries, November 1999



Stocks, End of Year, 1973-1999



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 January	6,402	1,380	7,492	0	7,492	378	–
February	6,514	1,384	7,434	0	7,434	-350	–
March	6,452	1,331	7,754	0	7,754	501	–
April	6,441	1,330	7,987	0	7,987	167	–
May	6,474	1,303	8,653	0	8,653	257	–
June	6,442	1,260	8,759	0	8,759	-170	–
July	6,409	1,238	8,178	0	8,178	136	–
August	6,347	1,200	8,621	0	8,621	130	–
September	6,486	1,276	8,840	0	8,840	199	–
October	6,467	1,286	8,927	0	8,927	5	–
November	6,459	1,278	8,366	0	8,366	164	–
December	6,531	1,290	7,653	0	7,653	267	–
Average	**6,452**	**1,296**	**8,225**	**0**	**8,225**	**145**	**–**
1998 January	6,541	1,229	8,339	0	8,339	60	–
February	6,476	1,238	8,045	0	8,045	-264	–
March	6,408	1,221	8,124	0	8,124	745	–
April	6,483	1,200	8,985	0	8,985	336	–
May	6,347	1,173	8,987	0	8,987	122	–
June	6,267	1,135	8,795	0	8,795	-135	–
July	6,194	1,155	9,507	0	9,507	144	–
August	6,203	1,133	9,177	0	9,177	96	–
September	5,789	1,093	8,500	0	8,500	-44	–
October	6,143	1,197	8,667	0	8,667	-52	–
November	6,140	1,168	8,940	0	8,940	74	–
December	6,043	1,160	8,352	0	8,352	250	–
Average	**6,252**	**1,175**	**8,706**	**0**	**8,706**	**115**	**–**
1999 January	[E] 5,954	[E] 1,164	8,308	0	8,308	396	–
February	[E] 5,984	[E] 1,104	8,387	0	8,387	209	–
March	[E] 6,048	[E] 1,134	8,757	0	8,757	128	–
April	[E] 5,977	[E] 1,056	9,080	0	9,080	122	–
May	[E] 5,985	[E] 1,088	8,806	0	8,806	650	–
June	[E] 5,880	[E] 967	8,601	0	8,601	183	–
July	[E] 5,873	[E] 990	9,222	0	9,222	361	–
August	[E] 5,912	[E] 1,011	8,684	0	8,684	272	–
September	[E] 5,820	[E] 933	8,470	17	8,452	475	–
October	[E] 5,878	[E] 1,068	8,439	17	8,422	254	–
November	[RE] 5,895	[RE] 1,023	[R] 8,185	[R] 17	[R] 8,169	[R] 392	–
December	[PE] 6,051	[PE] 1,075	[E] 8,083	[E] 16	[E] 8,067	[E] 178	–
Average	[PE] **5,938**	[E] **1,051**	[E] **8,587**	[E] **6**	[E] **8,581**	[E] **302**	**–**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S2. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	0	-75	537	13,664	141	5	864	563	301
February	0	(s)	-121	13,485	229	6	861	563	297
March	0	(s)	520	14,047	136	5	877	563	313
April	0	(s)	197	14,303	92	3	883	563	319
May	0	(s)	230	15,123	26	4	890	563	326
June	0	(s)	-199	15,170	57	2	884	563	320
July	0	(s)	-343	14,994	70	2	873	563	310
August	0	(s)	-283	15,271	110	(s)	864	563	301
September	0	(s)	95	15,308	122	(s)	867	563	304
October	0	(s)	393	14,854	152	0	879	563	316
November	0	(s)	252	14,706	32	0	887	563	324
December	0	(s)	-607	14,928	131	0	868	563	305
Average	**0**	**-7**	**57**	**14,662**	**108**	**2**	**868**	**563**	**305**
1998 January	0	(s)	389	14,319	231	0	880	563	317
February	0	(s)	38	14,023	197	0	881	563	318
March	0	0	538	14,639	99	0	898	563	334
April	0	0	556	15,085	163	0	915	563	351
May	0	(s)	-9	15,321	144	0	914	563	351
June	0	(s)	-620	15,485	63	0	896	563	332
July	(s)	(s)	187	15,554	104	0	901	563	338
August	0	0	-293	15,717	51	0	892	563	329
September	(s)	0	-641	14,851	34	0	873	563	310
October	(s)	19	658	13,994	87	0	894	564	330
November	0	150	170	14,772	60	0	904	569	335
December	0	93	-378	14,840	90	0	895	571	324
Average	**(s)**	**22**	**52**	**14,889**	**110**	**0**	**895**	**571**	**324**
1999 January	0	18	49	14,483	107	0	897	572	325
February	(s)	(s)	31	14,430	119	0	897	572	325
March	(s)	0	342	14,495	95	0	908	572	336
April	0	17	-209	15,039	332	0	902	572	330
May	0	37	369	14,946	88	0	915	574	341
June	0	40	-442	14,943	123	0	903	575	328
July	0	29	75	15,232	120	0	906	576	330
August	0	-27	-519	15,280	132	0	889	575	314
September	0	20	-389	15,107	27	0	878	575	303
October	0	-103	29	14,590	56	0	876	572	303
November	0	[R] -105	[R] -210	[R] 14,704	[R] 83	0	[R] 866	569	[R] 297
December	[E] 0	[E] -55	[E] -265	[E] 14,522	[E] 110	[E] 0	[E] 858	[E] 568	[E] 291
Average	[E] **(s)**	[E] **-11**	[E] **-93**	[E] **14,816**	[E] **116**	[E] **0**	[E] **858**	[E] **568**	[E] **291**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S2. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	0	0	0	0	0	0	209	209
February	0	0	0	0	0	0	172	172
March	0	0	0	0	35	35	315	315
April	0	0	0	0	84	84	204	204
May	0	0	0	0	102	102	128	128
June	0	0	0	0	115	115	361	361
July	0	0	0	0	88	88	331	331
August	0	0	0	0	(s)	(s)	229	229
September	0	0	0	0	0	0	322	322
October	0	0	0	0	177	177	349	349
November	0	0	0	0	220	220	220	220
December	0	0	0	0	240	240	188	188
Average	**0**	**0**	**0**	**0**	**89**	**89**	**253**	**253**
1998 January	0	0	0	0	36	36	252	252
February	0	0	0	0	0	0	338	338
March	0	0	0	0	127	127	374	374
April	0	0	0	0	254	254	311	311
May	17	0	0	0	137	137	399	399
June	0	0	0	0	270	270	275	275
July	0	0	0	0	286	286	435	435
August	0	0	0	0	713	713	273	273
September	0	0	0	0	517	517	259	259
October	0	0	0	0	636	636	241	227
November	0	0	0	0	542	542	224	224
December	0	0	0	0	486	486	228	228
Average	**1**	**0**	**0**	**0**	**336**	**336**	**301**	**300**
1999 January	0	0	0	0	471	471	132	132
February	0	0	0	0	681	681	205	205
March	0	0	0	0	791	791	324	324
April	0	0	0	0	824	824	286	279
May	0	0	0	0	720	720	227	227
June	0	0	0	0	691	691	259	259
July	0	0	0	0	670	670	311	311
August	0	0	0	0	660	660	348	348
September	0	0	0	0	748	748	261	261
October	0	0	0	0	867	867	205	205
November	0	0	0	0	717	717	216	216
11-Month Average	**0**	**0**	**0**	**0**	**713**	**713**	**253**	**252**
1998 11-Month Average	**2**	**0**	**0**	**0**	**322**	**322**	**308**	**306**
1997 11-Month Average	**0**	**0**	**0**	**0**	**75**	**75**	**259**	**259**

[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 between Kuwait and Saudi Arabia are included in Saudi Arabia.

[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 October 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: 1973-1980—**EIA, *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward—**EIA, *Petroleum Supply Monthly,* January 2000, 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 January	0	0	1,344	1,253	0	0	1,553	1,462
February	0	0	1,361	1,250	0	0	1,533	1,421
March	0	0	1,292	1,157	0	0	1,641	1,506
April	15	0	1,573	1,408	0	0	1,877	1,697
May	0	0	1,475	1,333	0	0	1,706	1,564
June	0	0	1,299	1,174	6	0	1,781	1,650
July	0	0	1,313	1,188	14	0	1,746	1,607
August	0	0	1,636	1,516	0	0	1,866	1,746
September	0	0	1,599	1,511	0	0	1,921	1,833
October	16	0	1,377	1,282	0	0	1,919	1,808
November	0	0	1,308	1,257	0	0	1,748	1,697
December	15	0	1,311	1,192	0	0	1,755	1,621
Average	**4**	**0**	**1,407**	**1,293**	**2**	**0**	**1,755**	**1,635**
1998 January	0	0	1,515	1,438	0	0	1,804	1,726
February	18	18	1,470	1,360	0	0	1,826	1,716
March	0	0	1,552	1,406	13	13	2,066	1,920
April	0	0	1,527	1,348	20	20	2,111	1,933
May	0	0	1,362	1,279	0	0	1,915	1,815
June	15	0	1,647	1,566	0	0	2,207	2,111
July	15	0	1,615	1,575	0	0	2,351	2,296
August	0	0	1,500	1,468	0	0	2,486	2,453
September	0	0	1,606	1,532	0	0	2,383	2,308
October	0	0	1,316	1,228	0	0	2,194	2,092
November	0	0	1,386	1,323	0	0	2,153	2,089
December	0	0	1,402	1,326	0	0	2,116	2,040
Average	**4**	**1**	**1,491**	**1,404**	**3**	**3**	**2,136**	**2,044**
1999 January	0	0	1,511	1,410	0	0	2,114	2,012
February	0	0	1,510	1,437	0	0	2,396	2,324
March	34	0	1,645	1,584	0	0	2,794	2,698
April	31	0	1,444	1,379	5	0	2,591	2,483
May	0	0	1,502	1,406	0	0	2,449	2,352
June	0	0	1,515	1,419	19	0	2,484	2,369
July	0	0	1,412	1,271	0	0	2,393	2,252
August	18	0	1,394	1,299	3	0	2,422	2,306
September	14	0	1,451	1,341	0	0	2,474	2,350
October	0	0	1,284	1,188	0	0	2,356	2,260
November	11	11	1,350	1,288	0	0	2,294	2,232
11-Month Average	**10**	**1**	**1,456**	**1,365**	**3**	**0**	**2,433**	**2,331**
1998 11-Month Average	**4**	**2**	**1,499**	**1,411**	**3**	**3**	**2,138**	**2,044**
1997 11-Month Average	**3**	**0**	**1,416**	**1,303**	**2**	**0**	**1,755**	**1,637**

[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 between Kuwait and Saudi Arabia are included in Saudi Arabia.

(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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	282	0	(b)	(b)	(c)	(c)	55	38	0	0
February	319	0	(b)	(b)	(c)	(c)	51	39	0	0
March	309	0	(b)	(b)	(c)	(c)	18	15	0	0
April	320	23	(b)	(b)	(c)	(c)	40	32	0	0
May	290	0	(b)	(b)	(c)	(c)	86	86	0	0
June	349	0	(b)	(b)	(c)	(c)	57	50	0	0
July	291	0	(b)	(b)	(c)	(c)	73	66	0	0
August	261	4	(b)	(b)	(c)	(c)	24	21	0	0
September	259	6	(b)	(b)	(c)	(c)	90	83	0	0
October	272	3	(b)	(b)	(c)	(c)	42	42	0	0
November	267	7	(b)	(b)	(c)	(c)	79	74	0	0
December	208	28	(b)	(b)	(c)	(c)	84	68	0	0
Average	**285**	**6**	**(b)**	**(b)**	**(c)**	**(c)**	**58**	**51**	**0**	**0**
1998 January	316	0	(b)	(b)	(c)	(c)	36	33	0	0
February	295	0	(b)	(b)	(c)	(c)	24	24	0	0
March	255	0	(b)	(b)	(c)	(c)	50	47	0	0
April	336	0	(b)	(b)	(c)	(c)	44	26	0	0
May	330	0	(b)	(b)	(c)	(c)	21	21	0	0
June	362	21	(b)	(b)	(c)	(c)	0	0	0	0
July	308	20	(b)	(b)	(c)	(c)	96	84	0	0
August	264	0	(b)	(b)	(c)	(c)	59	41	0	0
September	306	0	(b)	(b)	(c)	(c)	73	54	0	0
October	289	21	(b)	(b)	(c)	(c)	102	89	0	0
November	219	22	(b)	(b)	(c)	(c)	183	138	0	0
December	200	31	(b)	(b)	(c)	(c)	102	43	0	0
Average	**290**	**10**	**(b)**	**(b)**	**(c)**	**(c)**	**66**	**50**	**0**	**0**
1999 January	240	20	(b)	(b)	(c)	(c)	80	75	0	0
February	203	0	(b)	(b)	(c)	(c)	66	66	0	0
March	298	6	(b)	(b)	(c)	(c)	43	40	0	0
April	304	80	(b)	(b)	(c)	(c)	98	94	0	0
May	293	107	(b)	(b)	(c)	(c)	82	76	0	0
June	245	7	(b)	(b)	(c)	(c)	56	42	0	0
July	302	48	(b)	(b)	(c)	(c)	38	33	0	0
August	249	0	(b)	(b)	(c)	(c)	72	63	0	0
September	255	4	(b)	(b)	(c)	(c)	94	66	0	0
October	183	0	(b)	(b)	(c)	(c)	98	79	0	0
November	210	11	(b)	(b)	(c)	(c)	74	68	0	0
11-Month Average	**253**	**26**	**(b)**	**(b)**	**(c)**	**(c)**	**73**	**64**	**0**	**0**
1998 11-Month Average	**298**	**8**	**(b)**	**(b)**	**(c)**	**(c)**	**63**	**51**	**0**	**0**
1997 11-Month Average	**292**	**4**	**(b)**	**(b)**	**(c)**	**(c)**	**56**	**50**	**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."

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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	548	522	1,641	1,215	2,525	1,775	4,078	3,237
February	625	620	1,601	1,262	2,597	1,920	4,130	3,341
March	542	541	1,769	1,348	2,638	1,904	4,279	3,410
April	756	747	1,695	1,319	2,811	2,121	4,688	3,818
May	992	975	1,927	1,449	3,295	2,510	5,001	4,073
June	919	919	1,893	1,508	3,218	2,478	4,999	4,128
July	580	571	1,738	1,418	2,683	2,055	4,429	3,662
August	882	866	1,794	1,394	2,961	2,285	4,827	4,030
September	769	769	1,822	1,478	2,939	2,336	4,860	4,168
October	688	675	1,991	1,605	2,994	2,326	4,913	4,134
November	649	649	1,689	1,418	2,683	2,147	4,431	3,845
December	423	423	1,699	1,304	2,413	1,823	4,168	3,444
Average	**698**	**689**	**1,773**	**1,394**	**2,814**	**2,140**	**4,569**	**3,775**
1998 January	630	625	1,597	1,319	2,578	1,977	4,382	3,703
February	560	560	1,764	1,357	2,643	1,941	4,469	3,657
March	845	845	1,698	1,313	2,848	2,205	4,915	4,126
April	822	822	1,743	1,423	2,945	2,272	5,056	4,205
May	899	892	1,911	1,549	3,160	2,463	5,058	4,278
June	771	755	1,616	1,374	2,749	2,150	4,956	4,261
July	873	871	1,779	1,445	3,055	2,420	5,407	4,716
August	736	726	1,703	1,349	2,762	2,116	5,247	4,569
September	502	496	1,490	1,199	2,370	1,749	4,753	4,057
October	633	626	1,963	1,548	2,988	2,284	5,181	4,376
November	574	545	1,708	1,367	2,684	2,072	4,837	4,161
December	490	483	1,651	1,271	2,443	1,828	4,560	3,868
Average	**696**	**689**	**1,719**	**1,377**	**2,771**	**2,125**	**4,905**	**4,169**
1999 January	687	686	1,615	1,222	2,622	2,003	4,736	4,015
February	687	661	1,710	1,290	2,666	2,017	5,062	4,341
March	659	630	1,335	998	2,334	1,673	5,129	4,372
April	901	866	1,694	1,357	2,996	2,397	5,587	4,880
May	606	572	1,472	1,186	2,453	1,942	4,902	4,294
June	703	667	1,388	1,067	2,392	1,783	4,875	4,151
July	636	614	1,501	1,239	2,477	1,935	4,870	4,187
August	800	766	1,390	1,151	2,511	1,980	4,933	4,286
September	535	505	1,418	1,120	2,301	1,695	4,775	4,045
October	543	522	1,333	1,041	2,158	1,642	4,514	3,902
November	588	548	1,205	942	2,077	1,569	4,372	3,801
11-Month Average	**667**	**640**	**1,458**	**1,146**	**2,452**	**1,875**	**4,885**	**4,205**
1998 11-Month Average	**715**	**708**	**1,725**	**1,387**	**2,801**	**2,153**	**4,937**	**4,197**
1997 11-Month Average	**723**	**714**	**1,780**	**1,402**	**2,851**	**2,170**	**4,606**	**3,806**

[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 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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S3.

Table 3.3e Petroleum Imports From Angola, Australia, Bahama Islands, Brazil, Canada, and China

(Thousand Barrels per Day)

	Non-OPEC[a]											
	Angola		Australia		Bahama Islands		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 January	485	485	21	21	0	0	1	0	1,571	1,162	84	84
February	422	422	0	0	13	0	0	0	1,605	1,155	65	65
March	467	461	37	37	0	0	4	0	1,508	1,158	120	120
April	435	422	22	22	0	0	0	0	1,454	1,063	46	46
May	374	369	61	44	0	0	0	0	1,571	1,203	21	21
June	480	480	23	23	0	0	20	0	1,546	1,184	44	44
July	416	416	77	48	0	0	21	0	1,547	1,201	0	0
August	323	323	91	60	0	0	4	0	1,630	1,275	42	42
September	428	428	67	27	0	0	3	0	1,577	1,250	49	43
October	537	537	92	53	0	0	6	0	1,503	1,175	48	47
November	480	480	23	23	0	0	2	0	1,559	1,213	22	22
December	286	286	59	14	0	0	0	0	1,689	1,333	45	45
Average	**427**	**425**	**48**	**31**	**1**	**0**	**5**	**0**	**1,563**	**1,198**	**49**	**48**
1998 January	430	427	10	0	0	0	6	0	1,703	1,336	15	14
February	434	434	57	48	4	0	2	0	1,738	1,366	41	41
March	353	351	44	30	0	0	27	0	1,464	1,132	64	63
April	457	452	68	14	0	0	11	0	1,586	1,241	62	62
May	516	508	82	60	21	0	42	0	1,600	1,302	70	70
June	399	399	77	33	11	0	55	0	1,688	1,404	81	81
July	591	591	69	48	0	0	29	0	1,669	1,364	73	73
August	427	427	42	21	0	0	38	0	1,564	1,248	57	57
September	506	502	77	23	10	0	33	0	1,575	1,227	20	20
October	470	457	71	30	0	0	29	0	1,570	1,202	25	24
November	524	520	31	31	0	0	19	0	1,495	1,199	0	0
December	509	505	57	36	0	0	22	0	1,542	1,184	1	0
Average	**468**	**465**	**57**	**31**	**4**	**0**	**26**	**0**	**1,598**	**1,266**	**42**	**42**
1999 January	389	389	0	0	0	0	2	0	1,617	1,235	(s)	0
February	349	333	73	49	0	0	6	0	1,355	1,082	1	0
March	283	283	53	53	0	0	5	0	1,359	1,053	30	30
April	401	393	19	19	7	0	16	0	1,298	1,012	22	21
May	283	276	55	37	23	0	29	0	1,471	1,133	2	0
June	326	326	56	34	12	0	39	0	1,473	1,169	66	19
July	316	316	30	30	8	0	31	0	1,670	1,342	19	19
August	309	309	65	47	0	0	26	0	1,563	1,205	72	33
September	465	465	110	65	0	0	16	0	1,392	1,062	37	34
October	444	444	0	0	0	0	18	0	1,604	1,218	0	0
November	307	307	22	22	0	0	36	0	1,588	1,264	1	0
11-Month Average	**352**	**349**	**44**	**32**	**5**	**0**	**20**	**0**	**1,492**	**1,162**	**23**	**14**
1998 11-Month Average	**464**	**461**	**57**	**31**	**4**	**0**	**27**	**0**	**1,604**	**1,274**	**46**	**46**
1997 11-Month Average	**441**	**438**	**47**	**33**	**1**	**0**	**6**	**0**	**1,552**	**1,186**	**49**	**49**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	227	226	112	107	62	62	8	0	32	0	1,324	1,280
February	248	248	110	110	262	262	27	0	7	7	1,277	1,241
March	260	257	148	148	217	217	5	0	33	0	1,310	1,249
April	255	255	73	73	203	203	26	0	33	0	1,448	1,416
May	272	266	109	104	210	210	9	0	9	0	1,429	1,408
June	228	228	132	132	226	226	0	0	32	24	1,401	1,382
July	235	225	122	122	335	335	0	0	28	0	1,366	1,347
August	250	250	128	128	203	203	2	0	23	15	1,452	1,448
September	289	289	143	143	271	271	0	0	37	29	1,410	1,395
October	321	321	143	143	235	235	8	0	19	19	1,526	1,500
November	322	322	91	91	256	256	0	0	8	0	1,460	1,453
December	350	350	66	66	288	288	5	0	7	0	1,215	1,192
Average	**271**	**270**	**115**	**114**	**230**	**230**	**7**	**0**	**23**	**8**	**1,385**	**1,360**
1998 January	345	345	89	89	277	277	26	0	17	11	1,444	1,432
February	301	294	103	103	278	278	6	0	64	49	1,250	1,233
March	296	296	75	75	235	235	17	0	10	10	1,272	1,248
April	358	358	88	81	244	244	2	0	82	66	1,538	1,507
May	401	385	125	116	194	194	35	0	95	87	1,361	1,343
June	321	313	75	67	126	126	18	0	35	19	1,400	1,379
July	238	229	89	89	211	211	8	0	46	38	1,416	1,389
August	367	363	158	158	118	118	10	0	11	4	1,153	1,139
September	363	362	107	96	202	202	0	0	16	0	1,417	1,367
October	411	409	130	125	115	115	18	0	9	0	1,179	1,163
November	352	352	134	134	270	270	0	0	25	16	1,417	1,357
December	488	479	41	38	220	220	6	0	19	10	1,371	1,301
Average	**354**	**349**	**101**	**98**	**207**	**207**	**12**	**0**	**35**	**26**	**1,351**	**1,321**
1999 January	445	440	66	66	163	163	0	0	28	13	1,308	1,237
February	480	458	45	45	141	141	17	0	20	0	1,278	1,231
March	577	572	123	123	111	111	10	0	0	0	1,485	1,426
April	435	425	61	61	269	269	19	0	27	14	1,360	1,313
May	439	427	128	128	161	161	30	0	67	56	1,285	1,212
June	322	315	112	112	92	92	8	0	31	22	1,320	1,271
July	608	590	88	88	114	114	0	0	17	17	1,369	1,304
August	576	561	133	133	95	95	0	0	53	49	1,288	1,174
September	395	387	136	136	159	159	8	0	56	22	1,283	1,205
October	432	432	163	163	186	186	7	0	39	36	1,184	1,124
November	416	396	185	179	190	190	6	0	30	10	1,200	1,135
11-Month Average	**467**	**456**	**113**	**113**	**153**	**153**	**9**	**0**	**34**	**22**	**1,306**	**1,240**
1998 11-Month Average	**342**	**337**	**107**	**103**	**206**	**206**	**13**	**0**	**37**	**27**	**1,349**	**1,323**
1997 11-Month Average	**264**	**262**	**119**	**118**	**225**	**225**	**8**	**0**	**24**	**9**	**1,401**	**1,375**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	40	0	94	0	244	230	18	0	21	0	31	0
February	33	0	60	0	204	179	16	0	19	0	36	0
March	40	0	102	0	295	276	7	0	13	0	6	0
April	20	0	114	0	307	294	12	0	20	0	9	0
May	13	0	116	0	388	366	21	0	0	0	23	0
June	37	0	66	0	329	318	13	0	8	0	45	0
July	5	0	61	0	386	360	24	0	9	0	6	0
August	15	0	65	0	321	320	20	0	32	19	41	0
September	54	0	71	0	285	265	14	0	0	0	21	0
October	13	0	46	0	346	312	19	0	13	6	12	0
November	28	0	33	0	316	276	23	0	21	7	19	0
December	1	0	54	0	275	249	10	0	0	0	5	0
Average	**25**	**0**	**74**	**0**	**309**	**288**	**16**	**0**	**13**	**3**	**21**	**0**
1998 January	10	0	97	0	217	208	18	0	0	0	22	0
February	25	0	101	0	169	169	21	0	12	0	13	0
March	5	0	80	0	210	198	5	0	3	0	4	0
April	40	0	73	0	232	232	7	0	(s)	0	9	0
May	36	0	67	0	196	172	18	0	0	0	14	0
June	31	0	103	0	283	252	13	0	34	34	26	0
July	59	0	84	0	369	361	21	0	69	69	34	0
August	21	0	45	0	287	260	23	0	1	0	17	0
September	26	0	69	0	201	162	12	0	34	0	16	0
October	49	0	95	0	199	186	20	0	15	0	4	0
November	53	0	124	0	262	252	12	0	54	0	28	0
December	14	0	46	0	202	199	15	0	63	0	33	0
Average	**31**	**0**	**82**	**0**	**236**	**221**	**15**	**0**	**24**	**9**	**18**	**0**
1999 January	37	0	94	0	216	179	18	0	11	0	4	0
February	7	0	155	0	203	157	0	0	28	0	3	0
March	19	0	58	0	248	199	3	0	26	0	5	0
April	34	0	76	0	254	192	15	0	41	22	13	0
May	57	0	77	0	276	244	10	0	79	40	26	0
June	22	0	28	0	491	463	15	0	131	22	0	0
July	34	0	83	0	351	341	13	0	105	32	8	0
August	35	0	58	0	238	222	12	0	121	0	13	0
September	2	0	30	0	235	195	22	0	124	0	(s)	0
October	17	0	49	0	341	292	13	0	110	0	22	0
November	24	0	44	0	288	255	12	0	60	16	23	0
11-Month Average	**26**	**0**	**68**	**0**	**286**	**250**	**12**	**0**	**76**	**12**	**11**	**0**
1998 11-Month Average	**32**	**0**	**85**	**0**	**239**	**223**	**15**	**0**	**20**	**9**	**17**	**0**
1997 11-Month Average	**27**	**0**	**76**	**0**	**312**	**291**	**17**	**0**	**14**	**3**	**23**	**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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S3.

Table 3.3h Petroleum Imports From Trinidad and Tobago, United Kingdom, 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		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 January	74	55	400	333	335	0	502	210	5,685	4,255	9,763	7,492
February	69	61	236	172	341	0	380	170	5,431	4,093	9,561	7,434
March	56	55	236	161	254	0	437	206	5,554	4,344	9,833	7,754
April	69	62	159	70	321	0	401	242	5,426	4,169	10,114	7,987
May	70	66	261	181	300	0	558	341	5,817	4,579	10,818	8,653
June	55	55	372	311	300	0	380	225	5,737	4,631	10,736	8,759
July	62	54	198	165	310	0	370	243	5,579	4,515	10,008	8,178
August	41	37	268	220	319	0	368	251	5,638	4,591	10,465	8,621
September	66	58	166	110	248	0	476	364	5,677	4,672	10,537	8,840
October	58	55	154	119	301	0	479	271	5,879	4,793	10,792	8,927
November	65	57	127	87	260	0	403	236	5,517	4,521	9,948	8,366
December	53	53	135	98	314	0	304	235	5,160	4,208	9,328	7,653
Average	**61**	**56**	**226**	**169**	**300**	**0**	**422**	**250**	**5,593**	**4,450**	**10,162**	**8,225**
1998 January	64	54	249	166	283	0	424	276	5,745	4,636	10,127	8,339
February	60	60	170	89	296	0	378	224	5,522	4,388	9,991	8,045
March	63	53	95	70	334	0	464	236	5,119	3,998	10,034	8,124
April	78	48	309	221	272	0	533	254	6,048	4,780	11,105	8,985
May	69	53	248	133	292	0	561	287	6,046	4,709	11,104	8,987
June	64	56	231	125	310	0	589	245	5,970	4,533	10,926	8,795
July	90	56	171	36	360	0	545	235	6,242	4,791	11,649	9,507
August	79	53	384	295	281	0	703	466	5,785	4,607	11,032	9,177
September	44	38	154	109	277	0	589	335	5,746	4,443	10,499	8,500
October	65	57	384	278	268	0	554	245	5,680	4,291	10,861	8,667
November	38	38	400	283	266	0	520	327	6,023	4,779	10,860	8,940
December	79	72	199	119	274	0	498	321	5,698	4,484	10,258	8,352
Average	**66**	**53**	**250**	**161**	**293**	**0**	**531**	**288**	**5,803**	**4,537**	**10,708**	**8,706**
1999 January	52	34	215	167	300	0	479	370	5,445	4,292	10,181	8,308
February	48	38	243	165	289	0	534	348	5,274	4,046	10,336	8,387
March	28	18	296	242	319	0	422	276	5,460	4,386	10,589	8,757
April	49	37	319	143	258	0	648	280	5,640	4,200	11,227	9,080
May	24	18	558	479	298	0	585	302	5,963	4,512	10,865	8,806
June	58	33	325	299	268	0	555	273	5,749	4,450	10,624	8,601
July	57	31	616	510	259	0	585	300	6,380	5,036	11,250	9,222
August	53	36	307	256	206	0	576	278	5,801	4,398	10,734	8,684
September	83	67	461	383	278	0	500	244	5,791	4,424	10,566	8,470
October	75	66	337	267	284	0	591	310	5,914	4,537	10,428	8,439
November	66	42	333	281	267	0	454	286	5,552	4,384	9,924	8,185
11-Month Average	**54**	**38**	**366**	**291**	**275**	**0**	**539**	**297**	**5,729**	**4,428**	**10,614**	**8,634**
1998 11-Month Average	**65**	**51**	**254**	**165**	**295**	**0**	**534**	**285**	**5,812**	**4,542**	**10,750**	**8,739**
1997 11-Month Average	**62**	**56**	**235**	**176**	**299**	**0**	**433**	**251**	**5,633**	**4,472**	**10,239**	**8,279**

[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.

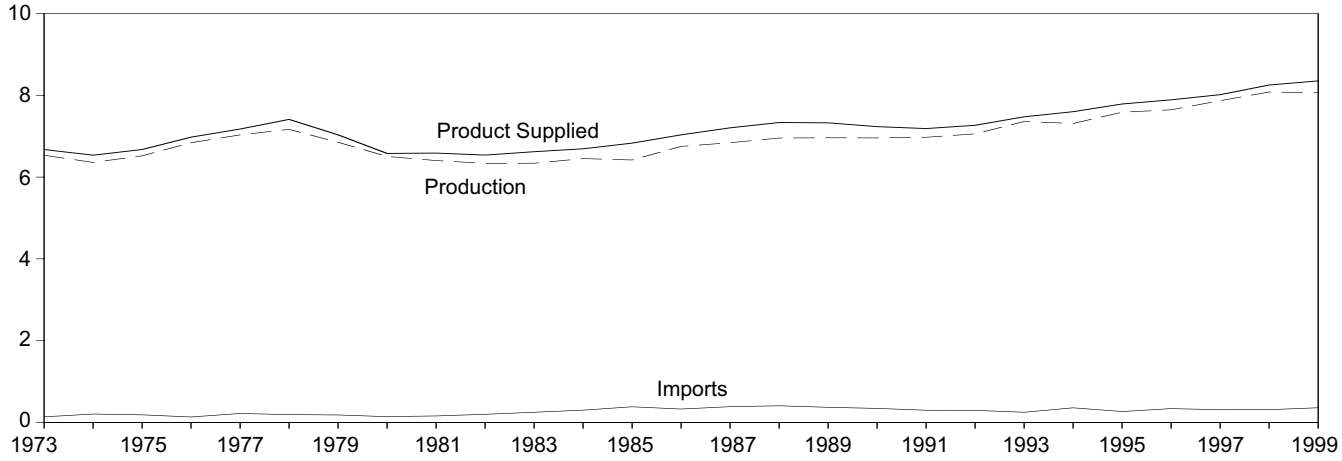
Notes: Beginning in October 1977, Strategic Petroleum Reserve imports are included. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S3.

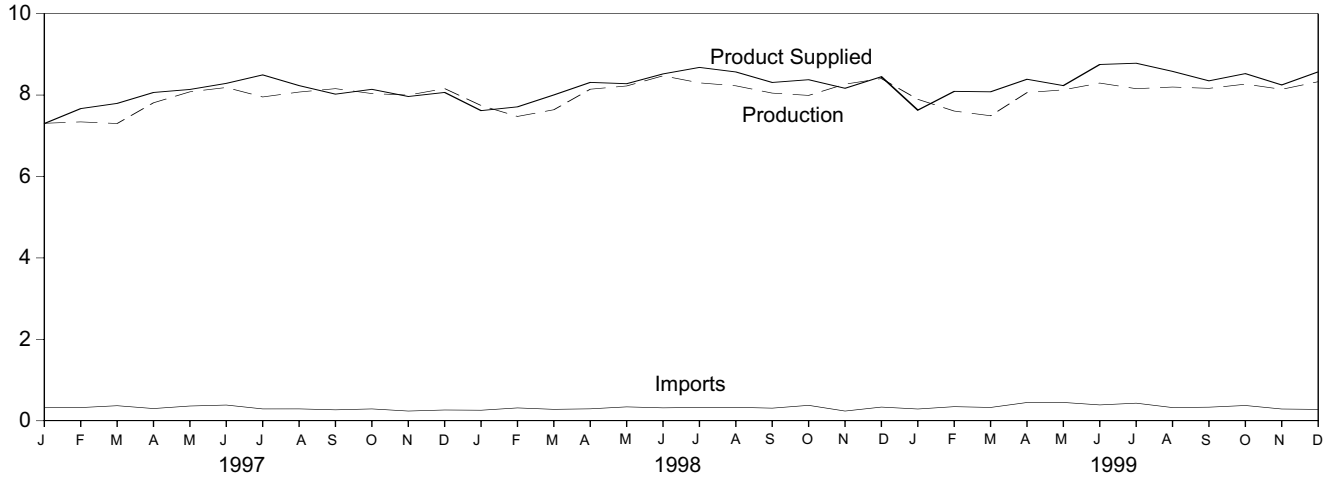
Figure 3.2 Finished Motor Gasoline

(Million Barrels per Day, Except as Noted)

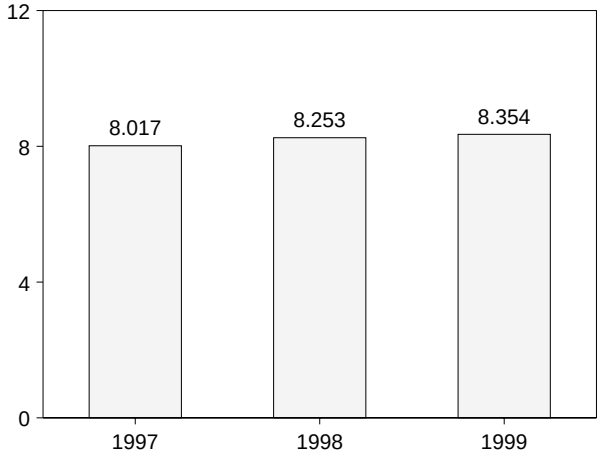
Overview, 1973-1999



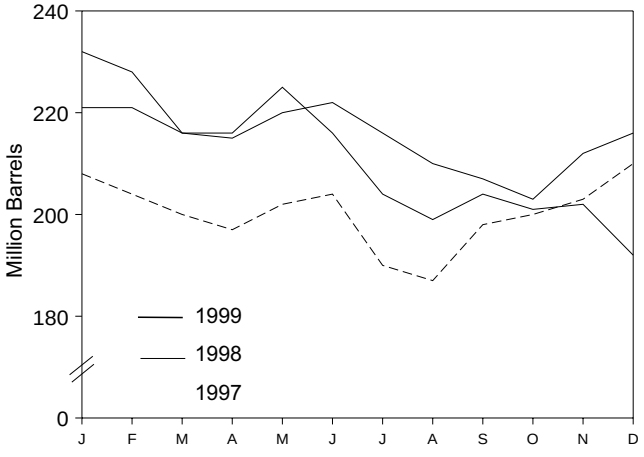
Overview, Monthly



Product Supplied, January-December



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

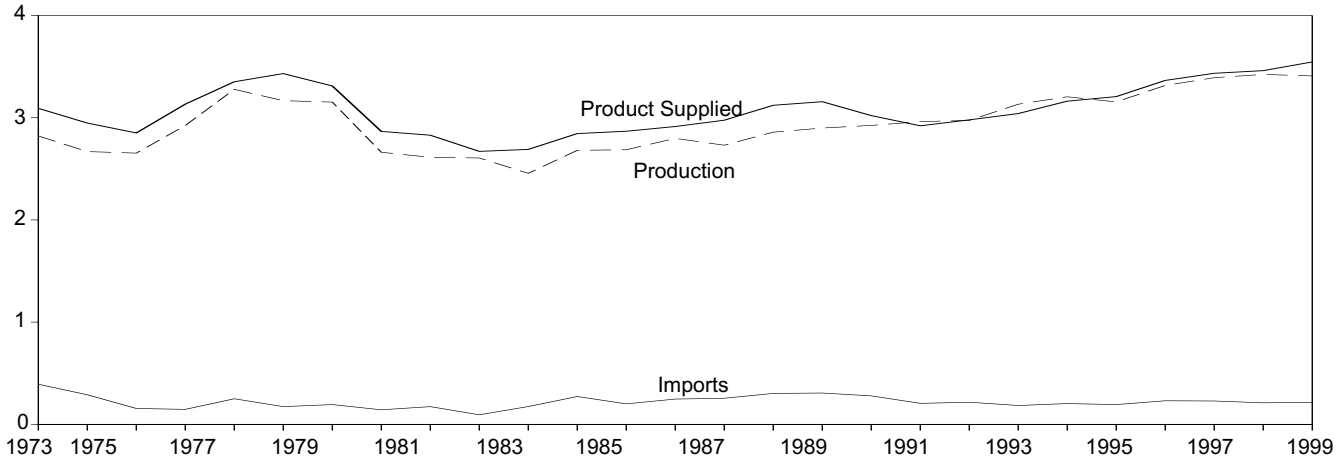
	Supply		Disposition			Motor Gasoline Stocks[a]		Oxygenates Stocks[a]
	Total Production	Imports[b]	Stock Change[b,c]	Exports	Product Supplied	Total[d]	Finished	
	Thousand Barrels per Day					Million Barrels		
1973 Average	**6,535**	**134**	**-9**	**4**	**6,674**	**209**	**NA**	**NA**
1974 Average	**6,360**	**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 January	7,307	320	250	75	7,301	208	165	13
February	7,341	324	-114	111	7,668	204	162	13
March	7,302	370	-247	123	7,796	200	154	14
April	7,811	300	-70	117	8,064	197	152	13
May	8,081	362	203	101	8,139	202	158	13
June	8,186	387	189	96	8,288	204	164	12
July	7,954	291	-414	164	8,496	190	151	13
August	8,075	292	-41	175	8,233	187	150	13
September	8,158	269	275	130	8,023	198	158	13
October	8,037	291	1	186	8,141	200	158	12
November	7,999	239	122	151	7,965	203	162	12
December	8,160	265	154	206	8,065	210	166	12
Average	**7,870**	**309**	**26**	**137**	**8,017**	**210**	**166**	**12**
1998 January	7,744	259	256	128	7,618	221	174	13
February	7,476	316	-43	124	7,711	221	173	14
March	7,640	281	-203	121	8,004	216	167	14
April	8,144	294	45	81	8,312	215	168	14
May	8,224	342	185	103	8,279	220	174	13
June	8,474	318	113	159	8,520	222	177	14
July	8,300	328	-169	117	8,680	216	172	14
August	8,228	331	-151	141	8,568	210	167	13
September	8,048	310	-116	163	8,310	207	164	13
October	7,992	379	-128	121	8,378	203	160	12
November	8,269	239	253	89	8,167	212	168	13
December	8,406	336	137	153	8,451	216	172	14
Average	**8,082**	**311**	**15**	**125**	**8,253**	**216**	**172**	**14**
1999 January	7,896	289	426	130	7,630	232	185	14
February	7,608	347	-240	105	8,091	228	178	15
March	7,492	327	-343	81	8,081	216	168	15
April	8,061	449	36	85	8,389	216	169	13
May	8,129	450	247	100	8,233	225	177	15
June	8,295	389	-139	71	8,752	216	172	14
July	8,157	432	-283	89	8,783	204	164	13
August	8,198	324	-162	101	8,583	199	159	14
September	8,165	334	22	128	8,350	204	159	15
October	8,270	375	-13	130	8,528	201	159	15
November	[R]8,142	[R]289	[R]54	[R]128	[R]8,249	[R]202	[R]160	[R]13
December	[E]8,329	[E]279	[E]-80	[E]117	[E]8,571	[E]192	[E]152	NA
Average	[E]**8,064**	[E]**357**	[E]**-38**	[E]**105**	[E]**8,354**	[E]**192**	[E]**152**	**NA**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S4. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S4.

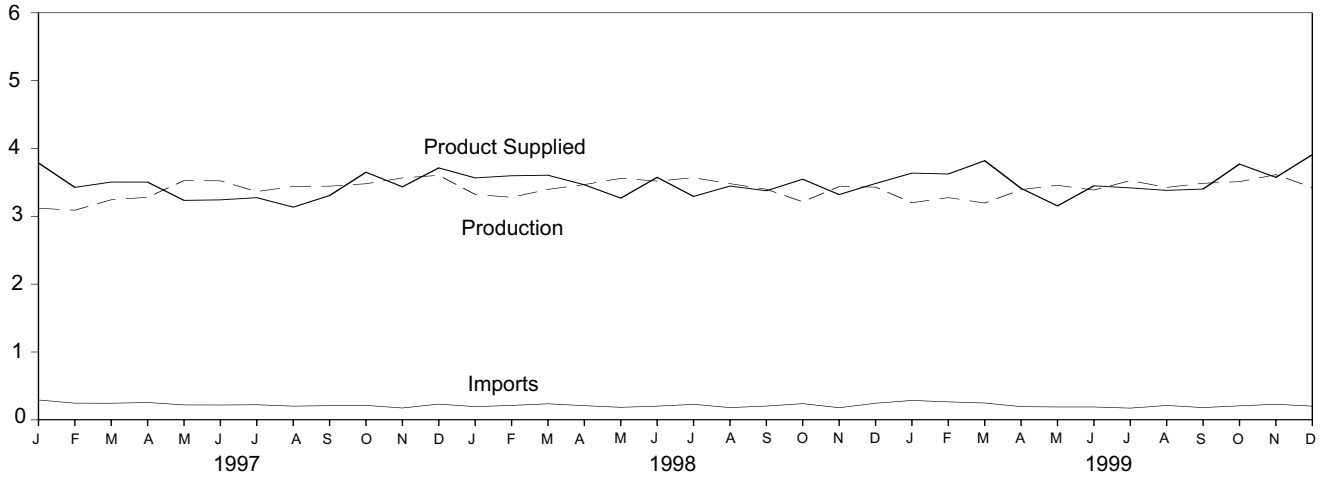
Figure 3.3 Distillate Fuel

(Million Barrels per Day, Except as Noted)

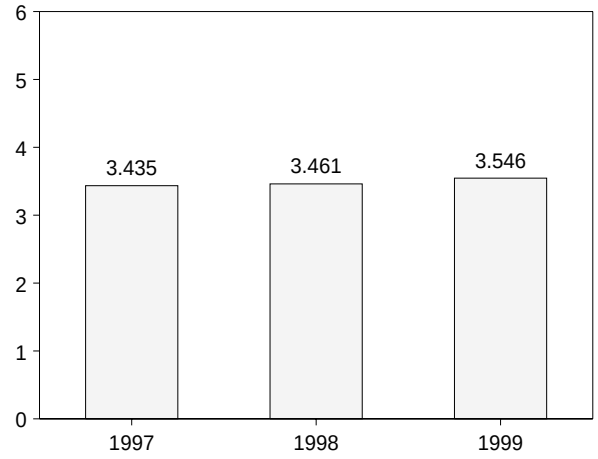
Overview, 1973-1999



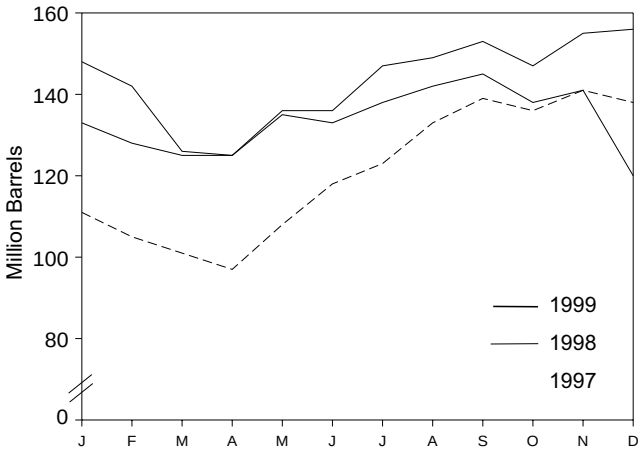
Overview, Monthly



Product Supplied, January-December



Stocks, End of Month



Source: Table 3.5.

Table 3.5 Distillate Fuel Oil Supply and Disposition

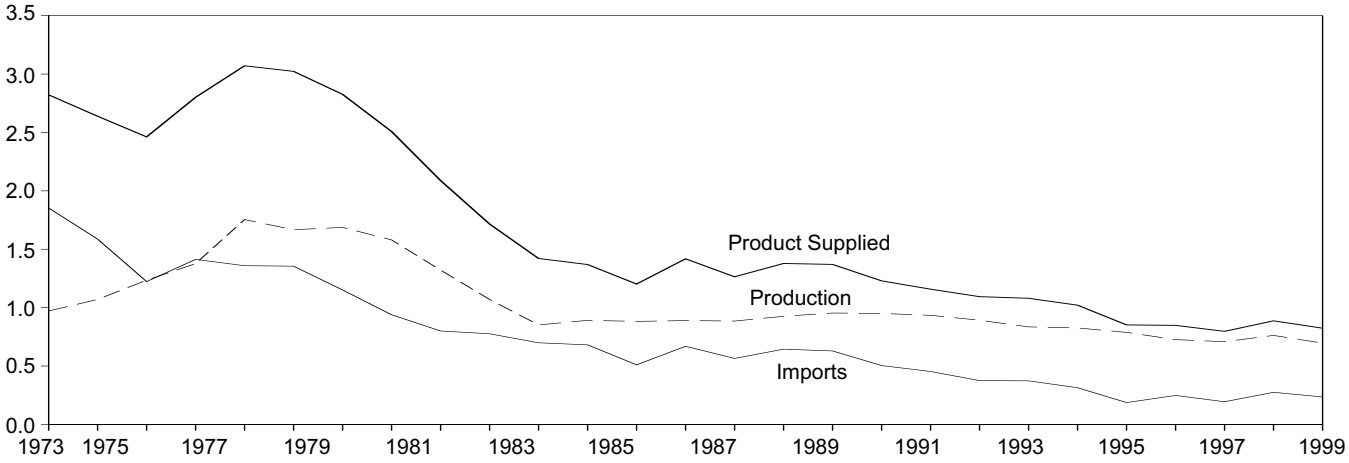
	Supply			Disposition			Stocks[a]		
								Sulfur Content	
	Total Production	Imports	Crude Oil Used Directly[b]	Stock Change[c]	Exports	Product Supplied[b]	Total	0.05 Percent or Less[d]	Greater Than 0.05 Percent[d]
	Thousand Barrels per Day						Million Barrels		
1973 Average	**2,822**	**392**	**2**	**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 January	3,119	293	–	-508	133	3,786	111	60	51
February	3,090	246	–	-197	107	3,427	105	56	49
March	3,244	245	–	-137	120	3,505	101	58	43
April	3,280	256	–	-134	166	3,504	97	59	39
May	3,527	220	–	359	153	3,235	108	63	45
June	3,523	219	–	326	174	3,243	118	65	53
July	3,365	223	–	161	151	3,275	123	64	59
August	3,439	202	–	320	185	3,136	133	69	64
September	3,445	210	–	189	160	3,306	139	69	70
October	3,480	213	–	-89	133	3,650	136	63	73
November	3,566	175	–	156	149	3,435	141	68	73
December	3,604	232	–	-70	192	3,714	138	68	70
Average	**3,392**	**228**	**–**	**32**	**152**	**3,435**	**138**	**68**	**70**
1998 January	3,323	195	–	-182	133	3,566	133	68	65
February	3,280	213	–	-184	79	3,598	128	65	63
March	3,397	237	–	-100	129	3,606	125	64	61
April	3,468	209	–	26	186	3,465	125	63	63
May	3,560	185	–	355	121	3,268	136	68	68
June	3,520	202	–	(s)	149	3,574	136	68	68
July	3,569	229	–	343	161	3,294	147	73	74
August	3,482	181	–	67	150	3,446	149	72	77
September	3,399	203	–	118	107	3,377	153	73	80
October	3,215	239	–	-169	75	3,547	147	69	79
November	3,438	179	–	242	54	3,320	155	74	81
December	3,431	245	–	47	145	3,484	156	77	79
Average	**3,424**	**210**	**–**	**48**	**124**	**3,461**	**156**	**77**	**79**
1999 January	3,200	286	–	-268	117	3,637	148	75	73
February	3,276	265	–	-199	116	3,624	142	74	68
March	3,196	248	–	-534	159	3,820	126	69	57
April	3,394	195	–	-14	191	3,412	125	68	57
May	3,457	190	–	306	187	3,154	135	72	63
June	3,388	190	–	-53	180	3,450	133	68	65
July	3,526	173	–	157	123	3,419	138	71	67
August	3,427	212	–	127	130	3,383	142	69	73
September	3,487	181	–	104	162	3,402	145	73	72
October	3,511	207	–	-243	192	3,770	138	69	69
November	[R] 3,614	[R] 230	–	[R] 101	[R] 170	[R] 3,574	[R] 141	[R] 72	[R] 69
December	[E] 3,424	[E] 202	–	[E] -444	[E] 161	[E] 3,909	[E] 120	[E] 65	[E] 55
Average	[E] **3,409**	[E] **215**	**–**	[E] **-80**	[E] **157**	[E] **3,546**	[E] **120**	[E] **65**	[E] **55**

[a] Stocks are at end of period.
[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S5. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S5.

Figure 3.4 Residual Fuel

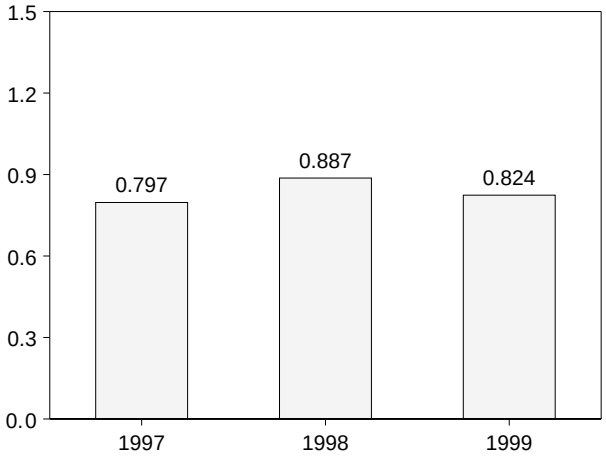
(Million Barrels per Day, Except as Noted)

Overview, 1973-1999

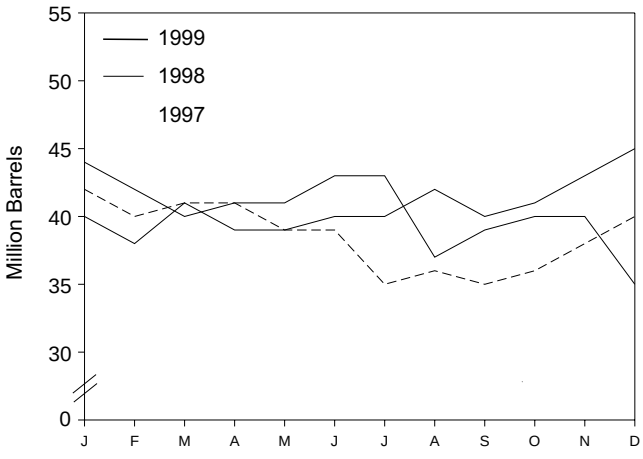


Overview, Monthly

Product Supplied, January-December



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 January	801	211	–	-131	171	972	42
February	795	253	–	-66	137	977	40
March	638	239	–	46	89	742	41
April	617	250	–	-29	105	791	41
May	618	175	–	-44	102	736	39
June	727	168	–	(s)	130	765	39
July	643	177	–	-119	159	781	35
August	644	187	–	31	80	720	36
September	687	146	–	-54	91	797	35
October	723	158	–	41	133	707	36
November	789	204	–	61	122	809	38
December	818	167	–	83	120	781	40
Average	**708**	**194**	**–**	**-15**	**120**	**797**	**40**
1998 January	765	268	–	-25	131	927	40
February	672	218	–	-53	120	824	38
March	790	231	–	79	135	808	41
April	857	302	–	-47	168	1,038	39
May	766	206	–	-13	227	757	39
June	739	277	–	30	152	835	40
July	778	422	–	-4	124	1,080	40
August	782	305	–	71	105	911	42
September	749	288	–	-70	133	974	40
October	676	256	–	38	139	755	41
November	753	274	–	61	110	857	43
December	805	254	–	72	108	879	45
Average	**762**	**275**	**–**	**12**	**138**	**887**	**45**
1999 January	778	191	–	-13	133	849	44
February	746	224	–	-67	70	967	42
March	684	254	–	-75	72	941	40
April	679	182	–	32	185	644	41
May	724	328	–	(s)	153	899	41
June	711	246	–	67	151	740	43
July	732	239	–	18	182	771	43
August	701	244	–	-193	124	1,014	37
September	702	306	–	73	136	800	39
October	660	211	–	35	130	706	40
November	[R] 596	[R] 222	–	[R] -5	[R] 60	[R] 763	[R] 40
December	[E] 643	[E] 174	–	[E] -116	[E] 132	[E] 801	[E] 35
Average	[E] **696**	[E] **235**	**–**	[E] **-21**	[E] **128**	[E] **824**	[E] **35**

[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.

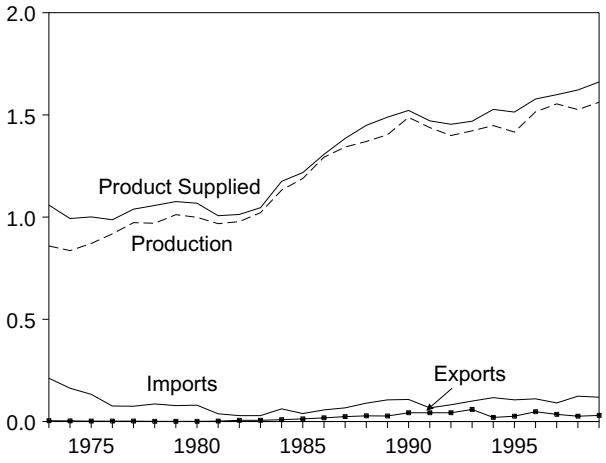
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S6. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S6.

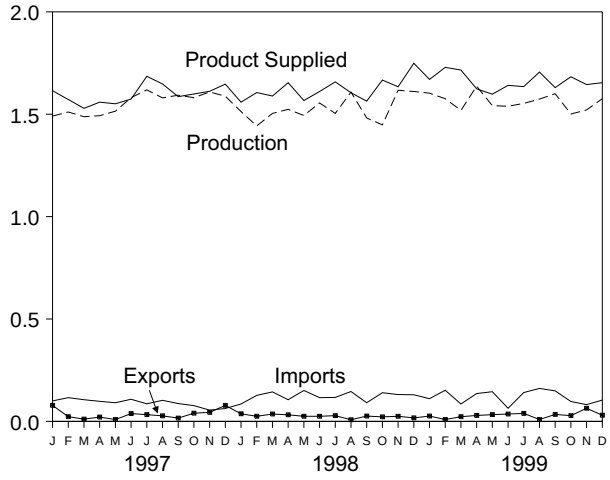
Figure 3.5 Jet Fuel

(Million Barrels per Day, Except as Noted)

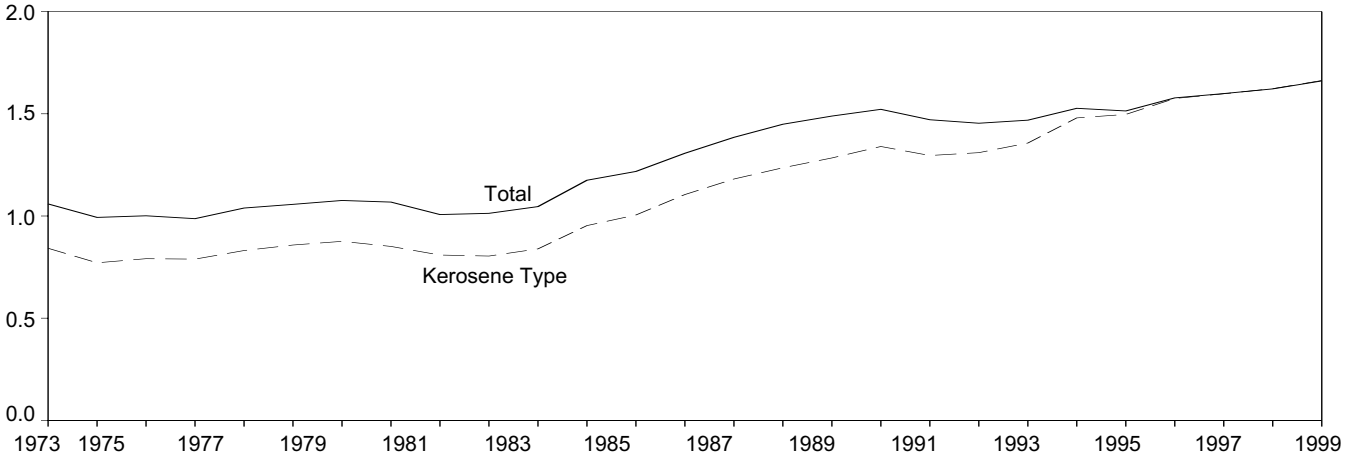
Overview, 1973-1999



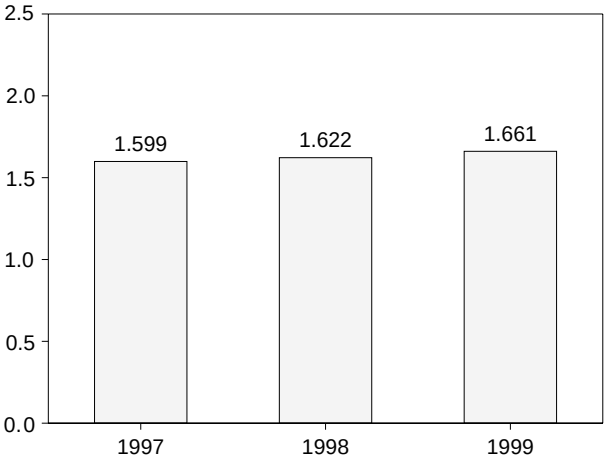
Overview, Monthly



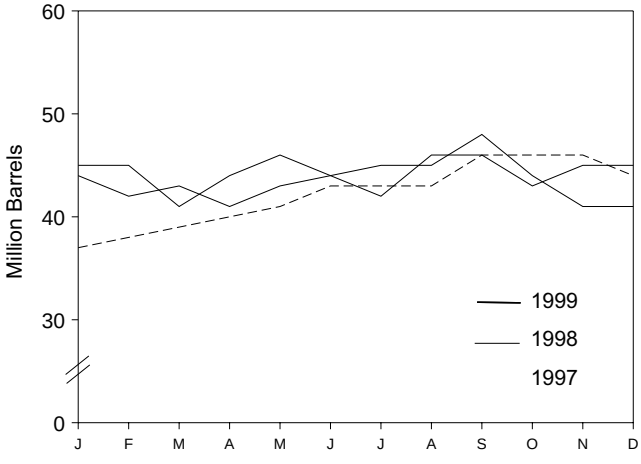
Product Supplied by Type, 1973-1999



Product Supplied, January-December



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

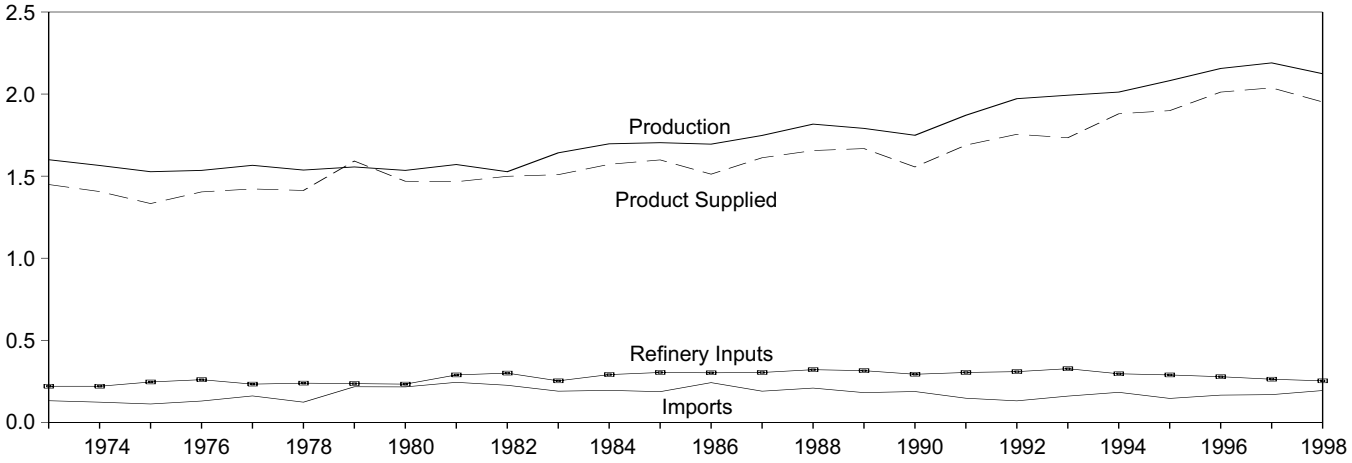
	Supply			Disposition				Stocks[a]	
	Production					Product Supplied			
	Total	Kerosene Type	Imports	Stock Change[b]	Exports	Total	Kerosene Type	Total	Kerosene Type
	Thousand Barrels per Day							Million Barrels	
1973 Average	**859**	**679**	**212**	**8**	**4**	**1,059**	**842**	**29**	**23**
1974 Average	**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 January	1,491	1,491	100	-101	78	1,615	1,614	37	37
February	1,511	1,510	116	31	23	1,572	1,571	38	38
March	1,488	1,487	106	55	11	1,529	1,528	39	39
April	1,493	1,492	98	11	21	1,559	1,558	40	40
May	1,515	1,514	91	46	9	1,551	1,551	41	41
June	1,581	1,580	108	77	38	1,574	1,573	43	43
July	1,619	1,618	86	-14	33	1,685	1,685	43	43
August	1,580	1,579	103	7	27	1,648	1,648	43	43
September	1,593	1,592	87	78	16	1,586	1,585	46	46
October	1,581	1,580	77	19	40	1,599	1,599	46	46
November	1,609	1,608	55	8	44	1,612	1,612	46	46
December	1,588	1,588	63	-75	78	1,647	1,647	44	44
Average	**1,554**	**1,554**	**91**	**11**	**35**	**1,599**	**1,598**	**44**	**44**
1998 January	1,513	1,512	85	3	37	1,559	1,558	44	44
February	1,443	1,443	127	-61	25	1,606	1,605	42	42
March	1,504	1,503	144	23	36	1,589	1,596	43	43
April	1,524	1,523	106	-56	32	1,654	1,654	41	41
May	1,494	1,493	151	54	25	1,567	1,568	43	43
June	1,555	1,554	116	35	25	1,611	1,611	44	44
July	1,504	1,503	117	-65	28	1,658	1,659	42	42
August	1,608	1,608	146	141	8	1,605	1,605	46	46
September	1,482	1,482	91	-17	26	1,564	1,565	46	46
October	1,448	1,447	140	-102	22	1,667	1,668	43	43
November	1,617	1,617	131	89	25	1,634	1,634	45	45
December	1,611	1,611	130	-26	17	1,749	1,750	45	45
Average	**1,526**	**1,525**	**124**	**2**	**26**	**1,622**	**1,623**	**45**	**45**
1999 January	1,603	1,603	111	18	26	1,670	1,670	45	45
February	1,576	1,576	152	-10	9	1,729	1,729	45	45
March	1,519	1,518	85	-136	23	1,716	1,717	41	41
April	1,637	1,637	136	121	29	1,624	1,628	44	44
May	1,542	1,542	145	56	33	1,598	1,598	46	46
June	1,539	1,538	64	-74	36	1,641	1,650	44	44
July	1,553	1,552	141	20	39	1,635	1,638	45	44
August	1,574	1,574	161	21	9	1,706	1,706	45	45
September	1,600	1,600	149	85	34	1,630	1,631	48	48
October	1,501	1,500	97	-112	28	1,683	1,684	44	44
November	[R] 1,521	[R] 1,521	[R] 82	[R] -106	[R] 64	[R] 1,645	[R] 1,648	41	41
December	[E] 1,576	[E] 1,575	[E] 104	[E] -4	[E] 30	[E] 1,654	[E] 1,653	[E] 41	[E] 41
Average	[E] **1,562**	[E] **1,561**	[E] **119**	[E] **-10**	[E] **30**	[E] **1,661**	[E] **1,663**	[E] **41**	[E] **41**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S7. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S7.

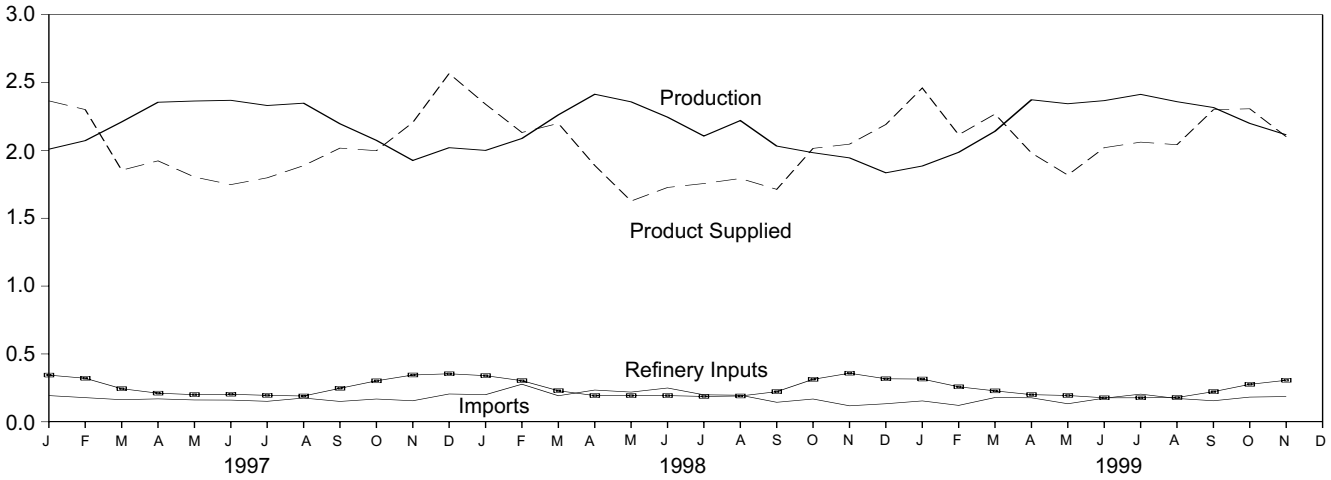
Figure 3.6 Liquefied Petroleum Gases

(Million Barrels per Day, Except as Noted)

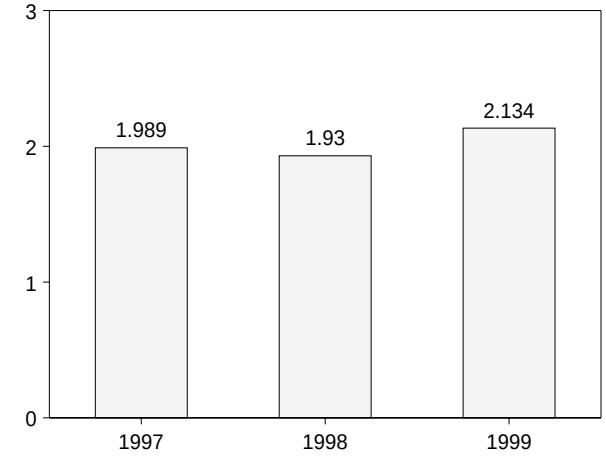
Overview, 1973-1998



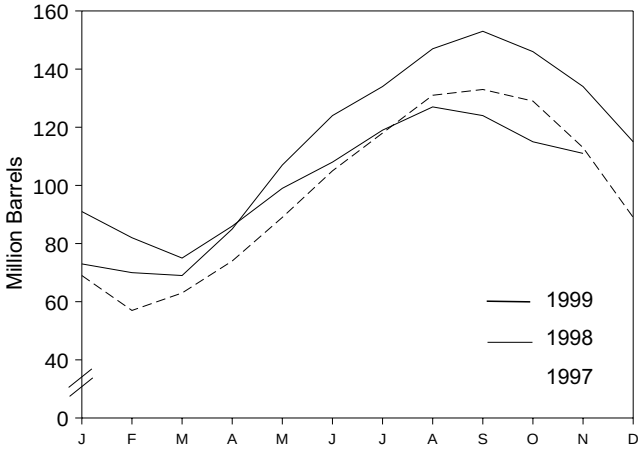
Overview, Monthly



Product Supplied, January-November



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

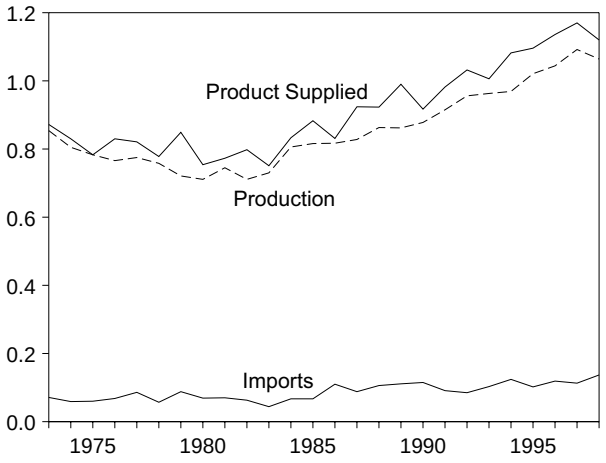
	Supply		Disposition				
	Total Production	Imports	Stock Change[a]	Refinery Inputs	Exports	Product Supplied	Stocks[b]
	Thousand Barrels per Day						Million Barrels
1973 Average	**1,600**	**132**	**35**	**220**	**27**	**1,449**	**99**
1974 Average	**1,565**	**123**	**38**	**220**	**25**	**1,406**	[c] **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 January	2,009	193	-543	344	36	2,365	69
February	2,072	178	-450	321	78	2,301	57
March	2,210	163	214	244	62	1,854	63
April	2,355	169	349	211	41	1,923	74
May	2,364	161	481	200	40	1,804	89
June	2,369	160	534	203	43	1,748	105
July	2,331	151	433	195	56	1,798	118
August	2,348	175	408	190	37	1,888	131
September	2,196	150	54	247	29	2,017	133
October	2,074	168	-100	302	42	1,998	129
November	1,926	155	-535	345	66	2,206	113
December	2,020	205	-770	354	74	2,567	89
Average	**2,190**	**169**	**9**	**263**	**50**	**2,038**	**89**
1998 January	2,000	200	-534	340	53	2,340	73
February	2,088	277	-122	303	52	2,132	70
March	2,262	192	-14	229	41	2,199	69
April	2,414	234	527	193	39	1,889	85
May	2,358	219	726	193	31	1,627	107
June	2,245	249	546	193	28	1,727	124
July	2,106	199	328	187	34	1,756	134
August	2,220	196	407	190	25	1,793	147
September	2,032	144	212	222	28	1,713	153
October	1,983	168	-225	313	49	2,015	146
November	1,945	118	-402	358	61	2,046	134
December	1,835	133	-608	317	67	2,191	115
Average	**2,124**	**194**	**70**	**253**	**42**	**1,952**	**115**
1999 January	1,885	154	-812	315	75	2,460	91
February	1,986	121	-332	258	64	2,115	82
March	2,141	179	-208	228	32	2,268	75
April	2,373	177	348	200	21	1,981	86
May	2,344	133	431	194	33	1,818	99
June	2,367	174	307	177	37	2,020	108
July	2,413	204	339	177	39	2,061	119
August	2,359	172	264	179	47	2,042	127
September	2,316	155	-109	222	58	2,300	124
October	2,199	182	-283	276	81	2,307	115
November	2,115	186	-153	306	47	2,101	111
11-Month Average	**2,228**	**167**	**-18**	**230**	**49**	**2,134**	**111**
1998 11-Month Average	**2,151**	**199**	**133**	**247**	**40**	**1,930**	**134**
1997 11-Month Average	**2,206**	**166**	**81**	**254**	**48**	**1,989**	**113**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S8. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S9.

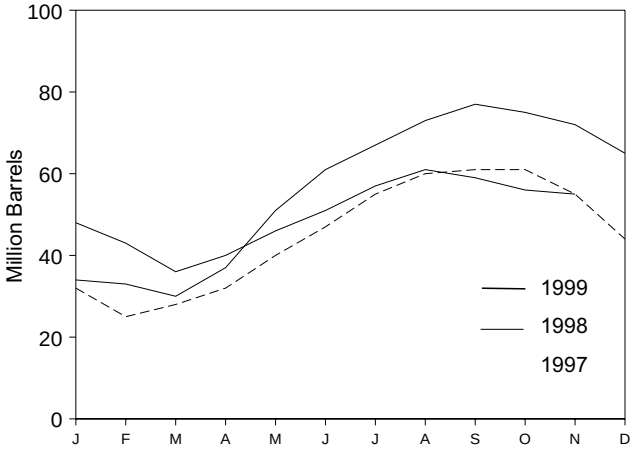
Figure 3.7 Propane and Propylene

(Million Barrels per Day, Except as Noted)

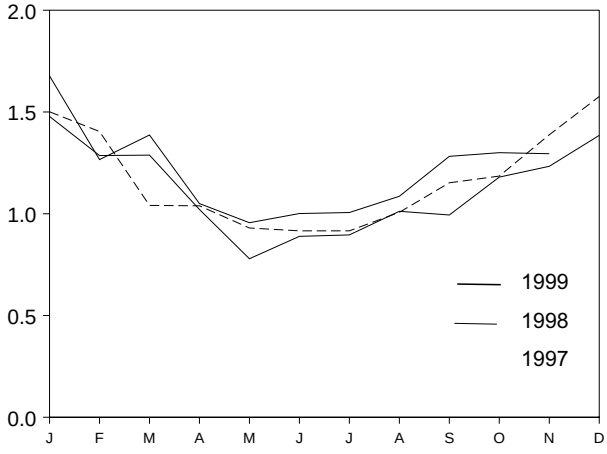
Overview, 1973-1998



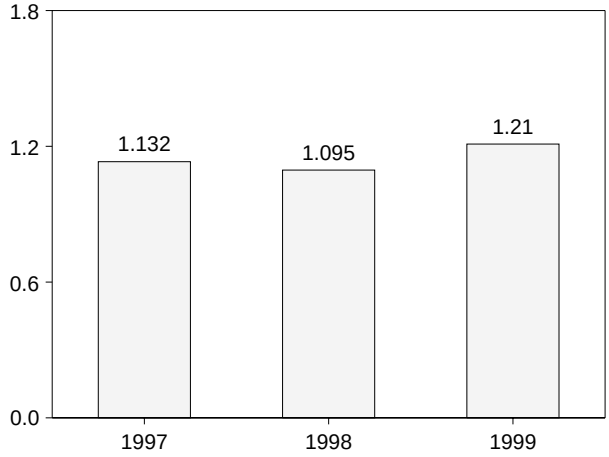
Stocks, End of Month



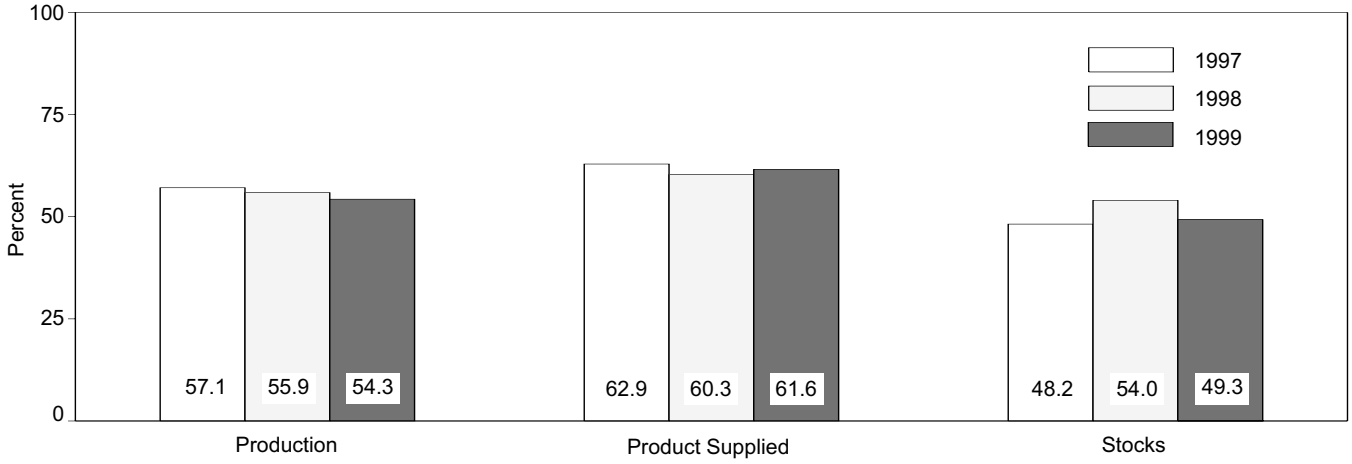
Product Supplied, Monthly



Product Supplied, January-November



Share of Liquefied Petroleum Gases, November



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 January	1,039	149	-340	0	28	1,501	32
February	1,044	126	-276	0	42	1,404	25
March	1,059	114	92	0	40	1,041	28
April	1,112	109	150	0	32	1,039	32
May	1,114	92	252	0	23	930	40
June	1,110	88	250	0	31	916	47
July	1,083	87	231	0	24	916	55
August	1,095	108	172	0	24	1,007	60
September	1,110	89	30	0	16	1,152	61
October	1,110	122	17	0	29	1,185	61
November	1,099	114	-223	0	48	1,388	55
December	1,127	159	-342	0	53	1,576	44
Average	**1,092**	**113**	**3**	**0**	**32**	**1,170**	**44**
1998 January	1,060	137	-310	0	29	1,478	34
February	1,052	204	-58	0	28	1,286	33
March	1,086	132	-98	0	28	1,288	30
April	1,112	183	252	0	22	1,021	37
May	1,093	136	428	0	22	779	51
June	1,059	179	336	0	13	889	61
July	1,004	124	215	0	17	896	67
August	1,056	157	186	0	15	1,012	73
September	1,047	81	118	0	15	994	77
October	1,047	123	-45	0	35	1,180	75
November	1,086	92	-96	0	41	1,233	72
December	1,060	108	-250	0	32	1,385	65
Average	**1,064**	**137**	**56**	**0**	**25**	**1,120**	**65**
1999 January	1,041	121	-565	0	50	1,677	48
February	1,047	110	-150	0	41	1,266	43
March	1,023	142	-241	0	19	1,387	36
April	1,078	128	143	0	13	1,050	40
May	1,091	82	197	0	20	956	46
June	1,086	102	164	0	23	1,001	51
July	1,112	122	201	0	27	1,006	57
August	1,111	113	107	0	32	1,086	61
September	1,151	108	-43	0	20	1,282	59
October	1,137	125	-103	0	65	1,300	56
November	1,149	123	-58	0	34	1,295	55
11-Month Average	**1,093**	**116**	**-31**	**0**	**31**	**1,210**	**55**
1998 11-Month Average	**1,064**	**140**	**85**	**0**	**24**	**1,095**	**72**
1997 11-Month Average	**1,089**	**109**	**35**	**0**	**31**	**1,132**	**55**

[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 forward:** EIA, *Petroleum Supply Monthly,* January 2000, 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 January	2,945	1,154	354	831	403	2,511	213
February	2,953	1,010	239	944	332	2,448	220
March	3,078	955	514	697	391	2,431	236
April	3,136	1,054	-122	1,203	395	2,715	232
May	3,329	1,156	127	1,089	446	2,823	236
June	3,355	936	-468	1,345	417	2,997	222
July	3,402	903	-214	1,069	380	3,069	215
August	3,426	886	-83	994	460	2,940	213
September	3,390	836	101	841	450	2,834	216
October	3,227	957	-87	915	381	2,976	213
November	3,078	754	-7	919	369	2,551	213
December	3,113	744	3	981	396	2,476	213
Average	**3,204**	**945**	**30**	**985**	**402**	**2,733**	**213**
1998 January	3,108	782	415	702	420	2,352	226
February	3,100	794	384	659	406	2,446	236
March	3,081	825	269	770	387	2,481	245
April	3,153	975	-145	1,209	378	2,686	240
May	3,285	1,014	-75	1,095	402	2,876	238
June	3,365	969	-147	1,155	412	2,914	234
July	3,492	847	-271	1,182	431	2,998	225
August	3,575	697	-5	953	300	3,023	225
September	3,344	962	-33	1,012	370	2,957	224
October	3,240	1,012	-190	1,259	357	2,825	218
November	3,234	978	181	1,000	382	2,649	224
December	3,043	808	-138	1,012	312	2,665	219
Average	**3,253**	**888**	**18**	**1,002**	**380**	**2,741**	**219**
1999 January	3,225	842	329	827	307	2,604	229
February	3,323	841	327	850	272	2,715	239
March	3,288	738	393	667	302	2,664	251
April	3,148	1,008	-88	1,081	352	2,811	248
May	3,351	814	24	1,380	321	2,440	249
June	3,269	961	-534	1,319	311	3,134	233
July	3,326	839	-250	1,255	325	2,835	225
August	3,451	936	-187	1,060	359	3,156	219
September	3,373	971	-146	1,089	345	3,056	215
October	3,137	917	-240	1,100	327	2,866	207
November	3,108	729	-120	867	396	2,695	204
11-Month Average	**3,273**	**872**	**-46**	**1,046**	**329**	**2,816**	**204**
1998 11-Month Average	**3,272**	**896**	**33**	**1,002**	**386**	**2,748**	**224**
1997 11-Month Average	**3,213**	**964**	**32**	**985**	**403**	**2,757**	**213**

[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: **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S9. **1981 forward:** EIA, *Petroleum Supply Monthly,* January 2000, Table S10.

Petroleum Notes

1. The Energy Information Administration (EIA) uses a number of sources and methods to maintain the survey respondent lists. On a regular basis, survey managers review 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:

Liquefied Petroleum Gases: 1983—108.

Propane and Propylene: 1983—55.

Other Petroleum Products: 1983—210.

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 December 1999 was forecast as 1.6 trillion cubic feet, 3 percent higher than production during the previous December.

Consumption of natural and supplemental gas in December 1999 was forecast as 2.2 trillion cubic feet, 3 percent higher than the level in December 1998.

Deliveries to residential consumers in December 1999 were forecast as 655 billion cubic feet, 6 percent higher than the previous December's deliveries. Total deliveries to industrial consumers during December 1999 were forecast as 805 billion cubic feet, slightly higher than the previous December's level.

Net imports of natural gas in December 1999 were forecast as 282 billion cubic feet, 9 percent higher than net imports in the previous December.

Stocks of working gas[1] in underground natural gas storage reservoirs at the end of December 1999 were forecast as 2.5 trillion cubic feet, 10 percent lower than the level of stocks available 1 year earlier.

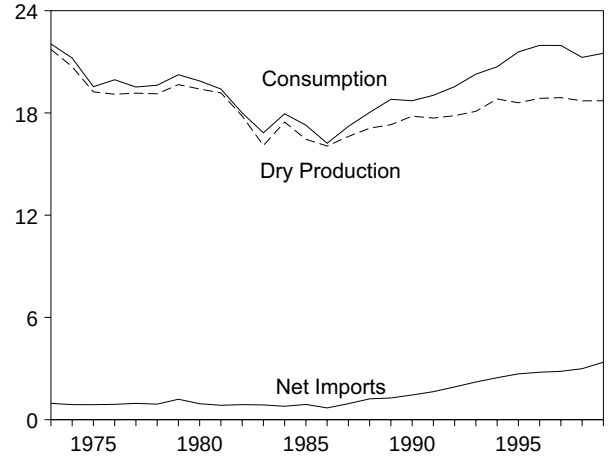
Net withdrawals from underground storage during December 1999 were forecast as 525 billion cubic feet, 20 percent higher than the amount of net withdrawals during the previous December.

[1]Gas available for withdrawal.

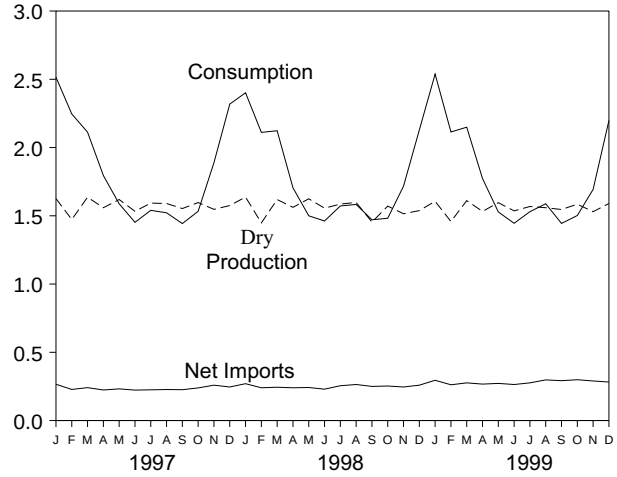
Figure 4.1 Natural Gas

(Trillion Cubic Feet)

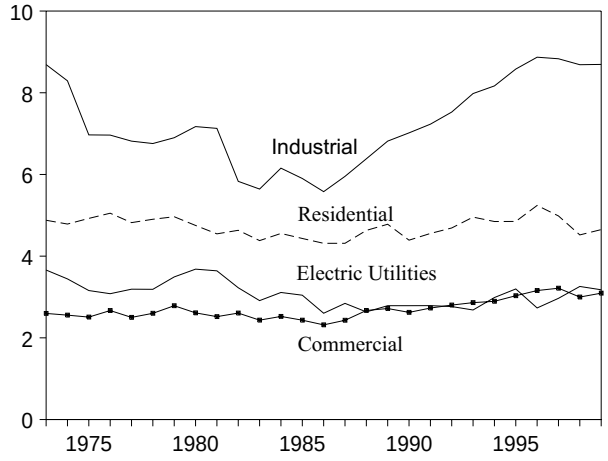
Overview, 1973-1999



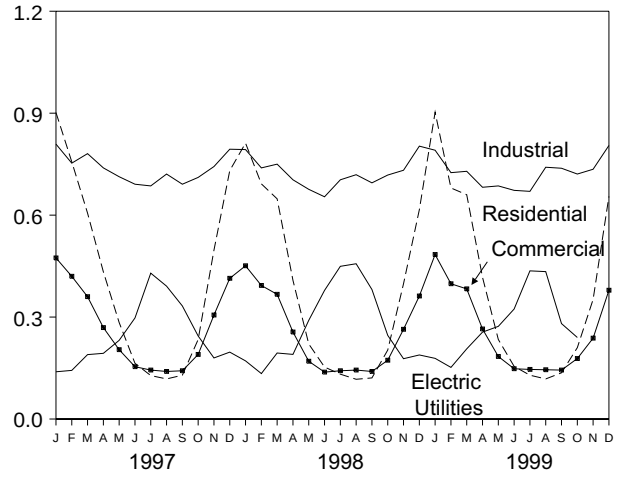
Overview, Monthly



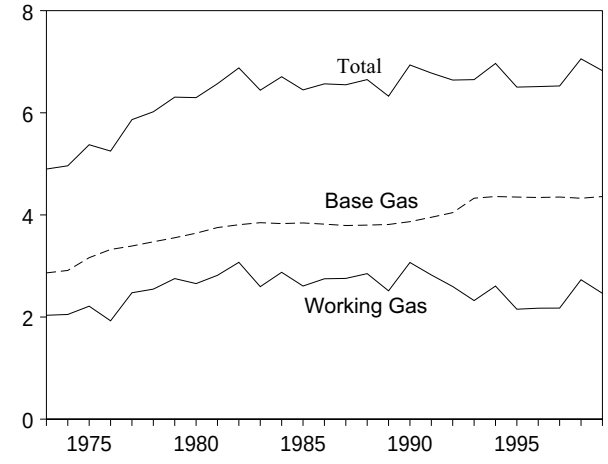
Consumption by Sector, 1973-1999



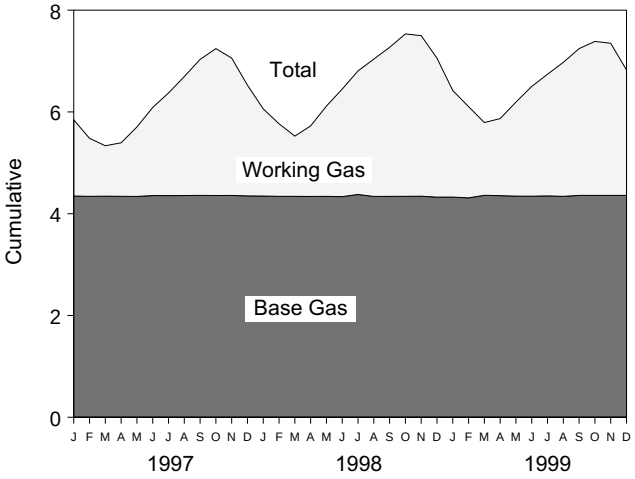
Consumption by Sector, Monthly



Underground Storage, End of Year, 1973-1999



Underground Storage, End of Month



Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 4.1, 4.3, 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]
1973 Total	[g]**21,731**	**NA**	**956**	**-442**	**-196**	**22,049**
1974 Total	[g]**20,713**	**NA**	**882**	**-84**	**-289**	**21,223**
1975 Total	[g]**19,236**	**NA**	**880**	**-344**	**-235**	**19,538**
1976 Total	[g]**19,098**	**NA**	**899**	**165**	**-216**	**19,946**
1977 Total	[g]**19,163**	**NA**	**955**	**-557**	**-41**	**19,521**
1978 Total	[g]**19,122**	**NA**	**913**	**-120**	**-287**	**19,627**
1979 Total	[g]**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**	[g]**-537**	**18,001**
1983 Total	**16,094**	**132**	**864**	**447**	[g]**-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 January	1,626	12	266	709	-98	2,515
February	1,473	10	228	371	163	2,246
March	1,636	9	241	160	66	2,113
April	1,559	8	224	-61	64	1,795
May	1,619	8	232	-333	62	1,588
June	1,533	6	223	-379	69	1,452
July	1,593	7	225	-293	8	1,540
August	1,590	8	227	-334	31	1,522
September	1,553	6	226	-349	5	1,443
October	1,597	8	239	-218	-93	1,533
November	1,547	10	259	196	-122	1,889
December	1,575	11	246	553	-68	2,318
Total	**18,902**	**103**	**2,837**	**24**	**92**	**21,959**
1998 January	1,637	11	270	486	-2	2,401
February	1,448	9	240	301	114	2,111
March	1,619	10	244	255	-4	2,123
April	1,562	8	240	-206	102	1,705
May	1,624	7	242	-402	29	1,500
June	1,556	6	230	-336	6	1,462
July	1,586	8	255	-326	49	1,572
August	1,598	8	264	-286	-1	1,583
September	1,454	7	250	-231	-10	1,471
October	1,571	8	253	-269	-81	1,482
November	1,515	10	246	32	-85	1,717
December	1,538	11	259	452	-131	2,129
Total	**18,708**	**102**	**2,993**	**-530**	**-11**	**21,262**
1999 January	[E]1,606	[R]10	295	623	[R]3	2,538
February	[E]1,458	[R]8	262	333	[R]54	2,114
March	[E]1,611	[R]8	276	297	[R]-43	2,149
April	[E]1,532	[R]8	267	-91	[R]57	1,773
May	[E]1,596	[R]8	272	-337	[R]-10	1,528
June	[E]1,536	[R]6	264	-306	[R]-56	1,445
July	[E]1,568	[R]7	[R]276	-225	[R]-96	1,530
August	[RE]1,559	[R]8	[RE]298	-238	[R]-38	[R]1,588
September	[E]1,546	[R]7	[RE]292	-310	[R]-91	[R]1,444
October	[E]1,585	[RE]8	[RE]299	[R]-148	[RE]-242	[RF]1,502
November	[F]1,530	[F]11	[F]290	[F]37	[F]-175	[F]1,693
December	[F]1,590	[F]12	[F]282	[F]525	[F]-210	[F]2,198
Total	[E]**18,716**	[E]**101**	[E]**3,373**	[E]**159**	[E]**-847**	[E]**21,501**

[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 1980-1998 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] 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: **1973-1992:** Energy Information Administration (EIA), *Natural Gas Annual 1998,* Table 99. **1993 forward:** EIA, *Natural Gas Monthly,* December 1999, 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 January	2,089	305	50	25	1,709	83	1,626
February	1,905	289	46	22	1,549	75	1,473
March	2,103	311	51	23	1,719	83	1,636
April	1,993	285	48	22	1,639	80	1,559
May	2,041	268	50	22	1,701	83	1,619
June	1,952	275	47	18	1,612	78	1,533
July	2,020	272	51	23	1,674	81	1,593
August	2,022	279	52	21	1,671	81	1,590
September	1,988	285	50	21	1,632	79	1,553
October	2,057	307	51	20	1,679	81	1,597
November	1,999	302	52	19	1,626	79	1,547
December	2,044	314	52	22	1,656	80	1,575
Total	**24,213**	**3,492**	**599**	**256**	**19,866**	**964**	**18,902**
1998 January	2,093	307	48	19	1,719	82	1,637
February	1,877	291	49	17	1,520	73	1,448
March	2,081	310	51	20	1,700	81	1,619
April	1,994	284	50	20	1,640	78	1,562
May	2,035	266	47	16	1,705	81	1,624
June	1,975	271	49	21	1,634	78	1,556
July	2,002	265	51	20	1,666	80	1,586
August	2,024	273	53	20	1,678	80	1,598
September	1,874	276	51	20	1,527	73	1,454
October	2,026	297	58	21	1,650	79	1,571
November	1,954	292	52	20	1,591	76	1,515
December	1,988	302	51	20	1,615	77	1,538
Total	**23,924**	**3,433**	**611**	**234**	**19,646**	**938**	**18,708**
1999 January	[E] 2,084	[E] 317	[E] 58	[RE] 20	[E] 1,688	[E] 82	[E] 1,606
February	[E] 1,878	[E] 274	[E] 54	[E] 18	[E] 1,532	[E] 74	[E] 1,458
March	[E] 2,080	[E] 307	[E] 59	[E] 21	[E] 1,693	[E] 82	[E] 1,611
April	[E] 1,962	[E] 289	[E] 42	[E] 21	[E] 1,610	[E] 78	[E] 1,532
May	[E] 2,007	[E] 264	[E] 44	[E] 21	[E] 1,677	[E] 81	[E] 1,596
June	[E] 1,956	[E] 279	[E] 42	[E] 21	[E] 1,614	[E] 78	[E] 1,536
July	[RE] 1,996	[RE] 283	[RE] 44	[RE] 21	[E] 1,648	[E] 80	[E] 1,568
August	[RE] 1,971	[RE] 271	[RE] 42	[RE] 20	[RE] 1,638	[RE] 79	[RE] 1,559
September	[RE] 1,964	[RE] 276	[RE] 42	[E] 21	[E] 1,625	[E] 79	[E] 1,546
October	[E] 2,012	[E] 281	[E] 43	[E] 21	[E] 1,666	[E] 81	[E] 1,585
November	NA	NA	NA	NA	[F] 1,608	[F] 78	[F] 1,530
December	NA	NA	NA	NA	[F] 1,671	[F] 81	[F] 1,590
Total	**NA**	**NA**	**NA**	**NA**	[E] **19,670**	[E] **954**	[E] **18,716**

[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: **1973-1992:** Energy Information Administration (EIA), *Natural Gas Annual 1998,* Table 98. **1993 forward:** EIA, *Natural Gas Monthly,* December 1999, 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]	United Arab Emirates[a]	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**	**0**	[c]**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 January	8	0	267	2	0	0	2	278	4	6	2	12
February	8	0	230	3	0	0	0	241	5	6	2	12
March	3	0	251	3	0	0	0	257	9	6	1	16
April	3	0	235	(s)	0	0	0	238	5	6	3	14
May	3	2	234	2	0	0	0	242	4	4	2	10
June	5	0	225	2	0	0	0	232	3	4	3	10
July	5	0	229	1	0	0	0	236	3	4	3	10
August	8	0	237	(s)	0	0	0	245	4	8	6	18
September	5	2	232	(s)	0	0	0	239	3	4	6	13
October	5	0	246	1	0	0	0	252	2	6	4	12
November	8	5	258	2	0	0	0	272	6	6	2	13
December	8	0	253	2	0	0	0	263	7	6	4	17
Total	**66**	**10**	**2,899**	**17**	**0**	**0**	**2**	**2,994**	**56**	**62**	**38**	**157**
1998 January	10	0	276	(s)	0	0	0	286	5	7	4	17
February	8	2	239	2	0	0	0	251	5	4	3	11
March	5	0	257	(s)	0	0	0	263	8	7	4	19
April	3	0	247	3	0	0	0	253	5	6	3	13
May	8	0	244	1	0	0	0	252	2	2	6	10
June	5	2	236	(s)	0	0	0	243	2	6	6	13
July	5	0	259	2	0	0	0	266	2	6	4	11
August	3	2	269	1	0	0	0	275	(s)	6	5	11
September	5	0	255	2	0	0	0	262	1	8	3	12
October	5	0	260	1	0	0	0	266	2	6	5	13
November	5	2	248	0	0	0	3	258	4	4	5	12
December	8	2	261	1	0	0	3	275	5	6	5	16
Total	**69**	**12**	**3,052**	**15**	**0**	**0**	**5**	**3,152**	**40**	**66**	**53**	**159**
1999 January	13	0	290	5	0	0	0	308	2	6	5	13
February	7	3	259	4	2	0	0	276	3	6	5	14
March	13	0	279	1	0	0	0	293	5	6	6	16
April	8	0	266	4	2	0	0	280	2	6	5	13
May	4	0	270	7	0	5	0	286	3	6	6	14
June	3	2	256	5	2	7	0	275	2	4	5	11
July	5	0	271	4	2	7	0	[RE]289	[E]2	6	[E]6	[E]14
August	3	2	288	[R]6	0	10	0	[d]311	[E]2	6	[E]5	[E]13
September	8	0	[R]284	[R]5	5	4	0	[R]305	[E]2	6	[E]5	[E]13
October	5	2	[E]294	[E]5	0	4	0	[E]310	2	4	[E]5	[R]11
10-Month Total	**67**	**9**	[E]**2,757**	[E]**45**	**15**	**37**	**0**	[E]**2,934**	[E]**27**	**52**	[E]**53**	[E]**133**
1998 10-Month Total	**56**	**7**	**2,543**	**13**	**0**	**0**	**0**	**2,619**	**31**	**57**	**43**	**130**
1997 10-Month Total	**51**	**5**	**2,388**	**14**	**0**	**0**	**2**	**2,459**	**44**	**51**	**33**	**127**

[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] Includes 2 billion cubic feet of liquefied natural gas from Indonesia.

[d] Includes 3 billion cubic feet of liquefied natural gas from Malaysia.

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: **1973-1992:** Energy Information Administration (EIA), Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." **1993 forward:** EIA, *Natural Gas Monthly,* December 1999, Tables 5 and 6.

Table 4.4 Natural Gas Consumption by End-Use Sector

(Billion Cubic Feet)

	Lease and Plant Fuel	Pipeline Fuel[a]	Delivered to Consumers						Total Consumption
			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 January	104	87	902	474	809	NA	139	2,324	2,515
February	94	78	757	420	753	NA	143	2,074	2,246
March	104	73	606	360	781	NA	190	1,936	2,113
April	99	61	433	269	739	NA	193	1,635	1,795
May	102	54	284	204	713	NA	232	1,432	1,588
June	97	49	164	154	691	NA	297	1,306	1,452
July	101	52	128	144	686	NA	429	1,388	1,540
August	101	51	118	140	721	NA	391	1,369	1,522
September	99	49	129	142	691	NA	333	1,295	1,443
October	102	52	234	190	711	NA	244	1,379	1,533
November	99	65	497	306	743	NA	180	1,725	1,889
December	101	80	731	414	794	NA	197	2,136	2,318
Total	**1,203**	**751**	**4,984**	**3,215**	**8,832**	**4**	**2,968**	**20,004**	**21,959**
1998 January	101	73	812	451	793	NA	171	2,227	2,401
February	90	64	692	393	739	NA	134	1,957	2,111
March	101	64	648	367	750	NA	194	1,959	2,123
April	97	51	408	256	704	NA	190	1,558	1,705
May	99	44	221	170	676	NA	290	1,357	1,500
June	96	43	153	138	654	NA	379	1,323	1,462
July	97	47	132	142	704	NA	449	1,428	1,572
August	98	47	117	144	719	NA	457	1,438	1,583
September	90	44	121	140	695	NA	381	1,337	1,471
October	98	44	203	173	718	NA	246	1,340	1,482
November	94	51	398	264	732	NA	178	1,572	1,717
December	96	64	616	362	803	NA	189	1,969	2,129
Total	**1,157**	**635**	**4,520**	**2,999**	**8,686**	**5**	**3,258**	**19,469**	**21,262**
1999 January	106	76	903	484	791	NA	179	2,356	2,538
February	96	63	680	398	725	NA	152	1,955	2,114
March	106	64	660	383	729	NA	206	1,978	2,149
April	101	53	417	265	682	NA	256	1,619	1,773
May	105	46	234	184	686	NA	273	1,378	1,528
June	101	43	155	148	673	NA	324	1,300	1,445
July	103	46	129	146	670	NA	436	1,381	1,530
August	RE 103	R 47	118	145	741	NA	434	1,438	R 1,588
September	R 102	R 43	R 136	R 144	R 738	NA	281	R 1,299	R 1,444
October	F 105	F 48	F 210	F 178	F 721	NA	R 240	RF 1,349	RF 1,502
November	F 101	F 58	F 352	F 238	F 735	NA	NA	F 1,534	F 1,693
December	F 105	F 66	F 655	F 379	F 805	NA	NA	F 2,027	F 2,198
Total	**E 1,232**	**E 654**	**E 4,650**	**E 3,094**	**E 8,694**	**NA**	**NA**	**E 19,615**	**E 21,501**

[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.

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: **1973-1992:** Energy Information Administration (EIA), *Natural Gas Annual 1998,* Table 100. **1993 forward:** EIA, *Natural Gas Monthly,* December 1999, Table 3, except for the electric utilities values, which come from Table 7.3 of this report, and columns 8 and 9, which incorporate the values from column 7. **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 January	4,347	1,496	5,843	32	2.3	753	68	684
February	4,342	1,139	5,481	118	11.6	413	55	358
March	4,345	990	5,336	232	30.7	285	131	155
April	4,342	1,051	5,393	196	23.1	146	205	-59
May	4,340	1,365	5,704	202	17.5	41	362	-321
June	4,357	1,731	6,088	202	13.2	42	407	-365
July	4,356	2,017	6,372	119	6.3	78	361	-282
August	4,357	2,338	6,695	93	4.2	56	378	-322
September	4,360	2,672	7,033	67	2.6	44	380	-336
October	4,358	2,886	7,244	75	2.7	84	294	-210
November	4,359	2,699	7,058	150	5.9	302	113	189
December	4,350	2,175	6,525	2	.1	579	45	533
Total	**4,350**	**2,175**	**6,525**	**2**	**.1**	**2,824**	**2,800**	**24**
1998 January	4,347	1,712	6,060	215	14.5	538	69	468
February	4,342	1,426	5,768	286	25.2	365	75	291
March	4,342	1,183	5,524	192	19.4	382	136	246
April	4,339	1,386	5,725	334	31.9	80	280	-200
May	4,341	1,774	6,114	407	29.9	42	433	-391
June	4,335	2,114	6,449	381	22.1	52	379	-327
July	4,378	2,428	6,806	409	20.4	54	371	-317
August	4,340	2,698	7,038	358	15.4	58	336	-278
September	4,341	2,928	7,269	253	9.6	74	298	-224
October	4,342	3,191	7,533	302	10.6	46	308	-262
November	4,344	3,155	7,499	453	16.9	168	137	31
December	4,326	2,730	7,056	554	25.5	519	83	436
Total	**4,326**	**2,730**	**7,056**	**554**	**25.5**	**2,379**	**2,905**	**-526**
1999 January	4,327	2,094	6,421	381	22.2	678	55	623
February	4,312	1,792	6,104	372	26.2	395	62	333
March	4,361	1,430	5,792	246	20.7	381	84	297
April	4,355	1,514	5,869	131	9.5	112	203	-91
May	4,346	1,847	6,192	72	4.0	43	380	-337
June	4,344	2,157	6,501	54	2.6	40	345	-306
July	4,350	2,390	6,740	-27	-1.1	78	303	-225
August	4,342	2,632	6,974	-66	-2.4	70	309	-238
September	4,360	2,884	7,245	-43	-1.5	42	352	-310
October	4,360	R 3,026	R 7,386	R -165	R -5.2	90	238	R -148
November	F 4,360	RF 2,989	RF 7,349	RF -166	RF -5.3	NA	NA	RF 37
December	F 4,360	F 2,464	F 6,824	F -265	F -9.7	NA	NA	F 525
Total	**F 4,360**	**F 2,464**	**F 6,824**	**F -265**	**F -9.7**	**NA**	**NA**	**F 159**

[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. 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. Liquefied natural gas (LNG) arrives via tanker from Algeria, United Arab Emirates, and Australia; one shipment of LNG was received from Indonesia in December 1986 and a shipment arrived from Qatar in February 1999. 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 LNG via tanker to Japan. A small amount of LNG went to Mexico in 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 dif-

ferences 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.

Monthly underground storage data are collected from the Federal Energy Regulatory Commission (FERC) Forms FERC-8 (interstate data) and 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 1980-1996 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.

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

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.
1980-1992: EIA, *Historical Natural Gas Annual 1930 Through 1998,* Table 11.
1993 forward: EIA, *Natural Gas Monthly,* December 1999, 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.
1979-1992: EIA, Form EIA-191, "Underground Gas

Section 5. Oil and Gas Resource Development

The December 1999 rotary rig count was 798, 2 percent higher than the count in November and 23 percent higher than the count in December 1998. Of the total number of rigs in operation, 676 were onshore and 122 were offshore. For December 1999, the number of onshore rigs was up 24 percent, while the number of offshore rigs was up 20 percent from the December 1998 count. Rotary rigs drilling for natural gas as a share of total rigs fell slightly to 80 percent in December 1999.

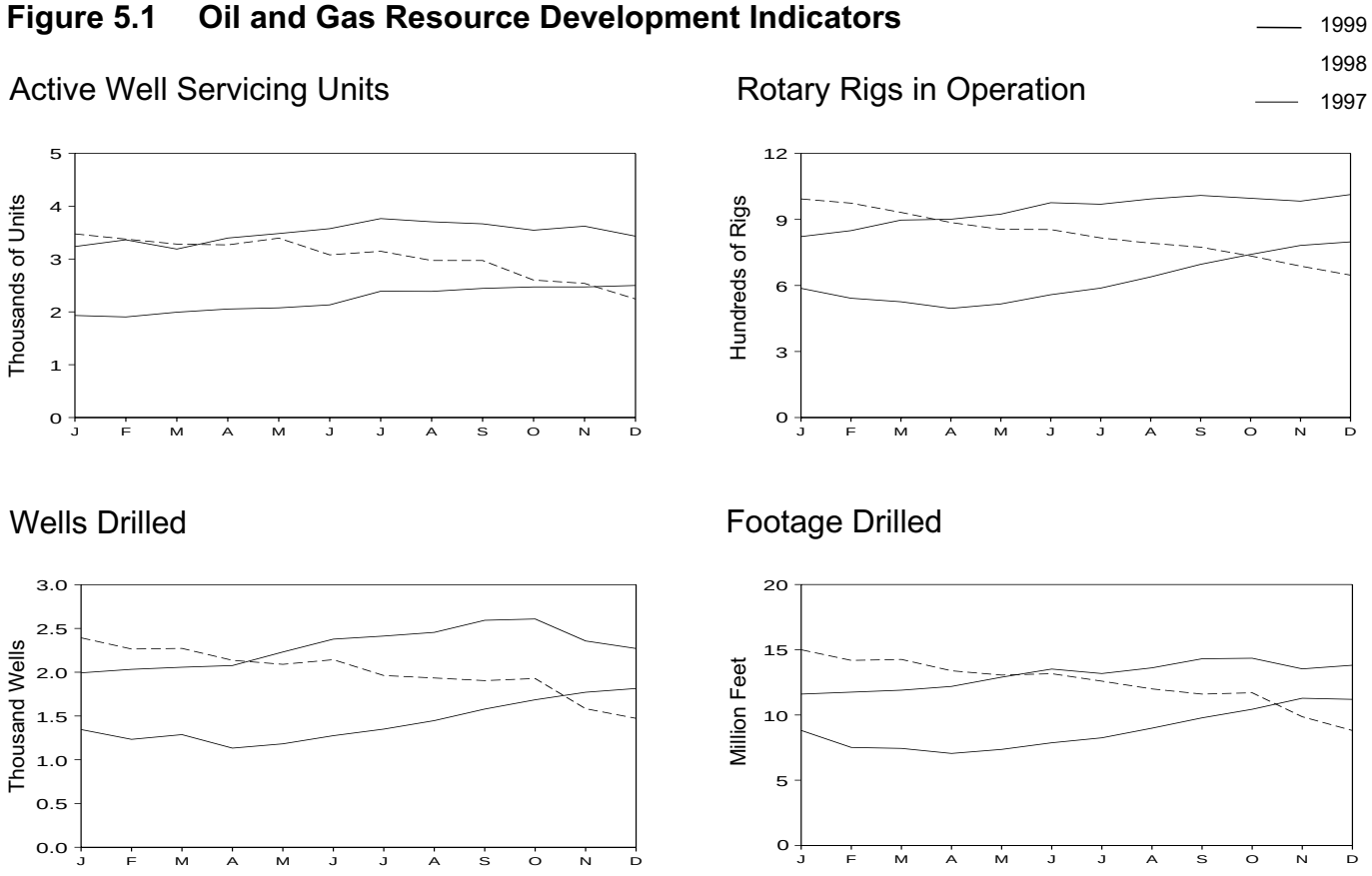
Total footage drilled in December 1999 was 11.2 million feet, down 1 percent from the footage drilled in November 1999 but up 27 percent from that drilled in December 1998.

The estimated number of exploratory and development oil and gas wells drilled during December 1999 was 1,440, 2 percent higher than the number drilled in November 1999 and 23 percent higher than the number drilled in December 1998. The estimated number of oil wells drilled was 316, and the estimated number of gas wells was 1,124, 5 percent higher and 29 percent higher, respectively, than their December 1998 levels.

The estimated number of dry holes drilled in December 1999 was 374, up 2 percent from the number drilled in November 1999, and up 23 percent from the number drilled in December 1998.

There were 2.5 thousand well servicing units active in December 1999, 11 percent higher than in December 1998.

Figure 5.1 Oil and Gas Resource Development Indicators



Sources: Tables 5.1 and 5.2.

Table 5.1 Oil and Gas Drilling Activity Measurements

	Crews Engaged in Seismic Exploration			Rotary Rigs in Operation[a]					Total Footage Drilled[c]	Active Well Servicing Units[d]
				By Site		By Type				
	Offshore	Onshore	Total	Offshore	Onshore	Oil	Gas	Total[b]		
	Monthly Average			Weekly Average					Thousand Feet	Number
1973 Average	**23**	**227**	**250**	**84**	**1,110**	**NA**	**NA**	**1,194**	**138,223**	**NA**
1974 Average	**31**	**274**	**305**	**94**	**1,378**	**NA**	**NA**	**1,472**	**153,374**	**NA**
1975 Average	**30**	**254**	**284**	**106**	**1,554**	**NA**	**NA**	**1,660**	**180,494**	**NA**
1976 Average	**25**	**237**	**262**	**129**	**1,529**	**NA**	**NA**	**1,658**	**186,982**	**2,601**
1977 Average	**27**	**281**	**308**	**167**	**1,834**	**NA**	**NA**	**2,001**	**215,866**	**2,828**
1978 Average	**25**	**327**	**352**	**185**	**2,074**	**NA**	**NA**	**2,259**	**238,669**	**2,988**
1979 Average	**30**	**370**	**400**	**207**	**1,970**	**NA**	**NA**	**2,177**	**244,798**	**3,399**
1980 Average	**37**	**493**	**530**	**231**	**2,678**	**NA**	**NA**	**2,909**	**314,654**	**4,089**
1981 Average	**44**	**637**	**681**	**256**	**3,714**	**NA**	**NA**	**3,970**	**413,112**	**4,850**
1982 Average	**57**	**531**	**588**	**243**	**2,862**	**NA**	**NA**	**3,105**	**378,295**	**4,248**
1983 Average	**47**	**426**	**473**	**199**	**2,033**	**NA**	**NA**	**2,232**	**317,986**	**3,732**
1984 Average	**49**	**445**	**494**	**213**	**2,215**	**NA**	**NA**	**2,428**	**371,392**	**4,663**
1985 Average	**45**	**333**	**378**	**206**	**1,774**	**NA**	**NA**	**1,980**	**313,045**	**4,716**
1986 Average	**24**	**176**	**200**	**99**	**865**	**NA**	**NA**	**964**	**181,856**	**3,036**
1987 Average	**24**	**153**	**177**	**95**	**841**	**NA**	**NA**	**936**	**162,178**	**3,060**
1988 Average	**29**	**153**	**182**	**123**	**813**	**554**	**354**	**936**	**156,354**	**3,341**
1989 Average	**23**	**109**	**132**	**105**	**764**	**453**	**401**	**869**	**134,439**	**3,391**
1990 Average	**23**	**102**	**125**	**108**	**902**	**532**	**464**	**1,010**	**153,701**	**3,658**
1991 Average	**19**	**85**	**104**	**81**	**779**	**482**	**351**	**860**	**143,021**	**3,331**
1992 Average	**12**	**64**	**76**	**52**	**669**	**373**	**331**	**721**	**121,124**	**2,732**
1993 Average	**16**	**63**	**79**	**82**	**672**	**373**	**364**	**754**	**135,118**	**3,158**
1994 Average	**NA**	**NA**	**NA**	**102**	**673**	**335**	**427**	**775**	**124,809**	**2,961**
1995 Average	**NA**	**NA**	**NA**	**101**	**622**	**323**	**385**	**723**	**117,832**	**3,043**
1996 Average	**NA**	**NA**	**NA**	**108**	**671**	**306**	**464**	**779**	**129,045**	**3,425**
1997 January	NA	NA	NA	110	712	342	478	822	11,602	3,237
February	NA	NA	NA	107	742	356	492	849	11,752	3,364
March	NA	NA	NA	127	770	377	518	897	11,900	3,189
April	NA	NA	NA	126	775	373	526	901	12,189	3,398
May	NA	NA	NA	120	804	379	541	924	12,899	3,483
June	NA	NA	NA	121	855	396	577	976	13,521	3,575
July	NA	NA	NA	125	844	382	584	969	13,177	3,766
August	NA	NA	NA	125	868	409	581	993	13,613	3,705
September	NA	NA	NA	128	881	392	614	1,009	14,309	3,667
October	NA	NA	NA	121	875	390	602	996	14,350	3,546
November	NA	NA	NA	126	857	354	625	983	13,535	3,622
December	NA	NA	NA	129	884	361	648	1,013	13,814	3,433
Average	**NA**	**NA**	**NA**	**122**	**821**	**376**	**564**	**943**	**156,661**	**3,499**
1998 January	NA	NA	NA	133	860	380	609	993	15,000	3,476
February	NA	NA	NA	139	835	380	589	974	14,185	3,378
March	NA	NA	NA	136	796	327	601	932	14,259	3,283
April	NA	NA	NA	138	748	291	591	886	13,389	3,268
May	NA	NA	NA	133	722	272	580	855	13,059	3,396
June	NA	NA	NA	128	726	267	585	854	13,165	3,079
July	NA	NA	NA	121	695	264	549	816	12,594	3,147
August	NA	NA	NA	118	674	226	565	792	11,998	2,973
September	NA	NA	NA	118	656	215	559	774	11,601	2,973
October	NA	NA	NA	111	623	214	519	734	11,703	2,602
November	NA	NA	NA	109	579	190	499	688	9,864	2,539
December	NA	NA	NA	102	545	155	491	647	8,810	2,244
Average	**NA**	**NA**	**NA**	**123**	**703**	**264**	**560**	**827**	**149,627**	**3,030**
1999 January	NA	NA	NA	104	483	125	461	587	8,817	1,932
February	NA	NA	NA	101	441	117	425	542	7,511	1,904
March	NA	NA	NA	106	420	114	412	526	7,438	1,994
April	NA	NA	NA	99	397	125	371	496	7,052	2,054
May	NA	NA	NA	102	414	136	380	516	7,362	2,076
June	NA	NA	NA	100	458	124	434	558	7,870	2,133
July	NA	NA	NA	99	489	108	478	588	8,250	2,391
August	NA	NA	NA	106	533	111	527	639	8,990	2,388
September	NA	NA	NA	109	587	130	565	696	9,781	2,445
October	NA	NA	NA	111	630	137	601	741	10,438	2,472
November	NA	NA	NA	119	663	145	635	782	11,284	2,472
December	NA	NA	NA	122	676	161	636	798	11,198	2,500
Average	**NA**	**NA**	**NA**	**106**	**519**	**128**	**496**	**625**	**105,991**	**2,230**

[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 oil, gas, and miscellaneous other rigs (not shown).

[c] Values shown are totals.

[d] See Glossary.

NA=Not available.

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

Sources: **Crews Engaged in Seismic Exploration:** Society of Exploration Geophysicists, Tulsa, Oklahoma, *Monthly Seismic Crew Count.* **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 Servicing Units: 1976 - July 1998**—Association of Energy Service Companies, Dallas, Texas, *Field Reports;* **August 1998 forward**—Guiberson Well Service Products, a Halliburton Company, Carrollton, Texas.

Table 5.2 Oil and Gas Wells Drilled

(Number of Wells)

	Exploratory				Development				Total			
	Oil	Gas	Dry	Total	Oil	Gas	Dry	Total	Oil	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**	**732**	**4,693**	**6,280**	**12,781**	**7,823**	**5,348**	**25,952**	**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 January	37	58	159	254	679	782	278	1,739	716	840	437	1,993
February	30	30	162	222	746	788	277	1,811	776	818	439	2,033
March	33	40	149	222	778	805	252	1,835	811	845	401	2,057
April	37	47	159	243	816	721	296	1,833	853	768	455	2,076
May	38	42	168	248	907	810	266	1,983	945	852	434	2,231
June	43	34	166	243	934	891	310	2,135	977	925	476	2,378
July	42	46	153	241	898	925	349	2,172	940	971	502	2,413
August	31	32	184	247	898	979	331	2,208	929	1,011	515	2,455
September	37	53	216	306	892	1,085	310	2,287	929	1,138	526	2,593
October	26	44	234	304	877	1,123	304	2,304	903	1,167	538	2,608
November	36	57	175	268	811	959	319	2,089	847	1,016	494	2,357
December	38	53	185	276	772	923	300	1,995	810	976	485	2,271
Total	**428**	**536**	**2,110**	**3,074**	**10,008**	**10,791**	**3,592**	**24,391**	**10,436**	**11,327**	**5,702**	**27,465**
1998 January	48	51	185	284	785	1,025	299	2,109	833	1,076	484	2,393
February	30	50	175	255	712	991	307	2,010	742	1,041	482	2,265
March	37	51	169	257	731	1,011	273	2,015	768	1,062	442	2,272
April	30	50	160	240	645	995	256	1,896	675	1,045	416	2,136
May	22	49	163	234	568	976	312	1,856	590	1,025	475	2,090
June	30	49	155	234	611	985	313	1,909	641	1,034	468	2,143
July	21	46	148	215	588	924	235	1,747	609	970	383	1,962
August	18	48	144	210	545	951	228	1,724	563	999	372	1,934
September	23	47	141	211	529	941	223	1,693	552	988	364	1,904
October	17	51	133	201	401	1,062	264	1,727	418	1,113	397	1,928
November	15	45	125	185	356	840	202	1,398	371	885	327	1,583
December	12	42	118	172	290	826	185	1,301	302	868	303	1,473
Total	**303**	**579**	**1,816**	**2,698**	**6,761**	**11,527**	**3,097**	**21,385**	**7,064**	**12,106**	**4,913**	**24,083**
1999 January	11	37	104	152	284	746	163	1,193	295	783	267	1,345
February	11	36	99	146	217	715	155	1,087	228	751	254	1,233
March	9	35	96	140	234	762	151	1,147	243	797	247	1,287
April	10	31	90	131	234	625	143	1,002	244	656	233	1,133
May	11	32	94	137	254	640	151	1,045	265	672	245	1,182
June	10	37	102	149	232	730	164	1,126	242	767	266	1,275
July	10	40	113	163	201	805	181	1,187	211	845	294	1,350
August	9	45	117	171	208	886	182	1,276	217	931	299	1,447
September	10	48	127	185	244	951	199	1,394	254	999	326	1,579
October	11	51	136	198	260	1,015	212	1,487	271	1,066	348	1,685
November	12	54	143	209	271	1,068	223	1,562	283	1,122	366	1,771
December	13	54	146	213	303	1,070	228	1,601	316	1,124	374	1,814
Total	**127**	**500**	**1,367**	**1,994**	**2,942**	**10,013**	**2,152**	**15,107**	**3,069**	**10,513**	**3,519**	**17,101**

Notes: These well counts include only the original drilling of a hole intended to discover or further develop already discovered oil or 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 oil or 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.

Oil and Gas Resource Development Notes

Three well types are considered in the *Monthly Energy Review* (*MER*) drilling statistics: "completed for oil," "completed for gas," and "dry hole." Wells that productively encounter both crude oil and natural gas are categorized as "completed for 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 December 1999 totaled 94 million short tons, slightly lower than in December 1998. Coal production during 1999 totaled 1,099 million short tons, 2 percent lower than production during 1998.

Electric utility coal consumption in October 1999 totaled 72 million short tons, 2 percent lower than the consumption level in October 1998. Electric utility coal stocks were 133 million short tons at the end of October 1999, 21 percent higher than the level a year earlier.

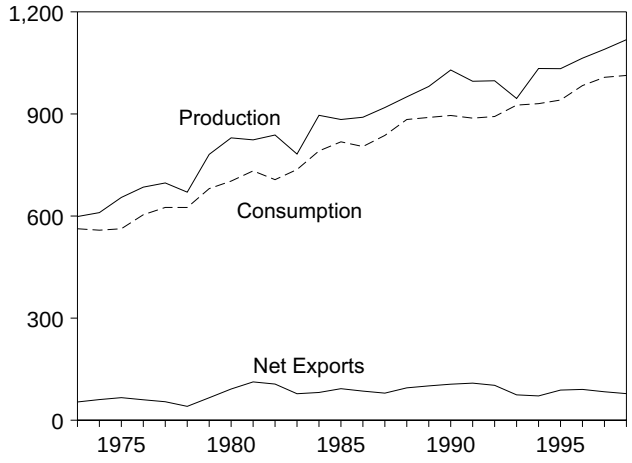
Coal exports in October 1999 totaled 6 million short tons, 11 percent lower than exports in October 1998.

Coal imports in October 1999 totaled 684 thousand short tons, 14 percent lower than imports in October 1998.

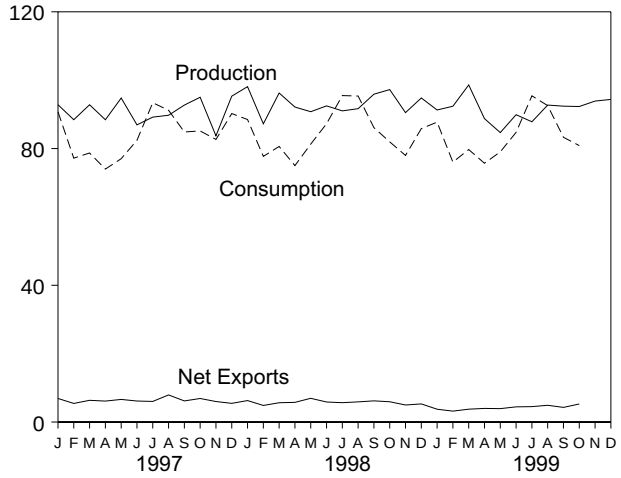
Figure 6.1 Coal

(Million Short Tons)

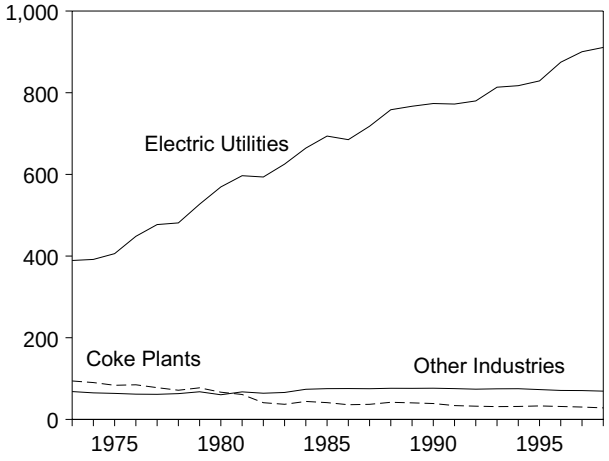
Overview, 1973-1999



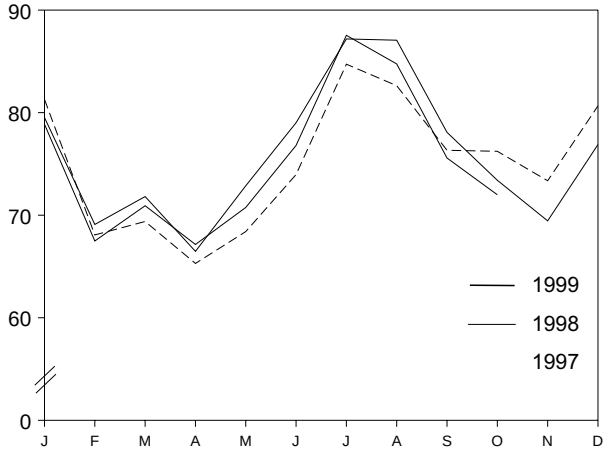
Overview, Monthly



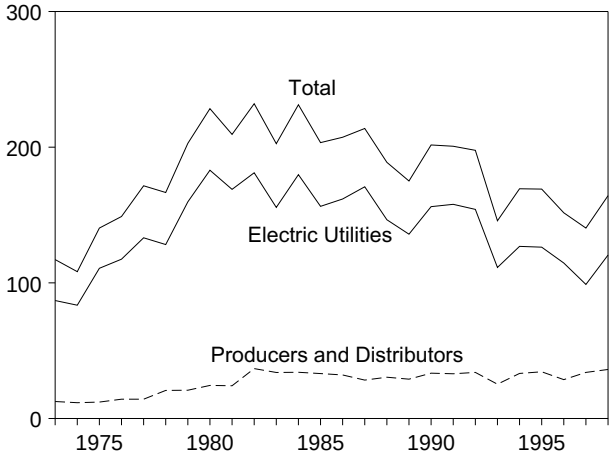
Consumption by Sector, 1973-1998



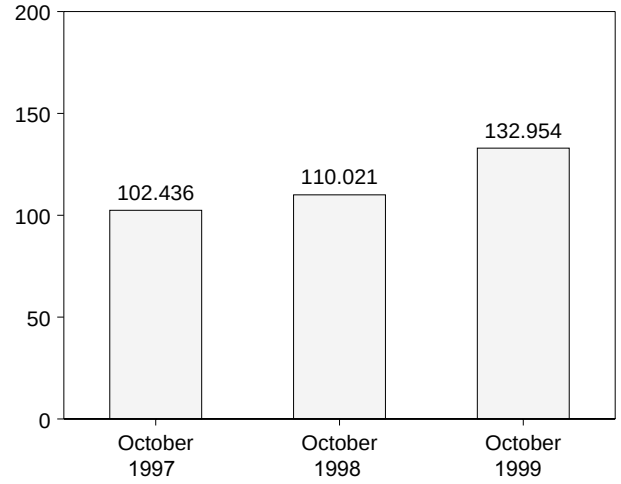
Consumption by Electric Utilities, Monthly



Stocks, End of Year, 1973-1998



Stocks at Electric Utilities, End of Month



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**	**889,699**	**2,851**	**100,815**	**175,087**
1990 Total	**1,029,076**	**895,480**	**2,699**	**105,804**	**201,629**
1991 Total	**995,984**	**887,621**	**3,390**	**108,969**	**200,682**
1992 Total	**997,545**	**892,421**	**3,803**	**102,516**	**197,685**
1993 Total	**945,424**	**925,944**	**7,309**	**74,519**	**145,742**
1994 Total	**1,033,504**	**930,201**	**7,584**	**71,359**	**169,358**
1995 Total	**1,032,974**	**940,880**	**7,201**	**88,547**	**169,083**
1996 Total	**1,063,856**	**983,334**	**7,126**	**90,473**	**151,627**
1997 January	92,828	90,739	409	7,298	146,120
February	88,441	77,194	338	5,778	149,806
March	92,812	78,700	585	6,936	158,215
April	88,429	73,996	528	6,657	164,365
May	94,783	77,039	580	7,195	171,107
June	86,924	82,428	599	6,751	170,117
July	89,195	93,408	781	6,807	158,079
August	89,742	91,206	620	8,551	151,172
September	92,713	84,850	820	6,997	148,627
October	95,010	85,161	564	7,446	147,291
November	83,728	82,668	607	6,609	143,936
December	95,328	90,236	1,054	6,521	140,374
Total	**1,089,932**	**1,007,626**	**7,487**	**83,545**	**140,374**
1998 January	98,108	R 88,495	R 705	6,984	143,927
February	87,227	R 77,710	R 447	5,300	149,286
March	96,249	R 80,612	R 687	6,337	155,568
April	92,140	R 75,004	R 792	6,548	162,854
May	90,781	R 81,302	R 475	7,416	165,716
June	92,487	R 87,261	R 925	6,785	162,697
July	91,022	R 95,497	R 804	6,463	155,203
August	91,666	R 95,365	R 813	6,709	150,108
September	95,893	R 86,124	R 528	6,726	151,665
October	97,256	R 81,962	R 791	6,726	156,007
November	90,510	R 77,986	R 784	5,773	162,084
December	94,794	R 85,834	R 973	6,280	164,233
Total	**1,118,133**	R **1,013,151**	R **8,724**	**78,048**	**164,233**
1999 January	91,283	87,724	R 739	4,492	165,689
February	92,384	76,031	R 726	3,922	175,522
March	98,615	79,714	R 782	4,548	184,766
April	88,759	75,697	R 715	4,698	189,337
May	84,675	79,033	R 421	4,345	192,846
June	89,899	84,735	R 961	5,405	190,538
July	R 87,826	R 95,437	R 670	5,175	R 177,821
August	R 92,714	R 92,562	R 900	5,800	R 172,030
September	R 92,400	R 83,299	R 818	5,100	R 171,619
October	92,303	80,853	684	5,966	174,469
November	93,893	NA	NA	NA	NA
December	94,370	NA	NA	NA	NA
Total	**1,099,120**	**NA**	**NA**	**NA**	**NA**

[a] Includes Puerto Rico.

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

R=Revised. NA=Not available.

Notes: Data through 1997 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. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 4 at end of section.

Table 6.2 Coal Consumption by End-Use Sector

(Thousand Short Tons)

	Residential and Commercial	Industrial		Electric Utilities	Total
		Coke Plants	Other Industrial Including Transportation		
1973 Total	**11,117**	**94,101**	**68,154**	**389,212**	**562,584**
1974 Total	**11,417**	**90,191**	**64,983**	**391,811**	**558,402**
1975 Total	**9,410**	**83,598**	**63,670**	**405,962**	**562,640**
1976 Total	**8,916**	**84,704**	**61,799**	**448,371**	**603,790**
1977 Total	**8,954**	**77,739**	**61,472**	**477,126**	**625,291**
1978 Total	**9,511**	**71,394**	**63,085**	**481,235**	**625,225**
1979 Total	**8,388**	**77,368**	**67,717**	**527,051**	**680,524**
1980 Total	**6,452**	**66,657**	**60,347**	**569,274**	**702,730**
1981 Total	**7,421**	**61,014**	**67,395**	**596,797**	**732,627**
1982 Total	**8,240**	**40,908**	**64,097**	**593,666**	**706,911**
1983 Total	**8,448**	**37,033**	**65,980**	**625,211**	**736,672**
1984 Total	**9,130**	**44,022**	**73,745**	**664,399**	**791,296**
1985 Total	**7,779**	**41,056**	**75,372**	**693,841**	**818,049**
1986 Total	**7,667**	**35,924**	**75,583**	**685,056**	**804,231**
1987 Total	**6,914**	**36,957**	**75,175**	**717,894**	**836,941**
1988 Total	**7,130**	**41,888**	**76,252**	**758,372**	**883,642**
1989 Total	**6,167**	**40,508**	**76,134**	**766,888**	**889,699**
1990 Total	**6,724**	**38,877**	**76,330**	**773,549**	**895,480**
1991 Total	**6,094**	**33,854**	**75,405**	**772,268**	**887,621**
1992 Total	**6,153**	**32,366**	**74,042**	**779,860**	**892,421**
1993 Total	**6,221**	**31,323**	**74,892**	**813,508**	**925,944**
1994 Total	**6,013**	**31,740**	**75,179**	**817,270**	**930,201**
1995 Total	**5,807**	**33,011**	**73,055**	**829,007**	**940,880**
1996 Total	**6,006**	**31,706**	**70,941**	**874,681**	**983,334**
1997 January	828	2,515	6,108	81,288	90,739
February	602	2,394	6,123	68,076	77,194
March	510	2,681	6,120	69,389	78,700
April	575	2,426	5,699	65,296	73,996
May	379	2,548	5,709	68,402	77,039
June	338	2,436	5,691	73,963	82,428
July	501	2,590	5,589	84,727	93,408
August	430	2,577	5,567	82,631	91,206
September	361	2,532	5,624	76,332	84,850
October	386	2,459	6,084	76,232	85,161
November	658	2,522	6,126	73,362	82,668
December	896	2,522	6,157	80,661	90,236
Total	**6,463**	**30,203**	**70,599**	**900,361**	**1,007,626**
1998 January	R 553	2,345	6,077	79,520	R 88,495
February	R 452	2,097	6,065	69,097	R 77,710
March	R 452	2,293	6,050	71,817	R 80,612
April	R 387	2,456	5,687	66,474	R 75,004
May	R 268	2,508	5,659	72,867	R 81,302
June	R 316	2,275	5,654	79,016	R 87,261
July	R 359	2,403	5,546	87,189	R 95,497
August	R 344	2,453	5,504	87,064	R 95,365
September	R 269	2,316	5,461	78,078	R 86,124
October	R 281	2,454	5,820	73,407	R 81,962
November	R 470	2,207	5,856	69,452	R 77,986
December	R 705	2,381	5,861	76,887	R 85,834
Total	R **4,856**	**28,189**	**69,240**	**910,867**	R **1,013,151**
1999 January	736	2,287	5,831	78,870	87,724
February	601	2,122	5,819	67,489	76,031
March	601	2,387	5,804	70,922	79,714
April	566	2,496	5,486	67,149	75,697
May	351	2,448	5,479	70,755	79,033
June	328	2,128	5,478	76,801	84,735
July	405	2,363	5,132	87,537	95,437
August	R 327	R 2,351	R 5,132	84,752	R 92,562
September	R 239	R 2,310	R 5,177	75,574	R 83,299
October	468	2,354	6,036	71,995	80,853
10-Month Total	**4,623**	**23,246**	**55,373**	**751,843**	**835,085**
1998 10-Month Total	**3,681**	**23,601**	**57,522**	**764,528**	**849,331**
1997 10-Month Total	**4,910**	**25,159**	**58,315**	**746,337**	**834,722**

R=Revised.

Notes: For sector-specific reporting and estimating information, see Note 2 at end of section. Data through 1997 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)

	Consumer				Producers and Distributors	Total[a]
	Coke Plants	Other Industrial	Electric Utilities	Total[a]		
1973 Year	**6,998**	**10,370**	**86,967**	**104,625**	**12,530**	**117,155**
1974 Year	**6,209**	**6,605**	**83,509**	**96,603**	**11,634**	**108,237**
1975 Year	**8,797**	**8,529**	**110,724**	**128,283**	**12,108**	**140,391**
1976 Year	**9,902**	**7,100**	**117,436**	**134,678**	**14,221**	**148,899**
1977 Year	**12,816**	**11,063**	**133,219**	**157,318**	**14,225**	**171,543**
1978 Year	**8,278**	**9,048**	**128,225**	**145,911**	**20,695**	**166,606**
1979 Year	**10,155**	**11,777**	**159,714**	**181,986**	**20,826**	**202,812**
1980 Year	**9,067**	**11,951**	**183,010**	**204,028**	**24,379**	**228,407**
1981 Year	**6,475**	**9,906**	**168,893**	**185,274**	**24,149**	**209,423**
1982 Year	**4,642**	**9,479**	**181,132**	**195,254**	**36,784**	**232,038**
1983 Year	**4,346**	**8,710**	**155,598**	**168,654**	**33,931**	**202,584**
1984 Year	**6,166**	**11,317**	**179,727**	**197,211**	**34,090**	**231,300**
1985 Year	**3,420**	**10,438**	**156,376**	**170,234**	**33,133**	**203,367**
1986 Year	**2,992**	**10,429**	**161,806**	**175,226**	**32,093**	**207,319**
1987 Year	**3,884**	**10,777**	**170,797**	**185,459**	**28,321**	**213,780**
1988 Year	**3,137**	**8,768**	**146,507**	**158,413**	**30,418**	**188,831**
1989 Year	**2,864**	**7,363**	**135,860**	**146,087**	**29,000**	**175,087**
1990 Year	**3,329**	**8,716**	**156,166**	**168,210**	**33,418**	**201,629**
1991 Year	**2,773**	**7,061**	**157,876**	**167,711**	**32,971**	**200,682**
1992 Year	**2,597**	**6,965**	**154,130**	**163,692**	**33,993**	**197,685**
1993 Year	**2,401**	**6,716**	**111,341**	**120,458**	**25,284**	**145,742**
1994 Year	**2,657**	**6,585**	**126,897**	**136,139**	**33,219**	**169,358**
1995 Year	**2,632**	**5,702**	**126,304**	**134,639**	**34,444**	**169,083**
1996 Year	**2,667**	**5,688**	**114,623**	**122,979**	**28,648**	**151,627**
1997 January	2,569	5,316	106,621	114,506	31,614	146,120
February	2,470	4,944	107,813	115,228	34,579	149,806
March	2,372	4,572	113,727	120,671	37,544	158,215
April	2,265	4,631	118,263	125,160	39,205	164,365
May	2,158	4,691	123,391	130,240	40,867	171,107
June	2,050	4,751	120,787	127,588	42,529	170,117
July	2,053	4,946	109,690	116,690	41,389	158,079
August	2,056	5,142	103,724	110,922	40,250	151,172
September	2,059	5,338	102,119	109,516	39,111	148,627
October	2,032	5,424	102,436	109,893	37,398	147,291
November	2,005	5,511	100,735	108,251	35,685	143,936
December	**1,978**	**5,597**	**98,826**	**106,401**	**33,973**	**140,374**
1998 January	1,947	5,261	100,406	107,614	36,313	143,927
February	1,916	4,924	103,793	110,633	38,653	149,286
March	1,885	4,588	108,101	114,574	40,994	155,568
April	1,922	4,596	116,231	122,749	40,105	162,854
May	1,958	4,605	119,936	126,499	39,217	165,716
June	1,995	4,614	117,758	124,366	38,331	162,697
July	2,010	4,832	109,540	116,382	38,821	155,203
August	2,026	5,050	103,720	110,796	39,312	150,108
September	2,042	5,268	104,552	111,862	39,803	151,665
October	2,037	5,366	110,021	117,423	38,583	156,007
November	2,031	5,464	117,225	124,720	37,364	162,084
December	**2,026**	**5,561**	**120,501**	**128,089**	**36,144**	**164,233**
1999 January	1,983	5,299	120,190	127,473	38,216	165,689
February	1,941	5,037	128,256	135,234	40,288	175,522
March	1,898	4,776	135,732	142,405	42,361	184,766
April	1,957	4,750	140,545	147,252	42,085	189,337
May	2,016	4,724	144,297	151,037	41,809	192,846
June	2,075	4,698	142,232	149,005	41,533	190,538
July	2,042	4,840	131,562	138,444	39,377	177,821
August	R 2,009	R 4,981	127,819	R 134,809	37,221	R 172,030
September	R 1,975	R 5,123	129,456	R 136,555	R 35,064	R 171,619
October	1,639	5,046	132,954	139,639	E 34,830	174,469

[a] Includes stocks held at retail dealers for consumption by the residential and commercial sector in thousand short tons: 1973—290; 1974—280; 1975—233; 1976—240; 1977—220; 1978—360; and 1979—340.

R=Revised. E=Estimate.

Notes: Stocks are at end of period. For sector-specific reporting and estimating information, see Note 3 at end of section. Data through 1997 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. Estimated data for the most recent months (designated by an "E") are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled "Supply and Disposition of Coal: 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.

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.

Other Industrial—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: foods, Standard Industrial

Classification (SIC) 20; paper and products, SIC 26; chemicals and products, SIC 28; petroleum products, SIC 29; clay, glass, and stone products, SIC 32; and primary metals, SIC 33. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices 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. Estimated data for the most recent months (designated by an "E") 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.

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.

Other Industrial—Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. For 1978-1982, 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.

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.

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 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.

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

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

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 forward—EIA, Form EIA-6, "Coal Distribution Report," quarterly.

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."

Other Industrial

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

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

Sources for Table 6.3

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."

Other Industrial

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.

Section 7. Electricity

Overview. Electricity is produced by electric utilities and nonutility power producers. Electric utilities are the traditional, regulated part of the industry; nonutility power producers are the unregulated, highly competitive part of the industry. In general, nonutility power producers are expanding rapidly as the industry moves away from regulated entities.

In 1998, U.S. electricity net generation totaled 3.6 trillion kilowatthours. Electric utilities generated 3.2 trillion kilowatthours (89 percent of the total) and nonutility power producers generated 0.4 trillion kilowatthours (11 percent). The Nation imported 40 billion kilowatthours of electricity and exported 13 billion kilowatthours. End users consumed 3.4 trillion kilowatthours of power, 95 percent of it provided by electric utilities and 5 percent by nonutility power producers.

Net Generation. In October 1999, net generation of electricity totaled 289 billion kilowatthours, 244 billion kilowatthours at utilities and 45 billion kilowatthours at nonutilities. At utilities, fossil fuels (primarily coal) accounted for 70 percent of net generation, nuclear 23 percent, and renewable resources 8 percent. At nonutilities, fossil fuels (primarily natural gas) accounted for 81 percent of the generation, 17 percent from renewable resources (primarily wood), and 3 percent other resources.

Electric Utility Retail Sales. In October 1999, utilities sold a total of 262 billion kilowatthours of electricity to end users, 1 percent less than in October 1998. In the first 10 months of 1999, sales totaled 2,750 billion kilowatthours, 1 percent more than over the same period in 1998.

In October 1999, industrial consumers purchased 89 billion kilowatthours of electricity (34 percent of the total), residential consumers 82 billion kilowatthours (31 percent), commercial users 82 billion kilowatthours (31 percent), and other users 9 billion kilowatthours (3 percent).

Consumption of Fossil Fuels. In October 1999, utilities consumed 72 million short tons of coal to generate electricity (2 percent less than in October 1998), 240 billion cubic feet of natural gas (3 percent less than a year earlier), and 9 million barrels of petroleum (28 percent less than a year earlier). Nonutility power producers consumed 7 million short tons of coal, 207 billion cubic feet of natural gas, and 3 million barrels of petroleum.

Stocks of Coal and Petroleum. At the end of October 1999, electric utilities held 133 million short tons of coal (21 percent more than at the end of October 1998) and nonutility power producers held 10 million short tons, for total stocks of 143 million short tons. At the end of the month, utilities held 46 million barrels of petroleum and nonutilities held 8 million barrels, for a stock total of 54 million barrels.

Note Regarding Section 7 Expansion

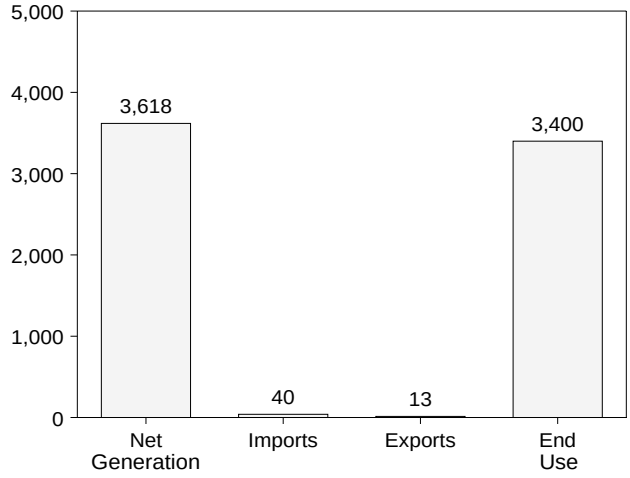
Section 7 is extensively redesigned and expanded to provide better coverage of the total electric power sector. The tables displayed this month are related to previous tables as summarized:

Table 7.1 is new.
Table 7.2 is new.
Table 7.3 relates closely to old Table 7.1.
Table 7.4 relates to old Table 7.5.
Table 7.5 is the same as old Table 7.2.
Table 7.6 relates to old Table 7.6.
Table 7.7 relates closely to old Table 7.3.
Table 7.8 relates to old Table 7.6.
Table 7.9 relates to old Table 7.4.

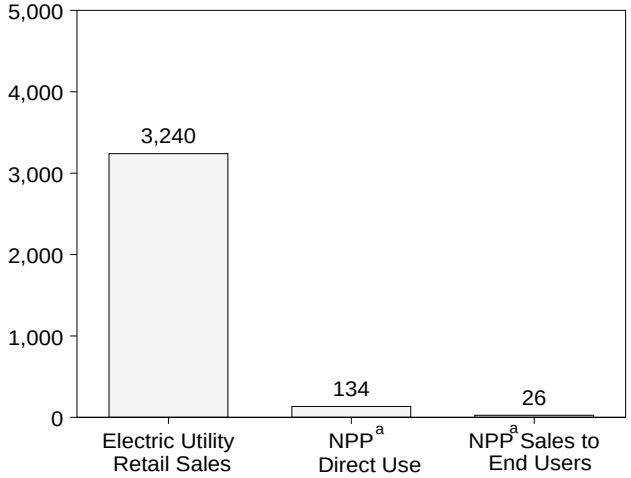
Figure 7.1 Electricity Overview

(Billion Kilowatthours)

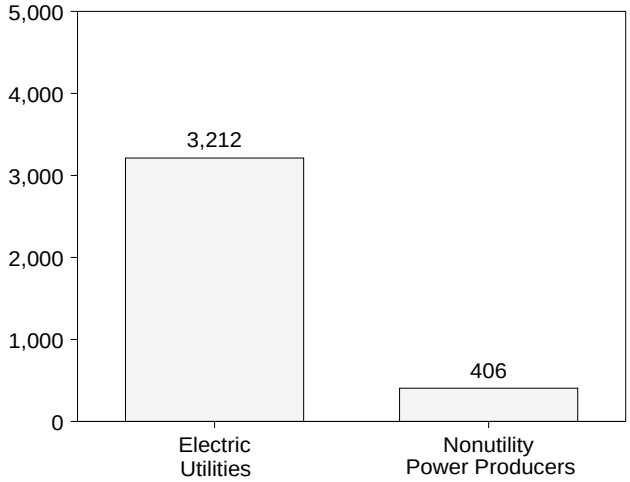
Overview, 1998



End Use, 1998

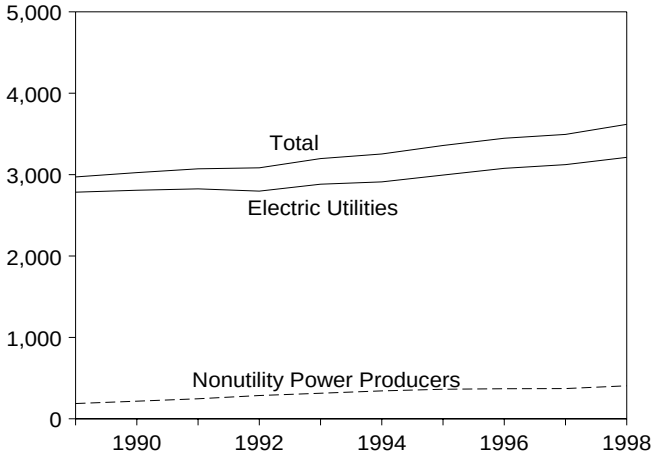


Net Generation, 1998

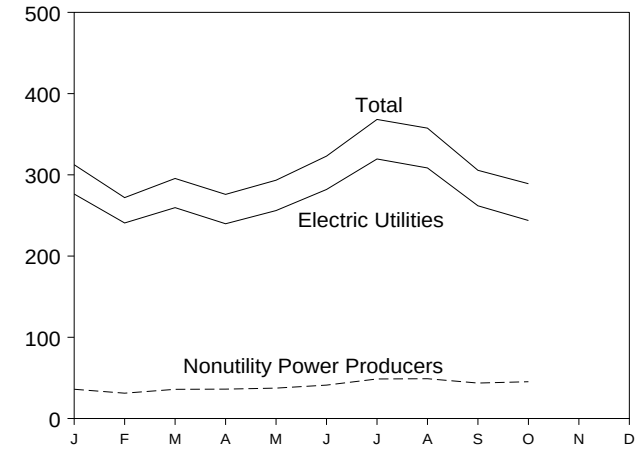


Trade, 1973-1998

Net Generation, 1989-1998



Net Generation, 1999



[a]Nonutility power producers.
Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.1.

Table 7.1 Electricity Overview

(Billion Kilowatthours)

	Net Generation[a]			Imports[b]	Exports[b]	Losses and Unaccounted for[c]	End Use			
								Nonutility Power Producers		
	Electric Utilities	Nonutility Power Producers	Total				Electric Utility Retail Sales	Direct Use[d]	Sales to End Users	Total
1973 Total	**1,861**	**NA**	**NA**	**17**	**3**	**NA**	**1,713**	**NA**	**NA**	**NA**
1974 Total	**1,867**	**NA**	**NA**	**15**	**3**	**NA**	**1,706**	**NA**	**NA**	**NA**
1975 Total	**1,918**	**NA**	**NA**	**11**	**5**	**NA**	**1,747**	**NA**	**NA**	**NA**
1976 Total	**2,038**	**NA**	**NA**	**11**	**2**	**NA**	**1,855**	**NA**	**NA**	**NA**
1977 Total	**2,124**	**NA**	**NA**	**20**	**3**	**NA**	**1,948**	**NA**	**NA**	**NA**
1978 Total	**2,206**	**NA**	**NA**	**21**	**1**	**NA**	**2,018**	**NA**	**NA**	**NA**
1979 Total	**2,247**	**NA**	**NA**	**23**	**2**	**NA**	**2,071**	**NA**	**NA**	**NA**
1980 Total	**2,286**	**NA**	**NA**	**25**	**4**	**NA**	**2,094**	**NA**	**NA**	**NA**
1981 Total	**2,295**	**NA**	**NA**	**36**	**3**	**NA**	**2,147**	**NA**	**NA**	**NA**
1982 Total	**2,241**	**NA**	**NA**	**33**	**4**	**NA**	**2,086**	**NA**	**NA**	**NA**
1983 Total	**2,310**	**NA**	**NA**	**39**	**3**	**NA**	**2,151**	**NA**	**NA**	**NA**
1984 Total	**2,416**	**NA**	**NA**	**42**	**3**	**NA**	**2,286**	**NA**	**NA**	**NA**
1985 Total	**2,470**	**NA**	**NA**	**46**	**5**	**NA**	**2,324**	**NA**	**NA**	**NA**
1986 Total	**2,487**	**NA**	**NA**	**41**	**5**	**NA**	**2,369**	**NA**	**NA**	**NA**
1987 Total	**2,572**	**NA**	**NA**	**52**	**6**	**NA**	**2,457**	**NA**	**NA**	**NA**
1988 Total	**2,704**	**NA**	**NA**	**39**	**7**	**NA**	**2,578**	**NA**	**NA**	**NA**
1989 Total	**2,784**	**R e188**	**R 2,972**	**26**	**15**	**236**	**2,647**	**e83**	**e18**	**2,747**
1990 Total	**2,808**	**R e217**	**R 3,025**	**18**	**16**	**210**	**2,713**	**e84**	**e20**	**2,817**
1991 Total	**2,825**	**R e246**	**R 3,071**	**22**	**2**	**218**	**2,762**	**e100**	**e11**	**2,873**
1992 Total	**2,797**	**286**	**3,083**	**28**	**3**	**224**	**2,763**	**111**	**11**	**2,885**
1993 Total	**2,883**	**314**	**3,197**	**31**	**4**	**236**	**2,861**	**111**	**16**	**2,988**
1994 Total	**2,911**	**343**	**3,254**	**47**	**2**	**223**	**2,935**	**123**	**18**	**3,075**
1995 Total	**2,995**	**363**	**3,358**	**43**	**4**	**235**	**3,013**	**134**	**16**	**3,162**
1996 Total	**3,077**	**370**	**3,447**	**43**	**3**	**241**	**3,098**	**135**	**14**	**3,247**
1997 January	273	NA	NA	3	1	NA	275	NA	NA	NA
February	234	NA	NA	3	1	NA	250	NA	NA	NA
March	245	NA	NA	3	1	NA	243	NA	NA	NA
April	231	NA	NA	3	1	NA	234	NA	NA	NA
May	243	NA	NA	3	1	NA	236	NA	NA	NA
June	267	NA	NA	4	1	NA	261	NA	NA	NA
July	305	NA	NA	5	1	NA	296	NA	NA	NA
August	295	NA	NA	5	1	NA	294	NA	NA	NA
September	267	NA	NA	4	1	NA	278	NA	NA	NA
October	253	NA	NA	4	2	NA	262	NA	NA	NA
November	244	NA	NA	4	1	NA	246	NA	NA	NA
December	267	NA	NA	4	1	NA	264	NA	NA	NA
Total	**3,123**	**R 372**	**R 3,494**	**43**	**9**	**240**	**3,140**	**131**	**18**	**3,289**
1998 January	265	NA	NA	3	1	NA	269	NA	NA	NA
February	235	NA	NA	2	1	NA	247	NA	NA	NA
March	257	NA	NA	3	1	NA	252	NA	NA	NA
April	232	NA	NA	3	1	NA	238	NA	NA	NA
May	265	NA	NA	3	1	NA	252	NA	NA	NA
June	291	NA	NA	3	1	NA	282	NA	NA	NA
July	318	NA	NA	5	1	NA	311	NA	NA	NA
August	313	NA	NA	5	1	NA	317	NA	NA	NA
September	279	NA	NA	4	1	NA	295	NA	NA	NA
October	251	NA	NA	3	2	NA	264	NA	NA	NA
November	239	NA	NA	2	1	NA	248	NA	NA	NA
December	267	NA	NA	3	1	NA	265	NA	NA	NA
Total	**3,212**	**R 406**	**R 3,618**	**40**	**13**	**245**	**3,240**	**134**	**26**	**3,400**
1999 January	276	36	312	2	1	NA	280	NA	NA	NA
February	241	31	272	2	1	NA	248	NA	NA	NA
March	260	36	296	3	2	NA	257	NA	NA	NA
April	240	36	276	4	1	NA	243	NA	NA	NA
May	256	37	293	4	1	NA	251	NA	NA	NA
June	282	41	323	4	1	NA	281	NA	NA	NA
July	320	49	368	5	1	NA	320	NA	NA	NA
August	308	49	357	4	1	NA	319	NA	NA	NA
September	262	44	306	5	1	NA	291	NA	NA	NA
October	244	45	289	4	1	NA	262	NA	NA	NA
10-Month Total	**2,688**	**404**	**3,093**	**36**	**11**	**NA**	**2,750**	**NA**	**NA**	**NA**
1998 10-Month Total	**2,707**	**NA**	**NA**	**35**	**11**	**NA**	**2,726**	**NA**	**NA**	**NA**
1997 10-Month Total	**2,611**	**NA**	**NA**	**36**	**7**	**NA**	**2,630**	**NA**	**NA**	**NA**

[a] Gross output of electricity (measured at the generator terminals) minus power plant use.

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

[c] Energy losses that occur between the point of generation and delivery to the customer, and data collection frame differences and nonsampling error. See Note 11 at end of Section 2 for discussion on electrical system energy losses.

[d] Facility use of onsite net electricity generation.

[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.

R=Revised. NA=Not available.

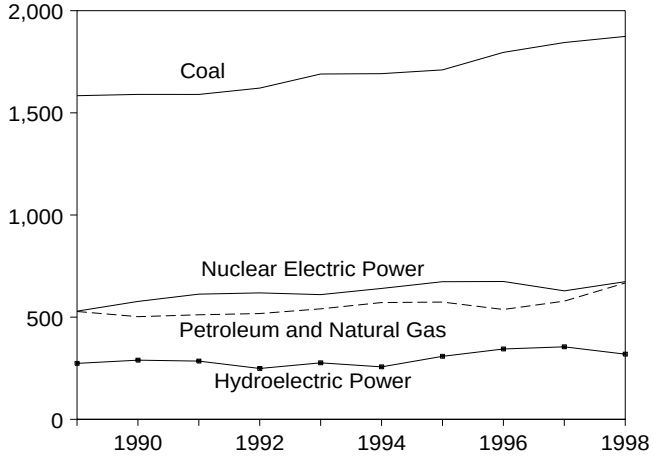
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Sources: • **Net Generation:** Tables 7.2-7.4. • **Imports and Exports:** See end of section. • **Electric Utility Retail Sales:** Table 7.5. • **Nonutility Power Producers End Use:** 1989-1997: Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." 1998: EIA, Form EIA-860B, "Annual Electric Generator Report-Nonutility." 1999: EIA, Form EIA-900, "Monthly Nonutility Power Report." • **Losses and Unaccounted for** and **End Use Total:** Calculated.

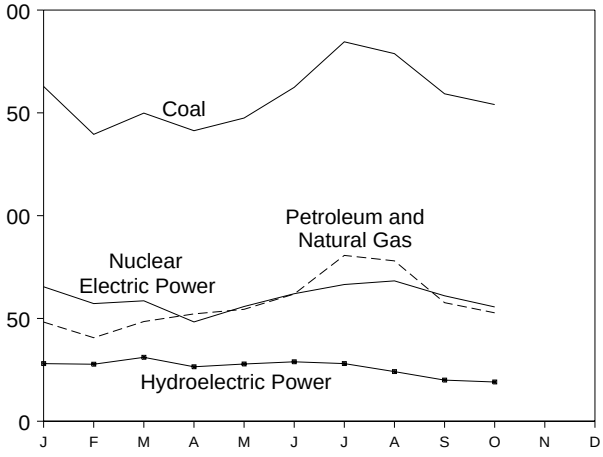
Figure 7.2 Electricity Net Generation

(Billion Kilowatthours, Except as Noted)

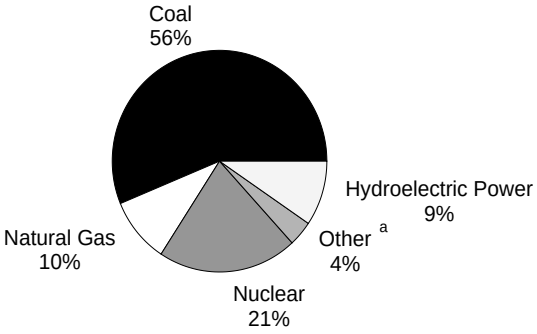
By Major Source, 1989-1998



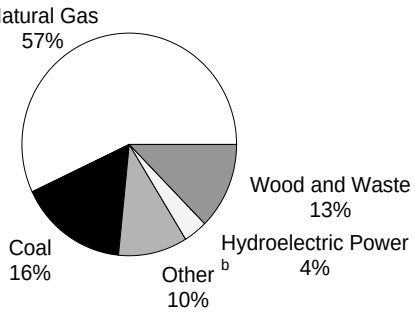
By Major Source, 1999



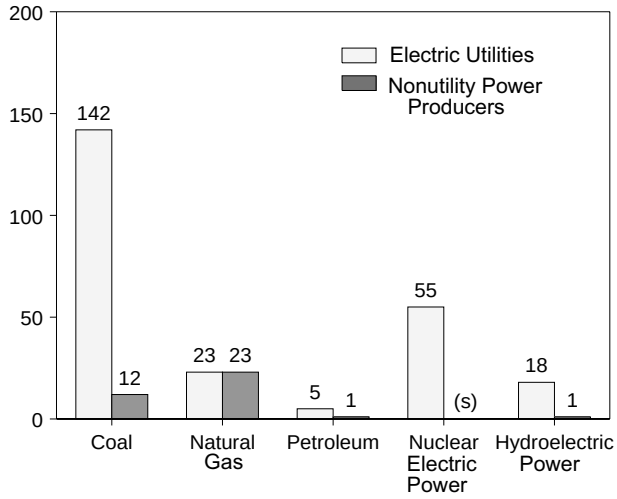
Electric Utility Sources, 1998



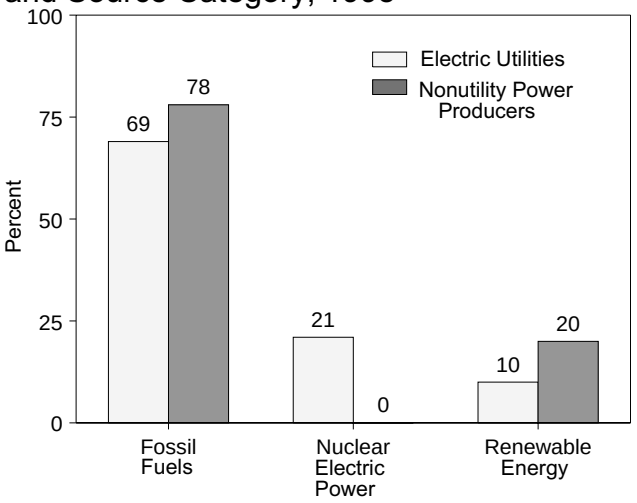
Nonutility Power Producer Sources, 1998



By Selected Source, October 1999



Shares of Net Generation by Producer Type and Source Category, 1998



[a]Petroleum, geothermal, wood, waste, wind, and solar.
[b]Petroleum, other gas, geothermal, wind, solar, hydrogen, sulfur, batteries, chemicals, and purchased steam.
(s)=Less than 0.5 billion kilowatthours.
Note: Because vertical scales differ, graphs should not be compared.

Table 7.2 Electricity Net Generation

(Million Kilowatthours)

	Fossil Fuels						Renewable Energy						
	Coal[a]	Petroleum[b]	Natural Gas[c]	Other Gas[d]	Nuclear Electric Power	Hydroelectric Pumped Storage[e]	Conventional Hydroelectric Power	Geothermal	Wood[f]	Waste[g]	Wind	Solar[h]	Total[i]
1989 Total	**1,583,824**	**163,861**	**363,942**	**([j])**	**529,402**	**([k])**	**273,665**	**14,879**	**27,728**	**9,958**	**2,280**	**623**	**R 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**	**R 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**	**R 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**	**R 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**	**R 3,617,873**
1999 January	162,843	12,679	E 35,565	E 671	65,399	-554	28,580	1,231	3,921	1,930	178	2	312,445
February	139,557	10,007	E 30,621	E 586	57,235	-357	28,087	1,024	3,187	1,825	174	5	271,951
March	149,890	10,747	E 37,748	E 655	58,578	-380	31,477	1,184	3,501	1,887	237	9	295,533
April	141,312	9,318	E 42,897	E 681	48,315	-464	26,954	1,175	3,387	2,024	321	18	275,936
May	147,493	9,904	E 44,540	E 684	55,809	-676	28,527	1,042	3,445	2,060	528	33	293,389
June	162,415	10,950	E 50,922	E 736	62,025	-571	29,486	1,199	3,320	1,999	519	56	323,056
July	184,550	14,818	E 65,845	E 920	66,519	-606	28,646	1,232	3,734	1,994	487	55	368,194
August	178,806	12,237	E 65,763	E 942	68,279	-761	24,899	1,270	3,630	1,952	403	55	357,477
September	159,282	8,110	E 49,572	E 841	61,029	-424	20,425	1,218	3,354	1,859	254	44	305,563
October	154,027	6,379	E 46,371	E 851	55,593	-472	19,574	1,261	3,568	1,709	173	25	289,058
10-Month Total	**1,580,174**	**105,149**	**E 469,844**	**E 7,565**	**598,782**	**-5,265**	**266,654**	**11,837**	**35,048**	**19,237**	**3,273**	**304**	**3,092,603**

[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 byproduct, oil waste, sludge oil, and tar oil.

[c] Includes supplemental gaseous fuels, waste heat, and waste gas.

[d] Butane, propane, blast furnace gas, coke oven gas, refinery gas, and process gas.

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

[f] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, pitch, 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] Solar thermal and photovoltaic energy.

[i] Includes hydrogen, sulfur, batteries, chemicals, and purchased steam, which are not separately displayed on this table.

[j] Included in natural gas.

[k] Included in conventional hydroelectric power.

R=Revised. NA=Not available. 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: 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			Nuclear Electric Power	Hydroelectric Pumped Storage[c]	Renewable Energy						Total
	Coal	Petroleum[a]	Natural Gas[b]			Conventional Hydroelectric Power	Geothermal	Wood[d]	Waste[e]	Wind	Solar[f]	
1973 Total	**847,651**	**314,343**	**340,858**	**83,479**	**(g)**	**272,083**	**1,966**	**130**	**198**	**NA**	**0**	**1,860,710**
1974 Total	**828,433**	**300,931**	**320,065**	**113,976**	**(g)**	**301,032**	**2,453**	**68**	**182**	**NA**	**0**	**1,867,140**
1975 Total	**852,786**	**289,095**	**299,778**	**172,505**	**(g)**	**300,047**	**3,246**	**18**	**174**	**NA**	**0**	**1,917,649**
1976 Total	**944,391**	**319,988**	**294,624**	**191,104**	**(g)**	**283,707**	**3,616**	**84**	**182**	**NA**	**0**	**2,037,696**
1977 Total	**985,219**	**358,179**	**305,505**	**250,883**	**(g)**	**220,475**	**3,582**	**308**	**173**	**NA**	**0**	**2,124,323**
1978 Total	**975,742**	**365,060**	**305,391**	**276,403**	**(g)**	**280,419**	**2,978**	**197**	**140**	**NA**	**0**	**2,206,331**
1979 Total	**1,075,037**	**303,525**	**329,485**	**255,155**	**(g)**	**279,783**	**3,889**	**300**	**198**	**NA**	**0**	**2,247,372**
1980 Total	**1,161,562**	**245,994**	**346,240**	**251,116**	**(g)**	**276,021**	**5,073**	**275**	**158**	**NA**	**0**	**2,286,439**
1981 Total	**1,203,203**	**206,421**	**345,777**	**272,674**	**(g)**	**260,684**	**5,686**	**245**	**123**	**NA**	**0**	**2,294,812**
1982 Total	**1,192,004**	**146,797**	**305,260**	**282,773**	**(g)**	**309,213**	**4,843**	**196**	**125**	**NA**	**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**	**12**	**0**	**2,416,304**
1985 Total	**1,402,128**	**100,202**	**291,946**	**383,691**	**(g)**	**281,149**	**9,325**	**743**	**640**	**16**	**0**	**2,469,841**
1986 Total	**1,385,831**	**136,585**	**248,508**	**414,038**	**(g)**	**290,844**	**10,308**	**492**	**685**	**18**	**0**	**2,487,310**
1987 Total	**1,463,781**	**118,493**	**272,621**	**455,270**	**(g)**	**249,695**	**10,775**	**783**	**694**	**14**	**0**	**2,572,127**
1988 Total	**1,540,653**	**148,900**	**252,801**	**526,973**	**(g)**	**222,940**	**10,300**	**936**	**738**	**10**	**0**	**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 January	161,286	8,225	13,359	58,914	-507	31,556	414	72	90	(s)	(s)	273,410
February	134,998	4,479	13,475	50,658	-333	30,173	310	50	97	(s)	(s)	233,907
March	137,830	4,345	18,191	50,414	-217	33,503	438	57	97	(s)	(s)	244,659
April	131,744	3,926	18,870	44,883	-274	30,709	484	58	110	1	(s)	230,512
May	136,110	4,452	22,192	47,032	-19	32,728	471	63	114	1	(s)	243,143
June	146,009	6,728	28,456	52,095	-227	32,989	385	49	103	1	1	266,588
July	167,087	9,072	40,403	57,352	-274	30,308	512	60	107	1	(s)	304,628
August	162,384	7,711	37,237	61,084	-298	25,760	505	64	109	1	(s)	294,557
September	151,427	7,688	32,281	52,586	-371	22,402	482	60	93	(s)	(s)	266,649
October	152,004	7,094	23,276	46,981	-441	23,681	477	83	110	(s)	(s)	253,267
November	146,037	6,660	17,029	51,189	-535	22,701	475	65	104	(s)	(s)	243,726
December	160,890	7,374	18,855	55,457	-544	24,764	516	57	109	(s)	(s)	267,477
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 January	156,658	6,390	16,352	57,889	-44	27,527	491	78	93	(s)	(s)	265,435
February	136,465	5,686	12,879	50,999	125	28,652	390	50	94	(s)	(s)	235,340
March	144,487	8,682	18,787	53,711	-15	30,268	487	58	111	(s)	(s)	256,575
April	132,282	6,817	18,479	47,503	-437	27,326	320	58	109	(s)	(s)	232,457
May	145,357	9,534	27,238	51,496	-727	31,708	288	62	120	(s)	(s)	265,077
June	157,403	12,140	35,055	55,732	-675	30,892	354	32	97	(s)	(s)	291,029
July	172,895	13,611	42,186	61,499	-666	27,375	448	61	111	1	(s)	317,521
August	172,348	13,042	42,837	60,369	-703	23,985	483	64	111	(s)	(s)	312,538
September	155,068	10,539	36,120	57,206	-272	19,893	474	63	107	(s)	(s)	279,198
October	144,436	7,339	23,927	57,429	-501	18,038	523	70	118	(s)	(s)	251,380
November	137,915	7,401	17,187	57,372	-528	19,123	466	55	97	(s)	(s)	239,089
December	152,166	8,977	18,175	62,497	4	24,058	451	68	136	(s)	(s)	266,532
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 January	155,739	10,223	17,321	65,399	-548	27,690	414	70	94	1	(s)	276,404
February	133,699	8,074	14,690	57,235	-356	26,915	352	49	97	1	(s)	240,756
March	142,215	8,600	19,944	58,578	-377	30,093	397	39	99	2	(s)	259,590
April	134,013	7,257	24,400	48,315	-462	25,646	429	57	108	2	(s)	239,764
May	140,032	7,466	25,959	55,809	-672	27,202	14	75	115	1	(s)	256,002
June	152,463	8,263	30,908	62,025	-558	28,668	13	52	109	1	(s)	281,944
July	172,843	11,886	40,850	66,519	-595	27,840	13	66	105	2	(s)	319,529
August	167,146	9,753	40,165	67,842	-746	24,130	13	63	100	2	(s)	308,467
September	149,012	6,144	26,724	60,666	-407	19,593	13	56	100	2	(s)	261,904
October	141,956	5,100	23,248	55,099	-454	18,669	14	46	102	2	(s)	243,781
10-Month Total	**1,489,120**	**82,767**	**264,208**	**597,487**	**-5,175**	**256,446**	**1,671**	**573**	**1,028**	**15**	**3**	**2,688,143**
1998 10-Month Total	**1,517,398**	**93,780**	**273,861**	**553,833**	**-3,917**	**265,663**	**4,259**	**596**	**1,072**	**2**	**2**	**2,706,550**
1997 10-Month Total	**1,480,880**	**63,719**	**247,740**	**521,999**	**-2,961**	**293,809**	**4,478**	**617**	**1,031**	**6**	**3**	**2,611,320**

[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, pitch, 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.

NA=Not available. (s)=Less than 500 thousand 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.

Table 7.4 Electricity Net Generation at Nonutility Power Producers

(Million Kilowatthours)

	Fossil Fuels						Renewable Energy						
	Coal[a]	Petroleum[b]	Natural Gas[c]	Other Gas[d]	Nuclear Electric Power	Hydroelectric Pumped Storage[e]	Conventional Hydroelectric Power	Geothermal	Wood[f]	Waste[g]	Wind	Solar[h]	Total[i]
1989 Total[j]	**30,163**	**5,543**	R **97,343**	**(k)**	**47**	**0**	R **8,602**	R **5,537**	**26,756**	**8,965**	**2,279**	**621**	R **187,558**
1990 Total[j]	**30,699**	**7,031**	R **114,253**	**(k)**	**113**	**0**	R **9,580**	R **7,207**	**29,603**	**11,906**	**3,035**	**644**	R **216,716**
1991 Total[j]	**38,773**	**7,494**	R **128,419**	**(k)**	**77**	**0**	R **9,446**	R **7,953**	**32,433**	**14,435**	**3,019**	**756**	R **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**	R **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**	R **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**	R **14,169**	**0**	**0**	**16,390**	**9,892**	**35,991**	**19,493**	**3,366**	**876**	**369,552**
1997 Total	R **56,298**	R **15,272**	R **201,816**	R **11,175**	**0**	**0**	R **17,673**	R **9,100**	**33,492**	**19,341**	**3,216**	**866**	R **371,700**
1998 Total	R **66,466**	R **16,775**	R **231,415**	R **8,514**	**0**	**0**	R **14,486**	R **9,550**	**31,070**	**19,981**	**2,985**	**854**	R **405,702**
1999 January	7,103	2,456	E 18,244	E 671	0	-6	889	817	3,852	1,836	176	2	36,041
February	5,858	1,932	E 15,931	E 586	0	-1	1,172	672	3,138	1,728	173	5	31,195
March	7,674	2,147	E 17,804	E 655	0	-3	1,384	788	3,462	1,788	235	9	35,943
April	7,299	2,061	E 18,498	E 681	0	-2	1,308	745	3,330	1,916	319	17	36,172
May	7,460	2,438	E 18,582	E 684	0	-4	1,325	1,028	3,370	1,945	527	33	37,387
June	9,952	2,687	E 20,013	E 736	0	-12	818	1,187	3,268	1,889	518	56	41,112
July	11,707	2,932	E 24,996	E 920	0	-11	806	1,219	3,668	1,889	485	55	48,665
August	11,661	2,484	E 25,598	E 942	438	-14	770	1,257	3,567	1,852	402	55	49,010
September	10,269	1,966	E 22,848	E 841	363	-17	832	1,205	3,298	1,758	252	44	43,659
October	12,070	1,279	E 23,123	E 851	494	-18	905	1,247	3,522	1,607	171	25	45,277
10-Month Total	**91,054**	**22,383**	E **205,637**	E **7,565**	**1,295**	**-89**	**10,208**	**10,165**	**34,474**	**18,209**	**3,257**	**301**	**404,460**

[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 byproduct, oil waste, sludge oil, and tar oil.

[c] Includes waste heat and waste gas.

[d] Butane, propane, blast furnace gas, coke oven gas, refinery gas, and process gas.

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

[f] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, pitch, 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] Solar thermal and photovoltaic energy.

[i] Includes hydrogen, sulfur, batteries, chemicals, and purchased steam, which are not separately displayed on this table.

[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. NA=Not available. E=Estimate.

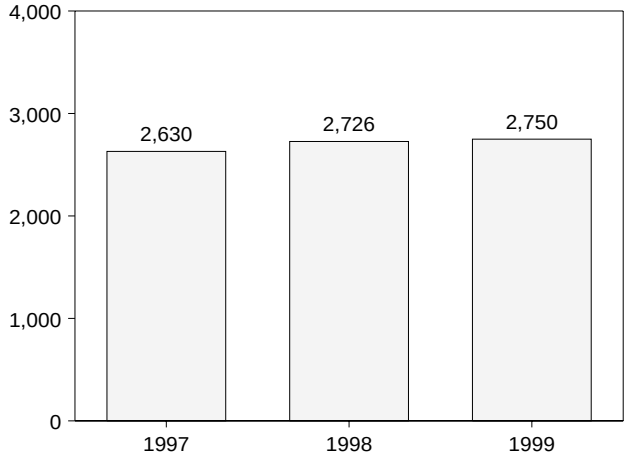
Notes: • Due to restructuring of the electric power sector, the sale of generation assets is resulting in reclassification of plants from electric utility to nonutility plants. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Sources: • **1989-1991:** Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • **1992 forward:** EIA, *Electric Power Monthly,* January 2000, Table 58 (and for smaller components 1992-1997: EIA, Form EIA-867, "Annual Nonutility Power Producer Report"; 1998: EIA-860B, "Annual Electric Generator Report-Nonutility"; and 1999: EIA-900, "Monthly Nonutility Power Report").

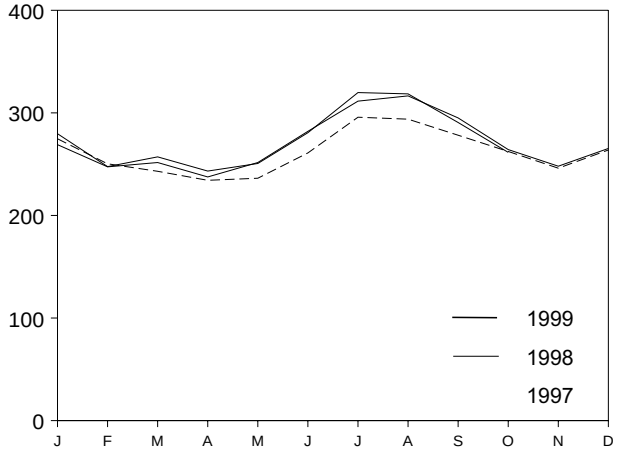
Figure 7.3 Electric Utility Retail Sales of Electricity

(Billion Kilowatthours)

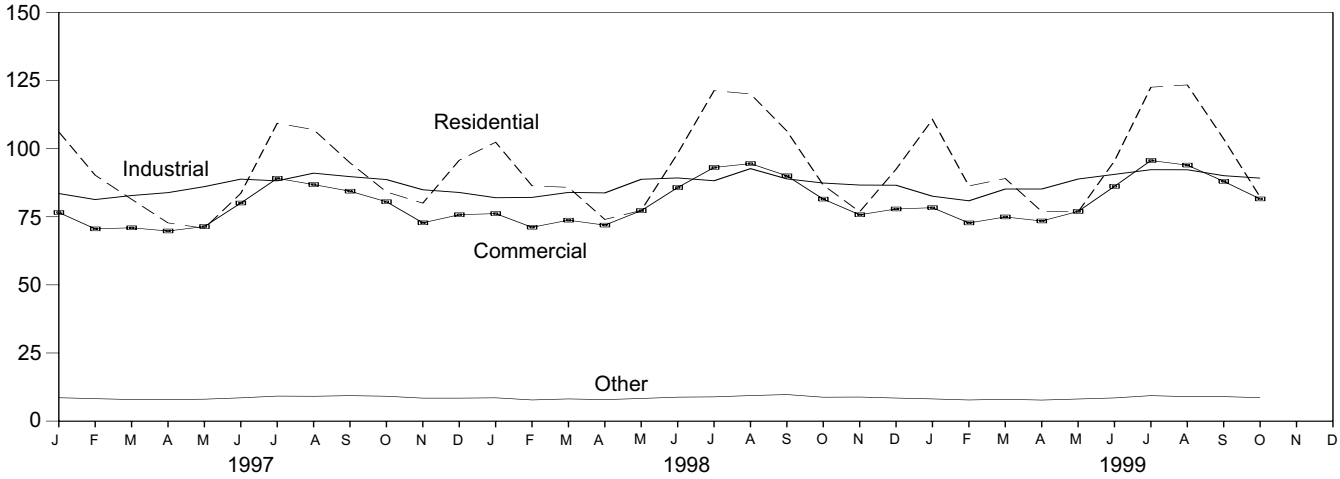
Total, January-October



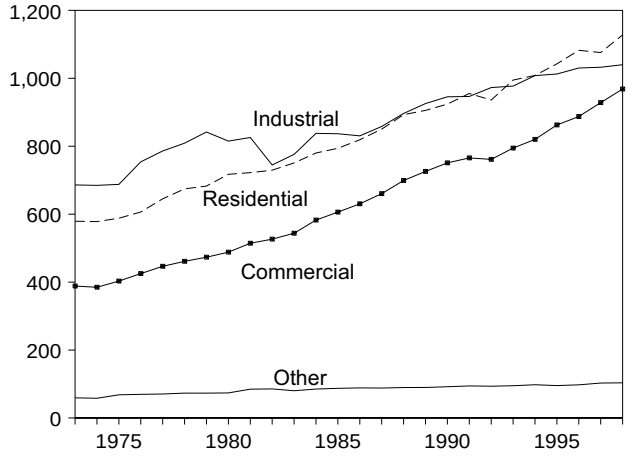
Total, Monthly



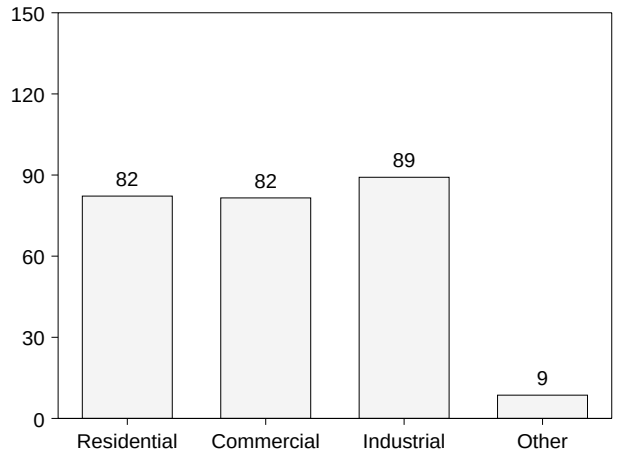
By Sector, Monthly



By Sector, 1973-1998



By Sector, October 1999



Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.5.

Table 7.5 Electric Utility Retail Sales of Electricity by End-Use Sector

(Million Kilowatthours)

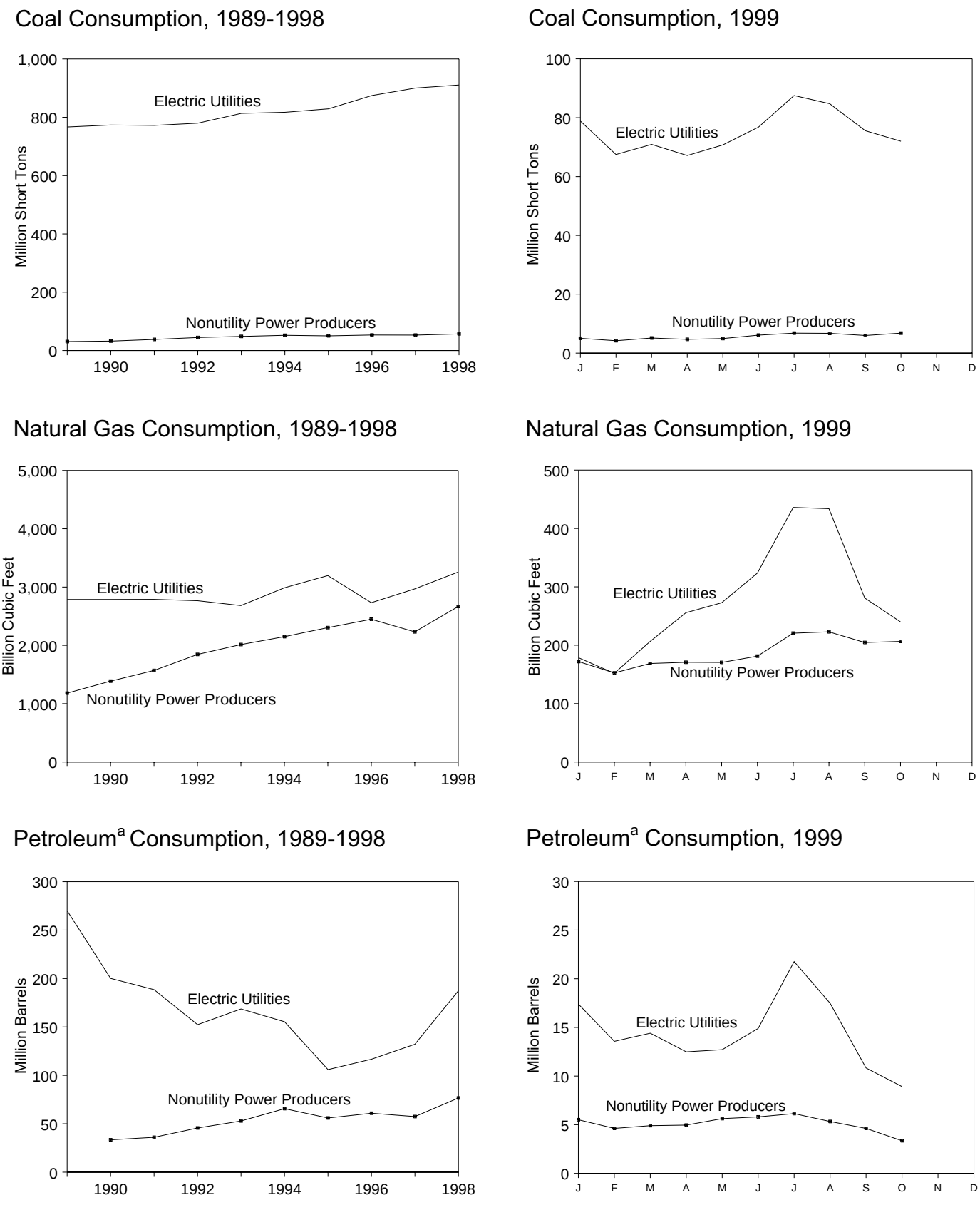
	Residential	Commercial	Industrial	Other[a]	Total
1973 Total	**579,231**	**388,266**	**686,085**	**59,326**	**1,712,909**
1974 Total	**578,184**	**384,826**	**684,875**	**58,039**	**1,705,924**
1975 Total	**588,140**	**403,049**	**687,680**	**68,222**	**1,747,091**
1976 Total	**606,452**	**425,094**	**754,069**	**69,631**	**1,855,246**
1977 Total	**645,239**	**446,514**	**786,037**	**70,571**	**1,948,361**
1978 Total	**674,466**	**461,163**	**809,078**	**73,215**	**2,017,922**
1979 Total	**682,819**	**473,307**	**841,903**	**73,070**	**2,071,099**
1980 Total	**717,495**	**488,155**	**815,067**	**73,732**	**2,094,449**
1981 Total	**722,265**	**514,338**	**825,743**	**84,756**	**2,147,103**
1982 Total	**729,520**	**526,397**	**744,949**	**85,575**	**2,086,441**
1983 Total	**750,948**	**543,788**	**775,999**	**80,219**	**2,150,955**
1984 Total	**780,092**	**582,621**	**837,836**	**85,248**	**2,285,796**
1985 Total	**793,934**	**605,989**	**836,772**	**87,279**	**2,323,974**
1986 Total	**819,088**	**630,520**	**830,531**	**88,615**	**2,368,753**
1987 Total	**850,410**	**660,433**	**858,233**	**88,196**	**2,457,272**
1988 Total	**892,866**	**699,100**	**896,498**	**89,598**	**2,578,062**
1989 Total	**905,525**	**725,861**	**925,659**	**89,765**	**2,646,809**
1990 Total	**924,019**	**751,027**	**945,522**	**91,988**	**2,712,555**
1991 Total	**955,417**	**765,664**	**946,583**	**94,339**	**2,762,003**
1992 Total	**935,939**	**761,271**	**972,714**	**93,442**	**2,763,365**
1993 Total	**994,781**	**794,573**	**977,164**	**94,944**	**2,861,462**
1994 Total	**1,008,482**	**820,269**	**1,007,981**	**97,830**	**2,934,563**
1995 Total	**1,042,501**	**862,685**	**1,012,693**	**95,407**	**3,013,287**
1996 Total	**1,082,491**	**887,425**	**1,030,356**	**97,539**	**3,097,810**
1997 January	106,127	76,539	83,516	8,588	274,769
February	90,242	70,536	81,315	8,237	250,330
March	81,412	70,937	82,783	7,924	243,056
April	72,733	69,769	83,850	7,923	234,275
May	70,769	71,402	86,058	8,047	236,276
June	83,575	80,020	88,804	8,542	260,942
July	109,321	89,079	88,181	9,180	295,761
August	106,960	86,803	90,993	9,112	293,868
September	94,792	84,363	89,724	9,357	278,236
October	84,112	80,495	88,632	9,127	262,366
November	79,984	72,768	84,895	8,432	246,079
December	95,738	75,729	83,904	8,433	263,803
Total	**1,075,767**	**928,440**	**1,032,653**	**102,901**	**3,139,761**
1998 January	102,339	76,163	81,978	8,546	269,026
February	86,374	71,142	82,101	7,771	247,387
March	85,784	73,732	83,934	8,152	251,602
April	74,000	71,918	83,751	7,870	237,539
May	77,317	77,229	88,744	8,317	251,607
June	98,249	85,717	89,234	8,787	281,986
July	121,271	93,083	88,199	8,896	311,449
August	120,066	94,493	92,650	9,373	316,581
September	106,446	90,010	88,893	9,742	295,091
October	86,621	81,465	87,372	8,771	264,230
November	76,823	75,729	86,625	8,831	248,008
December	92,446	77,848	86,558	8,461	265,313
Total	**1,127,735**	**968,528**	**1,040,038**	**103,518**	**3,239,818**
1999 January	110,691	78,321	82,535	8,150	279,696
February	86,293	72,721	80,844	7,763	247,621
March	89,025	74,919	85,165	8,014	257,122
April	76,918	73,435	85,178	7,725	243,255
May	76,785	76,946	88,831	8,113	250,674
June	95,459	86,146	90,549	8,516	280,670
July	122,540	95,632	92,261	9,359	319,792
August	123,371	93,941	92,240	8,974	318,526
September	103,560	87,988	90,076	8,993	290,617
October	82,213	81,535	89,172	8,610	261,530
10-Month Total	**966,853**	**821,583**	**876,851**	**84,217**	**2,749,504**
1998 10-Month Total	**958,466**	**814,952**	**866,855**	**86,225**	**2,726,498**
1997 10-Month Total	**900,044**	**779,943**	**863,855**	**86,036**	**2,629,878**

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

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.

Figure 7.4 Consumption of Fossil Fuels To Generate Electricity



[a]Includes petroleum coke, converted at 5 barrels per short ton.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.6-7.8.

Table 7.6 Consumption of Fossil Fuels To Generate Electricity

	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	**797,650**	**295,828**	**NA**	**NA**	**3,968,027**
1990 Total	R **805,860**	**223,932**	**1,927**	**233,570**	**4,174,073**
1991 Total	R **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	R **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	R **953,274**	**160,740**	**5,764**	**189,561**	R **5,199,816**
1998 Total	R **967,716**	**232,889**	**6,239**	**264,086**	R **5,924,484**
1999 January	83,900	21,340	315	22,916	E 350,603
February	71,699	16,952	249	18,195	E 304,541
March	76,045	17,938	274	19,310	E 375,142
April	71,822	16,032	284	17,453	E 426,479
May	75,696	16,870	294	18,342	E 443,266
June	82,905	19,263	288	20,703	E 504,991
July	94,315	26,202	340	27,900	E 656,655
August	91,462	21,195	325	22,821	E 656,806
September	81,560	14,084	274	15,455	E 485,559
October	78,776	10,963	263	12,278	E 446,506
10-Month Total	**808,180**	**180,839**	**2,906**	**195,373**	E **4,650,548**

[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 byproduct, oil waste, sludge oil, and tar oil.

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

[d] Includes supplemental gaseous fuels.

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

Notes: • Electric utility data, and monthly data for nonutility facilities included in the cutoff model sample, are for fuels consumed to produce electricity. Annual nonutility data, and estimated monthly data for nonutility facilities not included in the cutoff model sample, are for fuels consumed to produce both electricity and useful thermal output. • 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					
	Anthracite[a]	Bituminous Coal[b]	Lignite	Total	Heavy Oil[c]	Light Oil[d]	Total Liquids	Petroleum Coke	Total[e]	Natural Gas[f]
	Thousand Short Tons				Thousand Barrels			Thousand Short Tons	Thousand Barrels	Million Cubic Feet
1973 Total	**1,443**	**376,975**	**10,794**	**389,212**	**[g]513,190**	**[h]47,058**	**560,248**	**507**	**562,781**	**3,660,172**
1974 Total	**1,498**	**378,643**	**11,670**	**391,811**	**[g]483,146**	**[h]53,128**	**536,274**	**625**	**539,399**	**3,443,428**
1975 Total	**1,480**	**388,523**	**15,960**	**405,962**	**[g]467,221**	**[h]38,907**	**506,128**	**70**	**506,479**	**3,157,669**
1976 Total	**1,350**	**425,205**	**21,817**	**448,371**	**[g]514,077**	**[h]41,843**	**555,920**	**68**	**556,261**	**3,080,868**
1977 Total	**1,425**	**451,051**	**24,650**	**477,126**	**[g]574,869**	**[h]48,837**	**623,705**	**98**	**624,193**	**3,191,200**
1978 Total	**1,064**	**448,763**	**31,407**	**481,235**	**[g]588,319**	**[h]47,520**	**635,839**	**398**	**637,830**	**3,188,363**
1979 Total	**1,046**	**488,129**	**37,876**	**527,051**	**[g]492,606**	**[h]30,691**	**523,297**	**268**	**524,636**	**3,490,523**
1980 Total	**951**	**526,680**	**41,642**	**569,274**	**391,163**	**29,051**	**420,214**	**179**	**421,110**	**3,681,595**
1981 Total	**1,221**	**550,784**	**44,792**	**596,797**	**329,798**	**21,313**	**351,111**	**139**	**351,806**	**3,640,154**
1982 Total	**1,075**	**543,346**	**49,245**	**593,666**	**234,434**	**15,337**	**249,771**	**149**	**250,517**	**3,225,518**
1983 Total	**1,036**	**570,108**	**54,067**	**625,211**	**228,984**	**16,512**	**245,497**	**261**	**246,804**	**2,910,767**
1984 Total	**1,070**	**606,339**	**56,990**	**664,399**	**189,289**	**15,190**	**204,479**	**252**	**205,736**	**3,111,342**
1985 Total	**1,033**	**631,885**	**60,923**	**693,841**	**158,779**	**14,635**	**173,414**	**231**	**174,571**	**3,044,083**
1986 Total	**829**	**616,134**	**68,093**	**685,056**	**216,156**	**14,326**	**230,482**	**313**	**232,046**	**2,602,370**
1987 Total	**972**	**647,824**	**69,098**	**717,894**	**184,011**	**15,367**	**199,378**	**348**	**201,116**	**2,844,051**
1988 Total	**1,063**	**681,048**	**76,260**	**758,372**	**229,327**	**18,769**	**248,096**	**409**	**250,141**	**2,635,613**
1989 Total	**1,049**	**688,504**	**77,335**	**766,888**	**241,960**	**25,491**	**267,451**	**517**	**270,038**	**2,787,012**
1990 Total	**1,031**	**694,317**	**78,201**	**773,549**	**181,231**	**14,823**	**196,054**	**819**	**200,152**	**2,787,332**
1991 Total	**994**	**691,275**	**79,999**	**772,268**	**171,157**	**13,729**	**184,886**	**722**	**188,494**	**2,789,014**
1992 Total	**986**	**698,626**	**80,248**	**779,860**	**135,779**	**11,556**	**147,335**	**999**	**152,329**	**2,765,608**
1993 Total	**951**	**732,736**	**79,821**	**813,508**	**149,287**	**13,168**	**162,454**	**1,220**	**168,556**	**2,682,440**
1994 Total	**1,123**	**737,102**	**79,045**	**817,270**	**134,666**	**16,338**	**151,004**	**875**	**155,377**	**2,987,146**
1995 Total	**978**	**749,951**	**78,078**	**829,007**	**86,584**	**15,565**	**102,150**	**761**	**105,956**	**3,196,507**
1996 Total	**1,009**	**795,252**	**78,421**	**874,681**	**96,382**	**16,892**	**113,274**	**681**	**116,680**	**2,732,107**
1997 January	97	74,109	7,082	81,288	11,944	1,708	13,652	56	13,931	139,036
February	86	61,786	6,204	68,076	6,282	861	7,143	55	7,420	143,185
March	89	63,573	5,728	69,389	6,050	852	6,902	35	7,075	189,590
April	93	60,372	4,831	65,296	5,121	1,060	6,181	103	6,695	193,416
May	72	62,201	6,129	68,402	6,124	967	7,091	135	7,764	231,548
June	75	67,036	6,852	73,963	9,707	1,397	11,104	144	11,826	297,424
July	91	77,514	7,122	84,727	12,502	2,605	15,107	144	15,826	429,286
August	82	75,403	7,146	82,631	10,808	1,372	12,180	160	12,980	391,090
September	85	69,710	6,537	76,332	11,005	1,053	12,058	161	12,864	332,781
October	88	69,729	6,415	76,232	10,237	1,118	11,354	140	12,055	244,394
November	67	66,904	6,392	73,362	9,647	1,053	10,700	135	11,377	179,723
December	89	73,486	7,086	80,661	10,564	1,110	11,674	132	12,334	196,980
Total	**1,014**	**821,823**	**77,524**	**900,361**	**109,989**	**15,157**	**125,146**	**1,400**	**132,147**	**2,968,453**
1998 January	84	72,384	7,051	79,520	9,014	1,062	10,076	156	10,855	171,149
February	75	63,061	5,960	69,097	8,185	831	9,016	122	9,629	133,757
March	84	65,942	5,791	71,817	12,707	1,215	13,921	125	14,547	194,258
April	75	61,064	5,335	66,474	9,688	994	10,682	141	11,388	190,201
May	83	66,544	6,240	72,867	13,363	2,046	15,409	146	16,140	290,368
June	74	72,397	6,545	79,016	16,802	3,183	19,984	167	20,818	378,607
July	70	79,798	7,321	87,189	19,254	3,448	22,702	176	23,581	449,354
August	58	79,823	7,183	87,064	18,754	3,189	21,943	165	22,767	456,960
September	52	71,635	6,391	78,078	14,621	2,670	17,292	156	18,070	381,075
October	74	66,548	6,785	73,407	10,627	1,005	11,632	144	12,352	246,171
November	75	63,204	6,173	69,452	10,628	1,019	11,647	141	12,354	177,596
December	61	69,695	7,131	76,887	12,930	1,380	14,310	130	14,960	188,557
Total	**867**	**832,094**	**77,906**	**910,867**	**156,573**	**22,041**	**178,614**	**1,769**	**187,461**	**3,258,054**
1999 January	58	71,970	6,842	78,870	14,333	2,419	16,752	130	17,403	178,592
February	61	61,507	5,921	67,489	12,128	905	13,034	108	13,572	151,958
March	71	65,536	5,314	70,922	12,601	1,119	13,719	137	14,406	206,430
April	65	61,820	5,264	67,149	10,107	1,769	11,876	123	12,492	255,694
May	1	64,708	6,046	70,755	10,713	1,311	12,024	138	12,716	272,705
June	40	69,954	6,807	76,801	11,895	2,306	14,201	139	14,896	323,665
July	54	80,247	7,236	87,537	15,890	5,027	20,917	169	21,760	436,024
August	52	77,498	7,202	84,752	13,531	3,024	16,556	186	17,487	433,878
September	33	68,796	6,744	75,574	8,971	1,287	10,258	115	10,834	280,898
October	41	65,425	6,529	71,995	7,324	1,021	8,345	116	8,925	239,976
10-Month Total	**477**	**687,461**	**63,906**	**751,843**	**117,493**	**20,188**	**137,681**	**1,362**	**144,491**	**2,779,820**
1998 10-Month Total	**731**	**699,195**	**64,602**	**764,528**	**133,015**	**19,642**	**152,657**	**1,498**	**160,148**	**2,891,900**
1997 10-Month Total	**858**	**681,433**	**64,046**	**746,337**	**89,778**	**12,993**	**102,771**	**1,133**	**108,436**	**2,591,750**

[a] Includes anthracite silt stored off-site.
[b] Includes subbituminous coal.
[c] For 1980 forward, fuel oil nos. 4, 5, and 6, and residual fuel oils.
[d] For 1980 forward, fuel oil nos. 1 and 2, kerosene, and jet fuel.
[e] Petroleum coke is converted at 5 barrels per short ton.
[f] Includes supplemental gaseous fuels.
[g] For 1973-1979, data for steam plant consumption of petroleum are used as estimates for heavy oil consumption.
[h] For 1973-1979, data for gas turbine and internal combustion plant use of petroleum are used as estimates for light oil consumption.

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."• **1980-1988:** Energy Information Administration (EIA), *Electric Power Monthly,* March issues. • **1989 forward:** EIA, *Electric Power Monthly,* January 2000, Table 14.

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]	**[R] 32,311**	**[R] 27,878**	**1,108**	**33,418**	**1,386,741**
1991 Total[e]	**[R] 38,119**	**[R] 27,882**	**1,629**	**36,027**	**1,569,850**
1992 Total	**44,607**	**[R] 31,876**	**2,750**	**45,626**	**1,844,857**
1993 Total	**48,343**	**[R] 36,960**	**3,182**	**52,870**	**2,013,788**
1994 Total	**52,261**	**[R] 41,889**	**4,740**	**65,589**	**2,149,246**
1995 Total	**[R] 50,329**	**[R] 35,031**	**4,188**	**55,971**	**2,303,944**
1996 Total	**53,199**	**[R] 38,444**	**4,484**	**60,864**	**2,447,720**
1997 Total	**[R] 52,913**	**[R] 35,594**	**4,364**	**57,414**	**[R] 2,231,363**
1998 Total	**[R] 56,849**	**[R] 54,275**	**4,470**	**76,625**	**[R] 2,666,430**
1999 January	5,030	4,588	185	5,513	[E] 172,012
February	4,210	3,918	141	4,623	[E] 152,584
March	5,123	4,219	137	4,904	[E] 168,712
April	4,673	4,156	161	4,961	[E] 170,785
May	4,941	4,846	156	5,626	[E] 170,561
June	6,104	5,062	149	5,807	[E] 181,326
July	6,778	5,285	171	6,140	[E] 220,631
August	6,710	4,639	139	5,334	[E] 222,928
September	5,986	3,826	159	4,621	[E] 204,661
October	6,781	2,618	147	3,353	[E] 206,530
10-Month Total	**56,336**	**43,157**	**1,545**	**50,882**	**[E] 1,870,730**

[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 byproduct, oil waste, sludge oil, and tar oil.

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

[d] Natural gas only.

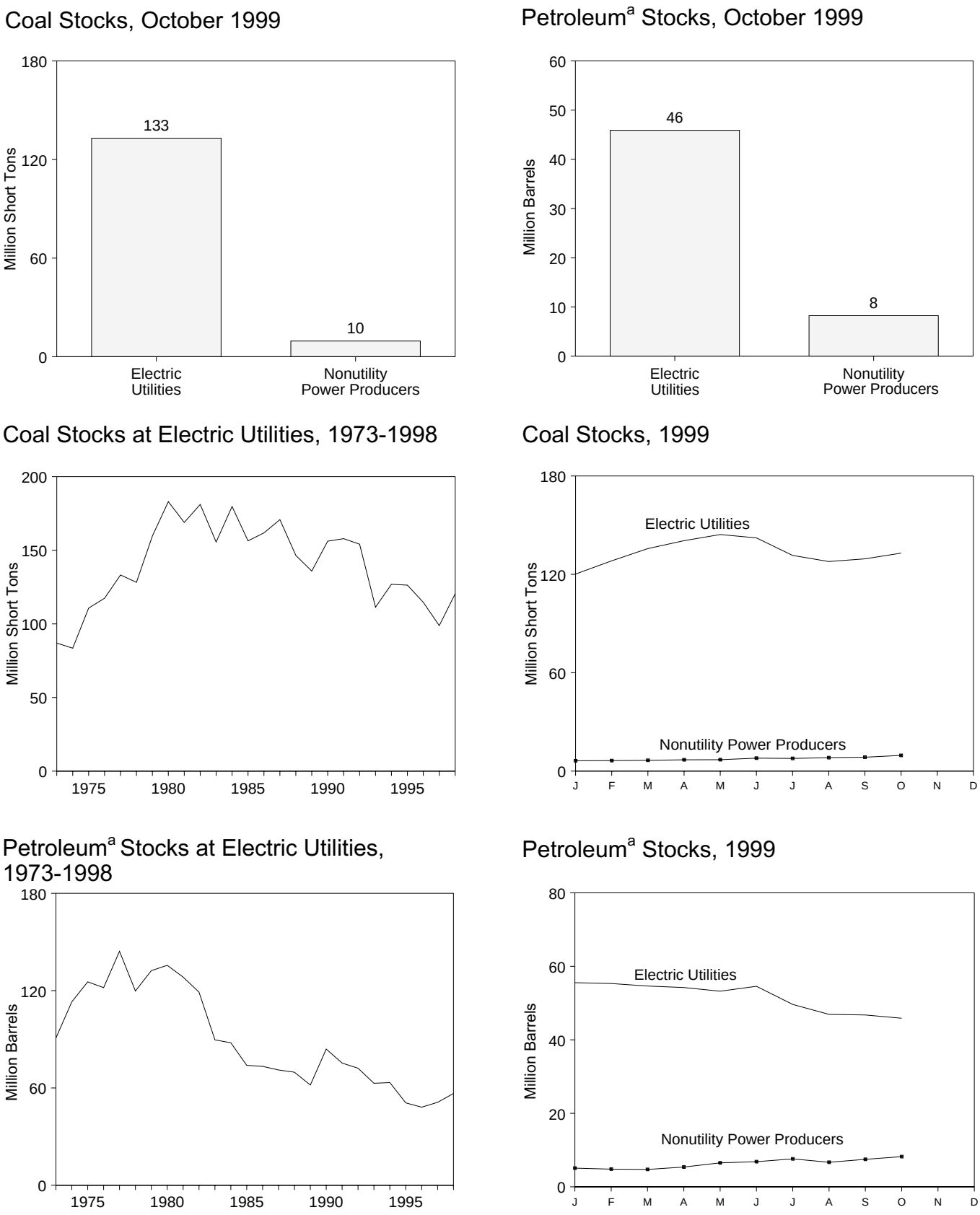
[e] Data for 1989-1991 were collected for facilities with capacities of 5 megawatts or more. In 1992, the threshold was lowered to include facilities with capacities of 1 megawatt or more.

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

Notes: • Monthly data for nonutility facilities included in the cutoff model sample are for fuels consumed to produce electricity. Annual nonutility data, and estimated monthly data for nonutility facilities not included in the cutoff model sample, are for fuels consumed to produce both electricity and useful thermal output. • 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.

Source: • **1989:** Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • **1990 forward:** EIA, *Electric Power Monthly,* January 2000, Table 67 (and for smaller components, 1990-1997: EIA, Form EIA-867, "Annual Nonutility Power Producer Report"; 1998: EIA, Form EIA-860B, "Annual Electric Generator Report-Nonutility"; and 1999: EIA, Form EIA-900, "Monthly Nonutility Power Report").

Figure 7.5 Electric Power Sector Stocks of Coal and Petroleum



[a]Includes petroleum coke, converted at 5 barrels per short ton.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 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	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**	**[d]79,121**	**[e]10,095**	**312**	**90,776**	**NA**	**NA**	**NA**	**NA**
1974 Total	**83,509**	**NA**	**NA**	**[d]97,718**	**[e]15,199**	**35**	**113,091**	**NA**	**NA**	**NA**	**NA**
1975 Total	**110,724**	**NA**	**NA**	**[d]108,825**	**[e]16,432**	**31**	**125,413**	**NA**	**NA**	**NA**	**NA**
1976 Total	**117,436**	**NA**	**NA**	**[d]106,993**	**[e]14,703**	**32**	**121,857**	**NA**	**NA**	**NA**	**NA**
1977 Total	**133,219**	**NA**	**NA**	**[d]124,750**	**[e]19,281**	**44**	**144,252**	**NA**	**NA**	**NA**	**NA**
1978 Total	**128,225**	**NA**	**NA**	**[d]102,402**	**[e]16,386**	**198**	**119,778**	**NA**	**NA**	**NA**	**NA**
1979 Total	**159,714**	**NA**	**NA**	**[d]111,121**	**[e]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 January	106,621	NA	NA	29,742	14,766	136	45,188	NA	NA	NA	NA
February	107,813	NA	NA	31,372	14,901	159	47,066	NA	NA	NA	NA
March	113,727	NA	NA	31,425	15,226	177	47,534	NA	NA	NA	NA
April	118,263	NA	NA	32,534	14,625	221	48,261	NA	NA	NA	NA
May	123,391	NA	NA	33,213	14,685	253	49,163	NA	NA	NA	NA
June	120,787	NA	NA	32,129	14,824	229	48,098	NA	NA	NA	NA
July	109,690	NA	NA	30,990	14,820	308	47,348	NA	NA	NA	NA
August	103,724	NA	NA	30,872	14,823	293	47,161	NA	NA	NA	NA
September	102,119	NA	NA	29,064	14,832	308	45,437	NA	NA	NA	NA
October	102,436	NA	NA	30,115	15,049	439	47,358	NA	NA	NA	NA
November	100,735	NA	NA	32,255	15,214	450	49,720	NA	NA	NA	NA
December	**98,826**	**NA**	**NA**	**33,336**	**15,456**	**469**	**51,138**	**NA**	**NA**	**NA**	**NA**
1998 January	100,406	NA	NA	33,871	15,627	403	51,512	NA	NA	NA	NA
February	103,793	NA	NA	33,872	15,953	358	51,615	NA	NA	NA	NA
March	108,101	NA	NA	31,180	15,481	418	48,753	NA	NA	NA	NA
April	116,231	NA	NA	35,021	16,029	498	53,542	NA	NA	NA	NA
May	119,936	NA	NA	32,911	14,802	501	50,218	NA	NA	NA	NA
June	117,758	NA	NA	30,036	14,559	683	48,011	NA	NA	NA	NA
July	109,540	NA	NA	31,638	15,220	577	49,743	NA	NA	NA	NA
August	103,720	NA	NA	32,605	15,118	623	50,839	NA	NA	NA	NA
September	104,552	NA	NA	31,258	14,793	562	48,863	NA	NA	NA	NA
October	110,021	NA	NA	35,409	15,881	588	54,231	NA	NA	NA	NA
November	117,225	NA	NA	37,059	16,162	602	56,233	NA	NA	NA	NA
December	**120,501**	**NA**	**NA**	**37,447**	**16,343**	**559**	**56,586**	**NA**	**NA**	**NA**	**NA**
1999 January	120,190	6,312	126,503	36,526	16,289	548	55,553	4,727	71	5,083	60,637
February	128,256	6,399	134,655	36,359	16,128	568	55,326	4,483	66	4,812	60,138
March	135,732	6,578	142,310	36,183	15,759	540	54,641	4,522	43	4,735	59,376
April	140,545	6,889	147,435	34,749	16,522	592	54,233	4,652	146	5,380	59,613
May	144,297	6,939	151,236	33,545	16,782	582	53,239	5,710	163	6,525	59,764
June	142,232	7,910	150,142	34,267	16,851	690	54,570	5,945	179	6,839	61,409
July	131,562	7,732	139,294	31,033	15,438	633	49,637	6,757	169	7,602	57,239
August	127,819	8,173	135,992	28,156	15,912	570	46,920	6,046	128	6,685	53,605
September	129,456	8,475	137,932	27,899	16,098	553	46,764	6,791	138	7,480	54,244
October	132,954	9,566	142,520	27,203	16,140	507	45,878	7,594	125	8,220	54,098

[a] Fuel oil nos. 4, 5, and 6, and residual fuel oils.
[b] Fuel oil nos. 1 and 2, kerosene, and jet fuel.
[c] Petroleum coke is converted at 5 barrels per short ton.
[d] For 1973-1979, stocks held at steam plants are used as estimates for heavy oil stocks.
[e] For 1973-1979, stocks held at gas turbine and internal combustion plants are used as estimates for light oil stocks.
NA=Not available.

Notes: • Stocks are at end of period. • Nonutility power producers data represent only facilities that are in the cutoff model sample. 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.

Sources for Table 7.1

Sources for 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, Assistant Secretary for Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data."
1990-1998: Data for Mexico: DOE, Fossil Energy, Office of Fuels Programs, Form FE-781R, "Annual Report of International Electrical Export/Import Data." Data for Canada: the National Energy Board of Canada.
1999: 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—Energy Information Administration (EIA), *Electric Power Monthly,* March 1991, Table 4, and (for geothermal energy and other) FERC, Form FPC-4, "Monthly Power Plant Report."
1981—EIA, *Electric Power Monthly,* March 1992, Table 4, and (for geothermal energy and other) FERC, Form FPC-4, "Monthly Power Plant Report."
1982—EIA, *Electric Power Monthly*, March 1993, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, "Monthly Power Plant Report."
1983-1989—EIA, *Electric Power Monthly,* March 1994, Table 4, and (for small components) EIA, Form EIA-759, "Monthly Power Plant Report."
1990 forward—EIA, *Electric Power Monthly*, January 2000, Tables 4 and 5, and (for small components) EIA, Form EIA-759, "Monthly Power Plant Report."

Sources for Table 7.5

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").
1984-1988—EIA, Form EIA-861, "Annual Electric Utility Report.
1989 forward—EIA, *Electric Power Monthly,* January 2000, Table 44.

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."
1980-1988—EIA, *Electric Power Monthly*, March issues.
1989 forward—EIA, *Electric Power Monthly,* January 2000, Table 21.

Nonutility Power Producers

EIA, *Electric Power Monthly,* January 2000, Table 71.

Section 8. Nuclear Energy

In October 1999, U.S. nuclear generating units produced a total of 55 net terawatthours (billion kilowatthours) of electricity, 4 percent lower than in October 1998. Nuclear units generated at an average capacity factor of 76.3 percent, 3.2 percentage points lower than in October 1998. Nuclear power supplied 22.6 percent of the total electric utility-generated electricity in October 1999 compared with 22.8 in October 1998.

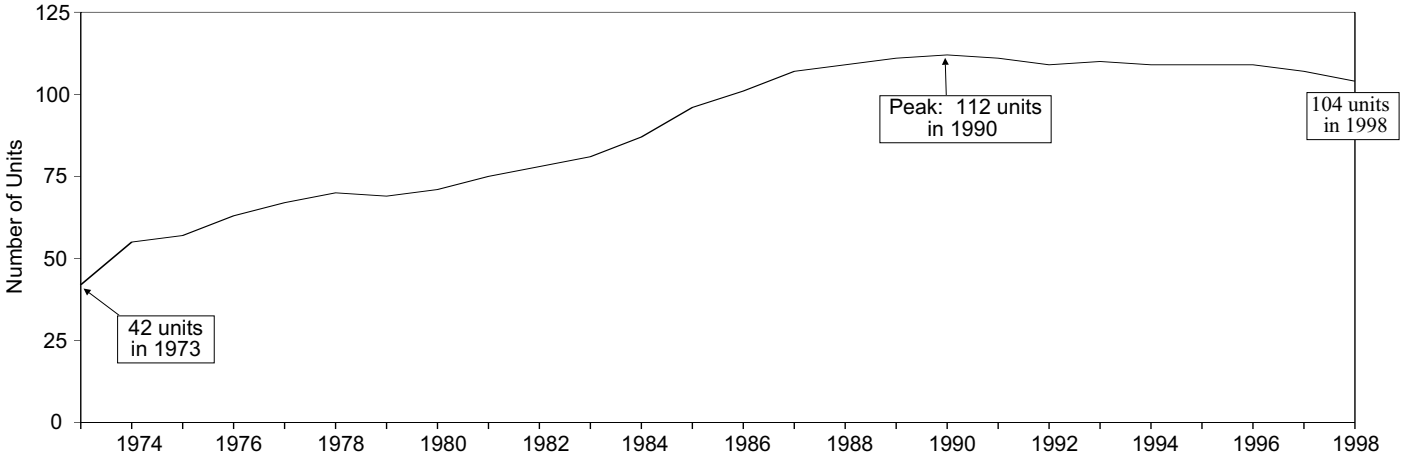
On October 31, 1999, there were 104 operable nuclear generating units in the United States, with a collective net summer capability of 97.1 million kilowatts of electricity. Of the 104 operable units, 4 units generated no electricity during the month because of maintenance, refueling, or repair outage.

By comparison, a total of 58 units were reported operating at 90 percent of capacity or more in October. Of these 58 units, a total of 23 operated at 100 percent or greater (based on net summer capability).

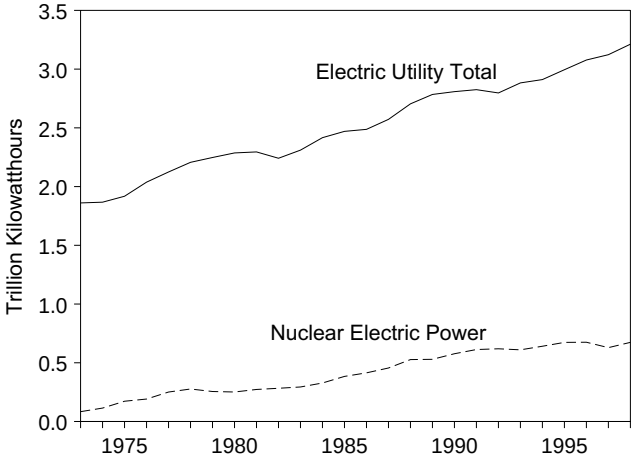
In addition, there were 3 other units with construction permits, although construction for all 3 units has been halted. The design capacity of the 3 units with construction permits was 3.6 million kilowatts.

Figure 8.1 Nuclear Power Plant Operations

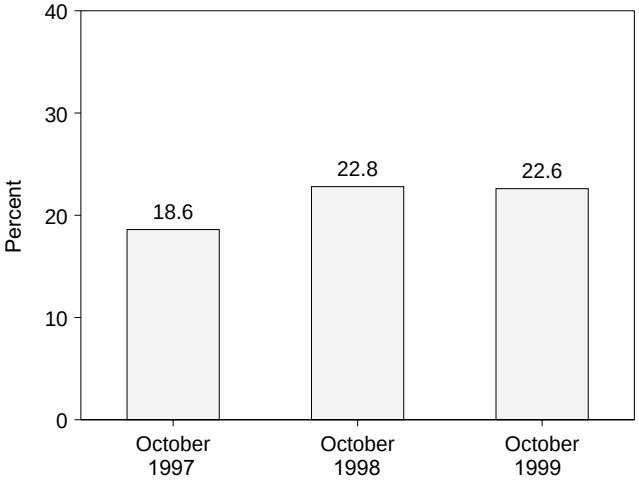
Operable Units,eae End of Year, 1973-1998



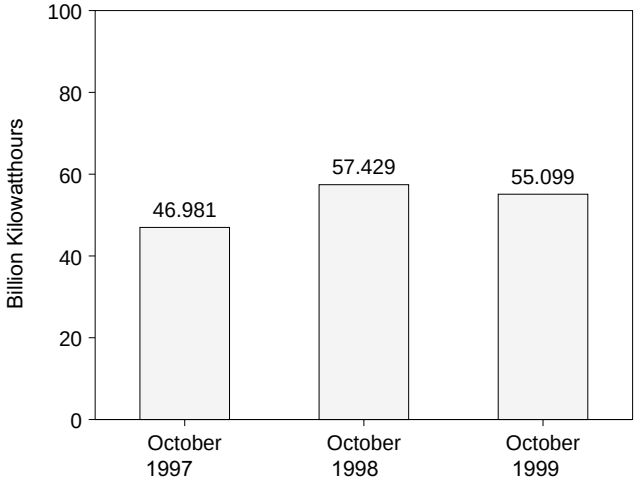
Electric Utility Net Generation 1973-1998



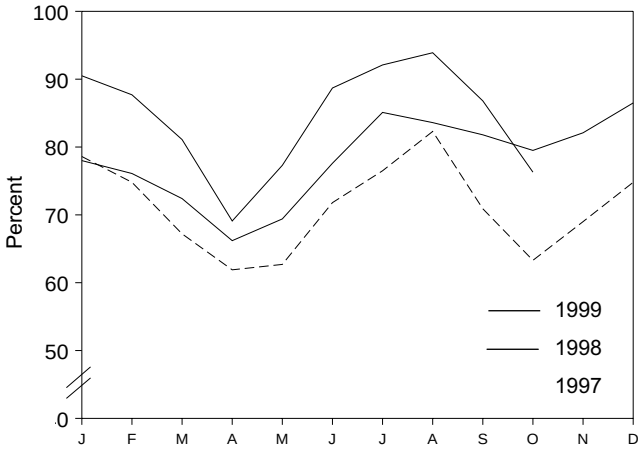
Nuclear Share of Electric Utility Net Generation



Nuclear Electricity Net GenerationEbE



Capacity Factor,EbE Monthly



[a]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.
[b]At electric utilities.
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.1 and 8.1.

Table 8.1 Nuclear Power Plant Operations

	Nuclear Electricity Net Generation[a]	Nuclear Share of Electric Utility Net Generation	Net Summer Capability of Operable Units[a,b,c]	Capacity Factor[a,d]
	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	**529,355**	**19.0**	**98.161**	**62.2**
1990 Year	**576,862**	**20.5**	**99.624**	**66.0**
1991 Year	**612,565**	**21.7**	**99.589**	**70.2**
1992 Year	**618,776**	**22.1**	**98.985**	**70.9**
1993 Year	**610,291**	**21.2**	**99.041**	**70.5**
1994 Year	**640,440**	**22.0**	**99.148**	**73.8**
1995 Year	**673,402**	**22.5**	**99.515**	**77.4**
1996 Year	**674,729**	**21.9**	**100.784**	**76.2**
1997 January	58,914	21.5	100.784	78.6
February	50,658	21.7	100.784	74.8
March	50,414	20.6	100.784	67.2
April	44,883	19.5	100.784	61.9
May	47,032	19.3	100.784	62.7
June	52,095	19.5	100.784	71.8
July	57,352	18.8	100.784	76.5
August	61,084	20.7	99.716	82.3
September	52,586	19.7	99.716	70.9
October	46,981	18.6	99.716	63.3
November	51,189	21.0	99.716	69.0
December	55,457	20.7	99.716	74.8
Year	**628,644**	**20.1**	**99.716**	**71.1**
1998 January	57,889	21.8	99.716	78.0
February	50,999	21.7	99.716	76.1
March	53,711	20.9	99.716	72.4
April	47,503	20.4	99.716	66.2
May	51,496	19.4	99.716	69.4
June	55,732	19.1	99.716	77.6
July	61,499	19.4	97.089	85.1
August	60,369	19.3	97.089	83.6
September	57,206	20.5	97.089	81.8
October	57,429	22.8	97.089	79.5
November	57,372	24.0	97.089	82.1
December	62,497	23.4	97.089	86.5
Year	**673,702**	**21.0**	**97.089**	**78.2**
1999 January	65,399	23.7	97.089	90.5
February	57,235	23.8	97.089	87.7
March	58,578	22.6	97.089	81.1
April	48,315	20.2	97.089	R 69.1
May	55,809	21.8	97.089	77.3
June	62,025	22.0	97.089	R 88.7
July	66,519	20.8	97.089	92.1
August	67,842	22.0	97.089	93.9
September	60,666	23.2	97.089	R 86.8
October	55,099	22.6	97.089	76.3
10-Month Total	**597,487**	**22.2**	**97.089**	**84.3**
1998 10-Month Total	**553,833**	**20.5**	**97.089**	**76.9**
1997 10-Month Total	**521,999**	**20.0**	**99.716**	**71.0**

[a] At electric utilities.
[b] At end of period.
[c] For the definition of "Net Summer Capability," see Note 2(a) at end of section .
[d] For an explanation of the method of calculating the capacity factor, see Note 2 at end of section.
R=Revised.
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 January	0	0	0	0	0	109	0	124
February	0	0	0	0	0	109	0	124
March	0	0	0	0	0	109	0	124
April	0	0	0	0	0	109	0	124
May	0	0	0	0	0	109	0	124
June	0	0	0	0	0	109	0	124
July	0	0	0	0	0	109	0	124
August	0	0	0	0	2	107	0	124
September	0	0	0	0	0	107	0	124
October	0	0	0	0	0	107	0	124
November	0	0	0	0	0	107	0	124
December	0	0	0	0	0	107	0	124
Year	**0**	**0**	**0**	**0**	**2**	**107**	**0**	**124**
1998 January	0	0	0	0	2	105	0	124
February	0	0	0	0	0	105	0	124
March	0	0	0	0	0	105	0	124
April	0	0	0	0	0	105	0	124
May	0	0	0	0	0	105	0	124
June	0	0	0	0	0	105	0	124
July	0	0	0	0	1	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**	**3**	**104**	**0**	**124**
1999 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

[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 1998 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 1998*, 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 operate, 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. For example:

> In 1985 the five then-active Tennessee Valley Authority 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.
>
> 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.
>
> 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 Electric Utility Net Generation:** Table 7.1. **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.

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:** Running sum of new operable units minus 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 purchased at the wellhead was $19.63 per barrel in October 1999, 73 percent above the level in October 1998. The refiner acquisition cost of imported crude oil in October 1999 was $21.62 per barrel, 79 percent higher than the October 1998 level. The refiner acquisition cost of domestic crude oil in October 1999 was $22.39, 67 percent more than the October 1998 average.

Motor Gasoline. The national city average retail price of unleaded regular gasoline at all types of stations was $1.26 per gallon in November 1999, 23 percent higher than the price in November 1998. The price of unleaded premium gasoline averaged $1.45 per gallon in November 1999, 19 percent higher than the price in November 1998.

Residual Fuel Oil. The average price, excluding taxes, of residual fuel oil sold to end users in October 1999 was 48 cents per gallon, 1 percent lower than the previous month's price but 61 percent higher than the October 1998 average. The average resale price, excluding taxes, of residual fuel oil in October 1999 was 45 cents per gallon, 1 percent below the previous month's price but 60 percent above the price 1 year earlier.

Aviation Fuel. The average price, excluding taxes, of aviation gasoline sold to end users in October 1999 was $1.18 per gallon, 1 percent higher than the previous month's price and 25 percent higher than the October 1998 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in October 1999 was 64 cents per gallon, 1 percent higher than the previous month's average price and 37 percent higher than the October 1998 average price.

No. 2 Distillate Fuel Oil. The October 1999 national average price, excluding taxes, of heating oil sold to residential customers was 95 cents per gallon, 5 percent higher than the previous month's price and 20 percent higher than the October 1998 price. The average price of No. 2 fuel oil sold to all end users was 66 cents per gallon in October 1999, 2 percent higher than September 1999 and 38 percent higher than October 1998.

Electricity. The average price of electricity sold by electric utilities to all ultimate consumers in the United States in October 1999 was 6.67 cents per kilowatthour, slightly lower than the October 1998 mean price. The price of electricity sold to residential consumers in October 1999 averaged 8.38 cents per kilowatthour, 2 percent higher than the October 1998 price. The price of electricity sold to commercial consumers averaged 7.34 cents per kilowatthour in October 1999, 1 percent lower than the October 1998 price. The price of electricity sold to other consumers was 6.88 cents per kilowatthour, 2 percent higher than the October 1998 price. The price of electricity sold to industrial users in October 1999 averaged 4.46 cents per kilowatthour, 1 percent higher than the price 1 year earlier.

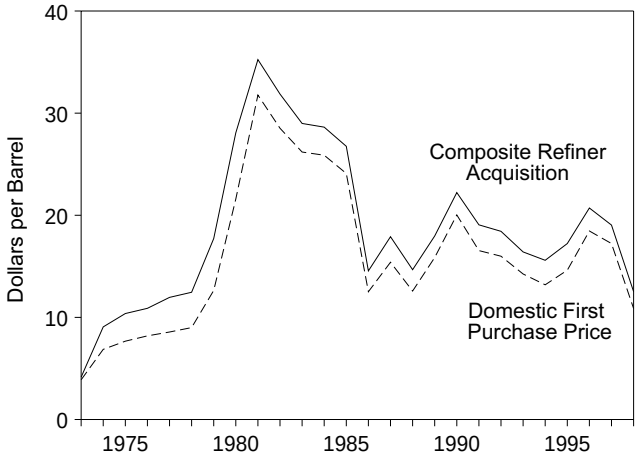
Beginning with January 1986, new series of national average price estimates were based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

Natural Gas. The estimated average wellhead price of natural gas for September 1999 was $2.42 per thousand cubic feet, 43 percent higher than the September 1998 price.

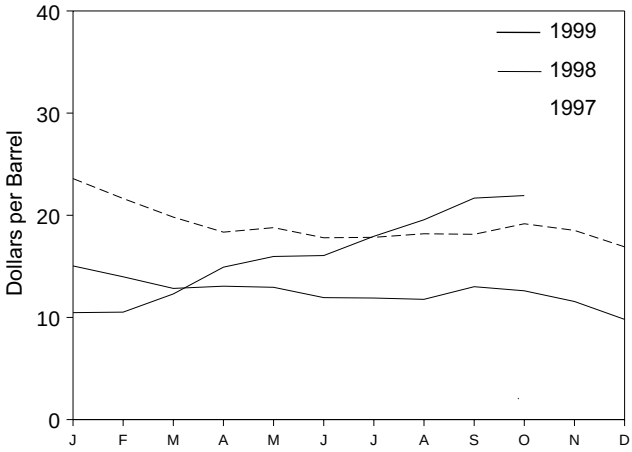
The average price of natural gas delivered to electric utility plants was $2.80 per thousand cubic feet in August 1999 (latest date for which data are available), 27 percent higher than the August 1998 price. The average price of natural gas used by residential consumers in September 1999 was $8.38 per thousand cubic feet, 6 percent lower than the September 1998 price. The average price of natural gas used by commercial consumers in September 1999 was $5.40 per thousand cubic feet, 2 percent lower than the September 1998 price. The average price of natural gas used by industrial consumers in September 1999 was $3.09 per thousand cubic feet, 17 percent above the September 1998 price.

Figure 9.1 Petroleum Prices

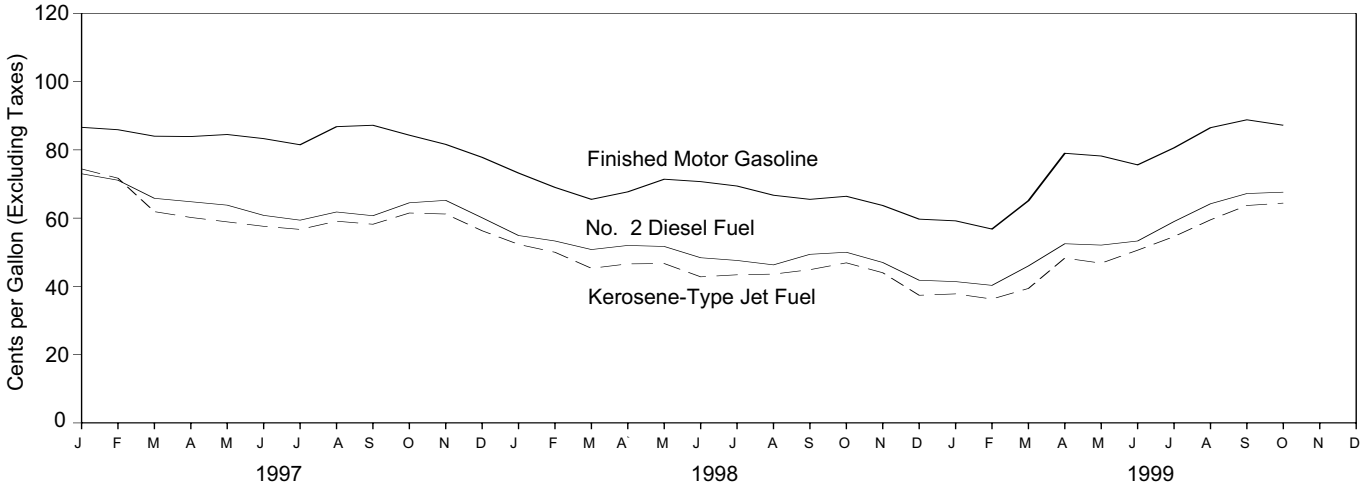
Crude Oil Prices, 1973-1998



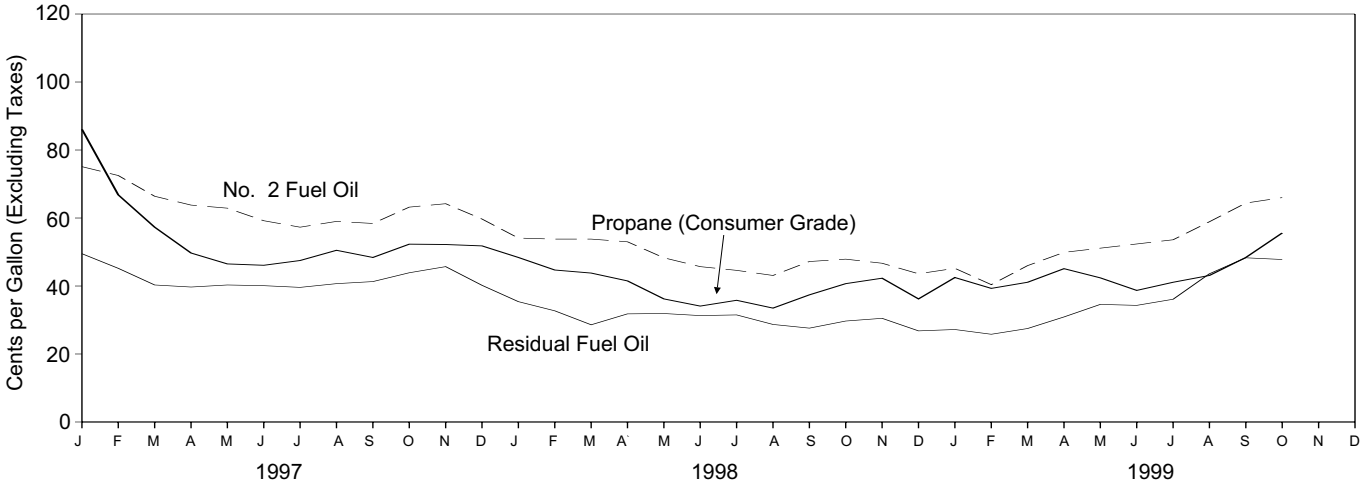
Composite Refiner Acquisition Cost, Monthly



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 January	21.76	21.19	22.21	24.25	23.02	23.59
February	19.38	18.99	19.98	22.49	20.88	21.64
March	17.83	17.11	18.45	20.57	19.16	19.82
April	16.63	16.20	17.52	19.02	17.83	18.35
May	17.23	16.81	17.87	19.08	18.55	18.79
June	15.88	15.99	17.12	18.31	17.35	17.80
July	15.89	16.37	17.27	18.25	17.49	17.84
August	16.19	16.68	17.78	18.47	17.96	18.19
September	16.41	16.76	17.85	18.48	17.85	18.14
October	17.66	17.26	18.51	19.68	18.73	19.17
November	16.83	16.12	17.35	19.23	17.88	18.52
December	15.04	14.21	15.70	17.92	15.95	16.91
Average	**17.23**	**16.94**	**18.11**	**19.61**	**18.53**	**19.04**
1998 January	13.45	12.78	14.12	15.85	14.33	15.04
February	12.17	11.69	13.08	14.74	13.32	13.98
March	11.15	11.08	12.40	13.48	12.34	12.84
April	11.28	11.17	12.33	13.42	12.81	13.06
May	11.13	11.33	12.26	13.42	12.61	12.95
June	10.00	10.12	11.25	12.38	11.61	11.94
July	10.44	10.37	11.41	12.36	11.55	11.90
August	10.20	10.21	11.32	12.44	11.34	11.77
September	11.29	11.70	12.44	13.35	12.77	13.01
October	11.32	10.99	11.96	13.39	12.11	12.61
November	9.64	9.37	10.47	12.47	10.99	11.56
December	8.03	8.18	9.30	10.48	9.39	9.81
Average	**10.87**	**10.76**	**11.84**	**13.18**	**12.04**	**12.52**
1999 January	8.59	9.15	10.16	10.96	10.16	10.47
February	8.58	9.37	10.63	10.97	10.22	10.52
March	10.75	11.85	12.92	12.29	12.31	12.30
April	12.84	14.14	15.06	15.05	14.85	14.92
May	13.84	14.40	15.52	16.59	15.57	15.97
June	14.34	15.10	16.10	16.30	15.91	16.06
July	16.13	17.30	18.13	18.10	17.84	17.94
August	17.58	[R] 19.14	[R] 19.77	19.57	19.56	19.56
September	[R] 20.10	[R] 21.05	21.69	21.74	21.64	21.68
October	19.63	20.38	21.36	22.39	21.62	21.93

[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 January	23.20	24.14	20.98	23.45	17.37	W	19.29	17.37	20.20	21.88
February	21.35	21.12	18.57	21.53	W	W	16.68	W	17.94	19.71
March	18.66	19.41	17.00	19.02	W	(d)	15.50	W	16.49	17.68
April	17.05	17.87	15.94	17.97	15.82	W	14.81	15.95	15.92	16.44
May	18.25	17.95	16.84	18.99	15.64	19.03	15.30	15.70	16.28	17.33
June	17.84	16.87	15.70	18.22	15.26	18.09	14.66	15.11	15.61	16.36
July	17.72	17.73	15.99	19.12	15.14	17.40	15.02	15.19	16.02	16.65
August	17.96	18.42	16.29	18.98	16.89	18.17	15.33	16.47	16.37	16.96
September	18.15	18.52	16.02	19.35	15.33	18.44	15.25	16.15	16.51	16.99
October	19.33	19.52	17.51	20.03	W	W	15.81	W	16.32	18.15
November	18.54	18.24	16.04	19.11	W	W	14.39	W	14.99	17.02
December	16.58	17.18	13.79	17.39	W	W	12.51	W	13.31	14.97
Average	**18.81**	**18.85**	**16.72**	**19.43**	**15.16**	**18.59**	**15.33**	**15.24**	**16.26**	**17.51**
1998 January	14.52	15.36	12.08	15.21	W	W	11.26	W	12.26	13.14
February	13.13	14.27	11.47	13.77	W	W	10.24	W	11.35	12.10
March	12.53	13.10	9.77	13.56	W	W	9.70	W	10.93	11.22
April	12.93	13.48	11.01	13.86	W	W	10.32	7.80	10.58	11.63
May	13.85	13.08	11.25	14.13	7.62	W	9.78	7.86	10.58	11.97
June	11.82	11.85	9.96	11.57	8.25	W	9.16	8.50	9.73	10.44
July	11.14	12.24	10.44	11.77	9.06	W	8.99	8.95	9.76	10.83
August	11.37	12.12	9.87	12.23	9.77	11.13	8.54	9.68	9.69	10.60
September	12.59	13.20	11.13	13.92	W	W	10.52	W	11.35	11.95
October	11.67	13.37	11.05	12.58	10.19	W	9.43	10.19	10.22	11.66
November	10.82	11.29	9.71	10.64	9.07	10.85	6.62	8.76	8.03	10.32
December	9.33	9.58	7.82	10.29	7.69	W	6.51	7.57	7.52	8.69
Average	**12.11**	**12.56**	**10.49**	**12.97**	**8.87**	**12.52**	**9.31**	**9.09**	**10.20**	**11.21**
1999 January	10.75	10.96	8.67	10.78	9.03	(d)	6.33	8.77	8.20	9.80
February	10.16	10.47	8.52	10.50	11.59	W	7.06	11.18	8.93	9.61
March	11.92	13.33	10.92	13.67	13.25	W	10.70	12.97	12.04	11.71
April	15.06	15.95	13.77	16.12	W	(d)	12.53	13.64	13.68	14.51
May	14.88	15.87	14.05	15.46	W	15.39	12.27	15.01	13.93	14.74
June	15.56	16.43	14.42	16.50	W	16.03	13.82	16.46	15.03	15.14
July	19.10	18.27	17.01	18.81	W	16.96	15.80	17.41	16.93	17.56
August	20.31	19.88	18.74	R 20.69	W	19.79	17.55	R 19.31	R 18.82	19.32
September	22.48	R 23.12	R 20.57	R 22.68	20.35	21.97	R 19.18	R 20.28	R 20.29	R 21.58
October	21.73	22.44	20.05	22.43	19.33	20.60	18.91	19.25	19.39	20.92

[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 January	24.45	21.79	24.98	21.52	24.67	20.90	24.18	20.42	20.88	21.49	22.87
February	22.54	19.75	21.72	19.11	23.26	18.33	24.33	17.58	18.34	19.19	20.59
March	20.32	18.44	20.39	17.43	20.58	18.04	23.59	16.57	18.13	18.05	18.83
April	18.66	17.25	18.76	16.60	19.27	17.56	18.80	16.05	17.39	17.46	17.57
May	19.58	17.47	18.76	17.59	19.87	17.10	20.04	16.42	17.08	17.58	18.15
June	19.33	16.31	17.74	16.24	19.57	16.93	19.54	15.70	16.85	17.01	17.24
July	18.59	16.61	18.57	16.50	20.02	17.02	18.59	15.99	16.82	17.12	17.40
August	19.14	17.16	18.98	16.84	20.01	18.33	19.33	16.23	18.05	17.80	17.76
September	19.50	16.97	19.36	16.69	20.35	18.02	19.56	16.14	17.86	17.86	17.84
October	20.83	18.33	20.45	18.11	21.14	17.10	18.85	16.76	17.35	17.79	19.19
November	19.64	16.78	19.28	16.84	20.55	15.43	19.93	15.41	15.75	16.63	17.99
December	18.24	15.13	18.12	14.45	19.03	14.79	18.61	13.42	15.06	15.01	16.30
Average	**20.24**	**17.63**	**19.71**	**17.30**	**20.64**	**17.52**	**20.64**	**16.35**	**17.44**	**17.73**	**18.45**
1998 January	16.15	13.25	16.39	12.67	16.98	13.41	W	12.26	13.48	13.89	14.30
February	14.57	12.18	15.37	12.11	15.30	13.05	15.63	11.17	13.01	12.93	13.24
March	14.06	11.58	13.84	10.37	14.71	12.31	14.82	10.66	12.40	12.45	12.36
April	14.16	11.58	14.07	11.37	14.67	11.45	15.19	11.23	11.63	12.04	12.58
May	15.16	11.47	13.53	11.48	14.91	10.83	14.52	10.64	10.85	11.75	12.73
June	12.98	10.73	12.45	10.52	13.31	10.66	12.58	9.93	10.64	11.07	11.41
July	12.44	11.28	12.73	10.95	12.88	11.02	W	9.78	10.94	11.06	11.74
August	12.65	11.16	12.84	10.34	13.20	11.29	12.89	9.33	11.22	11.06	11.61
September	13.59	12.75	13.79	11.60	14.60	11.71	13.43	11.12	11.76	12.07	12.83
October	12.87	12.53	13.81	11.58	13.97	10.64	13.14	10.32	11.19	11.34	12.63
November	11.88	10.97	11.81	10.22	12.03	9.81	12.96	7.83	10.04	9.73	11.20
December	10.48	9.90	10.05	8.31	11.21	8.94	10.89	7.63	9.00	8.87	9.77
Average	**13.37**	**11.62**	**13.26**	**11.04**	**14.14**	**11.16**	**13.55**	**10.16**	**11.18**	**11.46**	**12.22**
1999 January	11.77	10.66	11.49	9.26	11.45	10.03	11.34	7.77	9.95	9.68	10.67
February	11.33	10.98	11.15	8.96	11.37	12.04	11.47	8.13	11.55	10.73	10.52
March	13.42	12.79	13.83	11.27	13.88	14.16	11.76	11.60	13.76	13.22	12.58
April	16.06	15.21	16.62	14.30	15.72	15.24	15.39	13.76	15.10	14.86	15.29
May	16.25	15.86	16.28	14.54	16.40	16.29	16.24	13.54	15.95	15.38	15.66
June	16.66	15.69	16.69	14.81	16.89	17.27	16.78	14.92	16.89	16.31	15.92
July	20.01	17.81	18.78	17.34	19.16	18.90	18.00	16.96	18.33	18.09	18.18
August	21.26	19.22	20.43	19.10	R 20.84	R 19.94	20.12	18.55	R 19.90	R 19.72	19.80
September	R 22.82	R 21.63	R 23.10	R 21.10	R 23.01	R 21.23	R 22.81	R 20.45	R 21.09	R 21.22	R 22.11
October	22.47	21.89	22.94	20.40	23.54	20.46	22.07	19.81	20.61	20.77	21.80

[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,* January 2000, 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 January	NA	126.1	144.1	131.8
February	NA	125.5	143.4	131.2
March	NA	123.5	141.5	129.3
April	NA	123.1	141.3	128.8
May	NA	122.6	140.9	128.4
June	NA	122.9	141.1	128.6
July	NA	120.5	138.8	126.3
August	NA	125.3	143.3	131.0
September	NA	127.7	145.8	133.4
October	NA	124.2	142.6	130.0
November	NA	121.3	139.7	127.1
December	NA	117.7	136.3	123.6
Average	**NA**	**123.4**	**141.6**	**129.1**
1998 January	NA	113.1	131.9	118.6
February	NA	108.2	127.1	113.7
March	NA	104.1	122.9	109.7
April	NA	105.2	123.7	110.6
May	NA	109.2	127.5	114.6
June	NA	109.4	127.9	114.8
July	NA	107.9	126.8	113.4
August	NA	105.2	124.4	110.8
September	NA	103.3	123.0	109.1
October	NA	104.2	123.6	109.9
November	NA	102.8	122.5	108.6
December	NA	98.6	118.7	104.6
Average	**NA**	**105.9**	**125.0**	**111.5**
1999 January	NA	97.2	117.1	103.1
February	NA	95.5	115.5	101.4
March	NA	99.1	118.6	104.8
April	NA	117.7	136.7	123.2
May	NA	117.8	137.0	123.3
June	NA	114.8	133.9	120.4
July	NA	118.9	137.8	124.4
August	NA	125.5	144.1	130.9
September	NA	128.0	146.8	133.4
October	NA	127.4	146.4	132.9
November	NA	126.4	145.4	131.9

[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 January	46.2	58.7	39.3	46.3	42.9	49.5
February	43.7	54.6	35.4	41.8	39.3	45.2
March	39.8	49.3	33.9	37.6	35.8	40.3
April	37.6	46.4	35.2	37.5	36.1	39.7
May	36.7	45.2	35.4	38.6	35.8	40.3
June	39.5	44.4	34.7	38.7	36.7	40.1
July	38.5	44.2	35.3	38.2	36.5	39.6
August	39.4	44.6	37.5	39.5	38.3	40.7
September	40.1	46.4	37.5	40.1	38.7	41.3
October	44.6	48.2	39.7	42.9	42.0	43.9
November	46.5	51.2	41.6	43.8	43.5	45.7
December	38.7	48.5	32.8	37.8	35.6	40.2
Average	**41.5**	**48.8**	**36.6**	**40.3**	**38.7**	**42.3**
1998 January	35.2	44.7	28.9	32.6	31.1	35.4
February	30.7	39.6	26.7	30.6	28.3	32.7
March	29.4	35.6	24.1	26.0	26.4	28.6
April	32.9	35.9	28.7	30.5	30.3	31.8
May	31.9	37.6	28.3	30.1	29.5	31.9
June	29.3	36.1	27.0	29.6	27.9	31.3
July	30.7	35.1	28.7	30.0	29.6	31.5
August	26.9	32.3	26.1	27.4	26.5	28.7
September	29.9	32.4	27.0	26.0	27.9	27.6
October	31.0	33.6	27.0	28.1	28.2	29.7
November	27.3	33.6	25.1	28.9	26.0	30.5
December	24.0	31.9	23.0	24.5	23.3	26.8
Average	**29.9**	**35.4**	**26.9**	**28.7**	**28.0**	**30.5**
1999 January	27.6	32.4	23.5	25.4	25.2	27.2
February	21.9	30.6	21.8	24.0	21.8	25.8
March	27.2	31.4	23.9	26.0	24.9	27.5
April	30.7	32.7	28.8	29.9	29.5	30.9
May	34.9	NA	29.2	33.2	32.1	34.6
June	34.8	38.1	30.3	32.6	31.9	34.3
July	38.2	40.5	33.9	34.5	35.6	36.1
August	44.5	46.1	38.7	42.9	42.1	43.6
September	48.1	49.0	R 42.9	48.2	R 45.5	48.3
October	47.8	51.1	43.4	46.7	45.1	47.8

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,* January 2000, 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 January	75.0	109.0	73.8	77.7	69.8	69.8	60.2
February	73.0	108.7	71.5	73.9	64.5	67.8	44.7
March	71.4	107.9	61.8	63.5	57.7	62.4	41.3
April	70.4	108.5	60.6	62.1	58.6	61.7	37.7
May	71.3	108.2	59.4	60.4	58.8	60.7	36.9
June	68.4	105.9	58.1	57.4	54.5	56.6	36.4
July	67.5	104.7	56.9	56.8	53.8	55.8	35.9
August	75.0	109.0	59.1	60.6	55.3	58.9	37.5
September	72.3	109.0	58.9	60.2	54.3	57.8	39.5
October	68.5	104.7	61.1	63.8	59.0	61.7	41.1
November	65.9	102.0	61.3	62.6	58.4	61.5	39.6
December	61.7	99.1	55.6	57.8	53.4	55.0	37.5
Average	**70.0**	**106.5**	**61.3**	**65.3**	**59.0**	**60.6**	**41.6**
1998 January	57.6	96.2	52.9	52.8	48.9	49.6	35.4
February	55.1	92.1	50.3	51.6	47.7	48.3	33.1
March	52.3	88.4	45.9	47.5	44.9	45.9	31.1
April	54.9	92.8	46.7	46.1	44.9	48.2	30.3
May	57.9	97.3	47.0	45.6	43.3	47.0	29.3
June	55.7	94.1	43.2	43.0	39.9	43.5	26.7
July	54.3	93.4	43.4	41.7	38.8	42.6	25.7
August	50.6	91.6	42.9	40.7	36.9	41.4	25.7
September	50.9	89.8	44.6	45.9	41.8	45.6	26.3
October	52.4	90.7	45.9	46.6	41.2	45.5	27.6
November	47.8	83.6	42.9	44.2	38.9	41.4	27.7
December	42.6	79.8	36.3	38.7	34.6	35.4	25.7
Average	**52.6**	**91.2**	**45.0**	**46.5**	**42.2**	**44.4**	**28.8**
1999 January	44.1	80.9	36.9	42.6	36.3	36.5	26.5
February	42.6	78.9	35.0	38.3	33.0	35.5	26.2
March	51.9	86.8	39.3	43.9	39.7	43.6	26.9
April	62.3	98.8	46.9	48.5	44.5	48.7	28.6
May	61.6	97.8	47.2	45.2	43.7	47.8	29.0
June	61.1	95.0	49.3	46.8	44.2	50.3	29.6
July	68.7	103.0	53.6	53.5	51.4	56.6	34.6
August	73.8	107.6	59.0	59.4	56.3	61.4	38.3
September	[R] 75.7	111.9	[R] 62.5	[R] 65.9	[R] 60.9	[R] 65.0	41.5
October	72.4	109.8	63.5	64.8	61.2	65.1	43.7

[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,* January 2000, 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 January	86.6	113.7	74.4	88.7	75.1	73.0	86.1
February	85.9	114.9	71.7	84.8	72.5	71.1	66.8
March	84.0	113.8	61.9	NA	66.4	65.8	57.3
April	83.9	114.7	60.2	69.8	63.8	64.8	49.7
May	84.5	115.7	58.9	68.5	62.9	63.8	46.5
June	83.3	114.6	57.6	64.5	59.2	60.8	46.1
July	81.5	NA	56.7	63.1	57.3	59.4	47.5
August	86.8	114.6	59.1	64.9	59.0	61.8	50.5
September	87.2	115.6	58.2	63.4	58.4	60.7	48.4
October	84.3	113.9	61.5	72.9	63.2	64.5	52.3
November	81.6	113.0	61.2	77.9	64.2	65.2	52.2
December	77.8	107.7	56.3	75.1	59.7	60.1	51.8
Average	**83.9**	**112.8**	**61.3**	**74.5**	**63.6**	**64.2**	**55.2**
1998 January	73.2	104.3	52.3	71.8	54.1	54.9	48.4
February	69.0	100.8	50.0	68.2	53.8	53.3	44.7
March	65.5	98.4	45.3	65.3	53.8	50.8	43.8
April	67.7	99.3	46.6	56.7	53.0	52.0	41.5
May	71.4	101.1	46.7	56.0	48.3	51.7	36.2
June	70.7	99.1	42.8	44.7	45.7	48.4	34.1
July	69.4	98.5	43.4	47.4	44.6	47.6	35.8
August	66.7	95.9	43.6	41.5	43.1	46.3	33.5
September	65.5	94.1	44.9	46.2	47.2	49.4	37.4
October	66.4	95.1	46.9	50.9	47.9	50.0	40.7
November	63.7	93.3	44.0	44.4	46.7	47.0	42.3
December	59.7	88.7	37.4	42.4	43.6	41.8	36.2
Average	**67.3**	**97.5**	**45.2**	**50.1**	**48.2**	**49.4**	**40.5**
1999 January	59.2	87.0	37.8	47.2	45.2	41.4	42.5
February	56.8	85.0	36.3	46.8	40.4	40.3	39.3
March	65.1	89.7	39.4	50.4	46.0	46.0	41.1
April	79.0	101.3	48.3	48.9	49.9	52.5	45.1
May	78.2	103.5	46.8	49.5	NA	52.1	42.4
June	75.6	103.3	50.6	46.3	NA	53.3	38.7
July	80.6	110.0	54.6	58.2	53.6	59.0	41.1
August	86.5	114.8	59.5	62.4	58.9	64.2	43.1
September	88.8	117.7	[R]63.7	[R]68.0	[R]64.4	[R]67.2	[R]48.4
October	87.2	118.4	64.4	75.7	66.0	67.6	55.6

[a] See Note 5 at end of section.

R=Revised. 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,* January 2000, 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 January	105.2	102.1	104.4	106.5	107.0	108.6	114.3	111.6	104.2
February	102.2	101.0	103.5	103.4	104.5	105.2	111.6	108.7	102.1
March	94.3	98.6	103.1	97.7	100.4	99.3	111.2	104.9	97.7
April	90.9	95.2	100.4	95.9	99.4	97.6	109.4	102.8	94.8
May	90.6	91.9	97.7	93.0	97.3	93.4	107.7	100.1	92.4
June	88.1	89.1	92.9	89.1	93.3	89.9	103.6	97.2	87.6
July	86.7	85.6	91.1	87.5	91.6	83.7	99.4	90.3	82.0
August	85.8	85.3	92.7	84.7	91.0	84.2	92.9	90.1	80.7
September	87.0	86.3	91.7	87.0	91.2	85.5	94.5	91.2	82.8
October	90.0	88.2	93.1	89.5	94.6	88.9	100.6	95.4	87.2
November	92.0	88.6	94.7	90.7	95.4	91.3	101.7	97.8	89.5
December	90.9	88.5	94.0	89.9	94.6	91.9	101.8	98.2	89.9
Average	**94.2**	**94.2**	**98.7**	**96.0**	**98.9**	**96.3**	**106.5**	**103.3**	**95.0**
1998 January	88.0	86.6	92.5	88.8	93.3	90.7	101.4	96.5	89.2
February	85.1	86.7	91.6	87.7	92.6	90.1	101.0	95.8	88.5
March	82.3	84.1	92.1	86.7	90.1	88.0	98.3	92.9	86.2
April	81.6	81.3	89.1	83.5	88.9	85.8	97.1	91.7	84.0
May	80.3	79.4	86.7	81.9	87.2	83.2	95.0	89.6	82.1
June	78.6	75.6	84.3	78.5	84.4	78.1	92.2	83.9	75.7
July	76.0	70.5	81.4	76.2	83.3	74.4	89.0	79.0	70.1
August	74.3	68.5	80.9	74.0	78.6	71.4	83.7	77.1	69.9
September	74.4	70.8	80.5	74.2	78.8	72.4	85.2	80.3	71.7
October	74.1	71.1	82.4	75.3	81.7	75.5	88.0	82.3	74.1
November	73.3	72.3	82.0	74.7	80.4	77.0	89.3	83.5	76.6
December	70.9	71.4	81.7	74.3	79.9	77.1	88.5	82.6	76.0
Average	**78.8**	**78.8**	**87.3**	**81.8**	**86.8**	**83.1**	**94.8**	**89.2**	**81.4**
1999 January	72.0	70.8	80.5	75.3	79.9	78.6	90.3	83.3	77.8
February	71.6	70.4	79.7	74.7	79.4	77.3	89.5	83.1	77.3
March	74.2	70.4	79.5	76.1	79.3	77.9	90.5	83.3	77.3
April	79.2	70.2	80.2	76.9	79.2	80.0	94.2	88.6	75.8
May	79.2	69.1	79.6	78.1	78.8	77.3	95.5	87.0	75.3
June	77.4	68.5	78.3	76.6	78.2	75.1	96.1	84.4	73.8
July	79.8	69.7	79.9	77.5	79.0	78.0	95.1	85.1	73.4
August	83.0	74.5	82.2	80.3	81.2	79.8	NA	88.3	74.6
September	R 88.9	82.0	R 88.0	R 86.1	R 90.6	R 85.2	R 98.7	95.1	81.7
October	91.6	87.9	92.2	91.0	93.1	90.8	105.6	100.8	86.0

R=Revised.

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,* January 2000, 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 January	106.5	130.4	117.1	105.5	103.8	100.7	105.6	100.9	99.2	98.3	99.4
February	104.2	127.0	115.0	102.7	101.2	98.4	104.4	97.0	93.2	96.8	97.0
March	100.7	121.4	108.1	100.4	98.1	92.3	NA	94.7	90.2	96.8	91.4
April	100.1	116.3	105.6	96.7	95.7	92.3	91.7	NA	85.5	92.9	89.4
May	96.4	108.6	101.9	89.9	92.9	90.4	90.7	88.7	81.9	93.4	89.0
June	90.8	99.9	98.0	87.8	90.6	86.8	88.2	84.2	81.4	90.8	87.2
July	88.8	W	96.1	85.9	87.4	83.2	84.9	79.9	79.9	86.9	84.7
August	89.2	W	93.8	85.3	85.0	81.7	87.4	83.2	81.3	86.5	84.7
September	88.5	NA	94.7	88.9	87.6	84.2	88.3	80.4	77.4	88.0	83.6
October	88.0	106.7	97.8	90.2	88.1	88.2	88.9	84.5	82.6	89.5	86.2
November	92.0	W	100.3	91.8	92.2	89.2	93.6	85.0	81.5	89.8	86.4
December	94.2	111.8	100.9	92.5	93.6	85.8	88.9	81.8	82.1	88.6	84.4
Average	**98.4**	**117.4**	**105.7**	**94.8**	**96.2**	**91.3**	**94.2**	**86.5**	**87.0**	**93.3**	**89.9**
1998 January	92.4	111.0	100.4	92.1	91.1	82.2	85.9	79.9	80.4	85.4	81.5
February	91.9	110.0	98.8	91.4	88.9	80.9	84.2	78.9	79.7	83.6	78.1
March	90.6	104.9	96.8	89.6	88.5	79.5	83.3	77.9	77.2	83.0	77.2
April	88.5	100.3	93.1	88.4	86.8	79.5	81.8	77.0	74.4	81.6	77.8
May	82.3	NA	89.0	83.8	82.1	78.8	81.5	73.2	70.0	80.5	72.6
June	79.8	89.8	85.8	82.4	79.8	75.1	79.3	72.1	63.6	78.8	68.8
July	74.1	84.0	81.2	81.4	73.3	72.7	76.5	69.7	70.7	77.8	69.4
August	74.5	85.6	79.4	79.0	72.6	70.1	74.5	71.0	NA	75.5	68.2
September	73.0	84.6	81.7	80.1	72.6	72.3	75.9	72.5	66.2	74.9	70.5
October	76.4	W	80.3	80.3	76.9	74.4	77.3	73.0	69.8	76.8	70.7
November	82.4	W	82.1	81.2	76.8	73.4	77.9	71.9	70.8	76.6	70.3
December	80.9	W	80.3	79.9	73.8	71.6	77.9	69.3	66.6	74.6	67.9
Average	**85.8**	**102.2**	**90.2**	**85.6**	**81.8**	**76.7**	**80.4**	**74.8**	**73.5**	**80.1**	**73.8**
1999 January	82.1	W	85.7	81.2	74.6	72.8	76.2	71.4	68.6	75.0	68.0
February	80.4	W	86.1	81.2	71.4	72.1	76.5	70.9	66.0	73.9	67.0
March	82.9	W	86.9	81.6	78.4	76.6	77.5	73.8	67.9	76.4	69.6
April	88.8	W	86.9	85.0	71.9	76.5	81.5	76.0	63.7	77.8	73.5
May	NA	W	84.5	84.2	71.2	76.1	NA	72.9	60.5	77.3	72.5
June	77.0	W	81.8	83.2	66.2	77.4	NA	74.0	57.9	76.4	72.4
July	76.3	W	84.4	84.1	69.5	78.9	NA	76.3	62.8	79.8	74.0
August	78.1	W	85.9	84.8	75.7	80.3	NA	84.5	80.5	86.9	81.6
September	R 85.0	W	92.4	R 88.8	79.5	R 86.9	NA	R 91.7	85.6	R 91.5	R 85.4
October	90.5	W	96.0	94.1	NA	89.9	NA	91.5	89.0	95.0	89.8

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,* January 2000, 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 January	94.9	117.6	105.7	97.2	107.9
February	94.5	118.8	106.7	97.7	105.1
March	100.6	116.6	107.5	98.9	101.6
April	98.3	114.9	106.0	97.6	99.2
May	98.4	109.1	104.6	96.5	96.4
June	93.4	112.2	100.2	96.1	92.3
July	89.9	NA	96.8	97.6	88.3
August	91.2	108.8	99.2	96.5	86.9
September	92.5	110.9	101.2	96.8	88.7
October	93.0	111.6	101.6	97.8	92.3
November	94.4	112.8	102.3	98.2	94.1
December	93.4	109.0	98.4	96.4	93.8
Average	**95.3**	**113.9**	**103.1**	**97.3**	**98.4**
1998 January	84.9	104.6	93.6	NA	92.5
February	80.8	100.8	89.3	87.4	91.6
March	78.6	98.9	85.8	86.5	89.6
April	79.6	98.8	86.2	86.8	87.7
May	78.1	97.3	85.2	86.2	84.9
June	74.9	89.9	82.2	85.8	81.2
July	72.2	86.5	82.2	81.8	77.7
August	79.6	87.7	84.4	82.5	75.5
September	78.4	90.2	83.7	83.4	77.0
October	78.8	94.9	84.1	84.4	78.6
November	76.4	97.1	82.4	82.7	79.9
December	71.1	95.0	81.9	82.6	78.9
Average	**78.4**	**97.8**	**86.1**	**85.2**	**85.2**
1999 January	68.5	93.0	81.8	80.6	80.4
February	67.9	93.5	79.9	81.2	79.8
March	71.0	101.6	87.3	84.7	80.9
April	NA	111.4	97.5	NA	82.9
May	76.0	107.3	95.3	96.0	82.1
June	75.6	110.3	104.8	97.3	80.8
July	NA	110.2	103.4	99.2	81.6
August	81.5	108.3	102.9	NA	83.5
September	R 89.7	R 111.1	100.6	103.9	90.1
October	86.0	113.7	101.5	108.6	94.7

R=Revised. NA=Not available.

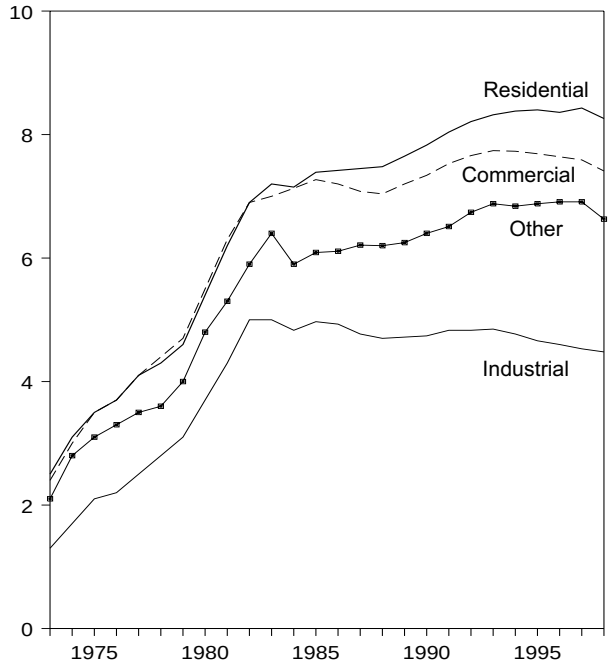
Notes: States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. Values for the current month are preliminary. Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* January 2000, Table 18.

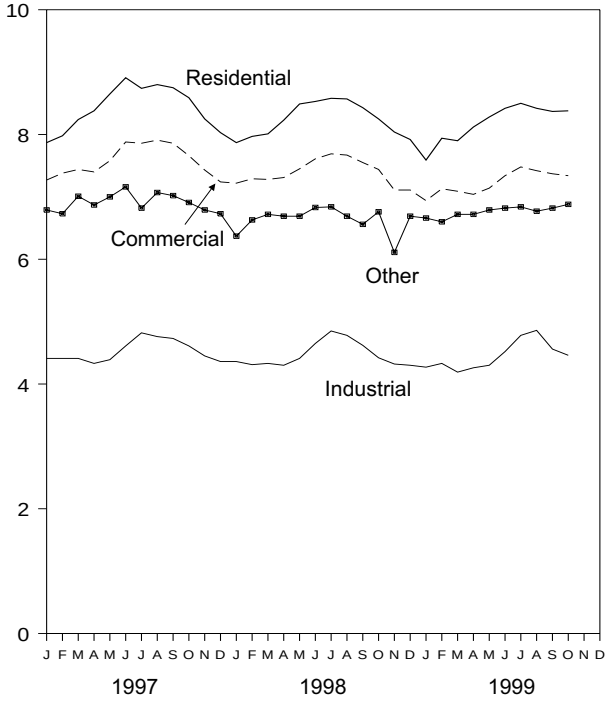
Figure 9.2 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

By Sector, 1973-1998



By Sector, Monthly

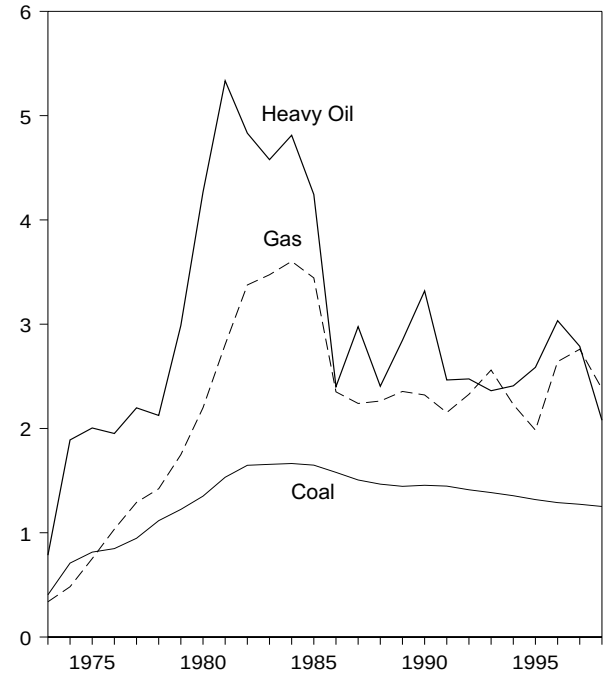


Source: Table 9.9.

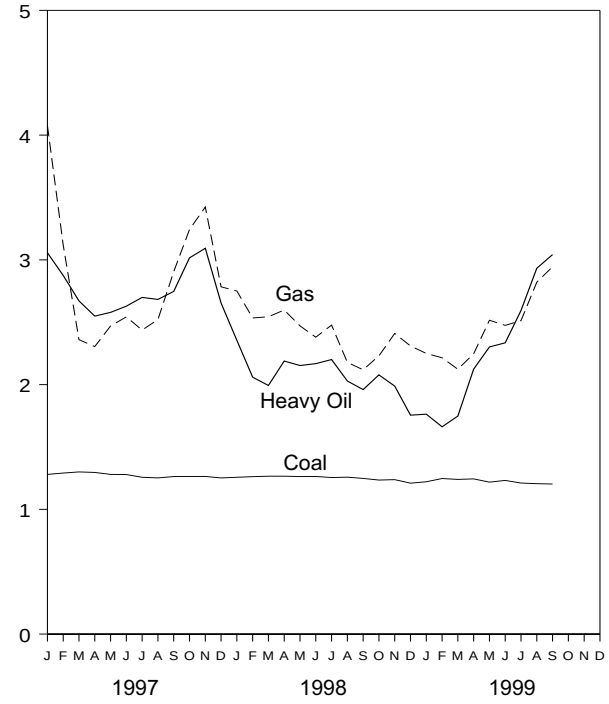
Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Utility Plants

(Dollars per Million Btu)

Costs, 1973-1998



Costs, Monthly



Source: Table 9.10.

Table 9.9 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

	Residential	Commercial	Industrial	Other	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 January	7.87	7.27	4.41	6.79	6.62
February	7.98	7.38	4.41	6.73	6.61
March	8.24	7.44	4.41	7.01	6.66
April	8.38	7.40	4.33	6.87	6.59
May	8.65	7.58	4.39	7.00	6.72
June	8.91	7.88	4.61	7.16	7.08
July	8.74	7.86	4.82	6.82	7.25
August	8.80	7.91	4.76	7.07	7.23
September	8.75	7.86	4.73	7.02	7.12
October	8.59	7.66	4.61	6.91	6.90
November	8.25	7.43	4.45	6.79	6.65
December	8.03	7.24	4.36	6.73	6.60
Average	**8.43**	**7.59**	**4.53**	**6.91**	**6.85**
1998 January	7.87	7.22	4.36	6.37	6.57
February	7.97	7.29	4.31	6.63	6.52
March	8.01	7.28	4.33	6.72	6.53
April	8.23	7.31	4.30	6.69	6.51
May	8.49	7.45	4.41	6.69	6.67
June	8.53	7.61	4.65	6.83	6.97
July	8.58	7.69	4.85	6.84	7.21
August	8.57	7.67	4.78	6.69	7.14
September	8.43	7.55	4.62	6.56	6.95
October	8.25	7.44	4.42	6.76	6.69
November	8.04	7.11	4.32	6.11	6.39
December	7.92	7.11	4.30	6.69	6.46
Average	**8.26**	**7.41**	**4.48**	**6.63**	**6.74**
1999 January	7.59	6.94	4.27	6.66	6.40
February	7.94	7.13	4.33	6.60	6.48
March	7.90	7.09	4.19	6.72	6.40
April	8.12	7.04	4.26	6.72	6.39
May	8.28	7.14	4.30	6.79	6.47
June	8.42	7.34	4.52	6.82	6.78
July	8.50	7.48	4.78	6.84	7.08
August	8.42	7.42	4.86	6.77	7.05
September	8.37	7.37	4.56	6.82	6.84
October	8.38	7.34	4.46	6.88	6.67
10-Month Average	**8.20**	**7.25**	**4.46**	**6.77**	**6.68**
1998 10-Month Average	**8.31**	**7.47**	**4.51**	**6.68**	**6.80**
1997 10-Month Average	**8.49**	**7.64**	**4.55**	**6.94**	**6.89**

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.

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

	Coal		Petroleum				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 January	71,929	128.0	8,817	305.7	9,658	321.0	133,720	407.7	157.7
February	69,229	129.1	8,959	287.5	9,346	295.3	134,664	311.8	150.6
March	72,369	130.0	6,796	267.1	7,157	276.2	185,340	236.0	145.5
April	69,815	129.6	6,379	254.9	6,730	264.8	184,908	230.5	144.3
May	74,929	128.0	6,476	257.9	6,966	271.2	225,841	247.0	146.6
June	70,479	127.9	9,253	262.9	10,010	274.4	278,304	254.3	153.2
July	74,065	125.7	10,818	269.9	11,689	280.4	373,646	243.7	154.6
August	76,352	125.2	11,049	268.3	11,618	275.5	360,018	252.2	154.0
September	75,091	126.3	8,880	274.7	9,332	281.3	313,132	290.5	158.3
October	75,593	126.4	10,161	301.6	10,715	309.1	219,342	324.3	157.0
November	72,558	126.4	12,218	309.3	12,818	315.4	168,754	342.4	156.4
December	78,179	125.2	11,101	265.4	11,750	273.3	187,065	278.4	146.9
Year	**880,588**	**127.3**	**110,906**	**278.8**	**117,789**	**288.0**	**2,764,734**	**276.0**	**152.2**
1998 January	79,212	125.7	9,569	235.5	10,105	242.4	165,869	275.0	143.3
February	70,353	126.2	8,736	206.0	9,255	214.0	124,584	253.4	139.2
March	75,678	126.6	10,676	199.3	11,133	204.6	181,034	254.4	142.5
April	74,848	126.6	11,749	218.9	12,289	225.0	186,127	259.8	144.7
May	75,980	126.3	11,554	215.3	12,185	221.5	252,869	247.1	146.7
June	76,605	126.4	13,350	216.8	14,164	222.6	331,124	238.0	149.6
July	79,676	125.5	21,016	220.1	21,877	223.9	389,405	247.7	154.5
August	82,057	125.8	19,262	202.9	20,107	207.2	389,961	217.8	147.2
September	78,854	124.8	12,919	196.0	13,602	202.1	331,911	211.9	142.6
October	79,399	123.5	14,952	207.8	15,683	213.7	230,952	223.1	140.1
November	77,087	123.8	10,569	198.8	11,192	205.1	164,341	241.0	137.8
December	79,700	121.0	12,500	175.5	13,599	183.5	174,780	231.0	134.3
Year	**929,448**	**125.2**	**156,852**	**207.9**	**165,191**	**213.6**	**2,922,957**	**238.1**	**143.8**
1999 January	76,331	122.1	13,215	176.3	14,019	181.9	163,125	225.0	134.6
February	73,938	124.7	10,013	166.2	10,417	171.5	138,303	221.5	134.4
March	76,743	124.0	10,153	174.8	10,621	180.2	187,476	212.3	135.3
April	71,909	124.4	10,647	212.4	11,099	217.6	229,057	224.7	141.3
May	74,551	121.8	10,701	230.2	11,289	236.0	253,543	251.6	144.3
June	73,220	123.2	11,176	233.5	11,956	240.5	278,464	247.5	146.9
July	76,454	121.1	13,051	259.4	14,014	269.4	366,546	251.3	152.0
August	81,345	120.6	12,129	293.3	13,203	303.7	379,860	282.1	157.3
September	76,772	120.3	9,557	304.2	10,126	312.0	262,342	294.5	151.4
9 Months	**681,263**	**122.4**	**100,643**	**228.1**	**106,743**	**235.6**	**2,258,715**	**251.4**	**144.6**
1998 9 Months	**693,262**	**126.0**	**118,830**	**212.1**	**124,717**	**217.6**	**2,352,884**	**239.9**	**145.9**
1997 9 Months	**654,258**	**127.7**	**77,426**	**273.0**	**82,506**	**283.1**	**2,189,573**	**265.8**	**151.8**

[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.

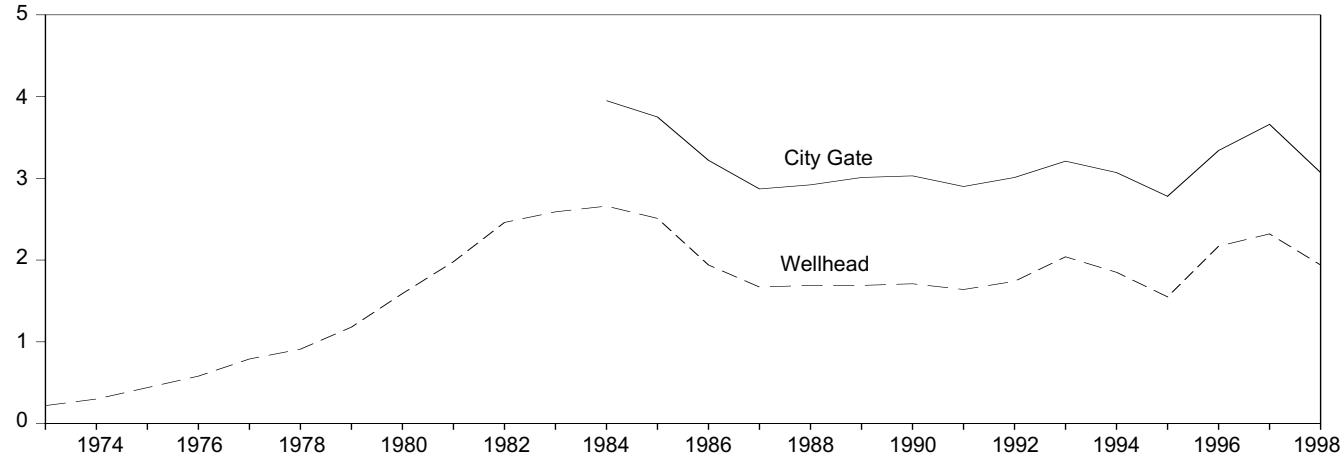
Notes: Yearly costs are averages of monthly values, weighted by quantities in Btu. See Note 8 at end of section. Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

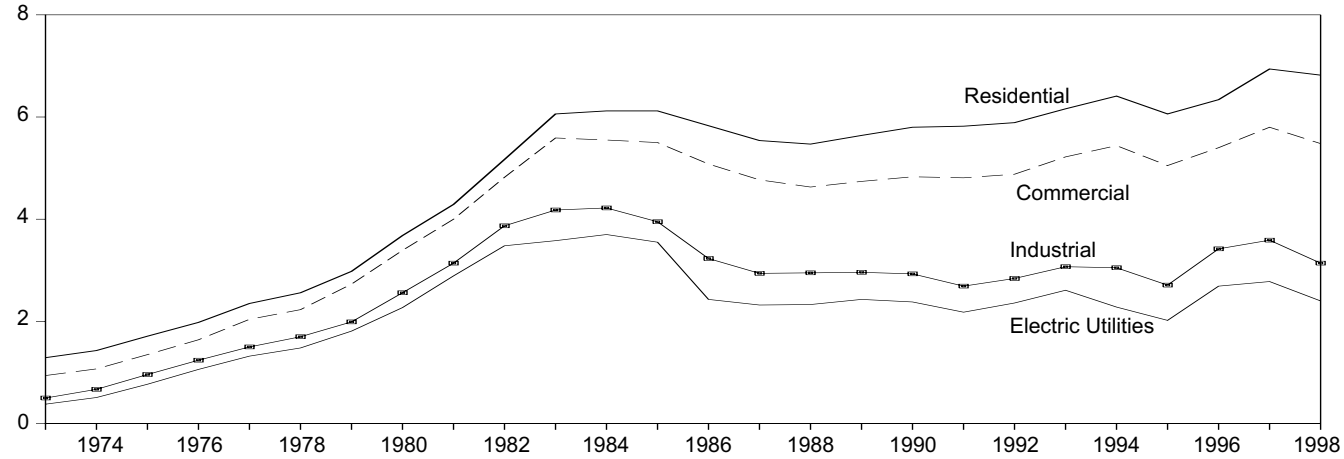
Figure 9.4 Natural Gas Prices

(Dollars per Thousand Cubic Feet)

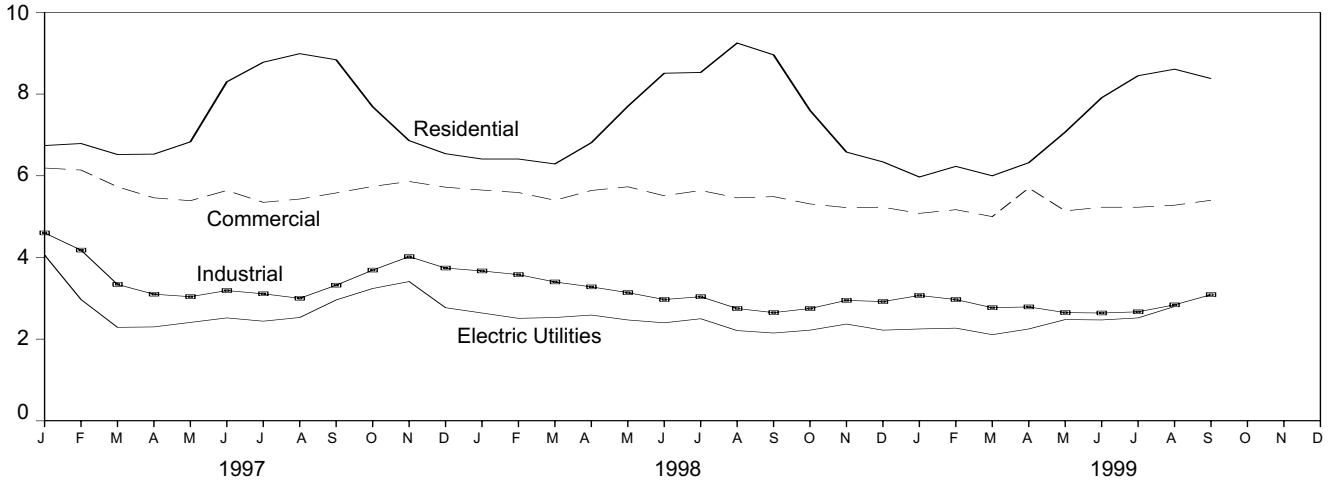
Selected Prices, 1973-1998



Delivered to Consumers, 1973-1998



Delivered to Consumers, Monthly



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	Commercial		Industrial		Electric Utilities[c]
				Price	Share of Total Volume Delivered	Price	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 January	3.40	4.28	6.74	6.19	78.7	4.60	17.5	4.06
February	2.49	3.76	6.79	6.14	78.3	4.18	17.8	2.97
March	1.79	3.07	6.52	5.73	73.9	3.34	17.9	2.29
April	1.81	2.92	6.53	5.46	71.8	3.10	18.0	2.30
May	2.00	3.11	6.83	5.39	65.5	3.04	17.6	2.41
June	2.08	3.41	8.30	5.64	61.6	3.19	17.5	2.52
July	2.00	3.44	8.78	5.35	59.4	3.11	17.6	2.44
August	2.08	3.34	8.99	5.43	57.9	3.00	17.7	2.53
September	2.33	3.50	8.84	5.58	59.4	3.32	17.4	2.96
October	2.68	3.86	7.69	5.74	62.8	3.69	17.7	3.24
November	2.92	4.76	6.86	5.86	70.3	4.02	17.6	3.41
December	2.28	3.42	6.54	5.72	72.9	3.74	17.7	2.77
Average	**2.32**	**3.66**	**6.94**	**5.80**	**70.8**	**3.59**	**18.1**	**2.78**
1998 January	1.95	3.08	6.41	5.65	73.2	3.67	16.8	2.64
February	1.95	3.08	6.41	5.59	72.9	3.58	16.7	2.51
March	2.05	3.06	6.29	5.40	73.6	3.40	17.3	2.53
April	2.15	3.23	6.81	5.64	67.7	3.28	15.8	2.59
May	2.04	3.12	7.70	5.73	62.6	3.14	14.9	2.47
June	1.90	2.98	8.51	5.51	62.9	2.97	15.1	2.40
July	2.08	3.31	8.53	5.64	56.0	3.04	13.1	2.50
August	1.81	3.01	9.25	5.46	53.3	2.75	13.8	2.21
September	1.69	2.78	8.96	5.49	57.0	2.65	14.2	2.15
October	1.85	2.99	7.60	5.31	59.2	2.75	14.8	2.22
November	1.93	2.99	6.58	5.22	64.5	2.95	15.7	2.37
December	1.94	3.10	6.34	5.23	68.3	2.92	17.2	2.22
Average	**1.94**	**3.07**	**6.82**	**5.48**	**67.0**	**3.14**	**16.1**	**2.40**
1999 January	[E] 1.80	2.84	5.97	5.08	72.2	3.07	15.4	2.25
February	[E] 1.73	2.95	6.23	5.17	68.2	2.97	15.5	2.27
March	[E] 1.70	2.67	6.00	5.00	67.9	2.77	16.7	2.11
April	[RE] 1.81	2.91	6.32	5.70	63.3	2.79	15.8	2.25
May	[E] 2.10	3.25	7.07	5.14	59.9	2.65	17.0	2.48
June	[E] 2.10	3.20	7.91	5.23	57.1	2.64	18.0	2.47
July	[E] 2.07	3.13	8.45	5.23	54.9	2.67	18.7	2.52
August	[RE] 2.34	3.39	8.61	5.28	53.6	2.84	18.9	2.80
September	[E] 2.42	3.50	8.38	5.40	58.1	3.09	17.0	NA
9-Month Average	[E] **2.01**	**3.00**	**6.51**	**5.20**	**64.6**	**2.83**	**17.0**	**NA**
1998 9-Month Average	**1.96**	**3.08**	**6.90**	**5.57**	**67.7**	**3.20**	**15.3**	**2.40**
1997 9-Month Average	**2.22**	**3.53**	**6.99**	**5.81**	**71.1**	**3.45**	**17.7**	**2.64**

[a] Includes supplemental gaseous fuels.
[b] See Note 9 at end of section.
[c] See Note 8 at end of section.
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 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,* January 2000, 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,* January 2000, 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*, January 2000, 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*, January 2000, 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."
1984-1987: EIA, Form EIA-861, "Annual Electric Utility Report."
1988 forward: EIA, *Electric Power Monthly*, January 2000, 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."
1980-1987: EIA, *Electric Power Monthly,* April issues.
1988 forward: EIA, *Electric Power Monthly*, January 2000, Table 26.

Sources for Table 9.11

Prices, 1973-1992

Wellhead: Energy Information Administration (EIA), *Natural Gas Annual 1998, Volume 1,* Table 98.
City Gate, 1984-1987: EIA, *Natural Gas Monthly*, December 1989, Table 4.
City Gate, 1988-1992: EIA, *Natural Gas Monthly*, December 1994, Table 4.
Delivered to Consumers, 1973-1992: EIA, *Natural Gas Annual 1998*, Table 101.

Prices, 1993 forward

EIA, *Natural Gas Monthly*, December 1999, 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. International Energy

Crude Oil Production. World crude oil production during October 1999 was 66 million barrels per day, up 0.4 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during October 1999 averaged 28 million barrels per day, up slightly from the level during the previous month. During October 1999, production increased in Saudi Arabia by 110 thousand barrels per day; Iran by 50 thousand barrels per day; Kuwait by 40 thousand barrels per day; Nigeria by 20 thousand barrels per day; and Libya by 10 thousand barrels per day. Production decreased in Iraq by 185 thousand barrels per day and remained unchanged in Venezuela, the United Arab Emirates, Indonesia, Algeria, and Qatar.

Among the non-OPEC nations, production during October 1999 increased in Norway by 130 thousand barrels per day; the United Kingdom by 92 thousand barrels per day; the United States by 58 thousand barrels per day; Canada by 35 thousand barrels per day; China by 32 thousand barrels per day; and Russia by 12 thousand barrels per day. Production decreased in Mexico by 95 thousand barrels per day and remained unchanged in Egypt.

Petroleum Consumption. In August 1999, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 42.0 million barrels per day, 1 percent higher than the August 1998 rate. Comparing August rates in 1999 and 1998, consumption was lower in 1999 in Italy (-5 percent)[1], Germany and the United Kingdom (both -4 percent), and Japan and Canada (both less than -1 percent). The August 1999 consumption rate was higher in the United States (+3 percent) and France (+1 percent), compared with the rate 1 year earlier.

Petroleum Stocks. For all OECD countries, petroleum stocks at the end of August 1999 totaled 3.8 billion barrels, 2 percent lower than the ending stock level in August 1998. Stocks were lower in Italy (-9 percent), Germany (-4 percent), the United States (-3 percent), and Japan (-2 percent). Stock levels were higher in France (+6 percent), the United Kingdom (+3 percent), and Canada (+2 percent), compared with levels 1 year earlier.

Nuclear Electricity Generation. Based on *Nucleonics Week*[2] information for October 1999, all reporting countries with nuclear capacity generated 202.1 gross terawatthours (one terawatthour equals 1 billion kilowatthours) of nuclear-generated electricity.

As of October 31, 1999, there were 432 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 10.1a 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 January	1,260	1,544	3,685	1,056	2,085	1,430	2,295	585	8,265	2,300	3,190	27,695
February	1,270	1,564	3,685	1,095	2,077	1,430	2,325	585	8,408	2,330	3,190	27,959
March	1,280	1,573	3,685	1,144	2,105	1,440	2,254	585	8,515	2,360	3,200	28,142
April	1,280	1,534	3,685	1,241	2,107	1,450	2,325	585	8,568	2,360	3,220	28,356
May	1,280	1,554	3,635	1,290	2,027	1,450	2,285	605	8,548	2,210	3,240	28,124
June	1,260	1,505	3,735	589	2,050	1,450	2,355	690	8,540	2,325	3,260	27,759
July	1,280	1,505	3,685	589	2,070	1,450	2,345	685	8,560	2,325	3,270	27,764
August	1,280	1,505	3,685	1,475	2,070	1,450	2,365	685	8,660	2,325	3,390	28,890
September	1,280	1,465	3,485	1,689	2,075	1,450	2,315	685	8,665	2,325	3,430	28,864
October	1,280	1,465	3,635	1,582	2,075	1,450	2,416	685	8,665	2,325	3,430	29,008
November	1,280	1,514	3,685	1,353	2,075	1,450	2,375	705	8,615	2,305	3,460	28,818
December	1,290	1,514	3,685	760	2,175	1,450	2,335	705	8,725	2,310	3,490	28,440
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 January	1,290	1,520	3,635	1,261	2,215	1,450	2,218	715	8,765	2,435	3,440	28,944
February	1,290	1,520	3,635	1,703	2,210	1,450	2,263	735	8,760	2,435	3,410	29,411
March	1,290	1,520	3,635	1,825	2,210	1,450	2,380	735	8,460	2,480	3,410	29,395
April	1,270	1,520	3,835	1,985	2,115	1,400	2,238	705	8,585	2,420	3,240	29,313
May	1,250	1,520	3,635	2,245	2,105	1,360	2,230	705	8,625	2,330	3,240	29,245
June	1,240	1,490	3,835	1,920	2,105	1,360	2,210	705	8,325	2,300	3,210	28,700
July	1,230	1,490	3,585	2,355	2,075	1,360	2,160	685	8,275	2,280	3,070	28,565
August	1,220	1,510	3,435	2,555	2,025	1,340	2,010	675	8,225	2,300	2,990	28,285
September	1,220	1,510	3,685	2,555	1,972	1,335	2,010	665	8,173	2,300	2,940	28,365
October	1,220	1,540	3,485	2,555	1,970	1,335	1,960	670	8,220	2,290	2,990	28,235
November	1,220	1,540	3,635	2,505	2,020	1,350	2,060	675	8,170	2,290	3,040	28,505
December	1,220	1,540	3,585	2,305	2,010	1,350	2,110	680	8,110	2,290	3,040	28,240
Average	**1,246**	**1,518**	**3,634**	**2,150**	**2,085**	**1,378**	**2,153**	**696**	**8,389**	**2,345**	**3,167**	**28,762**
1999 January	1,230	1,540	3,665	2,515	1,995	1,360	2,080	695	8,065	2,240	3,020	28,405
February	1,240	1,520	3,925	2,655	2,005	1,360	2,010	695	8,165	2,330	3,000	28,905
March	1,250	1,530	3,795	2,430	2,020	1,360	2,160	775	8,220	2,235	2,960	28,735
April	1,210	1,530	3,485	2,655	1,785	1,320	2,160	705	7,665	2,180	2,800	27,495
May	1,190	1,530	3,435	2,705	1,815	1,300	2,190	685	7,665	2,130	2,780	27,425
June	1,180	1,510	3,415	2,355	1,830	1,290	2,150	655	7,610	2,110	2,760	26,865
July	1,180	1,490	3,515	2,805	1,830	1,290	2,130	685	7,610	2,130	2,760	27,425
August	1,190	1,480	3,535	2,855	1,860	1,290	2,140	685	7,710	2,140	2,760	27,645
September	1,190	1,480	3,485	2,855	R 1,885	1,300	2,150	685	R 7,735	2,145	2,760	R 27,670
October	1,190	1,480	3,535	2,670	1,925	1,310	2,170	685	7,845	2,145	2,760	27,715
10-Mo. Avg.	**1,205**	**1,509**	**3,577**	**2,650**	**1,895**	**1,318**	**2,135**	**695**	**7,827**	**2,177**	**2,835**	**27,823**
1998 10-Mo. Avg.	**1,252**	**1,514**	**3,639**	**2,099**	**2,099**	**1,384**	**2,167**	**699**	**8,439**	**2,356**	**3,193**	**28,841**
1997 10-Mo. Avg.	**1,275**	**1,521**	**3,660**	**1,176**	**2,074**	**1,445**	**2,328**	**638**	**8,540**	**2,318**	**3,283**	**28,258**

[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 October 1999, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 590 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.

R=Revised.

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 10.1b 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**	**–**	**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 January	18,017	1,903	3,210	867	2,940	3,258	–	5,824	2,694	6,402	38,087	65,782
February	18,221	1,950	3,240	867	2,970	3,253	–	5,763	2,661	6,514	38,185	66,144
March	18,434	1,930	3,215	872	2,970	3,053	–	5,807	2,639	6,452	37,978	66,120
April	18,587	1,852	3,230	872	2,945	3,377	–	5,929	2,516	6,441	38,310	66,666
May	18,355	1,764	3,275	862	2,990	3,184	–	5,937	2,316	6,474	37,877	66,001
June	17,970	1,864	3,220	852	3,005	3,016	–	5,937	2,136	6,442	37,485	65,244
July	17,955	1,919	3,190	862	3,035	3,184	–	5,959	2,448	6,409	37,931	65,695
August	18,940	1,925	3,190	852	3,080	2,881	–	5,981	2,408	6,347	37,680	66,570
September	18,964	1,960	3,195	843	3,105	2,918	–	5,994	2,484	6,486	38,053	66,918
October	19,007	1,987	3,195	843	3,087	3,199	–	5,990	2,611	6,467	38,445	67,453
November	18,779	2,001	3,158	843	3,085	3,182	–	5,981	2,603	6,459	38,489	67,308
December	18,401	2,016	3,090	843	3,056	3,219	–	5,929	2,701	6,531	38,685	67,125
Average	**18,470**	**1,922**	**3,200**	**856**	**3,023**	**3,143**	–	**5,920**	**2,518**	**6,452**	**38,100**	**66,420**
1998 January	19,061	1,912	3,240	860	3,085	3,293	–	E 5,979	2,597	6,541	38,616	67,560
February	19,513	1,944	3,155	860	3,140	3,230	–	E 5,997	2,583	6,476	38,516	67,927
March	19,380	1,952	3,170	860	3,160	3,123	–	E 5,962	2,600	6,408	38,411	67,806
April	19,680	1,988	3,140	860	3,140	3,160	–	E 5,876	2,602	6,483	38,359	67,672
May	19,680	1,943	3,210	870	3,149	2,917	–	E 5,789	2,499	6,347	37,886	67,131
June	19,225	1,932	3,260	870	3,050	3,140	–	E 5,928	2,495	6,267	38,165	66,865
July	19,290	2,045	3,200	880	3,120	3,120	–	E 5,923	2,525	6,194	38,168	66,733
August	19,250	2,016	3,180	870	3,055	2,440	–	E 5,910	2,536	6,203	37,434	65,719
September	19,385	2,064	3,216	870	2,906	2,863	–	E 5,936	2,690	5,789	37,454	65,819
October	19,225	2,024	3,150	870	2,792	2,920	–	E 5,979	2,718	6,143	37,705	65,940
November	19,330	1,989	3,240	860	3,147	2,978	–	E 5,945	2,720	6,140	38,282	66,787
December	19,015	1,962	3,215	860	3,107	3,045	–	E 6,040	2,821	6,043	38,373	66,613
Average	**19,334**	**1,981**	**3,198**	**866**	**3,070**	**3,017**	–	**E 5,938**	**2,616**	**6,252**	**38,111**	**66,874**
1999 January	19,210	1,892	3,230	860	3,144	3,002	–	E 5,962	2,721	E 5,954	38,186	66,591
February	19,810	1,878	3,235	860	3,020	3,004	–	E 5,897	2,728	E 5,984	38,041	66,946
March	19,510	1,835	3,215	870	3,053	2,975	–	E 6,024	2,708	E 6,048	38,029	66,764
April	18,510	1,832	3,190	870	2,893	2,953	–	E 6,021	2,746	E 5,977	37,749	65,244
May	18,470	1,882	3,190	860	2,926	2,948	–	E 6,036	2,597	E 5,985	37,646	65,071
June	18,010	1,936	3,190	850	2,801	2,727	–	E 6,026	2,429	E 5,880	37,163	64,028
July	18,610	1,959	3,261	840	2,920	3,094	–	E 6,148	2,672	E 5,873	38,040	65,465
August	18,820	1,906	3,170	R 840	2,848	2,868	–	E 6,139	2,699	E 5,912	R 37,701	R 65,346
September	R 18,825	R 1,857	3,145	R 840	2,861	R 2,864	–	RE 6,141	R 2,670	E 5,820	R 37,678	R 65,348
October	18,840	1,892	3,177	840	2,766	2,994	–	E 6,153	2,762	E 5,878	37,992	65,707
10-Mo. Avg.	**18,856**	**1,887**	**3,200**	**853**	**2,923**	**2,943**	**–**	**E 6,056**	**2,673**	**E 5,931**	**37,823**	**65,646**
1998 10-Mo. Avg.	**19,367**	**1,982**	**3,192**	**867**	**3,059**	**3,018**	**–**	**E 5,927**	**2,584**	**6,284**	**38,068**	**66,909**
1997 10-Mo. Avg.	**18,447**	**1,905**	**3,216**	**859**	**3,013**	**3,131**	**–**	**5,913**	**2,490**	**6,443**	**38,002**	**66,260**

[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.

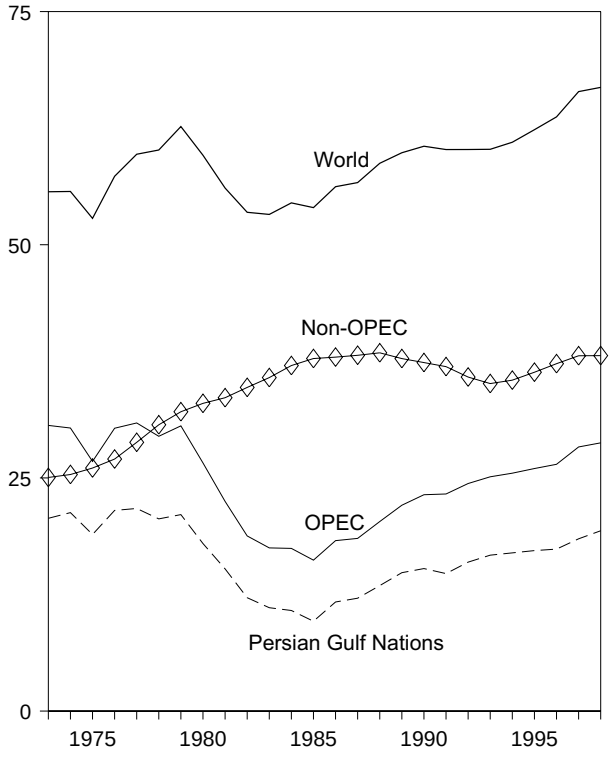
Notes: Crude oil includes lease condensate but excludes natural gas plant liquids. Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available. Data for countries may not sum to World totals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

Sources: See end of section.

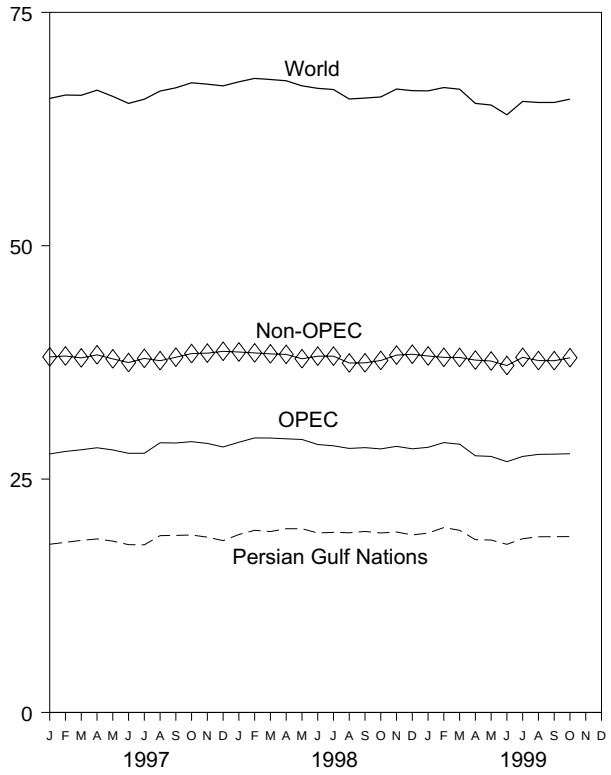
Figure 10.1 Crude Oil Production

(Million Barrels per Day)

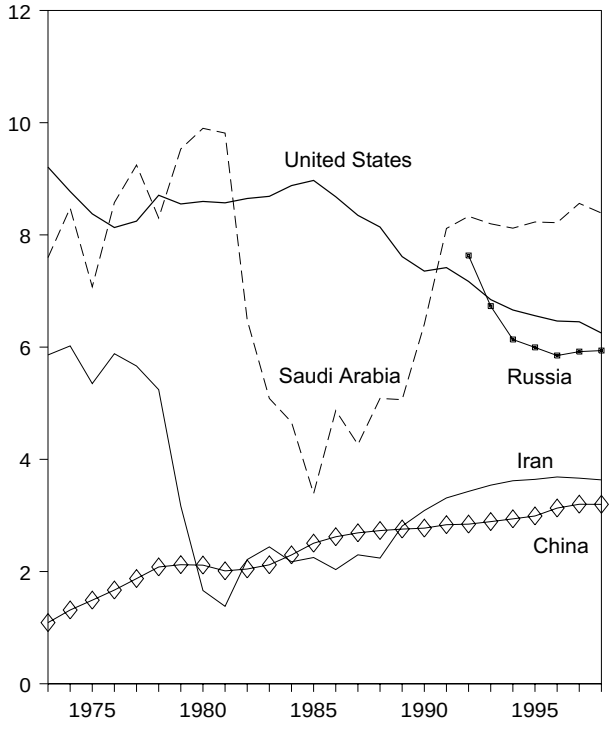
World Production, 1973-1998



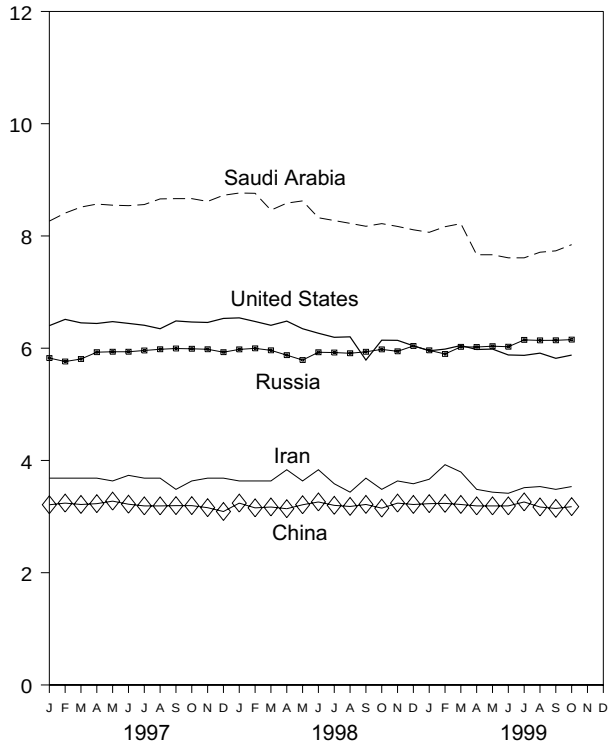
World Production, Monthly



Selected Producers, 1973-1998



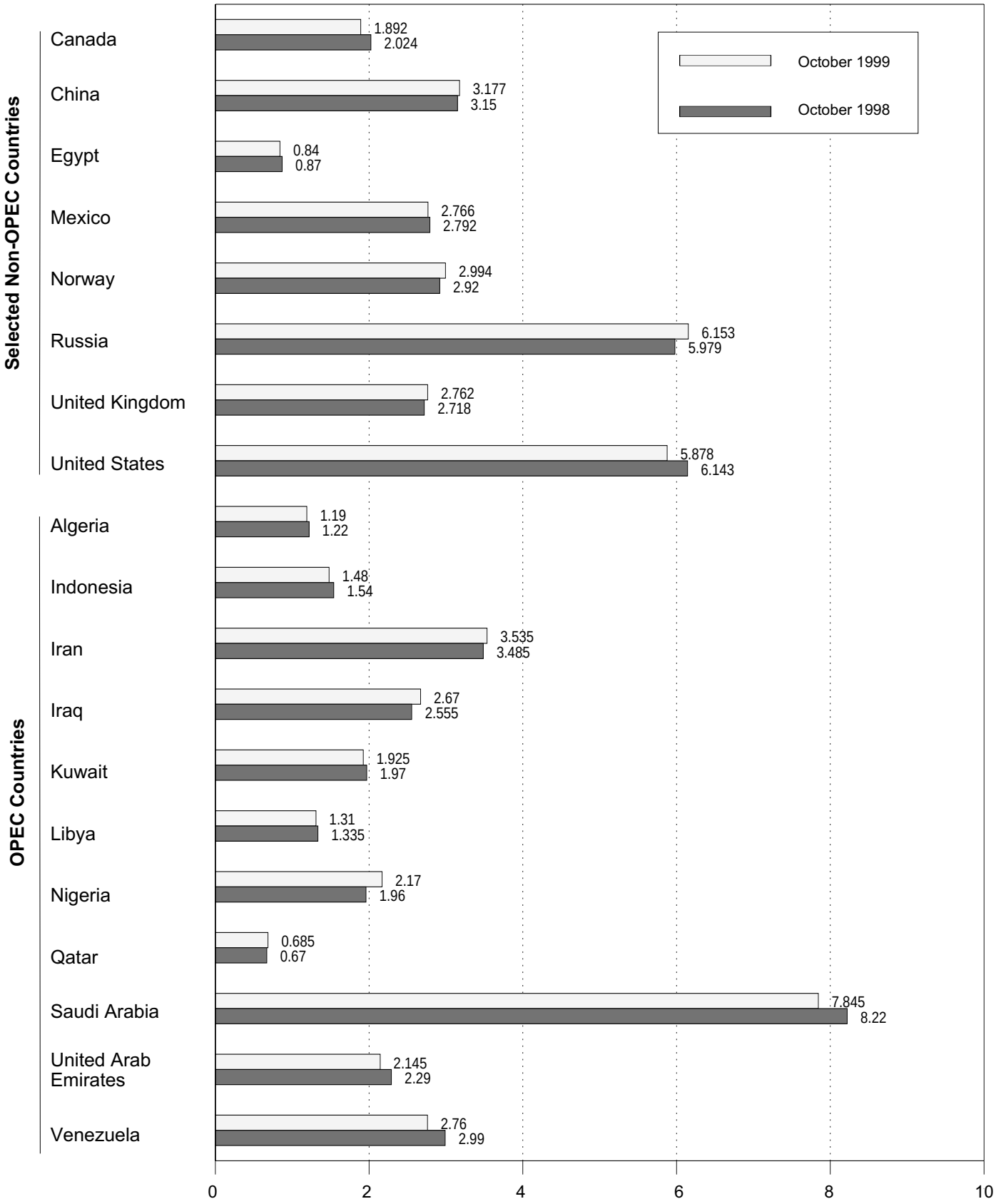
Selected Producers, Monthly



Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

Figure 10.2 Crude Oil Production by Selected Country

(Million Barrels per Day)

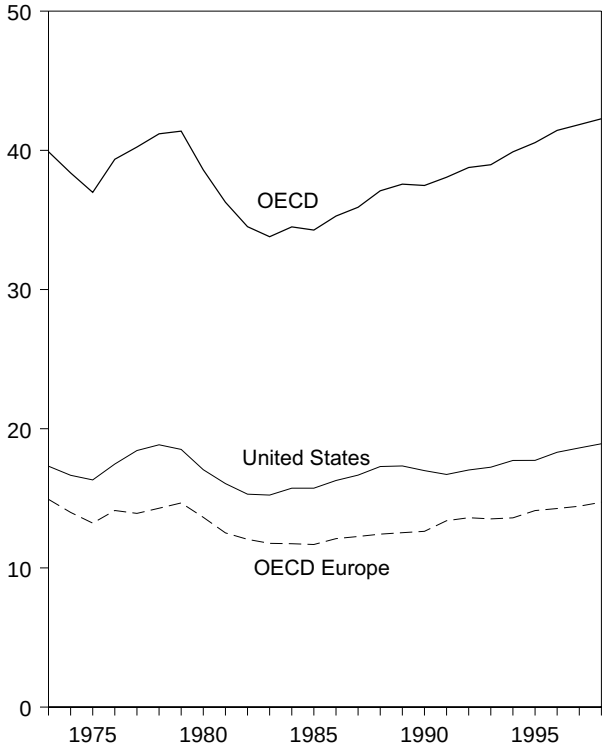


Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

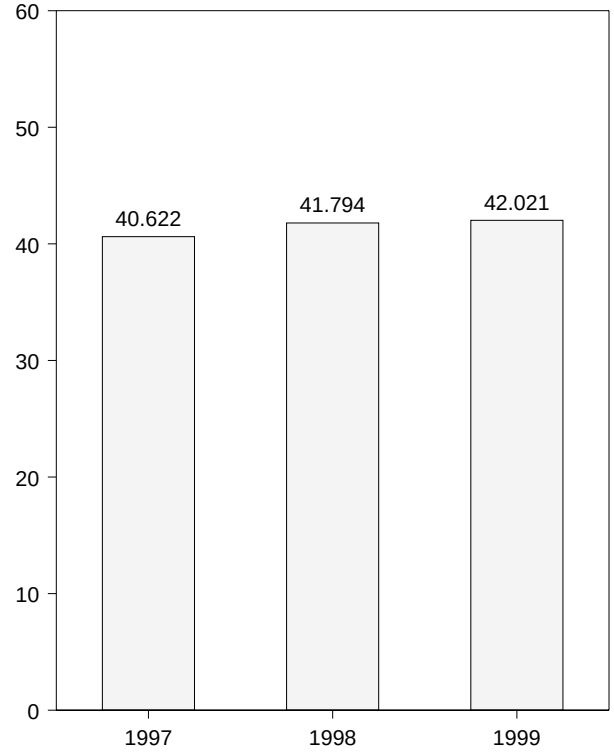
Figure 10.3 Petroleum Consumption in OECD Countries

(Million Barrels per Day)

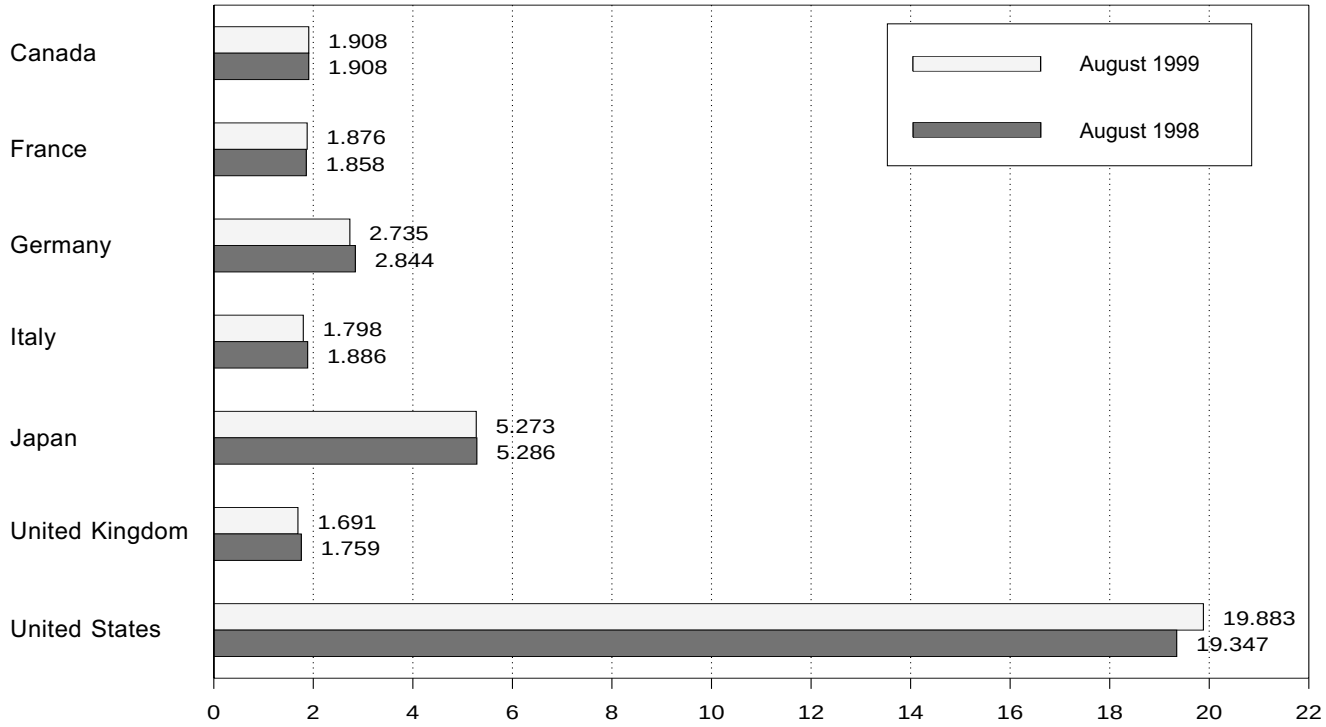
Overview, 1973-1998



OECD Total, August



By Selected OECD Country



Note: OECD is the Organization for Economic Cooperation and Development.
Source: Table 10.2.

Table 10.2 Petroleum Consumption in OECD Countries

(Thousand Barrels per Day)

	Canada	France	Germany[a]	Italy	Japan	United Kingdom	United States	OECD Europe[b]	Other OECD[c]	OECD[d]
1973 Average	**1,729**	**2,601**	**3,055**	**2,068**	**4,949**	**2,341**	**17,308**	**14,925**	**988**	**39,900**
1974 Average	**1,779**	**2,447**	**2,748**	**2,004**	**4,864**	**2,210**	**16,653**	**13,988**	**1,095**	**38,379**
1975 Average	**1,779**	**2,252**	**2,650**	**1,855**	**4,621**	**1,911**	**16,322**	**13,217**	**1,041**	**36,980**
1976 Average	**1,818**	**2,420**	**2,877**	**1,971**	**4,837**	**1,892**	**17,461**	**14,124**	**1,119**	**39,358**
1977 Average	**1,850**	**2,294**	**2,865**	**1,897**	**4,880**	**1,905**	**18,431**	**13,916**	**1,160**	**40,237**
1978 Average	**1,902**	**2,408**	**2,927**	**1,952**	**4,945**	**1,938**	**18,847**	**14,290**	**1,204**	**41,187**
1979 Average	**1,971**	**2,463**	**3,003**	**2,039**	**5,050**	**1,971**	**18,513**	**14,667**	**1,178**	**41,379**
1980 Average	**1,873**	**2,256**	**2,707**	**1,934**	**4,960**	**1,725**	**17,056**	**13,634**	**1,072**	**38,595**
1981 Average	**1,768**	**2,023**	**2,449**	**1,874**	**4,848**	**1,590**	**16,058**	**12,515**	**1,080**	**36,269**
1982 Average	**1,578**	**1,880**	**2,372**	**1,781**	**4,582**	**1,590**	**15,296**	**12,053**	**1,008**	**34,517**
1983 Average	**1,448**	**1,835**	**2,324**	**1,750**	**4,395**	**1,531**	**15,231**	**11,765**	**954**	**33,793**
1984 Average	**1,472**	**1,754**	**2,322**	**1,646**	**4,576**	**1,849**	**15,726**	**11,736**	**989**	**34,500**
1985 Average	**1,504**	**1,775**	**2,338**	**1,717**	**4,384**	**1,634**	**15,726**	**11,681**	**976**	**34,271**
1986 Average	**1,506**	**1,772**	**2,498**	**1,738**	**4,439**	**1,649**	**16,281**	**12,102**	**951**	**35,279**
1987 Average	**1,548**	**1,789**	**2,424**	**1,855**	**4,484**	**1,603**	**16,665**	**12,255**	**959**	**35,911**
1988 Average	**1,693**	**1,797**	**2,422**	**1,836**	**4,752**	**1,697**	**17,283**	**12,427**	**939**	**37,093**
1989 Average	**1,733**	**1,857**	**2,280**	**1,930**	**4,983**	**1,738**	**17,325**	**12,531**	**998**	**37,570**
1990 Average	**1,690**	**1,818**	**2,382**	**1,872**	**5,140**	**1,752**	**16,988**	**12,629**	**1,027**	**37,475**
1991 Average	**1,622**	**1,935**	**2,828**	**1,863**	**5,284**	**1,801**	**16,714**	**13,391**	**1,056**	**38,067**
1992 Average	**1,643**	**1,926**	**2,843**	**1,937**	**5,446**	**1,803**	**17,033**	**13,605**	**1,041**	**38,768**
1993 Average	**1,688**	**1,875**	**2,900**	**1,852**	**5,401**	**1,815**	**17,237**	**13,523**	**1,118**	**38,967**
1994 Average	**1,727**	**1,833**	**2,879**	**1,841**	**5,674**	**1,837**	**17,718**	**13,597**	**1,174**	**39,890**
1995 Average	**1,755**	**1,896**	**2,875**	**2,048**	**5,711**	**1,845**	**17,725**	**14,120**	**1,243**	**40,553**
1996 Average	**1,797**	**1,935**	**2,911**	**2,058**	**5,867**	**1,845**	**18,309**	**14,269**	**1,192**	**41,433**
1997 January	1,836	2,170	2,904	2,028	6,294	1,850	18,554	14,689	1,225	42,599
February	1,857	2,142	2,652	2,115	6,756	1,933	18,398	14,618	1,239	42,867
March	1,755	1,801	2,692	1,919	6,149	1,754	17,863	13,606	1,237	40,611
April	1,724	1,916	3,219	1,990	5,306	1,804	18,559	14,690	1,271	41,550
May	1,811	1,712	2,760	1,888	5,080	1,712	18,293	13,524	1,212	39,920
June	1,882	1,878	3,123	1,938	5,135	1,781	18,617	14,382	1,187	41,202
July	1,983	2,077	3,074	2,020	5,450	1,757	19,107	14,734	1,239	42,513
August	1,920	1,795	2,745	1,798	5,404	1,710	18,565	13,530	1,204	40,622
September	1,872	1,999	3,163	2,171	5,422	1,821	18,562	15,003	1,245	42,104
October	1,934	2,144	2,869	2,207	5,414	1,845	19,071	15,095	1,230	42,744
November	1,832	1,731	2,882	2,174	5,732	1,805	18,578	14,393	1,242	41,777
December	1,876	2,107	2,761	2,299	6,453	1,836	19,250	14,972	1,211	43,762
Average	**1,857**	**1,955**	**2,903**	**2,045**	**5,711**	**1,799**	**18,620**	**14,433**	**1,228**	**41,850**
1998 January	1,852	2,060	2,742	2,041	6,111	1,786	18,362	14,305	1,157	41,786
February	1,819	2,169	2,960	2,160	6,467	1,834	18,316	15,193	1,251	43,047
March	1,832	2,008	3,161	2,121	5,906	1,857	18,685	15,179	1,325	42,927
April	1,796	1,998	2,848	2,027	5,087	1,708	19,044	14,282	1,180	41,389
May	1,735	1,815	2,603	1,900	4,807	1,687	18,375	13,481	1,243	39,642
June	1,888	2,031	2,937	2,102	5,017	1,784	19,182	14,795	1,268	42,150
July	1,953	2,107	3,028	2,106	5,320	1,768	19,466	14,881	1,227	42,848
August	1,908	1,858	2,844	1,886	5,286	1,759	19,347	14,019	1,235	41,794
September	1,935	2,075	3,027	2,044	5,102	1,789	18,895	14,910	1,186	42,028
October	1,931	2,010	2,873	2,032	5,094	1,801	19,188	14,746	1,296	42,255
November	1,904	2,084	2,995	2,219	5,617	1,848	18,673	15,359	1,328	42,881
December	1,913	2,190	2,987	2,241	6,385	1,794	19,419	15,548	1,236	44,501
Average	**1,873**	**2,032**	**2,916**	**2,072**	**5,512**	**1,784**	**18,917**	**14,720**	**1,244**	**42,266**
1999 January	1,821	1,965	2,565	2,077	5,880	1,688	18,850	14,065	R 1,025	R 41,641
February	1,923	2,232	3,161	2,139	6,462	1,881	19,240	15,672	R 1,162	R 44,459
March	1,874	2,052	3,545	2,023	6,185	1,856	19,489	15,838	R 1,315	R 44,702
April	1,774	R 1,971	2,437	1,903	5,319	1,717	18,861	R 13,911	R 1,214	R 41,078
May	1,790	R 1,713	2,482	1,782	4,782	1,636	18,142	R 13,168	R 1,159	R 39,042
June	1,922	R 1,982	2,695	1,956	4,963	1,701	19,738	R 14,252	R 1,271	R 42,146
July	1,930	R 1,961	2,579	1,951	5,086	1,688	19,503	R 13,927	R 1,143	R 41,589
August	1,908	1,876	2,735	1,798	5,273	1,691	19,883	13,796	1,161	42,021
8-Mo. Avg.	**1,867**	**1,966**	**2,772**	**1,952**	**5,485**	**1,731**	**19,212**	**14,314**	**1,181**	**42,059**
1998 8-Mo. Avg.	**1,848**	**2,004**	**2,890**	**2,041**	**5,492**	**1,772**	**18,851**	**14,508**	**1,236**	**41,936**
1997 8-Mo. Avg.	**1,846**	**1,934**	**2,897**	**1,960**	**5,688**	**1,786**	**18,495**	**14,214**	**1,227**	**41,469**

[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.

[c] "Other OECD" consists of Australia, 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.

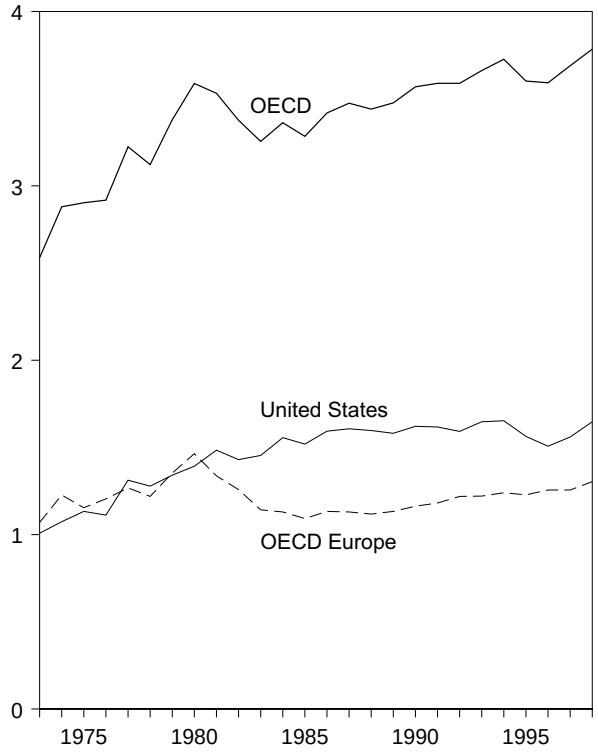
Notes: Data through 1993 are final. Subsequent data are preliminary. Totals may not equal sum of components due to independent rounding. U.S. geographic coverage is the 50 States and the District of Columbia.

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.*

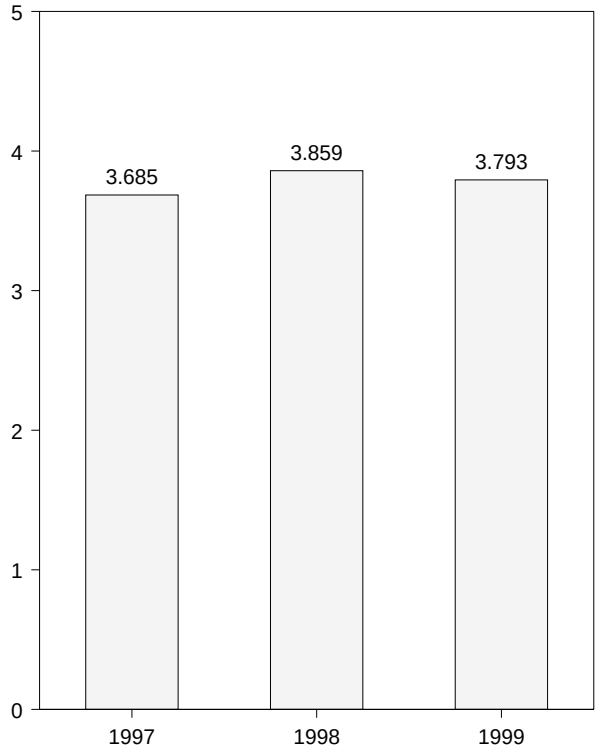
Figure 10.4 Petroleum Stocks in OECD Countries

(Billion Barrels)

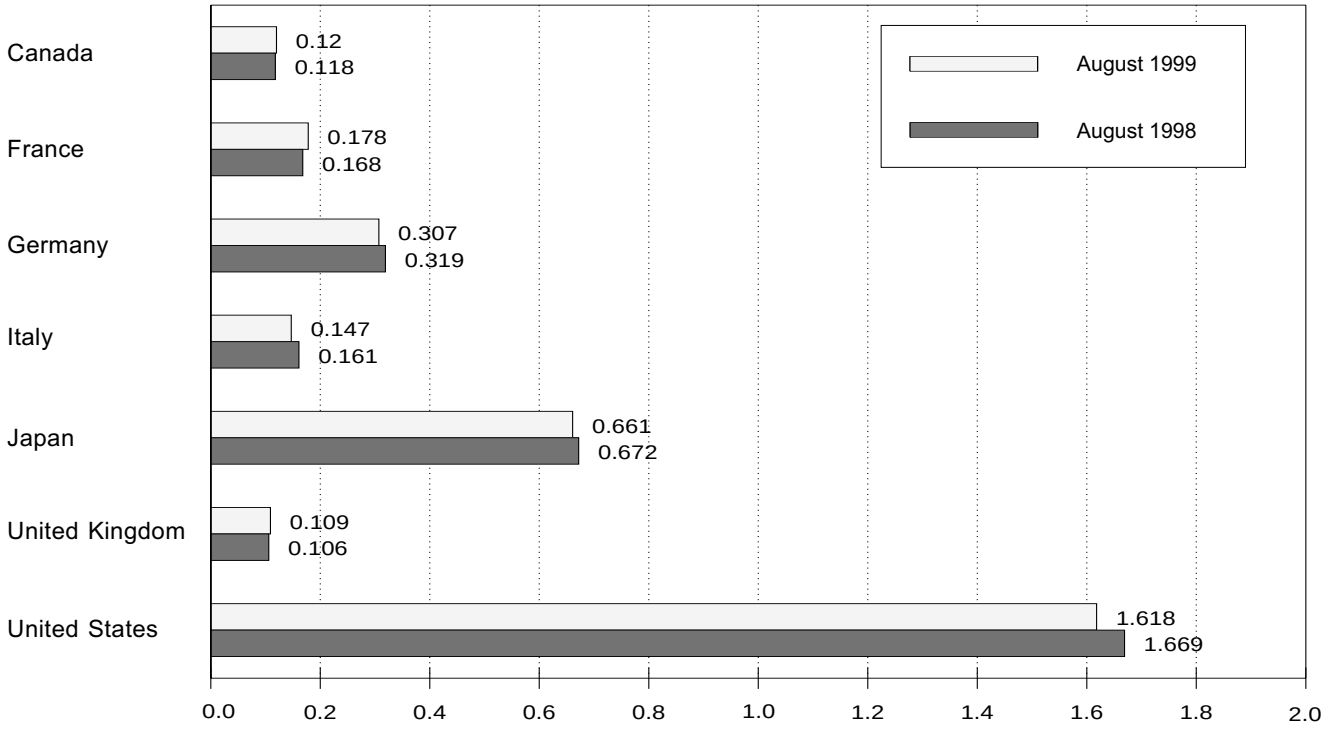
Overview, End of Year, 1973-1998



OECD Stocks, End of Month, August



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 10.3.

Table 10.3 Petroleum Stocks in OECD Countries

(Million Barrels)

	Canada	France	Germany[a]	Italy	Japan	United Kingdom	United States	OECD Europe[b]	Other OECD[c]	OECD[d]
1973 Year	**140**	**201**	**181**	**152**	**303**	**156**	**1,008**	**1,070**	**67**	**2,588**
1974 Year	**145**	**249**	**213**	**167**	**370**	**191**	**1,074**	**1,227**	**64**	**2,880**
1975 Year	**174**	**225**	**187**	**143**	**375**	**165**	**1,133**	**1,154**	**67**	**2,903**
1976 Year	**153**	**234**	**208**	**143**	**380**	**165**	**1,112**	**1,205**	**68**	**2,918**
1977 Year	**167**	**239**	**225**	**161**	**409**	**148**	**1,312**	**1,268**	**68**	**3,224**
1978 Year	**144**	**201**	**238**	**154**	**413**	**157**	**1,278**	**1,219**	**68**	**3,122**
1979 Year	**150**	**226**	**272**	**163**	**460**	**169**	**1,341**	**1,353**	**75**	**3,379**
1980 Year	**164**	**243**	**319**	**170**	**495**	**168**	**1,392**	**1,464**	**72**	**3,587**
1981 Year	**161**	**214**	**297**	**167**	**482**	**143**	**1,484**	**1,337**	**67**	**3,531**
1982 Year	**136**	**193**	**272**	**179**	**484**	**125**	**1,430**	**1,258**	**68**	**3,376**
1983 Year	**121**	**153**	**249**	**149**	**470**	**118**	**1,454**	**1,142**	**68**	**3,255**
1984 Year	**128**	**152**	**239**	**159**	**479**	**112**	**1,556**	**1,130**	**69**	**3,362**
1985 Year	**113**	**139**	**233**	**157**	**494**	**123**	**1,519**	**1,092**	**66**	**3,284**
1986 Year	**111**	**127**	**252**	**155**	**509**	**124**	**1,593**	**1,133**	**72**	**3,418**
1987 Year	**126**	**127**	**259**	**169**	**540**	**121**	**1,607**	**1,130**	**71**	**3,474**
1988 Year	**116**	**140**	**266**	**155**	**538**	**112**	**1,597**	**1,118**	**71**	**3,440**
1989 Year	**114**	**138**	**271**	**164**	**577**	**118**	**1,581**	**1,133**	**71**	**3,476**
1990 Year	**121**	**140**	**265**	**172**	**590**	**112**	**1,621**	**1,163**	**73**	**3,568**
1991 Year	**119**	**153**	**288**	**160**	**606**	**119**	**1,617**	**1,181**	**65**	**3,588**
1992 Year	**107**	**146**	**310**	**174**	**603**	**113**	**1,592**	**1,219**	**67**	**3,588**
1993 Year	**105**	**158**	**309**	**163**	**618**	**118**	**1,647**	**1,221**	**69**	**3,661**
1994 Year	**119**	**158**	**312**	**164**	**645**	**115**	**1,653**	**1,240**	**69**	**3,726**
1995 Year	**109**	**159**	**301**	**162**	**630**	**107**	**1,563**	**1,228**	**71**	**3,601**
1996 Year	**103**	**158**	**300**	**152**	**651**	**108**	**1,507**	**1,256**	**74**	**3,591**
1997 January	106	156	306	158	650	107	1,501	1,280	80	3,617
February	103	159	309	156	642	105	1,482	1,270	75	3,573
March	107	160	312	160	650	109	1,512	1,273	76	3,617
April	110	159	301	151	665	108	1,518	1,248	80	3,620
May	106	163	311	150	664	108	1,561	1,248	81	3,660
June	107	153	299	151	662	111	1,575	1,230	83	3,657
July	109	153	303	150	670	112	1,559	1,230	81	3,649
August	113	158	302	151	669	108	1,570	1,253	80	3,685
September	108	157	291	144	682	106	1,592	1,227	77	3,687
October	111	152	289	144	693	106	1,598	1,231	83	3,716
November	111	163	291	150	699	106	1,600	1,251	76	3,736
December	**115**	**164**	**298**	**147**	**685**	**105**	**1,560**	**1,256**	**74**	**3,689**
1998 January	118	163	298	154	673	111	1,570	1,277	75	3,712
February	117	161	290	155	664	108	1,569	1,272	72	3,694
March	123	155	285	146	655	109	1,587	1,245	74	3,684
April	120	163	292	161	658	106	1,614	1,274	76	3,742
May	118	171	306	168	667	111	1,652	1,337	79	3,853
June	116	164	308	164	658	109	1,651	1,312	82	3,819
July	115	164	313	157	660	109	1,661	1,302	76	3,814
August	118	168	319	161	672	106	1,669	1,322	77	3,859
September	120	170	317	158	676	107	1,652	1,325	79	3,853
October	121	170	321	162	676	109	1,649	1,346	70	3,862
November	122	161	320	157	675	99	1,672	1,314	71	3,853
December	**118**	**161**	**321**	**153**	**649**	**108**	**1,647**	**1,304**	**66**	**3,784**
1999 January	117	181	329	154	645	111	1,639	R 1,364	72	R 3,837
February	118	175	320	146	633	109	1,625	R 1,323	74	R 3,773
March	124	169	306	149	634	109	1,608	1,295	72	3,733
April	121	174	316	148	636	110	1,615	R 1,328	75	R 3,776
May	120	182	317	149	637	107	1,661	R 1,337	R 74	R 3,829
June	116	167	310	142	638	102	1,636	1,284	74	3,749
July	120	174	313	141	645	103	1,639	R 1,302	76	R 3,782
August	120	178	307	147	661	109	1,618	1,315	78	3,793

[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.

[c] "Other OECD" consists of Australia, 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.

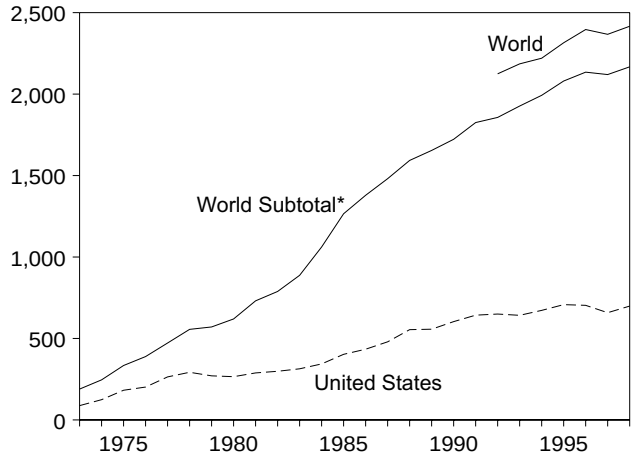
Notes: Stocks are at end of period. Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, 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 1995 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 10.5 Nuclear Electricity Gross Generation

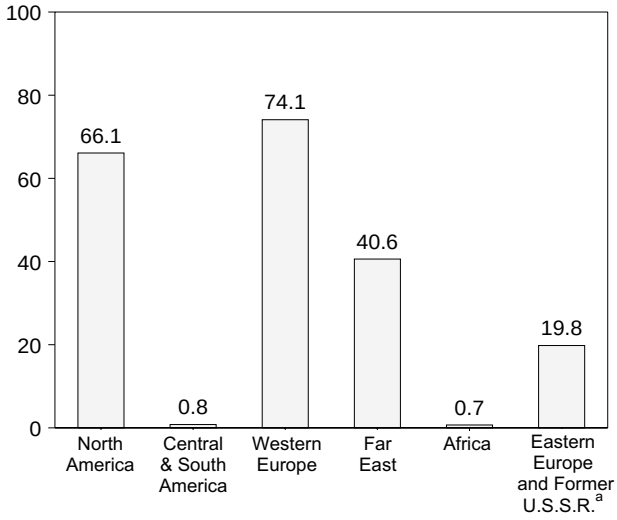
(Billion Kilowatthours)

U.S. and World, 1973-1998



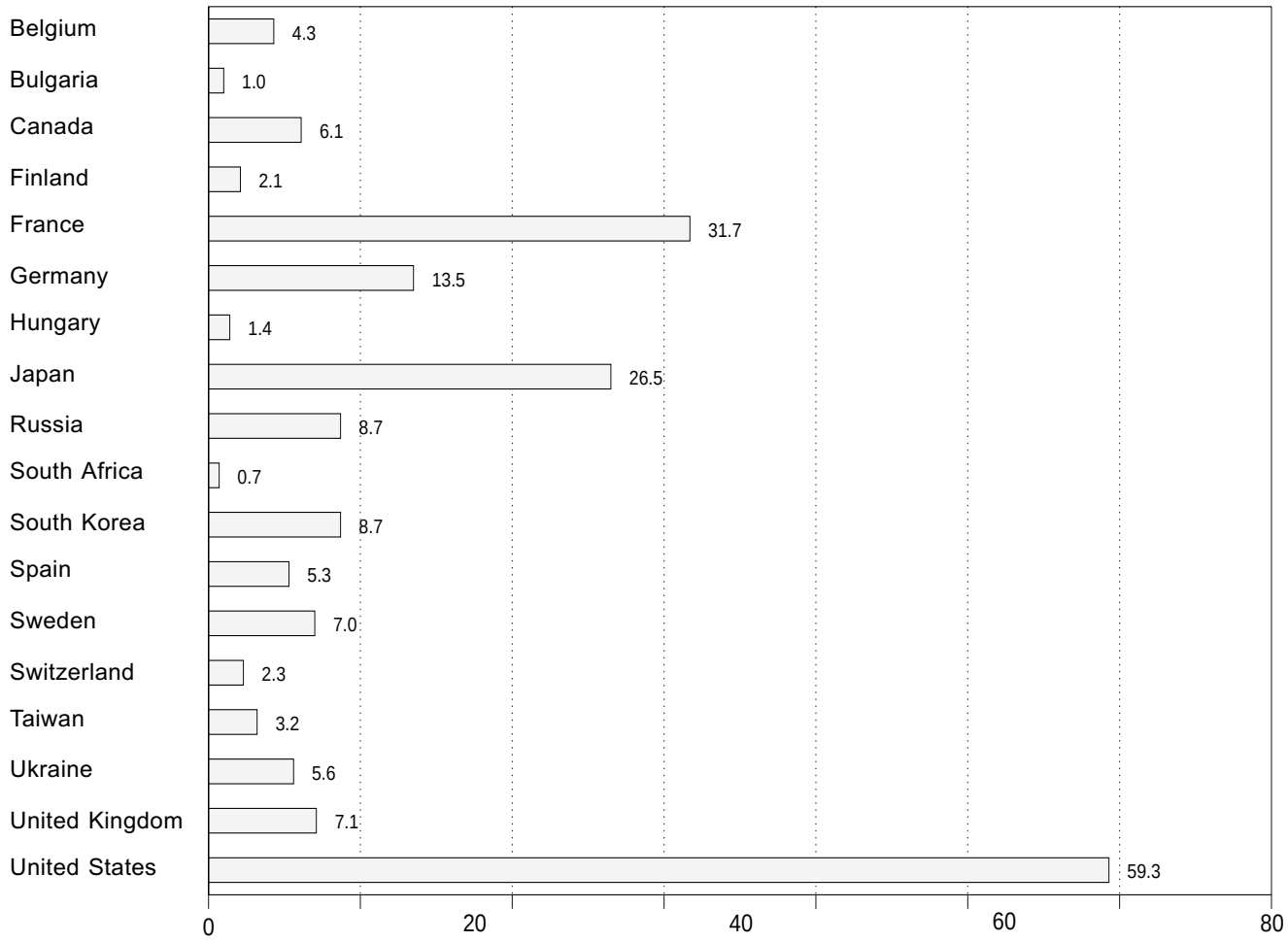
*World excluding Eastern Europe.

By Region, October 1999



[a] Does not include Kazakhstan. See Table 10.4e.

By Selected Country, October 1999



Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 10.4a-10.4e.

Table 10.4a Nuclear Electricity Gross Generation: Regions and World

(Billion Kilowatthours)

	North America	Central and South America	Western Europe	Far East	Africa	Subtotal	Eastern Europe and Former U.S.S.R.[a]	World
1973 Total	**103.1**	**–**	**73.9**	**12.3**	**–**	**189.3**	**NA**	**NA**
1974 Total	**139.7**	**1.0**	**83.9**	**21.4**	**–**	**246.0**	**NA**	**NA**
1975 Total	**195.5**	**2.5**	**111.7**	**24.4**	**–**	**334.1**	**NA**	**NA**
1976 Total	**219.8**	**2.6**	**126.2**	**40.3**	**–**	**388.9**	**NA**	**NA**
1977 Total	**290.8**	**1.6**	**148.1**	**31.5**	**–**	**472.0**	**NA**	**NA**
1978 Total	**325.4**	**2.9**	**166.9**	**60.6**	**–**	**555.9**	**NA**	**NA**
1979 Total	**309.0**	**2.7**	**184.3**	**74.7**	**–**	**570.7**	**NA**	**NA**
1980 Total	**305.8**	**2.3**	**214.2**	**97.4**	**–**	**619.8**	**NA**	**NA**
1981 Total	**331.8**	**2.8**	**293.4**	**102.9**	**–**	**730.9**	**NA**	**NA**
1982 Total	**341.2**	**1.9**	**321.8**	**123.6**	**–**	**788.5**	**NA**	**NA**
1983 Total	**366.6**	**3.6**	[b]**377.2**	**140.1**	**–**	**887.5**	**NA**	**NA**
1984 Total	**397.6**	**6.6**	[b]**485.4**	**167.7**	**4.2**	**1,061.5**	**NA**	**NA**
1985 Total	**465.6**	**9.1**	[b]**582.8**	**202.0**	**5.9**	**1,265.4**	**NA**	**NA**
1986 Total	**508.8**	**5.8**	[b]**631.5**	**223.6**	**9.3**	**1,378.9**	**NA**	**NA**
1987 Total	**560.1**	**6.2**	[b]**648.3**	**259.5**	**6.6**	**1,480.7**	**NA**	**NA**
1988 Total	**639.7**	**5.5**	[b]**688.1**	**248.5**	**11.1**	**1,592.8**	**NA**	**NA**
1989 Total	**640.2**	**6.6**	[b]**732.2**	**263.4**	**11.7**	**1,654.1**	**NA**	**NA**
1990 Total	**681.3**	**9.4**	[b]**738.6**	**284.3**	**8.9**	**1,722.5**	**NA**	**NA**
1991 Total	**733.4**	**9.2**	[b]**769.7**	**303.3**	**9.7**	**1,825.2**	**NA**	**NA**
1992 Total	**735.2**	**8.8**	**787.8**	**315.2**	**9.9**	**1,856.9**	[E]**267.5**	[E]**2,124.5**
1993 Total	**744.6**	**8.1**	**820.9**	[E]**345.2**	**7.7**	[E]**1,926.6**	[E]**259.0**	[E]**2,185.6**
1994 Total	**787.3**	**8.2**	**820.2**	[E]**366.7**	**10.3**	[E]**1,992.6**	[E]**227.8**	[E]**2,220.4**
1995 Total	**816.1**	**9.6**	[E]**835.7**	[E]**407.0**	**11.9**	[E]**2,080.2**	[E]**234.9**	[E]**2,315.1**
1996 Total	**806.4**	**9.8**	[E]**879.5**	[E]**426.4**	**12.5**	[E]**2,134.7**	[E]**261.6**	[E]**2,396.3**
1997 January	[E]70.8	.9	[E]83.3	[c]36.3	1.1	192.4	[b]25.6	[b]218.0
February	62.1	.9	[E]74.9	[c]32.6	.8	171.4	[b]23.9	[b]195.3
March	62.2	1.2	[E]79.4	[c]36.3	.7	179.7	[b]24.6	[b]204.3
April	56.7	1.0	[E]76.7	[E]35.3	1.1	170.9	[b]20.2	[b]191.2
May	[E]56.8	.5	[E]74.8	[E]33.7	1.4	167.2	[b]18.3	[b]185.5
June	[E]60.7	1.1	[E]66.5	[E]36.0	1.3	165.7	[b]16.7	[b]182.3
July	[E]67.5	1.1	[E]66.2	[E]42.4	1.2	178.4	[b]16.9	[b]195.3
August	[E]71.9	1.1	[E]64.4	[E]44.8	1.2	183.5	[b]17.7	[b]201.1
September	[E]63.2	.8	[E]67.5	[E]39.9	.7	172.2	[b]17.9	[b]190.1
October	[E]55.5	.7	[E]74.5	[E]38.1	.9	169.7	[b]19.9	[b]189.6
November	[E]59.9	.7	[E]76.5	[E]38.6	1.3	177.0	[b]20.5	[b]197.5
December	[E]65.6	1.0	[E]81.7	[E]40.2	1.4	189.9	[b]24.6	[b]214.5
Total	[E]**752.8**	**11.1**	[E]**886.5**	[E]**456.2**	**13.3**	**2,119.9**	[E]**247.1**	[E]**2,367.0**
1998 January	[E]66.1	1.0	[E]84.2	[E]38.4	1.3	191.0	[b]24.0	[b]214.9
February	[E]60.2	.9	[E]77.1	[E]31.8	1.2	171.3	[b]23.3	[b]194.6
March	[E]63.8	1.1	[E]79.6	[E]39.3	1.4	185.2	[b]24.6	[b]209.8
April	[E]56.0	1.1	[E]72.2	[E]40.1	1.2	170.6	[b]21.1	[b]191.7
May	[E]59.4	1.0	[E]69.7	[E]40.2	.7	171.0	[b]18.9	[b]189.8
June	[E]63.9	1.0	[E]66.5	[E]38.6	1.2	171.1	[b]17.3	[b]188.4
July	[E]71.1	.8	[E]65.4	[E]43.5	1.4	182.2	[b]16.8	[b]199.0
August	[E]70.2	.7	[E]62.5	[E]44.4	1.2	179.0	[b]18.4	[b]197.5
September	[E]65.7	1.1	[E]69.2	[E]39.3	.9	176.1	[b]17.5	[b]193.6
October	[E]65.4	.9	[E]75.2	[E]39.0	1.4	181.8	[b]19.8	[b]201.6
November	[E]66.7	.3	[E]78.2	[E]39.6	1.2	186.0	[b]21.5	[b]207.5
December	[E]72.7	.9	[E]84.4	[E]43.0	1.1	202.1	[b]25.8	[b]227.9
Total	[E]**781.0**	**10.8**	[E]**884.2**	[E]**477.2**	**14.3**	**2,167.5**	[E]**248.9**	[E]**2,416.4**
1999 January	[E]74.4	[E]1.2	[E]84.7	[E]40.7	.9	201.8	[b]27.4	[b]229.3
February	[E]66.2	1.1	[E]75.0	[E]35.7	.8	178.6	[b]24.8	[b]203.5
March	[E]69.0	1.1	[E]79.0	40.6	1.4	191.2	[b]26.8	[b]218.0
April	[E]59.9	1.1	[E]71.8	[E]39.2	[E]1.4	173.3	[b]22.6	[b]195.9
May	[E]63.2	.8	66.5	[E]37.7	1.2	169.5	[b]20.2	[b]189.7
June	[E]68.6	.7	[E]67.1	[E]36.2	1.3	173.9	[b]18.7	[b]192.6
July	[E]74.5	[E].7	[E]66.3	[E]41.3	1.3	184.0	[b]19.2	[b]203.3
August	[E]76.9	.8	[E]66.6	[E]43.3	1.2	188.8	[b]19.2	[b]208.0
September	[E]70.9	.7	[E]68.1	[E]40.1	.9	180.8	[b]19.5	[b]200.3
October	[E]66.1	.8	[E]74.1	[E]40.6	.7	182.3	[b]19.8	[b]202.1
10-Month Total	[E]**689.7**	[E]**9.0**	[E]**719.3**	[E]**395.5**	[E]**10.9**	**1,824.3**	[b]**218.4**	[b]**2,042.7**
1998 10-Month Total	[E]**641.7**	**9.6**	[E]**721.5**	[E]**394.6**	**11.9**	**1,779.3**	[b]**201.7**	[b]**1,981.0**
1997 10-Month Total	[E]**627.4**	**9.4**	[E]**728.3**	[E]**375.5**	**10.5**	**1,751.1**	[b]**201.7**	[b]**1,952.8**

[a] See Table 10.4e for country-specific estimated annual generation and available monthly generation for Eastern Europe and Former U.S.S.R..

[b] Sum of available data only.

[c] Total excluding China.

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 10.4b Nuclear Electricity Gross Generation: North, Central, and South America

(Billion Kilowatthours)

	Canada	Mexico	United States	North America	Argentina	Brazil	Central and South America
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 January	8.3	1.0	E 61.6	E 70.8	.7	.3	.9
February	8.3	.8	52.9	62.1	.7	.3	.9
March	8.4	1.0	52.9	62.2	.7	.4	1.2
April	8.4	.9	47.4	56.7	.6	.4	1.0
May	5.7	.9	E 50.2	E 56.8	.3	.3	.5
June	5.7	.9	E 54.1	E 60.7	.7	.5	1.1
July	6.8	.9	E 59.8	E 67.5	.7	.3	1.1
August	7.2	.9	E 63.8	E 71.9	.7	.5	1.1
September	6.1	.5	E 56.7	E 63.2	.7	.1	.8
October	5.7	.9	E 48.9	E 55.5	.7	.0	.7
November	6.5	.9	E 52.4	E 59.9	.7	.0	.7
December	7.2	.9	E 57.5	E 65.6	.7	.2	1.0
Total	**84.1**	**10.4**	**E 658.3**	**E 752.8**	**8.0**	**3.2**	**11.1**
1998 January	6.1	.9	E 59.1	E 66.1	.7	.2	1.0
February	5.5	.8	E 53.9	E 60.2	.7	.2	.9
March	7.2	.9	E 55.6	E 63.8	.7	.4	1.1
April	6.0	.5	E 49.5	E 56.0	.7	.4	1.1
May	4.7	.8	E 53.9	E 59.4	.7	.3	1.0
June	5.6	.9	E 57.4	E 63.9	.7	.3	1.0
July	6.6	.9	E 63.6	E 71.1	.5	.3	.8
August	7.3	.9	E 61.9	E 70.2	.4	.3	.7
September	5.7	.9	E 59.1	E 65.7	.7	.4	1.1
October	E 4.7	.9	E 59.8	E 65.4	.7	.2	E .9
November	E 6.2	.6	E 59.9	E 66.7	.3	.0	.3
December	E 7.1	.5	E 65.1	E 72.7	.7	.2	.9
Total	**E 72.7**	**9.5**	**E 698.7**	**E 781.0**	**7.5**	**3.3**	**10.8**
1999 January	6.3	.9	E 67.2	E 74.4	E .7	.4	E 1.2
February	E 5.7	.8	E 59.6	E 66.2	.7	.4	1.1
March	7.2	.9	E 60.9	E 69.0	.7	.4	1.1
April	6.1	.9	E 52.9	E 59.9	.7	.3	1.1
May	4.7	.9	E 57.6	E 63.2	.5	.3	.8
June	5.5	.9	E 62.2	E 68.6	.5	.2	.7
July	6.1	1.0	E 67.4	E 74.5	.5	E .2	E .7
August	6.8	.6	E 69.5	E 76.9	.5	.3	.8
September	6.6	.5	E 63.8	E 70.9	.4	.3	.7
October	6.1	.7	E 59.3	E 66.1	.5	.3	.8
10-Month Total	**E 61.1**	**8.2**	**E 620.4**	**E 689.7**	**E 5.7**	**E 3.3**	**E 9.0**
1998 10-Month Total	**59.4**	**8.5**	**E 573.8**	**E 641.7**	**6.5**	**3.1**	**9.6**
1997 10-Month Total	**70.4**	**8.6**	**E 548.4**	**E 627.4**	**6.5**	**2.9**	**9.4**

– =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. 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 10.4c Nuclear Electricity Gross Generation: Western Europe

(Billion Kilowatthours)

	Belgium	Finland	France	Germany[a]	Italy[b]	Nether-lands	Slovenia	Spain	Sweden	Switzer-land	United Kingdom[c]	Western Europe
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**	**[d]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**	**[d]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**	**[d]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**	**[d]631.5**
1987 Total	**41.9**	**19.4**	**265.5**	**130.2**	**.2**	**3.6**	**NA**	**41.2**	**67.2**	**23.0**	**56.2**	**[d]648.3**
1988 Total	**43.1**	**19.3**	**274.9**	**145.2**	**.0**	**3.7**	**NA**	**50.4**	**69.4**	**22.7**	**59.4**	**[d]688.1**
1989 Total	**41.2**	**18.8**	**302.5**	**149.6**	**.0**	**4.0**	**NA**	**56.1**	**65.6**	**22.8**	**71.6**	**[d]732.2**
1990 Total	**42.7**	**18.9**	**314.1**	**147.2**	**.0**	**3.4**	**NA**	**54.3**	**68.2**	**23.6**	**66.1**	**[d]738.6**
1991 Total	**42.9**	**19.2**	**331.4**	**147.3**	**.0**	**3.3**	**NA**	**55.6**	**76.8**	**22.9**	**70.4**	**[d]769.7**
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 January	4.4	1.8	37.1	16.2	.0	.3	.4	5.2	7.1	2.4	8.3	[E]83.3
February	4.0	1.7	32.4	14.2	.0	.1	.4	4.6	6.8	2.2	8.6	[E]74.9
March	4.4	1.9	33.8	15.3	.0	.4	.5	3.8	[E]7.3	2.4	9.6	[E]79.4
April	3.8	1.8	33.8	15.3	.0	.4	.5	4.2	7.0	2.3	[E]7.7	[E]76.7
May	4.3	1.4	33.8	13.4	.0	(s)	.5	5.2	5.6	2.3	[E]8.2	[E]74.8
June	2.9	1.5	28.0	13.0	.0	.0	.3	4.8	[E]5.0	1.6	[E]9.3	[E]66.5
July	2.9	1.9	29.2	12.9	.0	.2	.5	4.9	4.0	1.9	[E]7.6	[E]66.2
August	3.6	1.6	28.7	12.4	.0	.2	.5	4.9	[E]4.1	1.3	[E]7.1	[E]64.4
September	3.8	1.6	29.7	12.8	.0	.3	.5	4.4	4.5	2.1	[E]8.0	[E]67.5
October	4.3	2.0	33.5	14.7	.0	.3	.5	4.2	6.2	2.1	[E]6.7	[E]74.5
November	4.3	1.9	33.7	14.9	.0	.3	.5	4.4	6.4	2.3	[E]7.8	[E]76.5
December	4.5	2.0	35.8	15.4	.0	.4	.5	4.6	6.5	2.4	[E]9.7	[E]81.7
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 January	4.4	2.0	37.5	15.9	.0	.3	.5	5.1	7.6	2.4	[E]8.4	[E]84.2
February	4.0	1.8	34.7	14.0	.0	.3	.4	5.1	6.7	2.2	[E]8.0	[E]77.1
March	3.7	2.0	34.7	14.0	.0	.4	.5	4.6	7.3	2.4	[E]10.1	[E]79.6
April	3.3	1.9	31.2	14.1	.0	.3	.3	4.4	7.2	2.1	[E]7.4	[E]72.2
May	4.0	1.4	29.9	12.2	.0	.3	[E].3	4.8	6.9	2.1	[E]7.6	[E]69.7
June	3.5	1.6	28.7	10.8	.0	.1	.4	5.1	5.0	1.7	[E]9.5	[E]66.5
July	2.9	1.9	29.4	12.5	.0	.3	.5	[E]5.1	4.1	1.9	[E]6.9	[E]65.4
August	3.8	1.6	26.0	12.9	.0	.4	.5	[E]5.1	3.3	1.4	[E]7.6	[E]62.5
September	4.1	1.6	29.0	12.0	.0	.3	[E].5	[E]5.1	4.7	2.3	[E]9.7	[E]69.2
October	3.9	2.0	33.2	14.0	.0	.4	.5	[E]4.4	[E]6.2	2.4	[E]8.2	[E]75.2
November	4.1	2.0	34.2	14.0	.0	.3	.5	[E]4.6	7.1	2.4	[E]9.0	[E]78.2
December	4.5	2.1	36.0	14.6	.0	.4	.5	[E]5.0	7.6	2.5	[E]11.3	[E]84.4
Total	**46.1**	**21.9**	**384.4**	**161.0**	**.0**	**3.8**	**[E]5.3**	**[E]58.6**	**[E]73.8**	**25.7**	**[E]103.7**	**[E]884.2**
1999 January	4.5	2.1	38.0	15.1	.0	.4	.5	5.4	7.6	2.4	[E]8.8	[E]84.7
February	4.0	1.9	33.6	13.1	.0	.3	.4	4.1	6.9	2.2	[E]8.3	[E]75.0
March	4.4	2.1	34.3	14.2	.0	.4	.4	4.2	[E]7.5	2.3	9.3	[E]79.0
April	3.8	2.0	31.5	14.0	.0	.3	.0	3.7	6.7	2.1	[E]7.7	[E]71.8
May	4.2	1.6	26.6	12.8	.0	.4	.1	5.1	5.9	2.3	7.6	66.5
June	3.9	1.9	[E]26.6	13.4	.0	.3	.4	4.7	[E]5.2	2.0	8.8	[E]67.1
July	3.8	1.9	30.0	[E]13.4	.0	.3	.5	4.9	3.7	1.2	6.5	[E]66.3
August	3.8	1.7	29.1	13.5	.0	.3	.5	5.5	4.3	1.1	[E]7.0	[E]66.6
September	3.5	1.7	29.5	[E]13.5	.0	.1	.5	4.9	4.8	1.9	7.7	[E]68.1
October	4.3	2.1	31.7	[E]13.5	.0	.4	.5	5.3	7.0	2.3	7.1	[E]74.1
10-Month Total	**40.2**	**18.9**	**[E]310.7**	**[E]136.6**	**.0**	**3.1**	**3.7**	**47.8**	**[E]59.5**	**19.9**	**[E]78.7**	**[E]719.3**
1998 10-Month Total	**37.5**	**17.8**	**[E]314.2**	**[E]132.3**	**.0**	**3.1**	**4.4**	**48.9**	**[E]59.1**	**20.9**	**[E]83.4**	**[E]721.5**
1997 10-Month Total	**38.6**	**17.1**	**[E]319.9**	**[E]140.1**	**.0**	**2.4**	**4.4**	**46.4**	**[E]57.6**	**20.5**	**[E]81.2**	**[E]728.3**

[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. (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

Table 10.4d Nuclear Electricity Gross Generation: Far East and Africa

(Billion Kilowatthours)

	China[a]	India	Japan	Pakistan	South Korea	Taiwan	Far East	South Africa[b]
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	**–**	**4.1**	**127.2**	**.3**	**11.8**	**24.3**	**167.7**	**4.2**
1985 Total	**–**	**4.5**	**152.0**	**.3**	**16.5**	**28.7**	**202.0**	**5.9**
1986 Total	**–**	**5.1**	**164.8**	**.5**	**26.1**	**26.9**	**223.6**	**9.3**
1987 Total	**–**	**5.5**	**182.8**	**.3**	**37.8**	**33.1**	**259.5**	**6.6**
1988 Total	**–**	**6.1**	**173.6**	**.2**	**38.7**	**29.9**	**248.5**	**11.1**
1989 Total	**–**	**4.0**	**183.7**	**.1**	**47.2**	**28.3**	**263.4**	**11.7**
1990 Total	**–**	**6.3**	**191.9**	**.4**	**52.8**	**32.9**	**284.3**	**8.9**
1991 Total	**–**	**5.4**	**205.8**	**.4**	**56.3**	**35.3**	**303.3**	**9.7**
1992 Total	**–**	**6.3**	**218.0**	**.6**	**56.4**	**33.8**	**315.2**	**9.9**
1993 Total	E **2.6**	**6.2**	**243.5**	**.4**	**58.1**	**34.3**	E **345.2**	**7.7**
1994 Total	E **14.2**	**5.0**	**253.8**	**.6**	**58.3**	**34.8**	E **366.7**	**10.3**
1995 Total	E **13.0**	**8.0**	**286.1**	**.5**	**64.0**	**35.3**	E **407.0**	**11.9**
1996 Total	E **14.3**	**8.3**	**293.2**	**.4**	**72.5**	**37.8**	E **426.4**	**12.5**
1997 January	NA	1.0	26.1	.0	6.1	3.1	[c]36.3	1.1
February	NA	.9	22.7	(s)	6.1	2.9	[c]32.6	.8
March	NA	.9	26.2	(s)	6.1	3.1	[c]36.3	.7
April	.7	E .9	25.4	(s)	5.6	2.7	E 35.3	1.1
May	1.1	E .9	22.9	(s)	5.8	2.9	E 33.7	1.4
June	E 1.1	E .9	24.4	(s)	6.7	E 2.9	E 36.0	1.3
July	E 1.1	E .9	29.0	(s)	7.8	3.5	E 42.4	1.2
August	E 1.1	1.0	31.2	(s)	7.8	E 3.5	E 44.8	1.2
September	E 1.1	1.0	27.7	(s)	7.1	E 2.9	E 39.9	.7
October	E 1.1	1.0	26.9	(s)	6.1	3.0	E 38.1	.9
November	E 1.1	E 1.0	27.4	(s)	6.2	2.9	E 38.6	1.3
December	E .7	.6	28.1	(s)	7.6	3.3	E 40.2	1.4
Total	E **11.4**	E **11.0**	**318.0**	**.4**	**78.9**	E **36.6**	E **456.2**	**13.3**
1998 January	E 1.1	E 1.0	25.2	(s)	7.3	3.7	E 38.4	1.3
February	E .6	E 1.0	21.6	(s)	5.6	3.0	E 31.8	1.2
March	.9	E 1.0	27.3	.0	6.7	3.4	E 39.3	1.4
April	1.3	E 1.0	28.2	.0	6.7	2.9	E 40.1	1.2
May	E 1.3	E .8	28.7	(s)	6.5	3.0	E 40.2	.7
June	1.4	E .8	26.6	.1	6.4	3.3	E 38.6	1.2
July	E 1.4	E .8	29.7	.1	7.9	3.7	E 43.5	1.4
August	1.4	E .8	30.4	.1	8.1	3.6	E 44.4	1.2
September	1.4	E .9	26.5	.1	7.5	3.0	E 39.3	.9
October	E 1.3	E .9	25.7	.1	8.4	2.6	E 39.0	1.4
November	E 1.3	1.0	27.1	(s)	7.9	2.3	E 39.6	1.2
December	1.2	1.2	29.9	(s)	8.3	2.4	E 43.0	1.1
Total	E **14.5**	E **11.2**	**326.9**	**.4**	**87.3**	**36.9**	E **477.2**	**14.3**
1999 January	1.2	1.2	27.4	.0	7.6	3.3	E 40.7	.9
February	E .6	1.0	23.8	.0	7.0	3.3	E 35.7	.8
March	1.0	1.1	27.7	.0	7.9	2.9	40.6	1.4
April	E 1.4	1.0	26.1	.0	7.9	2.7	E 39.2	E 1.4
May	E 1.5	1.2	24.0	.0	7.8	3.2	E 37.7	1.2
June	E 1.4	1.2	23.1	.0	7.3	3.3	E 36.2	1.3
July	E 1.4	E 1.2	28.2	.0	7.2	E 3.3	E 41.3	1.3
August	E 1.4	.9	29.1	.0	8.2	3.7	E 43.3	1.2
September	E 1.3	1.1	26.5	.0	8.2	3.0	E 40.1	.9
October	E 1.3	.9	26.5	.0	8.7	3.2	E 40.6	.7
10-Month Total	E **12.5**	E **10.8**	**262.4**	**.0**	**77.7**	E **32.0**	E **395.5**	E **10.9**
1998 10-Month Total	**12.0**	E **8.9**	**269.9**	**.4**	**71.1**	**32.2**	E **394.6**	**11.9**
1997 10-Month Total	**7.6**	E **9.4**	**262.5**	**.4**	**65.2**	**30.4**	E **375.5**	**10.5**

[a] The total gross generation estimate for China is calculated as 5 percent more than the annual net nuclear generation reported by the International Atomic Energy Agency (IAEA) and is 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.

[b] South Africa comprises all of Africa's nuclear electricity generation.

[c] Total excluding China.

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

Table 10.4e Nuclear Electricity Gross Generation: Eastern Europe and Former U.S.S.R.

(Billion Kilowatthours)

	Armenia[a]	Bulgaria	Czech Republic[b]	Hungary	Kazakhstan[b]	Lithuania[b]	Romania	Russia	Slovakia[b]	Ukraine	Eastern Europe and Former U.S.S.R.[b]
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
1981 Total	–	NA	–	–	NA	–	–	NA	NA	NA	NA
1982 Total	–	NA	–	–	NA	–	–	NA	NA	NA	NA
1983 Total	–	NA	–	NA	NA	–	–	NA	NA	NA	NA
1984 Total	–	NA	–	NA	NA	–	–	NA	NA	NA	NA
1985 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1986 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1987 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1988 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1989 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1990 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1991 Total	–	NA	NA	NA	NA	NA	–	NA	NA	NA	NA
1992 Total	–	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	–	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	–	14.9	E 12.7	14.0	E .4	E 7.0	–	97.7	E 12.7	68.4	E 227.8
1995 Total	–	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 January	NA	1.7	NA	1.4	NA	1.5	NA	11.2	NA	8.4	C 25.6
February	NA	1.7	NA	1.2	NA	1.3	NA	9.9	NA	8.4	C 23.9
March	NA	1.8	NA	1.4	NA	1.3	NA	10.7	NA	8.4	C 24.6
April	NA	1.2	NA	1.0	NA	.9	.3	8.5	NA	7.2	C 20.2
May	NA	.9	NA	1.0	NA	.9	.4	7.8	NA	6.2	C 18.3
June	NA	E .9	NA	1.0	NA	.8	.5	6.5	NA	6.1	C 16.7
July	NA	E .9	NA	1.0	NA	.6	.5	7.2	NA	6.0	C 16.9
August	NA	1.1	NA	.9	NA	.9	.4	7.5	NA	6.0	C 17.7
September	NA	E 1.1	NA	1.0	NA	.9	.5	7.8	NA	5.7	C 17.9
October	NA	1.1	NA	1.3	NA	1.0	.2	9.3	NA	5.9	C 19.9
November	NA	E 1.1	NA	1.3	NA	.9	.5	9.9	NA	5.7	C 20.5
December	NA	2.0	NA	1.3	NA	1.1	.5	11.5	1.2	6.9	C 24.6
Total	**1.4**	E 15.5	**NA**	**14.0**	E .3	**12.1**	**3.9**	**108.1**	**11.0**	**80.8**	E 247.1
1998 January	.3	1.1	NA	1.3	NA	1.3	.5	11.6	1.1	6.6	C 24.0
February	.3	1.9	NA	1.2	NA	1.2	.4	10.6	.9	6.7	C 23.3
March	.2	2.2	NA	1.1	NA	1.3	.5	11.1	.9	7.2	C 24.6
April	.1	2.2	NA	.9	NA	1.0	.4	8.5	.9	7.1	C 21.1
May	.1	2.2	NA	1.0	NA	1.1	.0	8.1	.8	5.6	C 18.9
June	.1	1.0	.8	1.0	NA	.9	.3	7.4	.8	E 5.0	C 17.3
July	.1	1.0	1.0	1.0	NA	.9	.3	6.7	.8	E 5.0	C 16.8
August	.1	1.6	1.1	1.1	NA	.9	.5	5.5	.8	6.8	C 18.4
September	.1	1.0	1.0	1.3	NA	.9	.5	5.8	.8	6.0	C 17.5
October	.0	E 1.6	1.2	1.4	NA	1.2	.5	7.5	.9	5.6	C 19.8
November	.0	E 1.6	1.2	1.3	NA	1.3	.5	9.2	.8	5.5	C 21.5
December	.0	1.9	1.3	1.4	NA	1.4	.5	11.6	.9	6.8	C 25.8
Total	**1.6**	E 19.2	**7.6**	**13.9**	**NA**	**13.5**	**5.1**	**103.7**	**10.3**	E 74.0	E 248.9
1999 January	.2	E 1.9	1.3	1.3	NA	1.3	.5	12.3	.9	7.7	C 27.4
February	.3	1.9	1.2	1.2	NA	1.1	.5	10.7	.8	7.2	C 24.8
March	.3	E 1.9	1.3	1.1	NA	1.0	.5	11.7	.9	8.0	C 26.8
April	.3	E 1.9	1.0	1.1	NA	.5	.5	10.2	.8	6.4	C 22.6
May	E .3	E 1.9	1.0	1.1	NA	.6	.5	8.1	.9	5.8	C 20.2
June	E .3	E 1.9	1.0	1.0	NA	.3	.5	7.6	.8	5.2	C 18.7
July	.2	E 1.9	1.0	1.0	NA	.7	E .5	8.8	.8	4.4	C 19.2
August	.2	1.0	.9	1.0	NA	.8	.5	8.9	.8	5.1	C 19.2
September	.1	E 1.0	1.0	1.1	NA	.9	.5	8.7	.9	5.4	C 19.5
October	.0	E 1.0	1.2	1.4	NA	1.0	(s)	E 8.7	1.0	5.6	C 19.8
10-Month Total	E 2.1	E 16.5	**10.8**	**11.4**	**NA**	**8.0**	E 4.6	E 95.6	**8.6**	**60.7**	C 218.4
1998 10-Month Total	**1.6**	**15.7**	**NA**	**11.2**	**NA**	**10.8**	**4.1**	**82.9**	**8.6**	**61.7**	C 201.7
1997 10-Month Total	**1.3**	**12.4**	**NA**	**11.3**	**NA**	**10.0**	**2.8**	**86.7**	**NA**	**68.2**	C 201.7

[a] According to EIA's *Nuclear Power Generation and Fuel Cycle Report 1996,* Armenia has two units; one came on line in November 1995 but no data are available prior to 1997, and the other is projected to come on line in 2001.

[b] The total gross generation estimate for Czech Republic, Kazakhstan, Lithuania, Slovakia, and Eastern European countries is 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.

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

Sources for Tables 10.1a and 10.1b

United States

Table 3.1a.

Other Countries: Monthly Data

1997-1999: *Petroleum Intelligence Weekly, Oil and Gas Journal,* and other industry sources.

Other Countries: Annual Data

1973-1979: Energy Information Administration (EIA), International Energy Annual 1981, Table 8.
1980-1997: Office of Energy Markets and End Use, International Energy Database, July 1999.
1998: Average of monthly data.

World: Monthly Data

1997-1999: EIA, *International Petroleum Statistics Report,* sum of all countries' monthly data.

World: Annual Data

1973-1979: EIA, *International Energy Annual 1981,* Table 8.
1980-1997: Office of Energy Markets and End Use, International Energy Database, July 1999.
1998: Average of monthly data.

Appendix A. Thermal Conversion Factors

In general, the annual thermal conversion factors presented in Tables A1 through A8 are computed from final annual data. However, if the current year's final data are not available in time for publication, thermal conversion factors for the current year are computed from the best available data and are labeled "preliminary." Usually, the previous year's factor is used as the 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 A8 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 more heavily than 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	Petrochemical Feedstocks	
Aviation Gasoline	5.048	Naphtha Less Than 401° F	5.248
Butane	4.326	Other Oils Equal to or Greater Than 401° F	5.825
Butane Propane Mixture[a]	4.130	Still Gas	6.000
Distillate Fuel Oil	5.825	Petroleum Coke	6.024
Ethane	3.082	Plant Condensate	5.418
Ethane-Propane Mixture[b]	3.308	Propane	3.836
Isobutane	3.974	Residual Fuel Oil	6.287
Jet Fuel, Kerosene Type	5.670	Road Oil	6.636
Jet Fuel, Naphtha Type	5.355	Special Naphthas	5.248
Kerosene	5.670	Still Gas	6.000
Lubricants	6.065	Unfinished Oils	5.825
Motor Gasoline	5.253	Unfractionated Stream	5.418
Natural Gasoline and Isopentane	4.620	Waxes	5.537
Pentanes Plus	4.620	Miscellaneous	5.796

[a] 60 percent butane and 40 percent propane.
[b] 70 percent ethane and 30 percent propane.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

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	5.781	3.794
1995	5.800	5.924	5.800	5.849	5.751	3.796
1996	5.800	5.935	5.800	5.843	5.745	3.777
1997	5.800	5.954	5.800	5.863	5.734	3.762
1998	5.800	5.953	5.800	5.863	5.721	3.769
1999[a]	5.800	5.953	5.800	5.863	5.721	3.769

[a] Preliminary.

Note: Crude oil includes lease condensate.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

Table A3. Approximate Heat Content of Petroleum Products, Weighted Averages

(Million Btu per Barrel)

	Consumption							
	Residential and Commercial	Industrial	Transportation	Electric Utilities	Total	Imports	Exports	Liquefied Petroleum Gases Consumption
1973	5.387	5.568	5.395	6.245	5.515	5.983	5.752	3.746
1974	5.377	5.538	5.394	6.238	5.504	5.959	5.773	3.730
1975	5.358	5.528	5.392	6.250	5.494	5.935	5.747	3.715
1976	5.383	5.538	5.395	6.251	5.504	5.980	5.743	3.711
1977	5.389	5.555	5.400	6.249	5.518	5.908	5.796	3.677
1978	5.382	5.553	5.404	6.251	5.519	5.955	5.814	3.669
1979	5.471	5.418	5.428	6.258	5.494	5.811	5.864	3.680
1980	5.468	5.376	5.440	6.254	5.479	5.748	5.841	3.674
1981	5.409	5.313	5.432	6.258	5.448	5.659	5.837	3.643
1982	5.392	5.263	5.422	6.258	5.415	5.664	5.829	3.615
1983	5.286	5.273	5.415	6.255	5.406	5.677	5.800	3.614
1984	5.384	5.223	5.422	6.251	5.395	5.613	5.867	3.599
1985	5.326	5.221	5.423	6.247	5.387	5.572	5.819	3.603
1986	5.357	5.286	5.427	6.257	5.418	5.624	5.839	3.640
1987	5.316	5.253	5.430	6.249	5.403	5.599	5.860	3.659
1988	5.320	5.248	5.434	6.250	5.410	5.618	5.842	3.652
1989	5.257	5.233	5.440	6.241	5.410	5.641	5.869	3.683
1990	5.208	5.272	5.445	6.247	5.411	5.614	5.838	3.625
1991	5.163	5.192	5.442	6.248	5.384	5.636	5.827	3.614
1992	5.169	5.188	5.445	6.243	5.378	5.623	5.774	3.624
1993	5.148	5.200	5.438	6.241	5.379	5.620	5.777	3.606
1994	5.154	5.171	5.442	6.231	5.371	5.538	5.779	3.635
1995	5.126	5.141	5.444	6.210	5.358	5.511	5.746	3.623
1996	5.102	5.127	5.445	6.212	5.352	5.495	5.738	3.613
1997	5.076	5.135	5.443	6.220	5.353	5.478	5.726	3.616
1998[a]	5.095	5.150	5.436	6.219	5.367	5.471	5.710	3.614
1999[a]	5.095	5.150	5.436	6.219	5.367	5.471	5.710	3.614

[a] Preliminary.

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 A8.

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[a]	R 1,031	R 1,110	R 1,033	R 1,022	R 1,031	1,023	1,011
1999[a]	R 1,031	R 1,110	R 1,033	R 1,022	R 1,031	1,023	1,011

[a] Preliminary.
R=Revised.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

Table A5. Approximate Heat Content of Coal

(Million Btu per Short Ton)

	Production	Consumption					Imports	Exports
		Residential and Commercial	Coke Plants	Other Industrial[a]	Electric Utilities[b]	Total		
1973	23.376	22.831	26.780	22.586	22.246	23.057	25.000	26.596
1974	23.072	22.479	26.778	22.419	21.781	22.677	25.000	26.700
1975	22.897	22.261	26.782	22.436	21.642	22.506	25.000	26.562
1976	22.855	22.774	26.781	22.530	21.679	22.498	25.000	26.601
1977	22.597	22.919	26.787	22.322	21.508	22.265	25.000	26.548
1978	22.248	22.466	26.789	22.207	21.275	22.017	25.000	26.478
1979	22.454	22.242	26.788	22.452	21.364	22.100	25.000	26.548
1980	22.415	22.543	26.790	22.690	21.295	21.947	25.000	26.384
1981	22.308	22.474	26.794	22.585	21.085	21.713	25.000	26.160
1982	22.239	22.695	26.797	22.712	21.194	21.674	25.000	26.223
1983	22.052	22.775	26.798	22.691	21.133	21.576	25.000	26.291
1984	22.010	22.844	26.799	22.543	21.101	21.573	25.000	26.402
1985	21.870	22.646	26.798	22.020	20.959	21.366	25.000	26.307
1986	21.913	22.947	26.798	22.198	21.084	21.462	25.000	26.292
1987	21.922	23.404	26.799	22.381	21.136	21.517	25.000	26.291
1988	21.823	23.571	26.799	22.360	20.900	21.328	25.000	26.299
1989	21.765	23.650	26.800	22.347	20.848	21.272	25.000	26.160
1990	21.822	23.137	26.799	22.457	20.929	21.331	25.000	26.202
1991	21.681	23.114	26.799	22.460	20.755	21.146	25.000	26.188
1992	21.646	23.105	26.799	22.250	20.787	21.143	25.000	26.161
1993	21.388	22.994	26.800	22.123	20.639	20.983	25.000	26.335
1994	21.352	23.112	26.800	22.068	20.673	21.010	25.000	26.329
1995	21.277	23.118	26.800	21.950	20.495	20.845	25.000	26.180
1996	21.287	23.011	26.800	22.105	20.525	20.856	25.000	26.174
1997	21.253	22.494	26.800	22.172	20.548	20.862	25.000	26.251
1998[c]	21.253	22.494	26.800	22.172	20.548	20.862	25.000	26.251
1999[a]	21.253	22.494	26.800	22.172	20.548	20.862	25.000	26.251

[a] Includes transportation.
[b] Data shown in this column are not the same as those shown in the *Electric Power Monthly* (EPM). The EPM data report coal receipts; the data shown here represent coal consumption.
[c] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

Table A6. Approximate Heat Content of Bituminous Coal and Lignite

(Million Btu per Short Ton)

	Production	Consumption					Imports	Exports
		Residential and Commercial	Coke Plants	Other Industrial[a]	Electric Utilities	Total		
1973	23.391	22.887	26.800	22.585	22.262	23.073	25.000	26.612
1974	23.087	22.523	26.800	22.420	21.799	22.694	25.000	26.716
1975	22.910	22.258	26.800	22.439	21.659	22.522	25.000	26.573
1976	22.863	22.819	26.800	22.528	21.692	22.509	25.000	26.613
1977	22.597	22.594	26.800	22.290	21.521	22.266	25.000	26.561
1978	22.242	22.078	26.800	22.175	21.284	22.014	25.000	26.501
1979	22.449	21.884	26.800	22.436	21.372	22.100	25.000	26.570
1980	22.411	22.488	26.800	22.690	21.301	21.950	25.000	26.404
1981	22.301	22.010	26.800	22.572	21.091	21.710	25.000	26.176
1982	22.233	22.226	26.800	22.695	21.200	21.670	25.000	26.231
1983	22.048	22.438	26.800	22.680	21.141	21.576	25.000	26.300
1984	22.005	22.406	26.800	22.525	21.108	21.570	25.000	26.410
1985	21.867	22.568	26.800	22.013	20.965	21.368	25.000	26.320
1986	21.908	22.669	26.800	22.185	21.091	21.462	25.000	26.308
1987	21.918	22.800	26.800	22.360	21.143	21.514	25.000	26.304
1988	21.817	23.135	26.800	22.341	20.905	21.324	25.000	26.308
1989	21.759	22.917	26.800	22.324	20.854	21.268	25.000	26.166
1990	21.819	22.678	26.800	22.444	20.935	21.330	25.000	26.207
1991	21.678	22.635	26.800	22.448	20.761	21.146	25.000	26.192
1992	21.643	22.768	26.800	22.242	20.792	21.142	25.000	26.165
1993	21.383	22.749	26.800	22.111	20.644	20.983	25.000	26.341
1994	21.347	22.683	26.800	22.046	20.681	21.011	25.000	26.335
1995	21.271	22.767	26.800	21.931	20.502	20.845	25.000	26.187
1996	21.281	22.649	26.800	22.087	20.532	20.857	25.000	26.181
1997[b]	21.247	22.048	26.800	22.157	20.554	20.861	25.000	26.258
1998[b]	21.247	22.048	26.800	22.157	20.554	20.861	25.000	26.258
1999[a]	21.247	22.048	26.800	22.157	20.554	20.861	25.000	26.258

[a] Includes transportation.
[b] Preliminary.
Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

Table A7. Approximate Heat Content of Anthracite and Coal Coke

(Million Btu per Short Ton)

	Anthracite					
		Consumption				
	Production	Sectors Other Than Electric Utilities	Electric Utilities	Total	Imports and Exports	Coal Coke Imports and Exports
1973	22.132	22.674	17.920	21.464	25.400	24.800
1974	21.711	22.330	17.200	20.919	25.400	24.800
1975	21.582	22.272	17.064	20.762	25.400	24.800
1976	22.045	22.618	17.526	21.254	25.400	24.800
1977	22.661	24.101	17.244	22.066	25.400	24.800
1978	23.079	24.388	17.104	22.398	25.400	24.800
1979	23.170	24.272	17.454	22.069	25.400	24.800
1980	22.869	22.719	17.652	21.405	25.400	24.800
1981	23.291	23.749	18.168	22.080	25.400	24.800
1982	23.289	24.578	18.160	22.518	25.400	24.800
1983	22.734	24.536	16.516	21.583	25.400	24.800
1984	23.107	25.128	17.018	22.322	25.400	24.800
1985	22.428	23.031	16.784	20.817	25.400	24.800
1986	23.084	24.399	15.578	21.512	25.400	24.800
1987	23.108	26.293	15.962	22.435	25.400	24.800
1988	23.266	26.021	17.312	22.423	25.400	24.800
1989	23.385	27.196	16.310	22.623	25.400	24.800
1990	22.574	25.199	16.140	21.668	25.400	24.800
1991	22.573	25.268	15.858	21.410	25.400	24.800
1992	22.572	24.617	16.944	21.423	25.400	24.800
1993	22.573	24.096	16.534	21.262	25.400	24.800
1994	22.572	25.037	14.680	20.828	25.400	24.800
1995	22.572	24.696	14.572	20.808	25.400	24.800
1996	22.573	24.638	14.360	20.652	25.400	24.800
1997	22.571	24.497	15.022	20.878	25.400	24.800
1998[a]	22.571	24.497	15.022	20.878	25.400	24.800
1999[a]	22.571	24.497	15.022	20.878	25.400	24.800

[a] Preliminary.

Source: See "Thermal Conversion Factor Source Documentation," which follows Table A8.

Table A8. Approximate Heat Rates for Electricity

(Btu per Kilowatthour)

	Electricity 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	10,335	10,623	20,960	3,412
1997	10,311	10,623	20,960	3,412
1998[c]	10,311	10,623	20,960	3,412
1999[c]	10,311	10,623	20,960	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**.

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 (LPG) Consumption. Calculated annually by EIA as the average of the thermal conversion factors of each liquefied petroleum gas consumed, weighted by the quantity of each liquefied petroleum gas consumed.

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. EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for "Gasoline, Motor Fuel" 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.

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 30,120,000 Btu per short ton, as given in the referenced Bureau of Mines internal memorandum, by 5.0 barrels per short ton, as given in the Bureau of Mines Form 6-1300-M and successor EIA forms.

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

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

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

Anthracite, Total Consumption. Calculated annually by EIA by dividing the sum of the heat content of anthracite consumed by electric utilities and all other sectors combined by the total quantity of anthracite consumed.

Anthracite, Consumption by Electric Utilities. Calculated annually by EIA by dividing the heat content of anthracite receipts at electric utilities by the quantity of anthracite received at electric utilities. Heat contents and receipts are from Form FERC-423 and predecessor forms.

Anthracite, Consumption by Sectors Other Than Electric Utilities. Calculated annually by EIA by dividing the heat content of anthracite production less the heat content of the anthracite consumed at electric utilities, net exports, and shipments to U.S. Armed Forces overseas by the quantity of anthracite consumed by sectors other than electric utilities less the quantity of anthracite stock changes, losses, and "unaccounted for."

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

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

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

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

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

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

ume of deliveries to other industrial users from each coal-producing area, and the sum total of the heat content was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

Bituminous Coal and Lignite, Consumption by Residential and Commercial Users. 1973: Calculated by EIA through regression analysis measuring the difference between the average Btu value of coal consumed by residential and commercial users and that of coal consumed by electric utilities in the 1974-1982 period. 1974 forward: Calculated annually by EIA by assuming that the bituminous coal and lignite delivered to residential and commercial users from each coal-producing area (reported on Form EIA-6 and predecessor Bureau of Mines Form 6-1419-Q) contained a heat value equal to that of bituminous coal and lignite received at electric utilities from each of the same coal-producing areas (reported on Form FERC-423). The average Btu value of coal by coal-producing area was applied to the volume of deliveries to residential and commercial users from each coal-producing area, and the total of the heat value was divided by the total volume of deliveries. Coal-producing areas are the Bureau of Mines coal-producing districts for 1974 through 1989 and coal-producing States for 1990 forward.

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

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

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

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

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

Coal, Consumption by Sectors Other Than Electric Utilities. Calculated annually by EIA by dividing the sum of the heat content of bituminous coal and lignite and anthracite consumed by sectors other than electric utilities by the sum of their respective tonnages.

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

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

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

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

Approximate Heat Rates for Electricity

Fossil-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.

Factors differ among sectors and within a sector over time for several reasons:

1. A higher average emission factor in the residential and commercial sector can be attributed to the steady consumption of bituminous coal and anthracite (presumably for home heating).

2. Virtually all of the coal consumed by coke plants comes from only a few States in the Appalachian Coal Basin (West Virginia, Virginia, and eastern Kentucky). Hence, the emission factors for this sector have remained fairly constant.

3. Other industrial users of coal (not coke plants) increased consumption of low-rank, high-emission western coals, which has contributed to a rise in their average emission factor.

4. Electric utilities, which account for most U.S. coal consumption, have shifted over time away from high-rank, low-emission bituminous coal to low-rank, high-emission subbituminous coal and lignite as reflected in a gradually rising weighted-average carbon dioxide emission factor.

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

[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 1-page descriptions 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
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

1997 (Cont.)

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
Energy Snapshot: Describing Current and Potential Markets for Alternative-Fuel Vehicles . . . March 1996
Article: Energy Equipment Choices: Fuel Costs and Other Determinants . . . April 1996
Energy Plug: *International Energy Outlook 1996* . . . May 1996
Energy Plug: U.S. Electric Utility Demand-Side Management: Trends and Analysis . . . May 1996
Energy Plug: Country Analysis Brief: Iraq . . . June 1996
Energy Plug: *Annual Energy Review 1995* . . . July 1996
Energy Plug: *Voluntary Reporting of Greenhouse Gases 1995* . . . July 1996
Energy Plug: *Residential Lighting: Use and Potential Savings* . . . August 1996
Energy Plug: EIA Electronic Media Meet Customer Needs . . . August 1996
Energy Plug: *Alternatives to Traditional Transportation Fuels, Volume 2: Greenhouse Gas Emissions* . . . September 1996
Energy Plug: *State Energy Data Report 1994* . . . October 1996
Energy Plug: *Privatization and the Globalization of Energy Markets* . . . October 1996
Energy Plug: *Emissions of Greenhouse Gases in the United States 1995* . . . October 1996
Energy Plug: *Nuclear Power Generation and Fuel Cycle Report 1996* . . . November 1996
Energy Plug: *Country Analysis Brief: Algeria* . . . November 1996
Energy Plug: *Denver Clean-City Fleets Survey* . . . November 1996
Energy Plug: *Natural Gas 1996: Issues and Trends* . . . December 1996

1995

Highlights: *Manufacturing Consumption of Energy 1991* . . . January 1995
Article: U.S. Wind Energy Potential: The Effect of the Proximity of Wind Resources to Transmission Lines . . . February 1995
EIA Data News: The Response Analysis Survey: Evaluating Manufacturing Energy Consumption Survey Methodology . . . March 1995
Energy Preview: Electric Utility Fleet Survey 1993, Preliminary Estimates: Assessing the Market for Alternative-Fuel Vehicles . . . April 1995
Highlights: *Commercial Buildings Energy Consumption and Expenditures 1992* . . . April 1995
Article: Measuring Dependence on Imported Oil . . . August 1995
Energy Preview: Household Energy Consumption and Expenditures 1993, Preliminary Estimates . . . August 1995
Energy Snapshot: Housing Characteristics 1993 . . . September 1995
Highlights: *State Energy Data Report 1993, Consumption Estimates* . . . October 1995
Special Communication: Results of the *Monthly Energy Review* Features Readership Survey . . . November 1995
Highlights: *Annual Energy Review 1994* . . . November 1995
Energy Preview: Alternative Fuel Providers Fleet Surveys, Preliminary Data . . . November 1995
Article: Environmental Externalities in Electric Power Markets: Acid Rain, Urban Ozone, and Climate Change . . . November 1995
Energy Preview: Alternative Fuel Providers Fleet Surveys, Preliminary Data . . . December 1995

1994

Energy Preview: Commercial Buildings Energy Consumption Survey, Preliminary Estimates, 1992 . . . January 1994
Highlights: *Household Vehicles Energy Consumption 1991* . . . February 1994
Highlights: *Energy Use and Carbon Emissions: Some International Comparisons* . . . April 1994
Highlights: *Commercial Buildings Characteristics 1992* . . . June 1994
Article: Demand, Supply, and Price Outlook for Reformulated Motor Gasoline 1995 . . . July 1994
Article: Commercial Nuclear Electric Power in the United States: Problems and Prospects . . . August 1994
Article: The Impact of Flow Control and Tax Reform on Ownership and Growth in the U.S. . . . August 1994
Highlights: *Reducing Home Heating and Cooling Costs* . . . September 1994
Energy Preview: Commercial Buildings Energy Consumption and Expenditures 1992, Preliminary Estimates . . . September 1994
Article: Carbon Dioxide Emission Factors for Coal: A Summary Waste-to-Energy Industry . . . September 1994
EIA Data News: Data Collection on Alternative-Fuel Vehicles . . . October 1994
Highlights: *Energy End-Use Intensities in Commercial Buildings* . . . October 1994
Article: Change in Method for Estimating Fuel Economy for the Residential Transportation Energy Consumption Survey . . . October 1994
Article: Comparability of Supply- and Consumption-Derived Estimates of Manufacturing Energy Consumption . . . October 1994

1994 (Cont.)

Energy Preview: Housing Characteristics 1993, Selected Preliminary Estimates . . . November 1994
Energy Preview: Propane-Provider Fleet Survey 1993, Preliminary Estimates . . . November 1994
Energy Preview: Atlanta Private Fleet Survey 1994, Preliminary Estimates . . . December 1994

1993

Energy Preview: Residential Transportation Energy Consumption Survey, Preliminary Estimates, 1991 . . . January 1993
EIA Data News: Natural Gas Transported for the Account of Others . . . February 1993
Highlights: *Federal Energy Subsidies: Direct and Indirect Interventions in Energy Markets* . . . July 1993
Highlights: *Household Energy Consumption and Expenditures 1990* . . . August 1993
Article: Demand, Supply, and Price Outlook for Low-Sulfur Diesel Fuel . . . August 1993
Energy Preview: Manufacturing Energy Consumption Survey, Preliminary Estimates, 1991 . . . September 1993
Highlights: *Natural Gas 1992: Issues and Trends* . . . September 1993
Highlights: *International Energy Outlook 1993* . . . October 1993
Highlights: *The Changing Structure of the U.S. Coal Industry: An Update* . . . November 1993
Highlights: *Emissions of Greenhouse Gases in the United States 1985-1990* . . . December 1993
Highlights: *Assessment of Energy Use in Multibuilding Facilities* . . . December 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
Article: Exploring for Oil and Gas . . . November 1983
Article: The Influence of Federal Actions on Petroleum Exploration . . . December 1983[2]
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

1981

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

1980

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
Article: Crude Oil Entitlements Program . . . January 1977
Article: Motor Gasoline Supply and Demand . . . July 1977

1979

1978

1977

1976

1975

Glossary

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 thermal 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: Defined economically, consists of business establishments that are not engaged in transportation or in manufacturing or other types of industrial activity (agriculture, mining, or construction). Commercial establishments include hotels, motels, restaurants, wholesale businesses, retail stores, laundries, and other service enterprises; religious and nonprofit organizations; health, social, and educational institutions; and Federal, State, and local governments. Street lights, pumps, bridges, and public services are also included if the establishment operating them is considered commercial.

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.

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 type of sale in which the buyer of the product agrees to pay a unit price that includes the f.o.b. value of the product at the point of origin plus all costs of insurance and transportation. This type of transaction differs from a "delivered" purchase in that the buyer accepts the quantity as determined at the loading port (as certified by the Bill of Loading and Quality Report) rather than paying on the basis of the quantity and quality ascertained at the unloading port. It is similar to the terms of an f.o.b. sale, except that the seller, as a service for which he is compensated, arranges for transportation and insurance.

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. Crude oil may also include: (1) Small amounts of hydrocarbons that exist in the gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and that subsequently are commingled with the crude stream without being separately measured. (2) Small amounts of nonhydrocarbons produced with the oil, such as sulfur and other compounds. Note: In reporting crude oil data at various stages of the petroleum supply stream, EIA survey programs have definitional variations due to whether associated products or materials are counted with crude oil. Some products and other materials are either mixed with the crude oil and cannot be separately measured or they are logically associated with crude oil for accounting purposes. Crude oil reserves data contain separate estimates for lease condensate, whereas crude oil supply data include lease condensate. Crude oil supply data also include liquid hydrocarbons produced from tar sands, gilsonite, and oil shale.

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

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

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

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

Electricity Generation: The process of producing electric energy or transforming other forms of energy into electric energy. It is also the amount of electric energy produced or expressed in watthours (Wh).

Electricity Generation, Gross: The total amount of electric energy produced by the generating station or stations, measured at the generator terminals.

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

Electricity Production: Net electricity (gross electricity output measured at generator terminals minus power plant use) generated by publicly and privately owned electric utilities. Excludes industrial electricity generation (except autogeneration of hydroelectric power).

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 Plant: A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

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, primarily for use by the public, and that files forms listed in the *Code of Federal Regulations*, Title 18, Part 141. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act are not considered electric utilities.

Electric Utility Sector: Privately and publicly owned establishments that generate, transmit, distribute, or sell electricity primarily for use by the public and meet the definition of an electric utility. Nonutility power producers are not included in the electric utility sector.

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 Source: A substance, such as petroleum, natural gas, or coal, that supplies heat or power. In Energy Information Administration reports, electricity and renewable forms of energy, such as biomass, geothermal, wind, and solar, are considered to be energy sources.

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 unproved area, to find a new reservoir in a field previously found to be productive of oil or gas in another reservoir, or to extend the limit of a known oil or gas reservoir.

Exports: Shipments of goods from the 50 States and the District of Columbia to foreign countries 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 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: Any naturally occurring organic fuel, 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 transaction whereby the seller makes the product available within an agreed-on period at a given port at a given price. It is the responsibility of the buyer to arrange 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 **Oxygenated Gasoline.**

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: Energy from the internal heat of the Earth, which may be residual heat, friction heat, or

a result of radioactive decay. The heat is found in rocks and fluids at various depths and can be extracted by drilling and/or pumping.

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.

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: Wholesale electricity producers (other than qualifying facilities under the Public Utilities Regulatory Policies Act of 1978) that are unaffiliated with franchised utilities in the area in which the independent power producers are selling power and that lack significant marketing power. Unlike traditional electric utilities, independent power producers do not possess transmission facilities that are essential to the customers and do not sell power in any retail service territory where they have a franchise. See **Nonutility Power Producer.**

Industrial Sector: Comprises manufacturing industries, which make up the largest part of the sector, along with mining, construction, agriculture, fisheries, and forestry. Establishments in this sector range from steel mills to small farms to companies assembling electronic components.

Injections (Natural Gas): Natural gas injected into storage reservoirs

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, Finished: A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines. Fuel specifications are provided in ASTM Specification D910 and Military Specification MIL-G-5572. Note: Data on blending components are not counted in data on finished aviation gasoline.

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.

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.

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 hydrocarbon gas (CH_4) that is the principal constituent of natural gas.

Methyl Tertiary Butyl Ether: 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 (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 engines. Motor gasoline, as defined in ASTM Specification D-4814 or Federal Specification VV-G-1690C, is characterized as having a boiling range of 122 to 158° at the 10-percent recovery point to 365° to 374° 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: Data on blending components, as well as oxygenates, are not counted in data on finished motor gasoline.

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: Naphthas (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 for oxygenate blending (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 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.

Motor Gasoline, Midgrade: Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. Note**:** Octane require-

ments 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, 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).

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.**

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 mixture of hydrocarbons (principally methane) and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

Natural Gas, Dry: The marketable portion of natural gas production, which is obtained by subtracting extraction losses, including natural gas liquids removed at natural gas processing plants, from total production.

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 steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by testing at the time of summer peak demand.

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 of instrumentality that owns electric generating capacity and is not an electric utility. Nonutility producers include qualifying cogenerators, qualifying small power producers, and other nonutility generators (including independent power producers) without a designated, franchised, service area that do not file forms listed in the Code of Federal Regulations, Title 18, Part 141. See **Cogenerator; Independent Power Producer;** and **Small Power Producer.**

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 ves-

sel; 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, Faroe 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.

Oxygenated Gasoline: Finished motor gasoline having an oxygen content of 1.8 percent or higher, by weight. This product is required by the U.S. Environmental Protection Agency (EPA) to be sold in areas with higher-than-acceptable levels of carbon monoxide (CO), i.e., "nonattainment areas". These nonattainment areas are identified by EPA on the basis of detailed CO measurements and States are required to submit plans to improve air quality [State Implementation Plans (SIP)]. Such a program may, at the State's discretion, address an area larger than its officially-designated nonattainment area(s). Note: For data on sales of oxygenated gasoline, any gasoline meeting the oxygen content specification and intended for use within the area designated by a SIP is counted as oxygenated gasoline. For data on production and supply of oxygenated gasoline, gasohol is included in the oxygenated gasoline category, regardless of where it is sold. Oxygenated gasoline excludes reformulated gasoline, oxygenated fuels program reformulated gasoline (OPRG), and reformulated gasoline blendstock for oxygenated blending (RBOB).

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: All energy consumed by end users excluding electricity but including the energy consumed to generate 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). Renewable sources of energy include wood, waste, photovoltaic, and solar thermal energy.

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: Consists of all private residences, whether occupied or vacant, owned or rented, including single-family homes, multifamily housing units, and mobile homes. Secondary homes, such as summer homes, are also included. Institutional housing, such as school dormitories, hospitals, and military barracks, generally are not included in the residential sector; they are included in the commercial sector.

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: Electricity produced from solar energy that heats a medium that powers the 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.

Terawatthours: Billion kilowatthours.

Thermal Conversion Factor: See **Conversion Factor.**

Total Consumption: See **Energy Consumption, End-Use.**

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

Unaccounted-for Crude Oil: 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.

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: Garbage, bagasse, sewerage gas, and other industrial, agricultural, and urban refuse used to generate electricity.

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, and spent pulping liquor.

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.

Energy Plugs:
Inventory of Nonutility Power Plants
Changing Electric Power Industry

Enhanced Electricity Coverage
See Section 7