Monthly Energy Review

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Monthly Energy Review

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Energy production during November 1998 totaled 5.6 quadrillion Btu, a 2.8-percent increase from the level of production during November 1997. Production of coal increased 8.3 percent, crude oil and natural gas plant liquids combined decreased 4.8 percent, and natural gas increased 1.3 percent. Production of all other forms of energy combined were up 3.6 percent from the level of production during November 1997.

Energy consumption during November 1998 totaled 7.2 quadrillion Btu, 3.3 percent below the level of consumption during November 1997. Consumption of natural gas decreased 8.1 percent, coal decreased 4.9 percent, and petroleum products decreased 0.3 percent. Consumption of all other forms of energy combined increased 0.8 percent from the level 1 year earlier.

Net imports of energy during November 1998 totaled 1.9 quadrillion Btu, 8.1 percent above the level of net imports 1 year earlier. Net imports of petroleum increased 8.5 percent and net imports of natural gas were up 0.1 percent. Net exports of coal fell 17.0 percent from the level in November 1997.

Table 1.1 Energy Summary for November 1998

(Quadrillion Btu)

	November			Cumulative January Through November				
	1998	1997	Percent Change[a]	1998	1998 Daily Rate	1997	1997 Daily Rate	Percent Change[a]
Production	**5.609**	**5.475**	**2.4**	**63.284**	**0.189**	**63.199**	**0.189**	**0.1**
Coal	1.931	1.782	8.3	21.605	.065	21.172	.063	2.0
Natural Gas (Dry)	E 1.608	1.587	1.3	E 17.762	E .053	17.778	.053	-.1
Crude Oil[b] and Natural Gas Plant Liquids	E 1.255	1.319	-4.8	E 14.369	E .043	14.772	.044	-2.7
Other[c]	.816	.787	3.6	9.548	.029	9.478	.028	.7
Consumption	**7.225**	**7.470**	**-3.3**	**82.241**	**.246**	**82.275**	**.246**	**.0**
Coal	E 1.640	1.724	-4.9	E 19.402	E .058	19.134	.057	1.4
Natural Gas[d]	F 1.787	1.944	-8.1	E 19.677	E .059	20.162	.060	-2.4
Petroleum Products[e]	2.973	2.983	-.3	33.319	.100	33.187	.099	.4
Other[f]	.825	.818	.8	9.843	.029	9.793	.029	.5
Net Imports	**1.873**	**1.732**	**8.1**	**20.064**	**.060**	**19.275**	**.058**	**4.1**
Coal[g]	-.131	-.158	-17.0	-1.663	-.005	-1.855	-.006	-10.3
Natural Gas	E .265	.265	.1	E 2.795	E .008	2.652	.008	5.4
Petroleum[h]	1.729	1.594	8.5	18.638	.056	18.163	.054	2.6
Other[i]	.009	.031	-70.1	.295	.001	.315	.001	-6.6

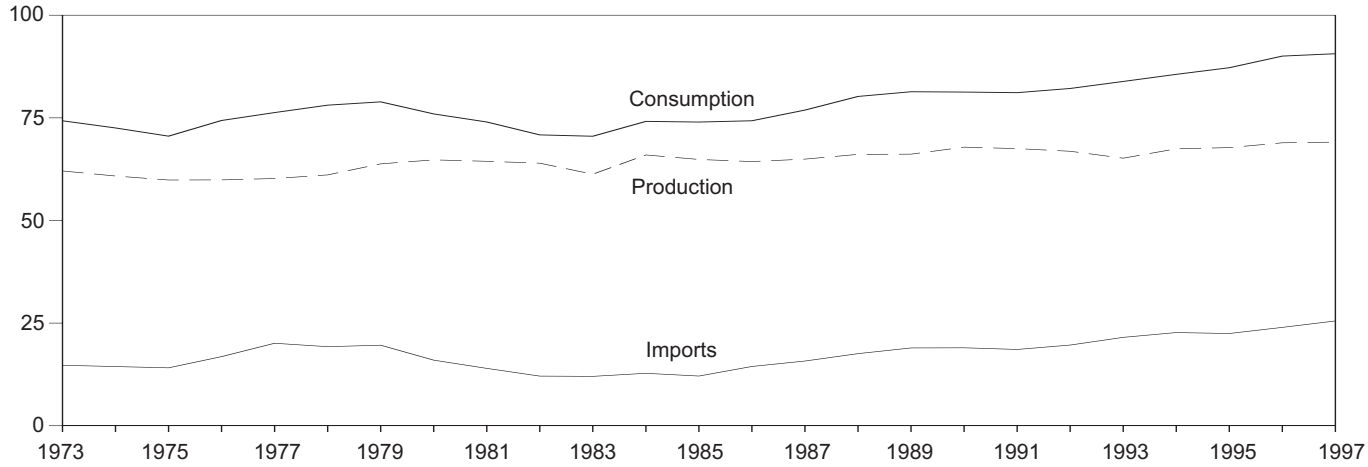
[a] Based on daily rates prior to rounding.
[b] Includes lease condensate.
[c] "Other" is hydroelectric and nuclear electric power, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.
[d] Includes supplemental gaseous fuels.
[e] Products 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. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

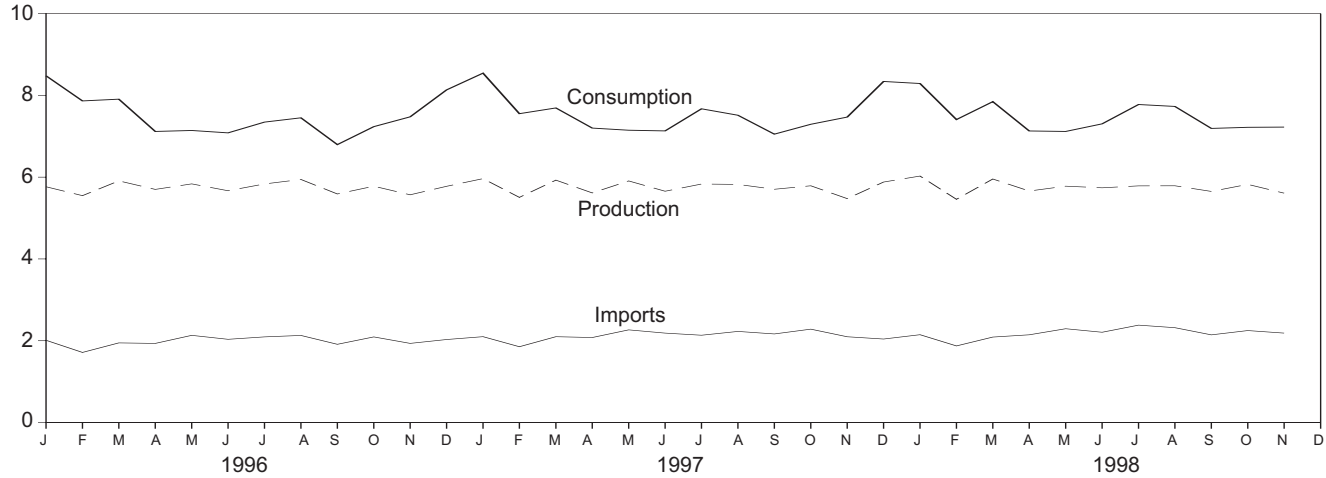
Figure 1.1 Energy Overview

(Quadrillion Btu)

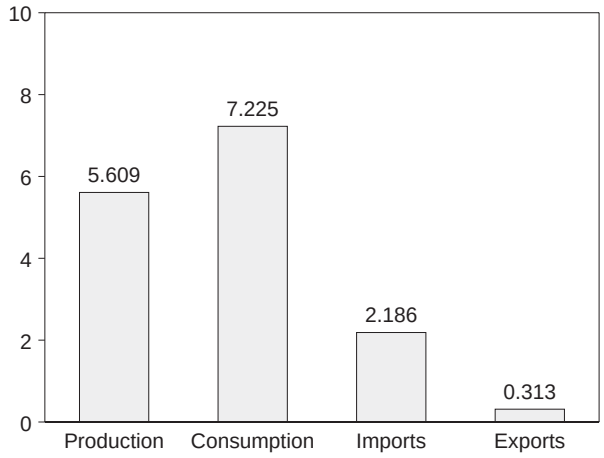
Consumption, Production, and Imports, 1973-1997



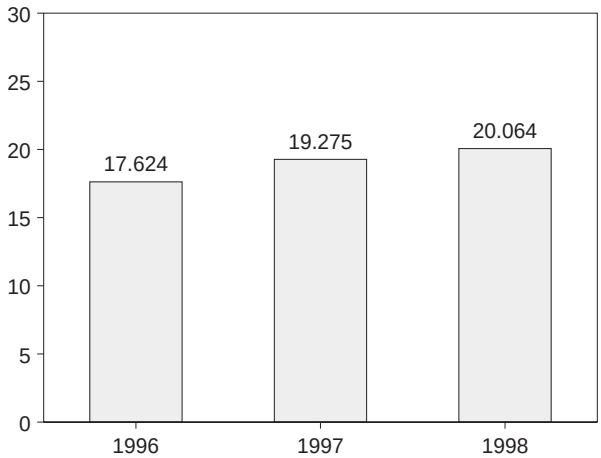
Consumption, Production, and Imports, Monthly



Overview, November 1998



Net Imports, January-November



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	**67.871**	**81.283**	**18.988**	**4.911**	**14.078**
1991 Total	**67.505**	**81.138**	**18.579**	**5.221**	**13.358**
1992 Total	**66.862**	**82.154**	**19.652**	**5.017**	**14.634**
1993 Total	**65.171**	**83.871**	**21.531**	**4.351**	**17.181**
1994 Total	**67.457**	**85.598**	**22.696**	**4.125**	**18.571**
1995 Total	**67.760**	**87.205**	**22.469**	**4.580**	**17.890**
1996 January	5.766	8.480	2.010	.389	1.621
February	5.548	7.865	1.714	.376	1.338
March	5.909	7.908	1.947	.359	1.588
April	5.701	7.118	1.934	.378	1.556
May	5.836	7.142	2.131	.378	1.753
June	5.668	7.084	2.034	.387	1.647
July	5.834	7.347	2.094	.396	1.698
August	5.944	7.452	2.129	.381	1.748
September	5.589	6.796	1.912	.428	1.484
October	5.779	7.236	2.093	.425	1.669
November	5.569	7.476	1.935	.412	1.523
December	5.777	8.135	2.029	.399	1.630
Total	**68.920**	**90.041**	**23.961**	**4.706**	**19.255**
1997 January	5.964	8.544	2.099	.400	1.699
February	5.506	7.553	1.853	.343	1.510
March	5.927	7.693	2.098	.376	1.722
April	5.615	7.201	2.078	.364	1.713
May	5.908	7.148	2.265	.370	1.896
June	5.656	7.131	2.186	.366	1.820
July	5.832	7.672	2.134	.380	1.754
August	5.823	7.515	2.227	.442	1.785
September	5.704	7.052	2.166	.386	1.779
October	5.789	7.294	2.283	.418	1.865
November	5.475	7.470	2.097	.365	1.732
December	5.881	8.341	2.041	.416	1.625
Total	**69.080**	**90.621**	**25.527**	**4.627**	**20.900**
1998 January	R 6.027	8.291	2.147	.408	1.739
February	R 5.459	7.409	1.873	.317	1.556
March	R 5.955	7.847	2.089	.357	1.731
April	5.661	7.130	2.145	.374	1.771
May	R 5.780	7.118	2.293	.404	1.889
June	R 5.740	7.304	2.207	.376	1.831
July	R 5.787	7.777	2.381	R .375	2.007
August	R 5.790	7.730	2.319	R .336	R 1.983
September	R 5.652	R 7.192	R 2.143	R .350	R 1.793
October	R 5.824	R 7.219	2.248	.358	1.890
November	5.609	7.225	2.186	.313	1.873
11-Month Total	**63.284**	**82.241**	**24.030**	**3.966**	**20.064**
1997 11-Month Total	**63.199**	**82.275**	**23.486**	**4.211**	**19.275**
1996 11-Month Total	**63.143**	**81.903**	**21.932**	**4.307**	**17.624**

[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.

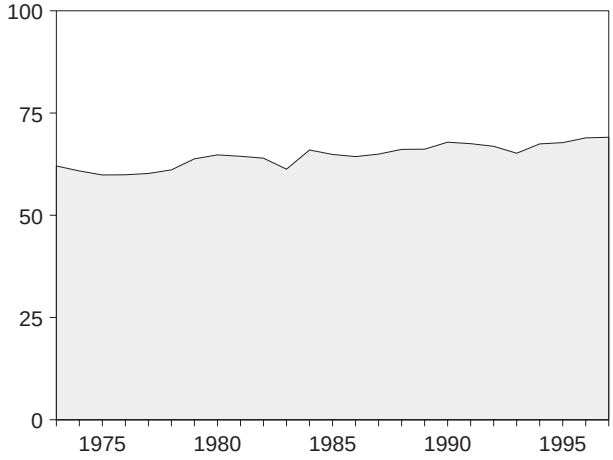
Sources: • **Production:** Table 1.3. • **Consumption:** Table 1.4. • **Imports and Exports:** Tables 3.1b, 4.2, 6.1, A2-A8, and Section 2, "Energy Consumption Notes and Sources," Notes 8 and 9. • **Net Imports:** Table 1.5.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

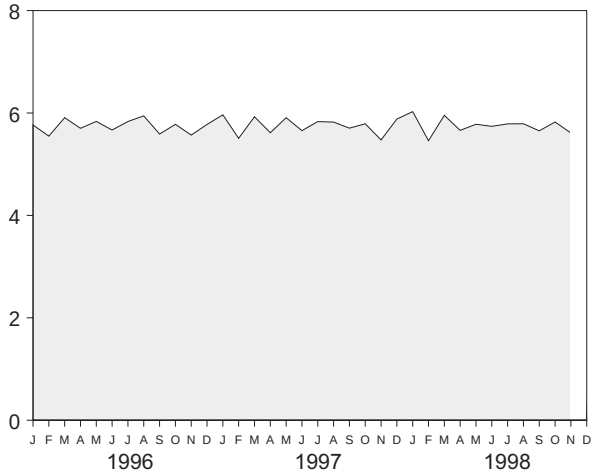
Figure 1.2 Energy Production

(Quadrillion Btu)

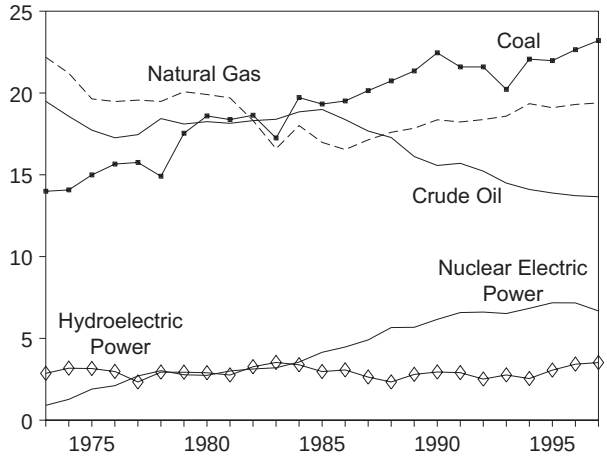
Total, 1973-1997



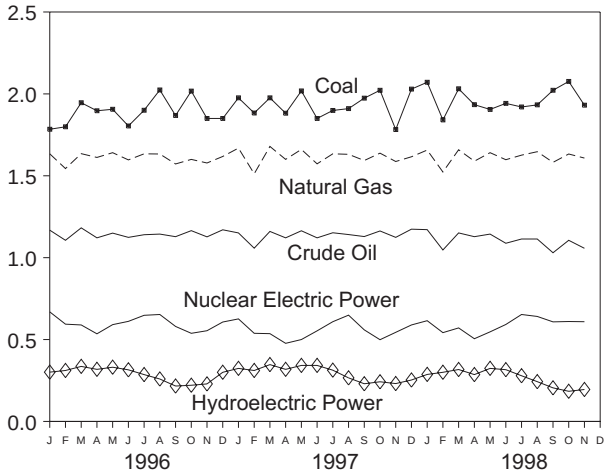
Total, Monthly



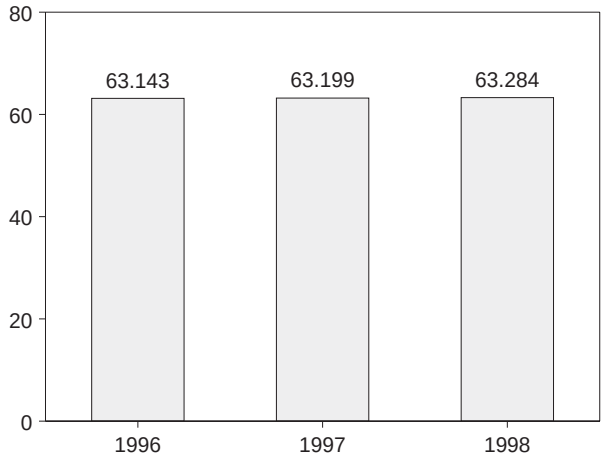
By Major Sources, 1973-1997



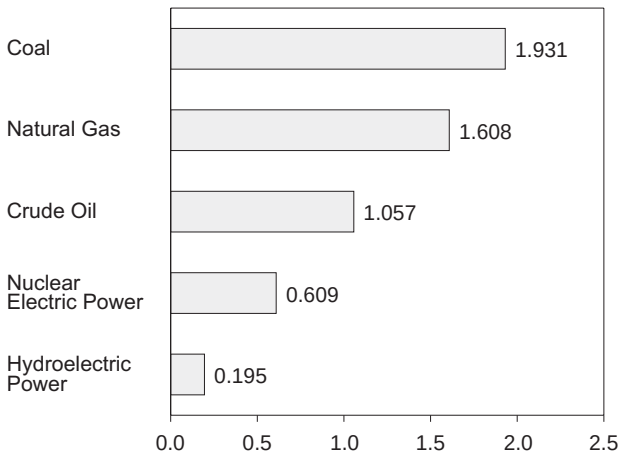
By Major Sources, Monthly



Total, January-November



By Major Sources, November 1998



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**	**2.944**	**.181**	**.022**	**67.871**
1991 Total	**21.594**	**18.229**	**15.701**	**2.306**	**6.579**	**2.905**	**.170**	**.021**	**67.505**
1992 Total	**21.593**	**18.375**	**15.223**	**2.363**	**6.607**	**2.510**	**.169**	**.022**	**66.862**
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**	**2.545**	**.145**	**.021**	**67.457**
1995 Total	**21.978**	**19.101**	**13.887**	**2.442**	**7.177**	**3.058**	**.099**	**.017**	**67.760**
1996 January	1.784	1.634	1.168	.201	.669	.301	.007	.002	5.766
February	1.799	1.544	1.106	.184	.594	.311	.008	.001	5.548
March	1.946	1.635	1.182	.212	.589	.336	.007	.002	5.909
April	1.897	1.612	1.121	.209	.535	.318	.008	.001	5.701
May	1.906	1.641	1.150	.212	.591	.331	.005	.001	5.836
June	1.804	1.597	1.124	.208	.611	.315	.008	.002	5.668
July	1.900	1.634	1.140	.214	.648	.286	.012	.002	5.834
August	2.024	1.633	1.144	.218	.653	.259	.012	.002	5.944
September	1.868	1.572	1.128	.212	.580	.216	.010	.002	5.589
October	2.017	1.600	1.165	.224	.538	.221	.011	.002	5.779
November	1.850	1.578	1.127	.217	.554	.229	.011	.002	5.569
December	1.850	1.618	1.170	.220	.607	.300	.010	.002	5.777
Total	**22.646**	**19.300**	**13.723**	**2.530**	**7.168**	**3.423**	**.110**	**.020**	**68.920**
1997 January	1.976	1.669	1.151	.208	.626	.324	.009	.002	5.964
February	1.883	1.512	1.058	.197	.538	.311	.006	.002	5.506
March	1.976	1.679	1.160	.219	.536	.347	.009	.002	5.927
April	1.882	1.600	1.121	.206	.477	.318	.010	.002	5.615
May	2.018	1.661	1.164	.212	.500	.342	.010	.002	5.908
June	1.850	1.573	1.121	.206	.553	.342	.008	.002	5.656
July	1.899	1.634	1.152	.212	.609	.313	.011	.002	5.832
August	1.910	1.631	1.141	.214	.649	.266	.011	.002	5.823
September	1.974	1.593	1.129	.208	.559	.230	.010	.002	5.704
October	2.022	1.638	1.163	.211	.499	.242	.010	.002	5.789
November	1.782	1.587	1.124	.195	.544	.231	.010	.002	5.475
December	2.029	1.616	1.174	.207	.589	.253	.011	.002	5.881
Total	**23.201**	**19.394**	**13.658**	**2.495**	**6.678**	**3.519**	**.115**	**.021**	**69.080**
1998 January	2.071	[E] 1.657	[RE] 1.171	.213	.615	.287	.010	.002	[R] 6.027
February	1.841	[E] 1.523	[RE] 1.047	.197	.542	.300	.008	.001	[R] 5.459
March	2.031	[E] 1.659	[RE] 1.151	.215	.571	.317	.010	.002	[R] 5.955
April	1.934	[E] 1.589	[RE] 1.128	.210	.505	.286	.007	.002	5.661
May	1.905	[E] 1.641	[RE] 1.144	.211	.547	.324	.006	.002	[R] 5.780
June	1.942	[E] 1.598	[RE] 1.088	.196	.592	.316	.007	.001	[R] 5.740
July	1.920	[E] 1.626	[RE] 1.114	.184	.653	.279	.009	.002	[R] 5.787
August	1.933	[RE] 1.647	[RE] 1.114	.200	.641	.243	.010	.002	[R] 5.790
September	2.022	[RE] 1.582	[RE] 1.030	.194	.608	.205	.010	.002	[R] 5.652
October	2.076	[E] 1.633	[RE] 1.106	.202	.610	.184	.011	.002	[R] 5.824
November	1.931	[E] 1.608	[E] 1.057	.198	.609	.195	.010	.002	5.609
11-Month Total	**21.605**	[E] **17.762**	[E] **12.149**	**2.220**	**6.493**	**2.937**	**.099**	**.019**	**63.284**
1997 11-Month Total	**21.172**	**17.778**	**12.484**	**2.288**	**6.089**	**3.266**	**.104**	**.019**	**63.199**
1996 11-Month Total	**20.796**	**17.682**	**12.553**	**2.310**	**6.560**	**3.123**	**.100**	**.019**	**63.143**

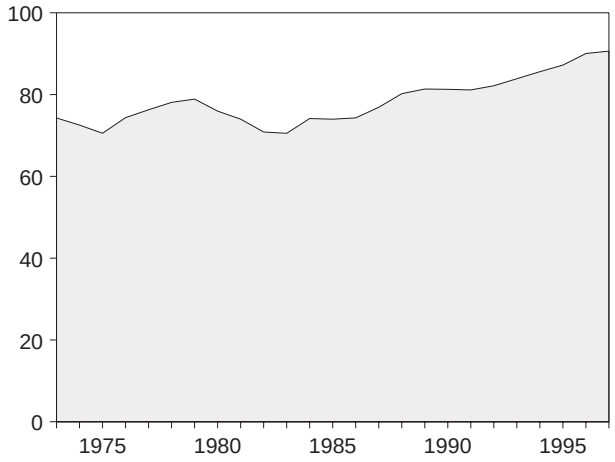
[a] Includes lease condensate.
[b] Electric utility and industrial generation.
[c] "Other" production is electricity generated for distribution from wood, waste, wind, photovoltaic, and solar thermal energy.
R=Revised. E=Estimate.
Notes: • See Note 1 at end of section. • Totals may not equal sum of components 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 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

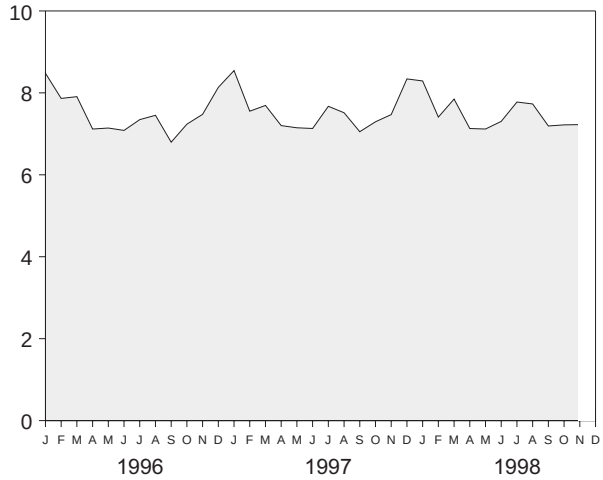
Figure 1.3 Energy Consumption

(Quadrillion Btu)

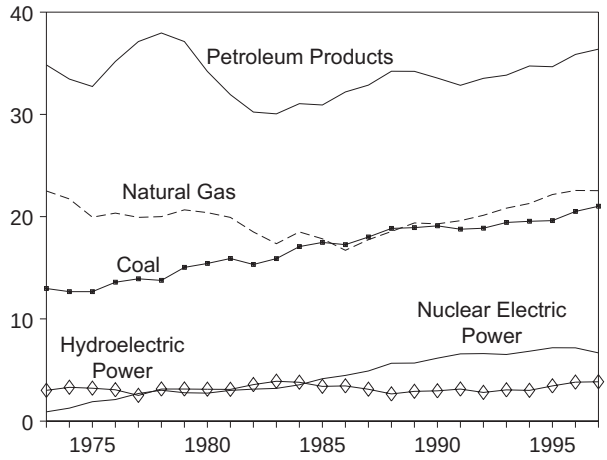
Total, 1973-1997



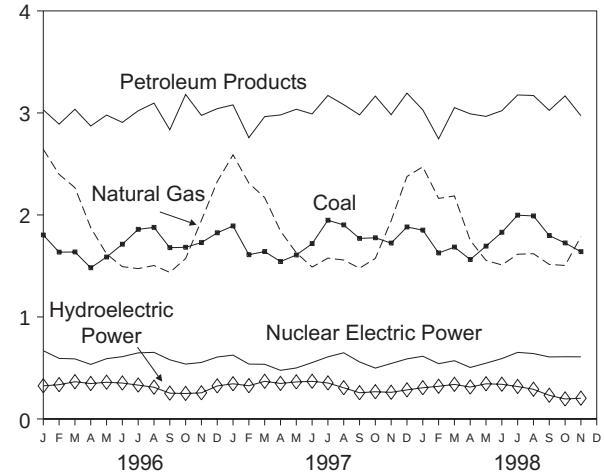
Total, Monthly



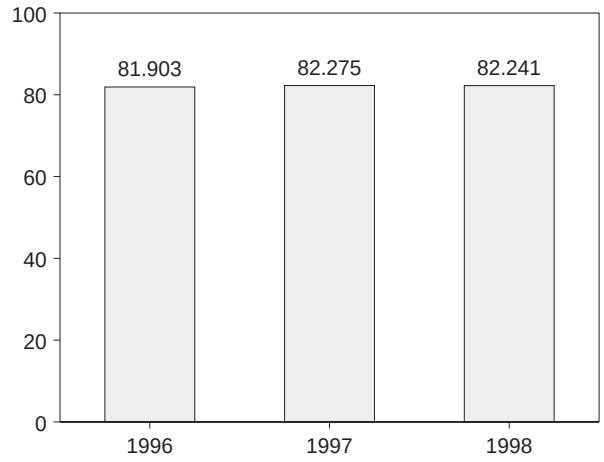
By Major Sources, 1973-1997



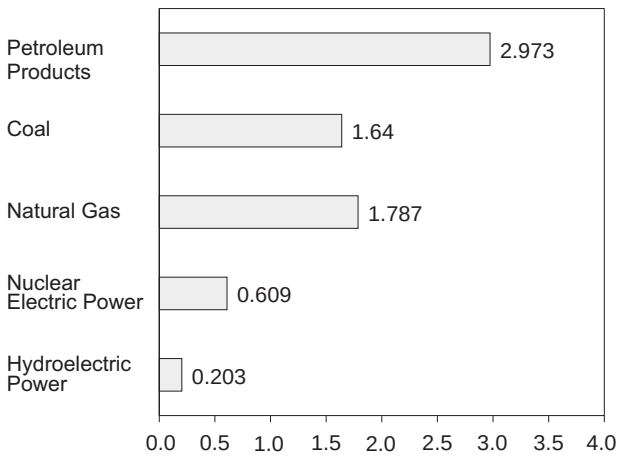
By Major Sources, Monthly



Total, January-November



By Major Sources, November 1998



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**	**2.964**	**.181**	**.026**	**81.283**
1991 Total	**18.770**	**19.606**	**32.845**	**6.579**	**3.137**	**.170**	**.030**	**81.138**
1992 Total	**18.868**	**20.131**	**33.527**	**6.607**	**2.803**	**.169**	**.049**	**82.154**
1993 Total	**19.430**	**20.827**	**33.841**	**6.519**	**3.058**	**.158**	**.038**	**83.871**
1994 Total	**19.544**	**21.288**	**34.735**	**6.837**	**3.005**	**.145**	**.044**	**85.598**
1995 Total	**19.613**	**22.163**	**34.663**	**7.177**	**3.446**	**.099**	**.044**	**87.205**
1996 January	1.803	2.643	3.030	.669	.325	.007	.003	8.480
February	1.635	2.398	2.890	.594	.336	.008	.004	7.865
March	1.637	2.268	3.036	.589	.365	.007	.005	7.908
April	1.482	1.875	2.872	.535	.347	.008	.000	7.118
May	1.587	1.618	2.979	.591	.360	.005	.001	7.142
June	1.713	1.493	2.907	.611	.352	.008	-.001	7.084
July	1.859	1.474	3.021	.648	.332	.012	.002	7.347
August	1.878	1.504	3.096	.653	.311	.012	-.001	7.452
September	1.679	1.437	2.835	.580	.253	.010	.002	6.796
October	1.683	1.572	3.181	.538	.250	.011	.002	7.236
November	1.729	1.947	2.976	.554	.256	.011	.002	7.476
December	1.825	2.327	3.042	.607	.324	.010	.001	8.135
Total	**20.509**	**22.560**	**35.864**	**7.168**	**3.811**	**.110**	**.020**	**90.041**
1997 January	1.892	2.589	3.079	.626	.345	.009	.003	8.544
February	1.610	2.312	2.758	.538	.326	.006	.003	7.553
March	1.641	2.170	2.964	.536	.369	.009	.003	7.693
April	1.543	1.842	2.980	.477	.348	.010	.002	7.201
May	1.607	1.629	3.036	.500	.363	.010	.004	7.148
June	1.719	1.489	2.990	.553	.369	.008	.003	7.131
July	1.948	1.577	3.171	.609	.353	.011	.003	7.672
August	1.902	1.558	3.081	.649	.306	.011	.009	7.515
September	1.770	1.478	2.981	.559	.257	.010	-.001	7.052
October	1.776	1.574	3.165	.499	.267	.010	.004	7.294
November	1.724	1.944	2.983	.544	.261	.010	.003	7.470
December	1.882	2.377	3.194	.589	.285	.011	.002	8.341
Total	**21.016**	**22.544**	**36.381**	**6.678**	**3.849**	**.115**	**.039**	**90.621**
1998 January	1.851	2.472	3.030	.615	.306	.010	.007	8.291
February	1.627	2.162	2.746	.542	.320	.008	.003	7.409
March	1.685	2.186	3.052	.571	.339	.010	.002	7.847
April	1.563	1.751	2.991	.505	.313	.007	.001	7.130
May	1.694	1.554	2.966	.547	.345	.006	.005	7.118
June	1.830	1.510	3.022	.592	.340	.007	.003	7.304
July	1.998	1.615	3.176	.653	.318	.009	.007	7.777
August	1.990	1.620	3.171	.641	.291	.010	.007	7.730
September	1.798	R 1.515	3.025	.608	.232	.010	.005	R 7.192
October	E 1.725	R 1.505	3.167	.610	.196	.011	.005	R 7.219
November	E 1.640	F 1.787	2.973	.609	.203	.010	.002	7.225
11-Month Total	**E 19.402**	**E 19.677**	**33.319**	**6.493**	**3.203**	**.099**	**.048**	**82.241**
1997 11-Month Total	**19.134**	**20.162**	**33.187**	**6.089**	**3.564**	**.104**	**.036**	**82.275**
1996 11-Month Total	**18.684**	**20.230**	**32.822**	**6.560**	**3.487**	**.100**	**.019**	**81.903**

[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. 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.

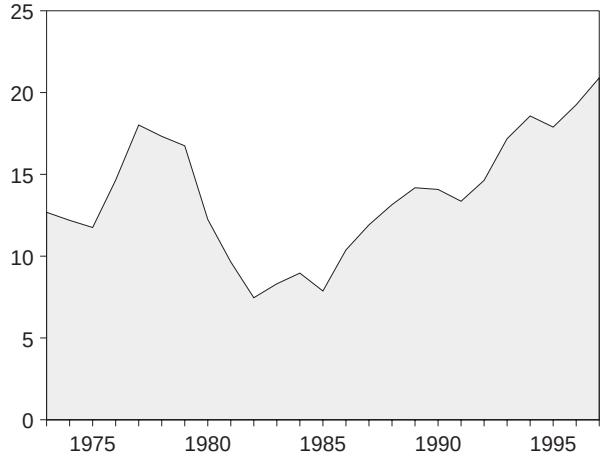
Sources: • **Coal:** Tables 6.1 and A5-A7. • **Natural Gas:** Tables 4.2 and A4. • **Petroleum:** Tables 3.1a and A3. • **Nuclear Electric Power:** Tables 7.1 and A8. • **Hydroelectric Power:** Table 7.1; Section 2, "Energy Consumption Notes and Sources," Note 8; and Table A8. • **Geothermal Energy and 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 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

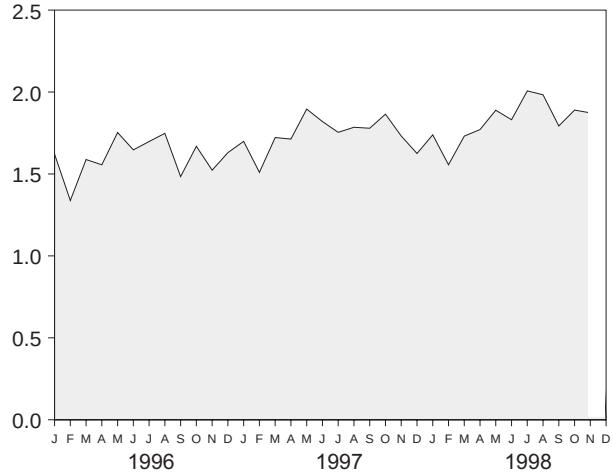
Figure 1.4 Energy Net Imports

(Quadrillion Btu, Except as Noted)

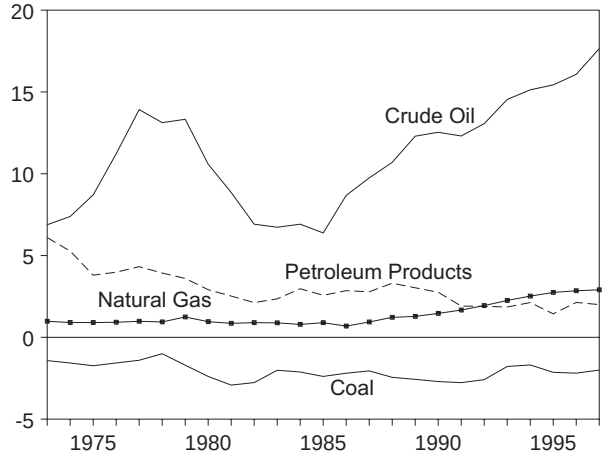
Total, 1973-1997



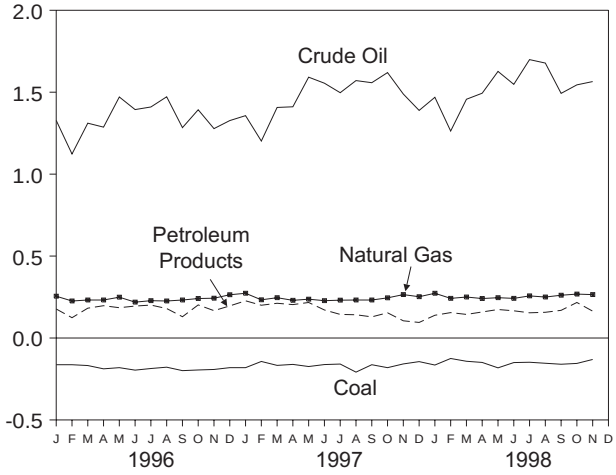
Total, Monthly



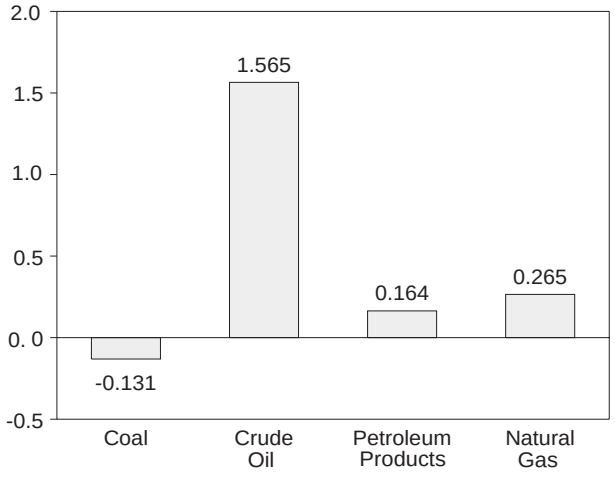
By Major Sources, 1973-1997



By Major Sources, Monthly



By Major Sources, November 1998



As Share of Consumption, January-November

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**	**.021**	**.005**	**14.078**
1991 Total	**-2.769**	**1.666**	**12.308**	**1.912**	**.232**	**.009**	**13.358**
1992 Total	**-2.587**	**1.941**	**13.065**	**1.895**	**.293**	**.027**	**14.634**
1993 Total	**-1.780**	**2.255**	**14.542**	**1.854**	**.293**	**.017**	**17.181**
1994 Total	**-1.689**	**2.518**	**15.131**	**2.128**	**.460**	**.024**	**18.571**
1995 Total	**-2.138**	**2.745**	**15.432**	**1.437**	**.388**	**.026**	**17.890**
1996 January	-.163	.255	1.328	.177	.024	.001	1.621
February	-.163	.226	1.123	.124	.025	.003	1.338
March	-.168	.232	1.311	.182	.029	.003	1.588
April	-.188	.232	1.287	.197	.029	-.001	1.556
May	-.181	.249	1.471	.185	.030	-.001	1.753
June	-.196	.219	1.394	.195	.037	-.002	1.647
July	-.186	.228	1.410	.201	.046	(s)	1.698
August	-.178	.226	1.472	.180	.052	-.003	1.748
September	-.199	.232	1.284	.130	.036	(s)	1.484
October	-.195	.241	1.393	.202	.029	(s)	1.669
November	-.192	.243	1.278	.167	.027	(s)	1.523
December	-.181	.264	1.327	.196	.024	-.001	1.630
Total	**-2.190**	**2.847**	**16.075**	**2.135**	**.388**	**(s)**	**19.255**
1997 January	-.181	.273	1.357	.227	E .021	.002	1.699
February	-.143	.233	1.202	.200	E .015	.002	1.510
March	-.167	.246	1.407	.212	E .022	.002	1.722
April	-.161	.230	1.411	.204	E .030	(s)	1.713
May	-.174	.237	1.592	.217	E .021	.002	1.896
June	-.162	.228	1.555	.171	E .027	.001	1.820
July	-.159	.231	1.497	.144	E .039	.002	1.754
August	-.208	.232	1.571	.142	E .040	.007	1.785
September	-.163	.232	1.558	.129	E .027	-.003	1.779
October	-.181	.245	1.620	.154	E .024	.002	1.865
November	-.158	.265	1.489	.105	E .030	.001	1.732
December	-.144	.252	1.389	.095	E .032	.001	1.625
Total	**-2.000**	**2.904**	**17.648**	**1.999**	**E .330**	**.018**	**20.900**
1998 January	-.165	.273	1.469	.139	E .018	.005	1.739
February	-.125	.242	1.263	.155	E .019	.002	1.556
March	-.142	.250	1.457	.144	E .022	(s)	1.731
April	-.149	.241	1.494	.159	E .027	-.001	1.771
May	-.182	.246	1.627	.174	E .021	.003	1.889
June	-.150	.242	1.548	.166	E .024	.001	1.831
July	-.148	R .257	1.699	.154	E .039	.006	2.007
August	-.154	.250	1.678	.157	E .048	.005	R 1.983
September	-.160	R .261	1.493	.169	E .026	.003	R 1.793
October	-.155	E .268	1.545	.217	E .013	.003	1.890
November	-.131	E .265	1.565	.164	E .009	.001	1.873
11-Month Total	**-1.663**	**E 2.795**	**16.840**	**1.798**	**E .265**	**.029**	**20.064**
1997 11-Month Total	**-1.855**	**2.652**	**16.259**	**1.904**	**.298**	**.018**	**19.275**
1996 11-Month Total	**-2.009**	**2.583**	**14.748**	**1.939**	**.364**	**.001**	**17.624**

[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.

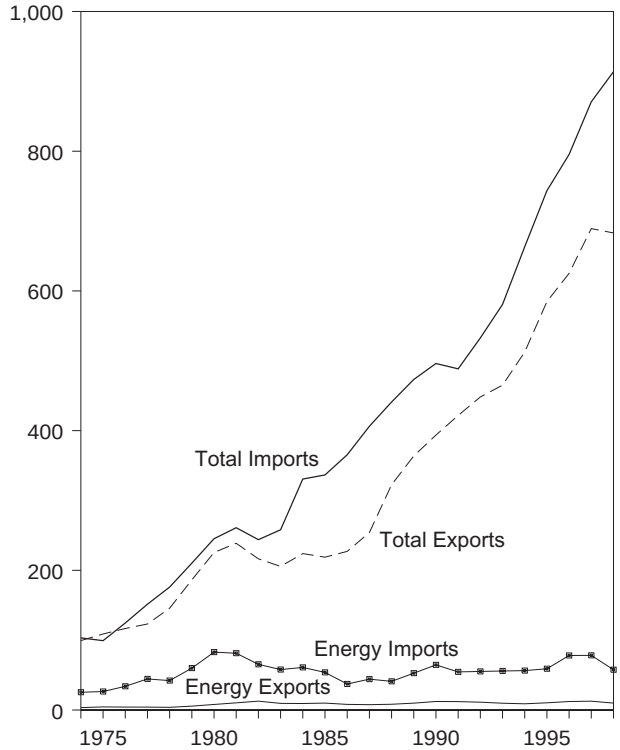
Notes: • See Notes 3 and 4 at end of section. • Net imports equal imports minus exports. Minus sign indicates exports are greater than imports. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

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.

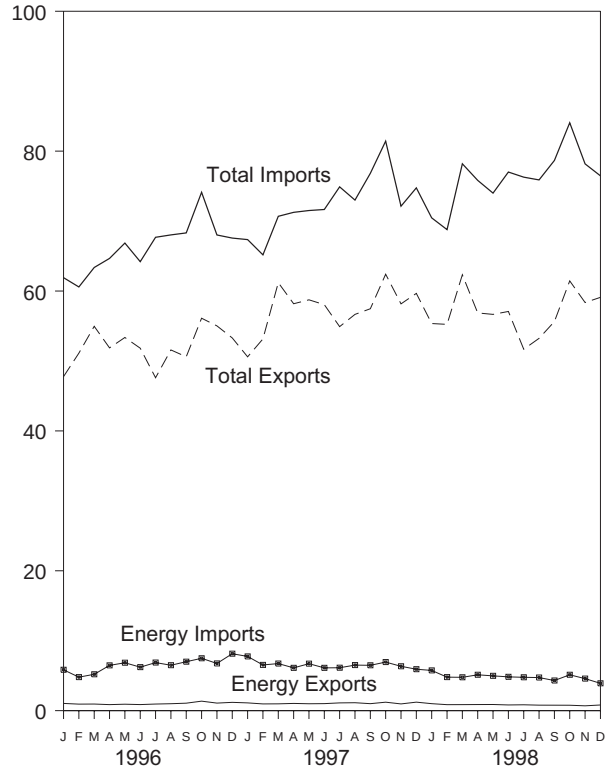
Figure 1.5 Merchandise Trade Value

(Billion Dollars)

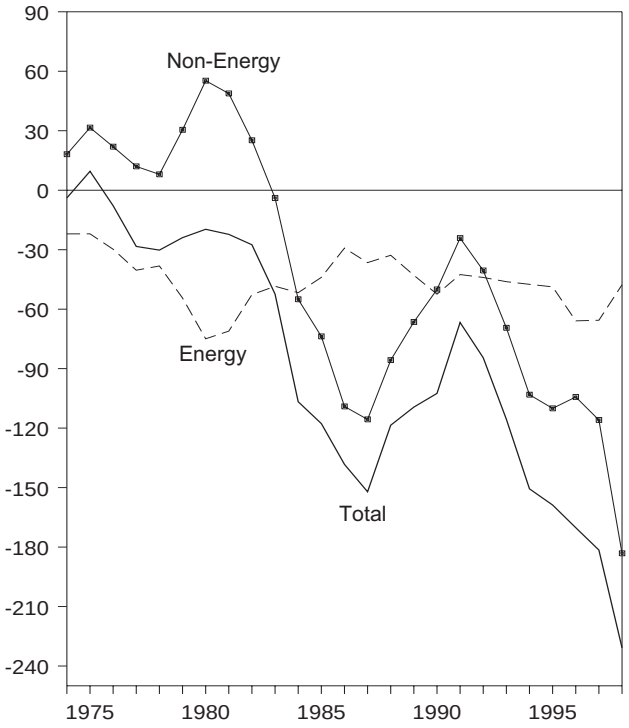
Imports and Exports, 1974-1998



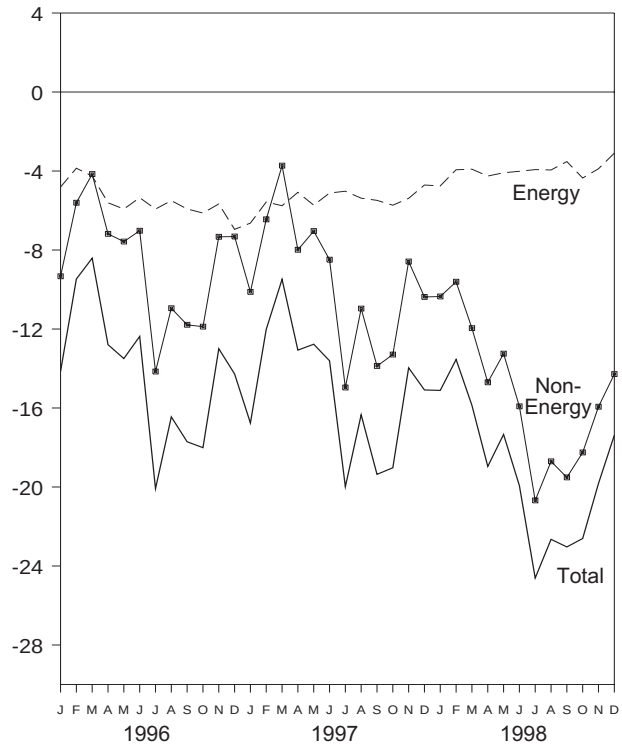
Imports and Exports, Monthly



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 January	722	5,327	-4,605	1,032	5,842	-4,810	-9,332	47,767	61,910	-14,142
February	611	4,315	-3,704	932	4,791	-3,859	-5,609	51,112	60,580	-9,468
March	612	4,679	-4,067	941	5,197	-4,256	-4,156	54,952	63,364	-8,412
April	517	6,004	-5,487	864	6,472	-5,608	-7,184	51,872	64,664	-12,792
May	574	6,421	-5,847	921	6,846	-5,925	-7,573	53,359	66,857	-13,498
June	498	5,787	-5,289	867	6,217	-5,350	-7,025	51,821	64,196	-12,375
July	592	6,407	-5,815	942	6,869	-5,927	-14,157	47,598	67,682	-20,084
August	640	6,006	-5,366	993	6,492	-5,499	-10,951	51,575	68,025	-16,450
September	695	6,557	-5,862	1,071	6,993	-5,922	-11,788	50,598	68,309	-17,710
October	961	7,021	-6,060	1,353	7,480	-6,127	-11,883	56,107	74,118	-18,010
November	724	6,147	-5,423	1,080	6,747	-5,667	-7,333	55,016	68,016	-13,000
December	839	7,351	-6,512	1,185	8,141	-6,956	-7,318	53,295	67,570	-14,274
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	-10,123	50,591	67,352	-16,761
February	675	5,891	-5,216	965	6,534	-5,569	-6,450	53,153	65,171	-12,019
March	637	6,256	-5,619	974	6,731	-5,757	-3,729	61,201	70,687	-9,486
April	715	5,668	-4,953	1,035	6,115	-5,080	-7,990	58,180	71,250	-13,070
May	655	6,252	-5,597	981	6,710	-5,729	-7,043	58,738	71,511	-12,772
June	679	5,600	-4,921	1,000	6,115	-5,115	-8,493	58,049	71,656	-13,608
July	792	5,613	-4,821	1,110	6,133	-5,023	-14,964	54,909	74,896	-19,987
August	744	5,985	-5,241	1,135	6,510	-5,375	-10,969	56,662	73,005	-16,344
September	670	5,949	-5,279	994	6,481	-5,487	-13,874	57,470	76,831	-19,361
October	787	6,279	-5,492	1,206	6,937	-5,731	-13,297	62,402	81,430	-19,028
November	636	5,574	-4,938	959	6,342	-5,383	-8,584	58,164	72,130	-13,967
December	828	5,262	-4,434	1,212	5,921	-4,709	-10,377	59,664	74,750	-15,086
Total	**8,592**	**71,152**	**-62,560**	**12,682**	**78,277**	**-65,595**	**-115,893**	**689,182**	**870,671**	**-181,488**
1998 January	657	4,931	-4,274	994	5,749	-4,755	-10,355	55,350	70,459	-15,110
February	575	4,122	-3,547	854	4,789	-3,935	-9,608	55,236	68,779	-13,543
March	543	4,264	-3,721	863	4,770	-3,907	-11,958	62,329	78,194	-15,865
April	577	4,661	-4,084	874	5,129	-4,255	-14,702	56,869	75,826	-18,957
May	558	4,484	-3,926	882	4,971	-4,089	-13,250	56,661	74,000	-17,339
June	509	4,297	-3,788	816	4,830	-4,014	-15,918	57,081	77,013	-19,932
July	541	4,167	-3,626	836	4,763	-3,927	-20,682	51,676	76,285	-24,609
August	487	4,133	-3,646	785	4,732	-3,947	-18,703	53,235	75,884	-22,650
September	484	3,717	-3,233	780	4,302	-3,522	-19,515	55,634	78,672	-23,037
October	470	4,488	-4,018	771	5,127	-4,356	-18,254	61,451	84,061	-22,610
November	419	3,963	-3,544	694	4,579	-3,885	R -15,937	R 58,360	R 78,181	R -19,822
December	519	3,312	-2,793	809	3,904	-3,095	-14,284	59,095	76,474	-17,379
Total	**6,338**	**50,542**	**-44,204**	**9,957**	**57,646**	**-47,689**	**-183,163**	**682,977**	**913,828**	**-230,852**

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

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

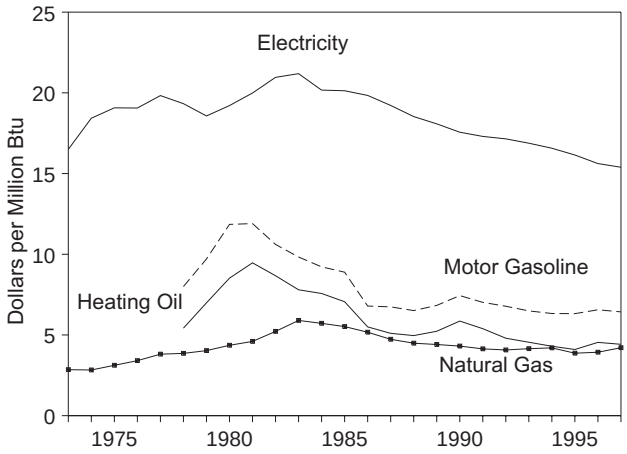
R=Revised.

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.

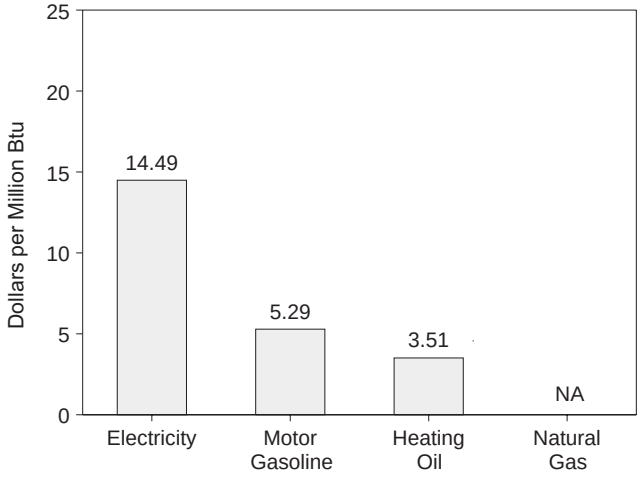
Sources: • U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

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

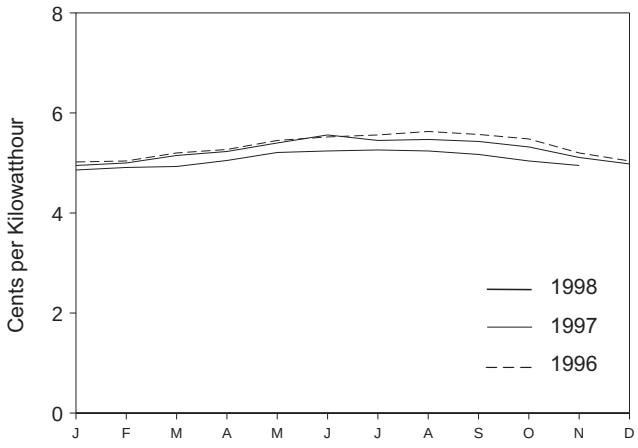
Costs, 1973-1997



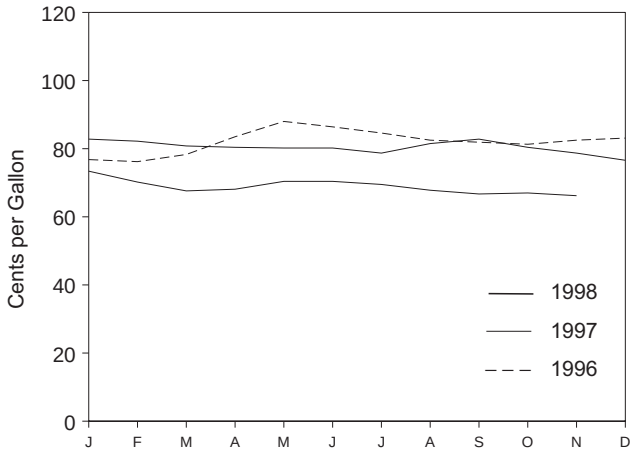
Costs, November 1998



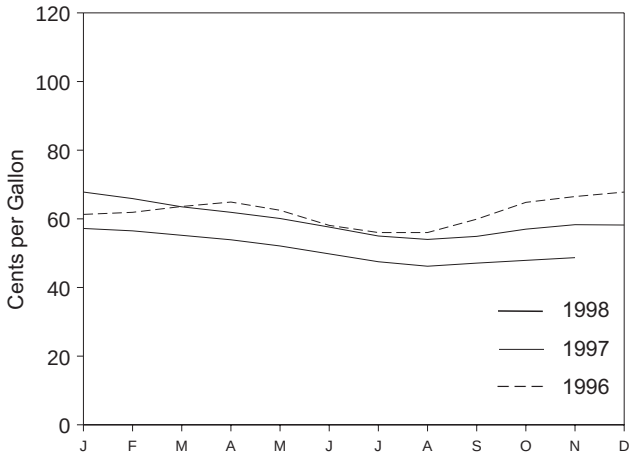
Electricity, Monthly



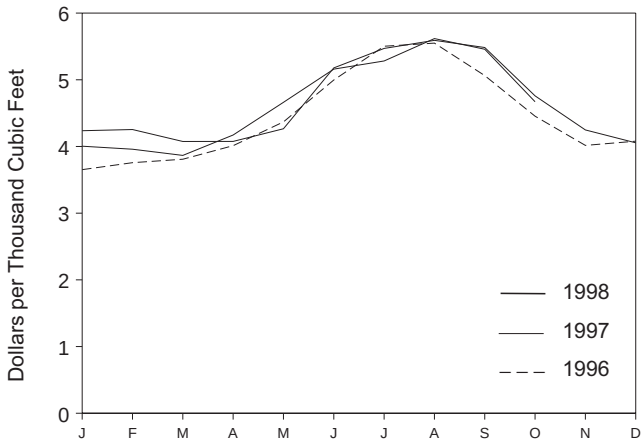
Motor Gasoline, Monthly



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 January	154.4	76.8	6.14	61.3	4.42	365.3	3.56	5.02	14.71
February	154.9	76.2	6.10	61.9	4.46	375.7	3.66	5.04	14.78
March	155.7	78.3	6.26	63.6	4.59	380.9	3.71	5.20	15.23
April	156.3	83.5	6.68	64.9	4.68	401.2	3.91	5.27	15.45
May	156.6	88.0	7.04	62.5	4.50	436.8	4.25	5.45	15.98
June	156.7	86.4	6.91	58.1	4.19	499.7	4.87	5.52	16.18
July	157.0	84.6	6.76	56.0	4.04	550.3	5.36	5.56	16.30
August	157.3	82.5	6.60	56.0	4.04	555.0	5.40	5.63	16.51
September	157.8	81.9	6.55	59.9	4.32	506.3	4.93	5.57	16.33
October	158.3	81.3	6.50	64.8	4.67	445.4	4.34	5.48	16.05
November	158.6	82.5	6.59	66.5	4.79	401.6	3.91	5.20	15.25
December	158.6	83.1	6.64	67.8	4.89	407.9	3.97	5.04	14.77
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	R 4.95	R 14.50
February	159.6	82.2	6.57	65.9	4.75	425.4	4.14	R 5.00	R 14.65
March	160.0	80.8	6.46	63.5	4.58	407.5	3.97	R 5.15	R 15.09
April	160.2	80.4	6.43	61.9	4.46	407.6	3.97	R 5.23	R 15.33
May	160.1	80.2	6.41	60.1	4.34	426.6	4.15	R 5.40	R 15.83
June	160.3	80.2	6.41	57.6	4.15	517.8	5.04	R 5.56	R 16.29
July	160.5	78.7	6.29	55.0	3.97	547.0	5.33	R 5.45	R 15.96
August	160.8	81.5	6.51	54.0	3.90	559.1	5.44	R 5.47	R 16.04
September	161.2	82.8	6.62	54.9	3.96	548.4	5.34	R 5.43	R 15.91
October	161.6	80.4	6.43	57.0	4.11	475.9	4.63	R 5.32	R 15.58
November	161.5	78.7	6.29	58.3	4.20	424.8	4.14	R 5.11	R 14.97
December	161.3	76.6	6.13	58.2	4.19	405.5	3.95	R 4.98	R 14.59
Average	**160.5**	**80.4**	**6.43**	**61.3**	**4.42**	**432.4**	**4.21**	R **5.25**	R **15.39**
1998 January	161.6	73.4	5.87	57.2	4.13	400.4	3.90	4.86	14.26
February	161.9	70.2	5.62	56.5	4.07	395.9	3.86	4.91	14.39
March	162.2	67.6	5.41	55.2	3.98	386.6	3.76	4.93	14.46
April	162.5	68.1	5.44	53.9	3.89	417.2	4.06	5.05	14.81
May	162.8	70.4	5.63	52.1	3.76	466.2	4.54	5.21	15.27
June	163.0	70.4	5.63	49.8	3.59	516.0	5.02	5.24	15.36
July	163.2	69.5	5.56	47.5	3.43	528.2	5.14	5.26	15.43
August	163.4	67.8	5.42	46.2	3.33	561.8	5.47	5.24	15.37
September	163.6	66.7	5.33	47.1	3.39	545.8	5.31	5.17	15.14
October	164.0	67.0	5.36	47.9	3.46	467.1	4.55	5.04	14.78
November	164.0	66.2	5.29	48.7	3.51	NA	NA	4.95	14.49

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

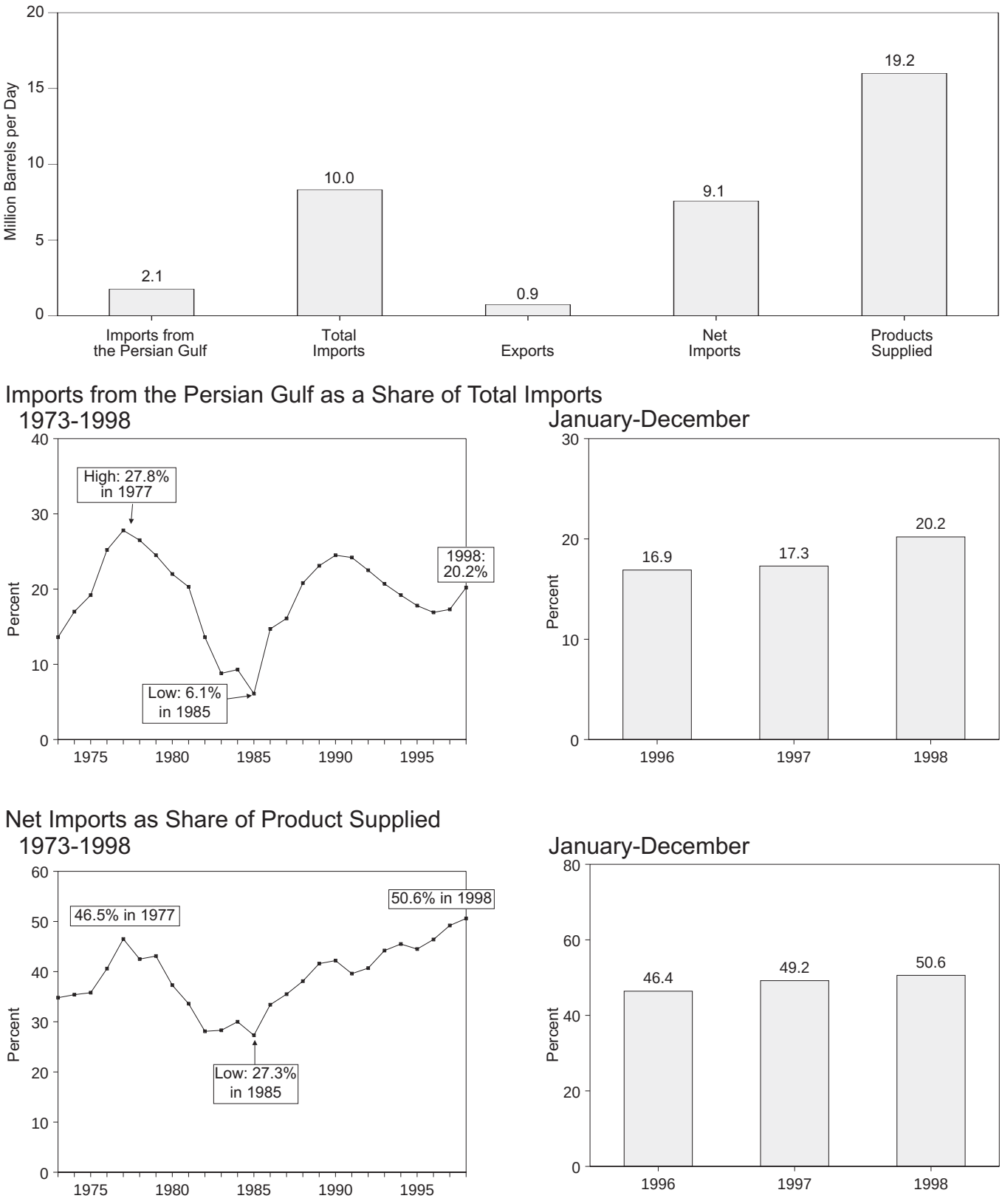
R=Revised. NA=Not available.

Notes: • Fuel costs are calculated by using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. • Annual averages may not equal average of months due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Sources: • **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: 1973-1993**—*Economic Report of the President,* February 1998, Table B-60. **1994 forward**—Council of Economic Advisers, *Economic Indicators,* December 1998, "Consumer Prices - All Urban Consumers." • **Conversion Factors:** Tables A1, A4, and A8.

Figure 1.7 Overview of U.S. Petroleum Trade

(Quadrillion Btu)



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 a Share of Total Imports
						Imports from the Persian Gulf[a]	Total Imports	Net 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 January	1,546	9,364	1,070	8,294	18,261	8.5	51.3	45.4	16.5
February	1,344	8,390	1,048	7,342	18,620	7.2	45.1	39.4	16.0
March	1,549	9,092	867	8,225	18,301	8.5	49.7	44.9	17.0
April	1,506	9,429	976	8,453	17,885	8.4	52.7	47.3	16.0
May	1,748	10,007	891	9,116	17,957	9.7	55.7	50.8	17.5
June	1,537	9,938	895	9,043	18,107	8.5	54.9	49.9	15.5
July	1,819	9,820	945	8,876	18,211	10.0	53.9	48.7	18.5
August	1,747	9,986	896	9,090	18,658	9.4	53.5	48.7	17.5
September	1,591	9,142	1,104	8,038	17,655	9.0	51.8	45.5	17.4
October	1,635	9,837	1,045	8,792	19,171	8.5	51.3	45.9	16.6
November	1,525	9,244	1,024	8,220	18,535	8.2	49.9	44.3	16.5
December	1,675	9,417	1,013	8,404	18,334	9.1	51.4	45.8	17.8
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	1,729	9,893	1,083	8,811	18,256	9.5	54.2	48.3	17.5
February	1,716	9,577	957	8,620	18,322	9.4	52.3	47.0	17.9
March	1,956	9,694	919	8,775	18,393	10.6	52.7	47.7	20.2
April	1,986	10,398	1,029	9,369	18,624	10.7	55.8	50.3	19.1
May	1,905	10,903	1,027	9,876	17,876	10.7	61.0	55.2	17.5
June	2,192	10,702	987	9,715	18,818	11.6	56.9	51.6	20.5
July	2,336	11,151	998	10,152	19,140	12.2	58.3	53.0	21.0
August	2,486	10,829	780	10,049	19,108	13.0	56.7	52.6	23.0
September	2,383	10,288	863	9,426	18,837	12.6	54.6	50.0	23.2
October	2,161	10,531	851	9,680	19,086	11.3	55.2	50.7	20.5
November	2,153	10,574	782	9,792	18,515	11.6	57.1	52.9	20.4
December	2,116	9,983	893	9,091	19,198	11.0	52.0	47.4	21.2
Average	**2,095**	**10,382**	**931**	**9,452**	**18,684**	**11.2**	**55.6**	**50.6**	**20.2**

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

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:** Column 4 divided by column 5 times 100. • **Column 9:** Column 1 divided by column 2 times 100.

Figure 1.8 Energy Consumption per Dollar of Gross Domestic Product

(Thousand Btu per Chained (1992) Dollar)

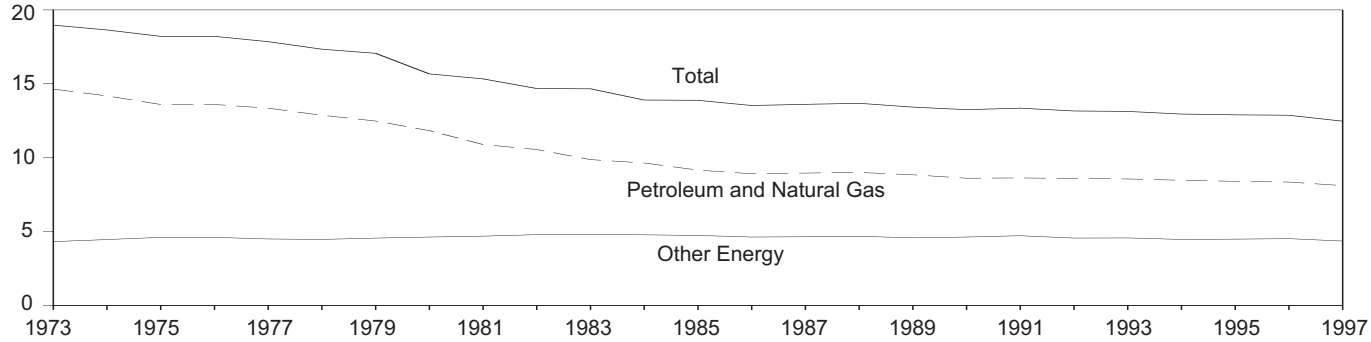


Table 1.9 Energy Consumption per Dollar of Gross Domestic Product

(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 (1992) Dollars	Thousand Btu per Chained (1992) Dollar		
1973 Year	**57.352**	**16.930**	**74.282**	**3,916.3**	**14.64**	**4.32**	**18.97**
1974 Year	**55.187**	**17.356**	**72.543**	**3,891.2**	**14.18**	**4.46**	**18.64**
1975 Year	**52.678**	**17.867**	**70.546**	**3,873.9**	**13.60**	**4.61**	**18.21**
1976 Year	**55.520**	**18.842**	**74.362**	**4,082.9**	**13.60**	**4.61**	**18.21**
1977 Year	**57.053**	**19.236**	**76.288**	**4,273.6**	**13.35**	**4.50**	**17.85**
1978 Year	**57.966**	**20.123**	**78.089**	**4,503.0**	**12.87**	**4.47**	**17.34**
1979 Year	**57.789**	**21.108**	**78.898**	**4,630.6**	**12.48**	**4.56**	**17.06**
1980 Year	**54.596**	**21.359**	**75.955**	**4,615.0**	**11.83**	**4.63**	**15.67**
1981 Year	**51.859**	**22.131**	**73.990**	**4,720.7**	**10.89**	**4.69**	**15.33**
1982 Year	**48.736**	**22.111**	**70.848**	**4,620.3**	**10.55**	**4.79**	**14.68**
1983 Year	**47.411**	**23.114**	**70.524**	**4,803.7**	**9.87**	**4.81**	**14.66**
1984 Year	**49.558**	**24.586**	**74.144**	**5,140.1**	**9.64**	**4.78**	**13.90**
1985 Year	**48.756**	**25.225**	**73.981**	**5,323.5**	**9.16**	**4.74**	**13.88**
1986 Year	**48.904**	**25.393**	**74.297**	**5,487.7**	**8.91**	**4.63**	**13.53**
1987 Year	**50.609**	**26.285**	**76.894**	**5,649.5**	**8.96**	**4.65**	**13.61**
1988 Year	**52.774**	**27.443**	**80.218**	**5,865.2**	**9.00**	**4.68**	**13.68**
1989 Year	**53.595**	**27.763**	**81.358**	**6,062.0**	**8.84**	**4.58**	**13.42**
1990 Year	**52.849**	**28.434**	**81.283**	**6,136.3**	**8.61**	**4.63**	**13.25**
1991 Year	**52.452**	**28.687**	**81.138**	**6,079.4**	**8.63**	**4.72**	**13.35**
1992 Year	**53.657**	**28.497**	**82.154**	**6,244.4**	**8.59**	**4.56**	**13.16**
1993 Year	**54.668**	**29.203**	**83.871**	**6,389.6**	**8.56**	**4.57**	**13.13**
1994 Year	**56.022**	**29.576**	**85.598**	**6,610.7**	**8.47**	**4.47**	**12.95**
1995 Year	**56.827**	**30.378**	**87.205**	**6,761.7**	**8.40**	**4.49**	**12.90**
1996 1st Quarter	59.282	31.628	90.910	6,882.0	8.61	4.60	13.21
2nd Quarter	58.591	31.967	90.558	6,983.9	8.39	4.58	12.97
3rd Quarter	57.442	31.208	88.650	7,020.0	8.18	4.45	12.63
4th Quarter	58.392	31.671	90.063	7,093.1	8.23	4.46	12.70
Year	**58.424**	**31.618**	**90.041**	**6,994.8**	**8.35**	**4.52**	**12.87**
1997 1st Quarter	58.618	31.778	90.396	7,166.7	8.18	4.43	12.61
2nd Quarter	59.407	31.519	90.926	7,236.5	8.21	4.36	12.56
3rd Quarter	59.038	31.706	90.744	7,311.2	8.08	4.34	12.41
4th Quarter	58.617	31.782	90.398	7,364.6	7.96	4.32	12.27
Year	**58.925**	**31.696**	**90.621**	**7,269.8**	**8.11**	**4.36**	**12.47**
1998 1st Quarter	57.858	31.716	89.574	7,464.7	7.75	4.25	12.00
2nd Quarter	58.693	32.503	91.196	7,498.6	7.83	4.33	12.16
3rd Quarter	R 60.245	32.393	R 92.638	7,566.5	7.96	4.28	12.24

[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 1995, 3.4 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.3 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: 1973-1996**—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business,* August 1997, Table 2A. **1997 forward**—U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News,* January 29, 1999, Table 2.

Figure 1.9 Passenger Car Efficiency

(Index, 1973 = 100)

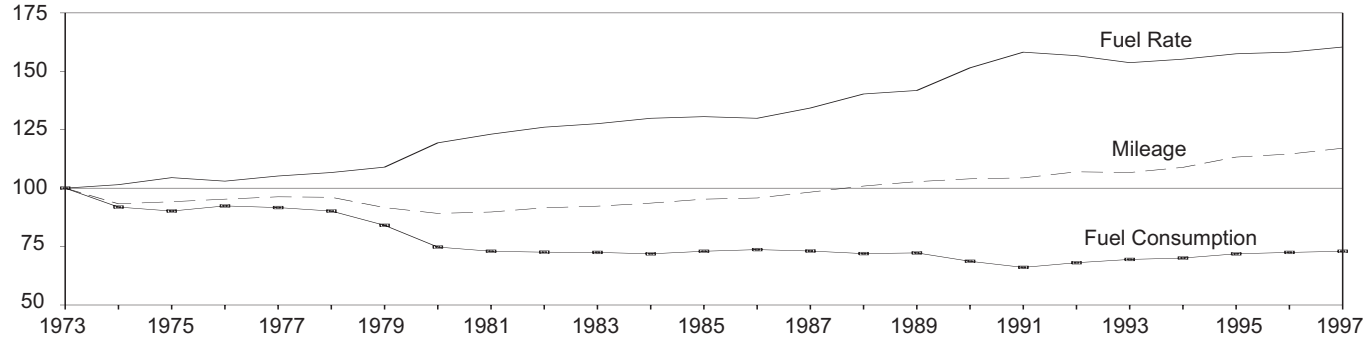


Table 1.10 Passenger Car Efficiency

	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	**9,884**	**100.0**	**737**	**100.0**	**13.4**	**100.0**
1974	**9,221**	**93.3**	**677**	**91.9**	**13.6**	**101.5**
1975	**9,309**	**94.2**	**665**	**90.2**	**14.0**	**104.5**
1976	**9,418**	**95.3**	**681**	**92.4**	**13.8**	**103.0**
1977	**9,517**	**96.3**	**676**	**91.7**	**14.1**	**105.2**
1978	**9,500**	**96.1**	**665**	**90.2**	**14.3**	**106.7**
1979	**9,062**	**91.7**	**620**	**84.1**	**14.6**	**109.0**
1980	**8,813**	**89.2**	**551**	**74.8**	**16.0**	**119.4**
1981	**8,873**	**89.8**	**538**	**73.0**	**16.5**	**123.1**
1982	**9,050**	**91.6**	**535**	**72.6**	**16.9**	**126.1**
1983	**9,118**	**92.3**	**534**	**72.5**	**17.1**	**127.6**
1984	**9,248**	**93.6**	**530**	**71.9**	**17.4**	**129.9**
1985	**9,419**	**95.3**	**538**	**73.0**	**17.5**	**130.6**
1986	**9,464**	**95.8**	**543**	**73.7**	**17.4**	**129.9**
1987	**9,720**	**98.3**	**539**	**73.1**	**18.0**	**134.3**
1988	**9,972**	**100.9**	**531**	**72.0**	**18.8**	**140.3**
1989	**10,157**	**102.8**	**533**	**72.3**	**19.0**	**141.8**
1990	**10,277**	**104.0**	**506**	**68.7**	**20.3**	**151.5**
1991	**10,322**	**104.4**	**487**	**66.1**	**21.2**	**158.2**
1992	**10,571**	**107.0**	**502**	**68.1**	**21.0**	**156.7**
1993	**10,545**	**106.7**	**512**	**69.5**	**20.6**	**153.7**
1994	**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[a]	**11,575**	**117.1**	**538**	**73.0**	**21.5**	**160.4**

[a] 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	January 1 through January 31					Cumulative July 1 through January 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	1,262	1,054	1,219	-3.4	15.7	3,702	3,693	3,531	-4.6	-4.4
Middle Atlantic										
New Jersey, New York, Pennsylvania	1,170	897	1,099	-6.1	22.5	3,301	3,155	2,983	-9.6	-5.5
East North Central										
Illinois, Indiana, Michigan, Ohio, Wisconsin	1,315	1,037	1,273	-3.2	22.8	3,717	3,577	3,323	-10.6	-7.1
West North Central										
Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	1,398	1,188	1,347	-3.6	13.4	3,994	3,781	3,559	-10.9	-5.9
South Atlantic										
Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia	670	503	541	-19.3	7.6	1,754	1,715	1,464	-16.5	-14.6
East South Central										
Alabama, Kentucky, Mississippi, Tennessee	844	636	651	-22.9	2.4	2,223	2,219	1,784	-19.7	-19.6
West South Central										
Arkansas, Louisiana, Oklahoma, Texas	620	428	446	-28.1	4.2	1,497	1,467	1,160	-22.5	-20.9
Mountain										
Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	991	865	856	-13.6	-1.0	3,136	3,020	2,864	-8.7	-5.2
Pacific[b]										
California, Oregon, Washington	573	513	554	-3.3	8.0	1,800	1,618	1,860	3.3	15.0
U.S. Average[b]	**948**	**754**	**860**	**-9.3**	**14.1**	**2,672**	**2,566**	**2,396**	**-10.3**	**-6.6**

[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	January 1 through January 31				
				Percent Change	
	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)
Middle Atlantic					
New Jersey, New York, Pennsylvania	0	0	0	(c)	(c)
East North Central					
Illinois, Indiana, Michigan, Ohio, Wisconsin	0	0	0	(c)	(c)
West North Central					
Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	0	0	0	(c)	(c)
South Atlantic					
Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia	30	27	30	(c)	(c)
East South Central					
Alabama, Kentucky, Mississippi, Tennessee	7	0	2	(c)	(c)
West South Central					
Arkansas, Louisiana, Oklahoma, Texas	12	0	5	(c)	(c)
Mountain					
Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	0	0	0	(c)	(c)
Pacific[b]					
California, Oregon, Washington	1	0	0	(c)	(c)
U.S. Average[b]	**7**	**5**	**6**	**(c)**	**(c)**

[a] "Normal" is based on calculations of data from 1961 through 1990.
[b] Excludes Alaska and Hawaii.
[c] Percent change is not meaningful: normal is less than 100 or ratio is incalculable.

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 and 1998: "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, 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 and 1998: "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 and 1998: "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," 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 November 1998 was 7.2 quadrillion Btu. Petroleum products accounted for 41 percent of the energy consumed in November 1998, while coal accounted for 23 percent and natural gas accounted for 25 percent.

Residential and commercial sector consumption was 2.5 quadrillion Btu in November 1998, down 7 percent from the 1997 level. The sector accounted for 35 percent of total consumption, down 2 percentage points from its 37-percent share in November 1997.

Industrial sector consumption was 2.7 quadrillion Btu in November 1998, down 2 percent from the November 1997 level. The industrial sector accounted for 37 percent of total consumption, up 1 percentage point from its 36-percent share in November 1997.

Transportation sector consumption of energy was 2.0 quadrillion Btu in November 1998, down slightly from the November 1997 level. The sector accounted for 28 percent of total consumption, up 1 percentage point from its 27-percent share in November 1997.

Electric utility consumption of energy totaled 2.5 quadrillion Btu in November 1998, down 3 percent from the November 1997 level. Coal contributed 57 percent of the energy consumed by electric utilities, while nuclear electric power contributed 24 percent; hydroelectric 8 percent; natural gas 7 percent; petroleum 3 percent; and all other, less than 1 percent.

Table 2.1 Energy Consumption Summary for November 1998

(Quadrillion Btu)

Energy Source	End-Use Sectors				Electric Utilities	Total
	Residential and Commercial	Industrial	Transportation	Total[a]		
Coal	E 0.014	E 0.199	(b)	E 0.213	1.427	E 1.640
Natural Gas[c]	F .697	F .848	F .061	F 1.606	.181	F 1.787
Petroleum Products[d]	.197	.741	1.958	2.896	.077	2.973
Nuclear Electric Power	–	–	–	–	.609	.609
Hydroelectric Power[e]	–	.002	–	.002	.201	.203
Geothermal	–	–	–	–	.010	.010
Net Imports of Coal Coke	–	.001	–	.001	–	.001
Other[f]	–	–	–	–	.002	.002
Primary Consumption	**.908**	**1.790**	**2.019**	**4.717**	**2.508**	**7.225**
Electricity	.547	.296	.001	.844	–	–
Net Consumption	**1.455**	**2.086**	**2.021**	**5.561**	–	–
Electrical System Energy Losses	1.079	.583	.002	1.664	–	–
Total Consumption	**2.533**	**2.669**	**2.023**	**7.225**	–	–

[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 and greater 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.

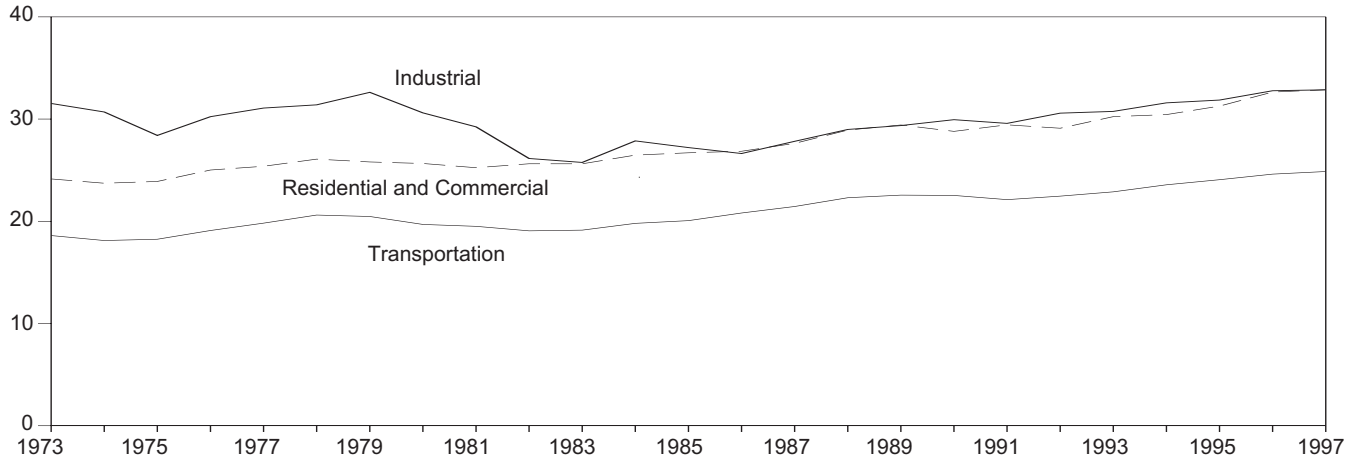
Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

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 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

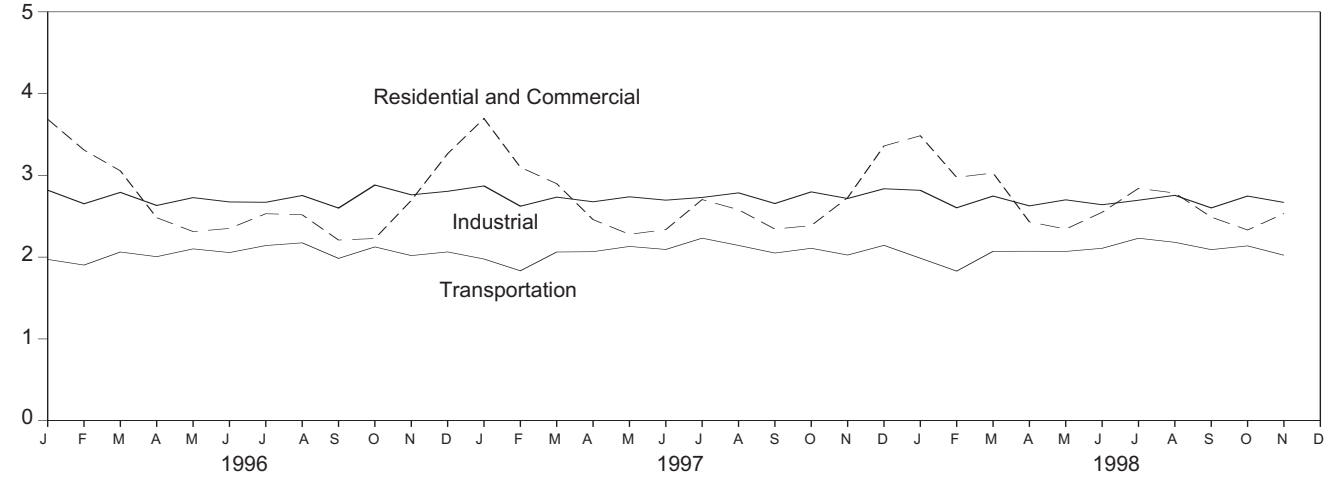
Figure 2.1 Energy Consumption by End-Use Sector

(Quadrillion Btu)

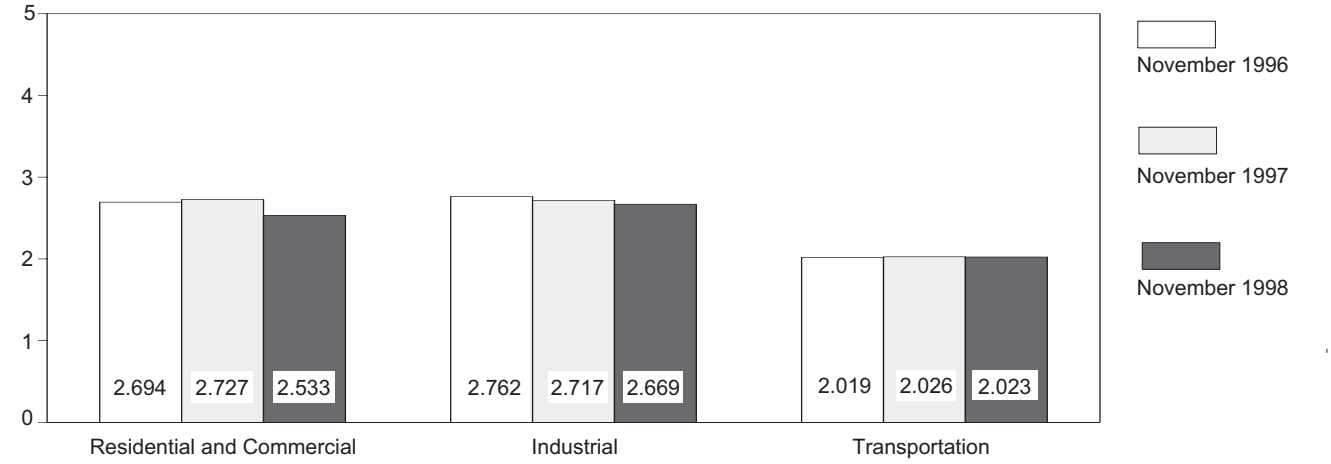
Overview, 1973-1997



Overview, Monthly



Overview, November



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**	**28.798**	**22.842**	**29.943**	**22.502**	**22.533**	**60.922**	**81.283**
1991 Total	**15.985**	**29.438**	**22.549**	**29.578**	**22.090**	**22.121**	**60.626**	**81.138**
1992 Total	**16.089**	**29.106**	**23.499**	**30.581**	**22.432**	**22.461**	**62.025**	**82.154**
1993 Total	**16.736**	**30.239**	**23.739**	**30.752**	**22.857**	**22.884**	**63.328**	**83.871**
1994 Total	**16.760**	**30.440**	**24.416**	**31.587**	**23.543**	**23.571**	**64.719**	**85.598**
1995 Total	**17.118**	**31.270**	**24.691**	**31.861**	**24.040**	**24.068**	**65.855**	**87.205**
1996 January	2.363	3.687	2.240	2.819	1.970	1.972	6.573	8.480
February	2.150	3.310	2.102	2.653	1.901	1.903	6.152	7.865
March	1.899	3.055	2.195	2.792	2.061	2.063	6.154	7.908
April	1.461	2.483	2.066	2.632	2.004	2.006	5.528	7.118
May	1.143	2.313	2.066	2.728	2.099	2.101	5.308	7.142
June	1.059	2.351	2.031	2.675	2.054	2.056	5.146	7.084
July	1.074	2.531	2.018	2.671	2.139	2.142	5.235	7.347
August	1.078	2.518	2.098	2.754	2.173	2.175	5.353	7.452
September	1.038	2.209	2.024	2.600	1.983	1.985	5.047	6.796
October	1.144	2.228	2.269	2.882	2.123	2.125	5.536	7.236
November	1.577	2.694	2.152	2.762	2.017	2.019	5.746	7.476
December	2.017	3.265	2.198	2.805	2.062	2.064	6.278	8.135
Total	**18.003**	**32.645**	**25.460**	**32.773**	**24.588**	**24.616**	**68.060**	**90.041**
1997 January	R 2.348	R 3.695	2.282	R 2.871	1.975	1.977	R 6.606	8.544
February	R 2.018	R 3.099	2.101	R 2.623	1.831	1.833	R 5.948	7.553
March	R 1.750	R 2.898	2.140	R 2.734	2.060	2.063	R 5.948	7.693
April	R 1.426	R 2.459	2.100	R 2.677	2.065	2.067	R 5.589	7.201
May	R 1.167	R 2.279	2.099	R 2.738	2.129	2.131	R 5.395	7.148
June	R 1.064	R 2.337	2.039	R 2.697	2.092	2.094	R 5.198	7.131
July	R 1.137	R 2.704	2.063	R 2.730	2.229	2.232	R 5.435	7.672
August	R 1.107	R 2.580	R 2.125	R 2.786	2.141	2.143	R 5.378	7.515
September	R 1.084	R 2.343	2.056	R 2.656	2.048	2.050	R 5.191	7.052
October	R 1.217	R 2.386	2.200	R 2.798	2.105	2.108	R 5.525	7.294
November	R 1.594	R 2.727	2.119	R 2.717	2.023	2.026	R 5.735	7.470
December	R 2.055	R 3.360	2.226	R 2.836	2.141	R 2.144	R 6.424	8.341
Total	**R 17.966**	**R 32.867**	**25.550**	**R 32.863**	**R 24.843**	**R 24.872**	**R 68.377**	**90.621**
1998 January	2.184	3.485	2.233	2.817	1.984	1.987	6.404	8.291
February	1.891	2.976	2.052	2.604	1.827	1.829	5.770	7.409
March	1.826	3.029	2.129	2.747	2.069	2.071	6.024	7.847
April	1.380	2.431	2.040	2.627	2.070	2.072	5.491	7.130
May	1.107	2.343	2.010	2.701	2.067	2.070	5.187	7.118
June	1.113	2.549	1.958	2.641	2.105	2.108	5.183	7.304
July	1.192	2.841	2.027	2.696	2.228	2.231	5.456	7.777
August	1.198	2.784	2.082	2.756	2.179	2.181	5.468	7.730
September	1.141	2.490	R 2.005	R 2.602	2.090	2.092	R 5.243	R 7.192
October	R 1.169	R 2.332	R 2.157	R 2.747	R 2.136	R 2.138	R 5.464	R 7.219
November	1.455	2.533	2.086	2.669	2.021	2.023	5.561	7.225
11-Month Total	**15.658**	**29.793**	**22.779**	**29.607**	**22.776**	**22.802**	**61.252**	**82.241**
1997 11-Month Total	**15.911**	**29.507**	**23.324**	**30.027**	**22.697**	**22.724**	**61.949**	**82.275**
1996 11-Month Total	**15.986**	**29.379**	**23.262**	**29.968**	**22.523**	**22.548**	**61.778**	**81.903**

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.

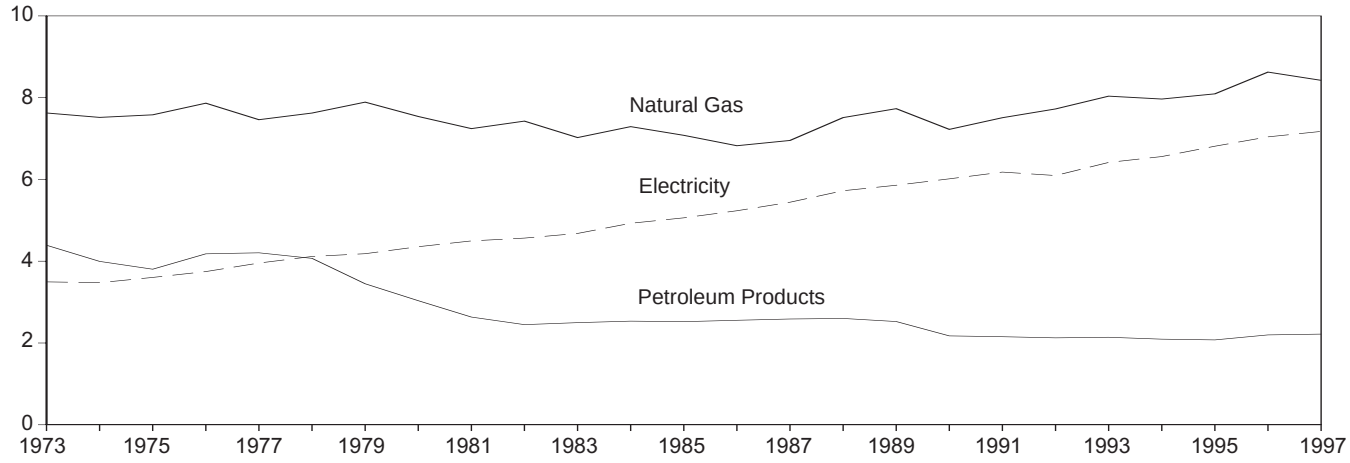
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1997, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.2 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details**.**

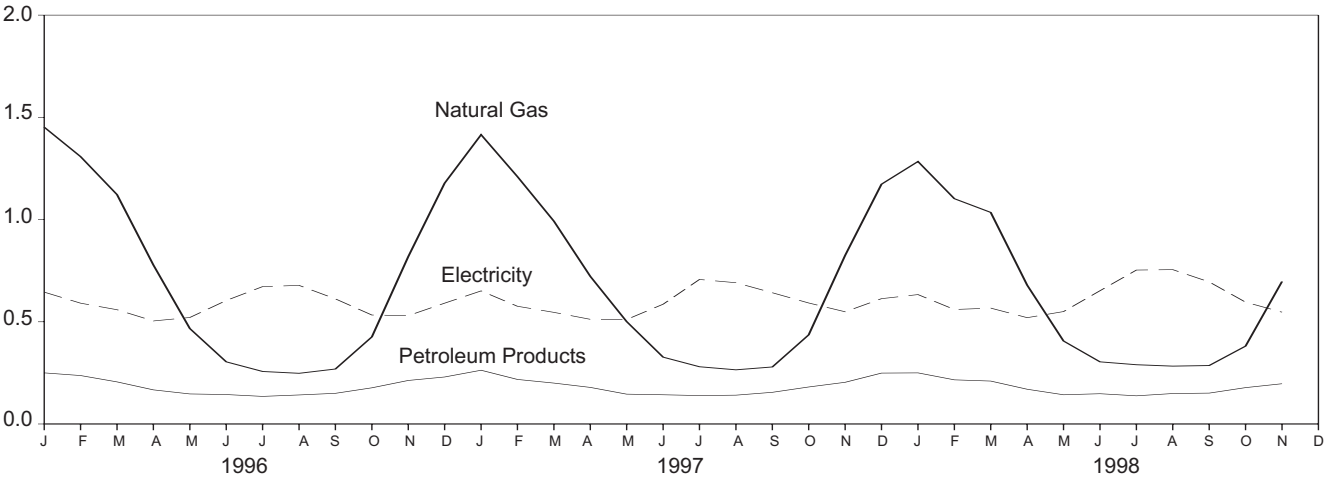
Figure 2.2 Residential and Commercial Energy Consumption

(Quadrillion Btu)

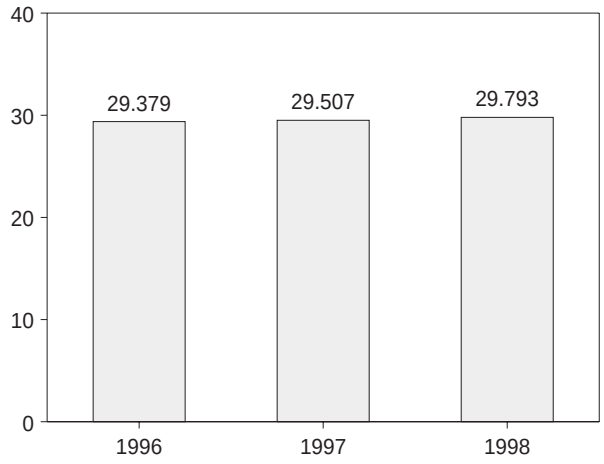
By Major Sources, 1973-1997



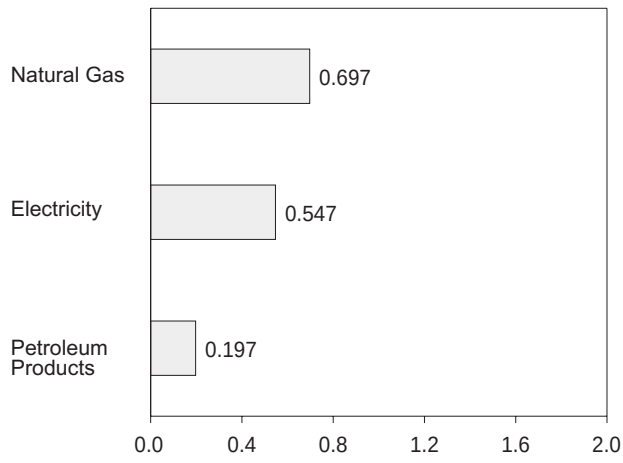
By Major Sources, Monthly



Total, January-November



By Major Sources, November 1998



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**	**13.229**	**28.798**
1991 Total	**.141**	**7.510**	**2.154**	**9.805**	**6.180**	**15.985**	**13.453**	**29.438**
1992 Total	**.142**	**7.725**	**2.126**	**9.993**	**6.096**	**16.089**	**13.017**	**29.106**
1993 Total	**.143**	**8.037**	**2.140**	**10.320**	**6.416**	**16.736**	**13.503**	**30.239**
1994 Total	**.139**	**7.967**	**2.094**	**10.200**	**6.560**	**16.760**	**13.680**	**30.440**
1995 Total	**.134**	**8.094**	**2.076**	**10.305**	**6.813**	**17.118**	**14.153**	**31.270**
1996 January	.016	1.452	.250	1.718	.645	2.363	1.325	3.687
February	.013	1.308	.237	1.559	.591	2.150	1.160	3.310
March	.012	1.122	.206	1.340	.559	1.899	1.155	3.055
April	.011	.778	.167	.957	.504	1.461	1.022	2.483
May	.009	.467	.147	.622	.521	1.143	1.170	2.313
June	.007	.304	.144	.455	.604	1.059	1.292	2.351
July	.010	.257	.135	.402	.672	1.074	1.456	2.531
August	.010	.248	.142	.400	.678	1.078	1.440	2.518
September	.008	.269	.150	.427	.612	1.038	1.171	2.209
October	.008	.426	.177	.611	.533	1.144	1.085	2.228
November	.015	.819	.213	1.047	.530	1.577	1.117	2.694
December	.018	1.178	.230	1.426	.591	2.017	1.248	3.265
Total	**.138**	**8.626**	**2.198**	**10.963**	**7.041**	**18.003**	**14.641**	**32.645**
1997 January	.019	1.415	.263	1.697	R .651	R 2.348	R 1.346	R 3.695
February	.014	1.210	.218	1.442	R .576	R 2.018	1.082	R 3.099
March	.012	.992	.200	1.204	R .546	R 1.750	1.148	R 2.898
April	.013	.722	.179	.913	R .512	R 1.426	1.033	R 2.459
May	.009	.501	.146	.656	R .511	R 1.167	R 1.112	R 2.279
June	.008	.327	.143	.478	R .586	R 1.064	R 1.273	R 2.337
July	.012	.280	.139	.430	R .707	R 1.137	R 1.567	R 2.704
August	.010	.265	.141	.416	R .691	R 1.107	1.473	R 2.580
September	.008	.279	.155	.442	R .642	R 1.084	1.259	R 2.343
October	.009	.436	.181	.625	R .592	R 1.217	1.169	R 2.386
November	.015	.825	.204	1.045	R .549	R 1.594	1.134	R 2.727
December	.021	1.173	.249	1.442	R .613	R 2.055	1.305	R 3.360
Total	**.149**	**8.424**	**2.218**	**10.791**	R **7.175**	R **17.966**	**14.901**	R **32.867**
1998 January	.017	1.284	.250	1.551	.633	2.184	1.300	3.485
February	.014	1.102	.216	1.331	.560	1.891	1.085	2.976
March	.014	1.035	.210	1.259	.567	1.826	1.202	3.029
April	.012	.679	.170	.860	.520	1.380	1.050	2.431
May	.008	.406	.143	.557	.550	1.107	1.236	2.343
June	.010	.304	.148	.461	.652	1.113	1.436	2.549
July	.011	.290	.138	.439	.753	1.192	1.649	2.841
August	.011	.283	.149	.443	.755	1.198	1.586	2.784
September	.008	.286	.151	.446	.695	1.141	1.349	2.490
October	E .014	R .381	.178	R .573	.596	R 1.169	1.163	R 2.332
November	E .014	F .697	.197	.908	.547	1.455	1.079	2.533
11-Month Total	E **.132**	E **6.746**	**1.951**	**8.829**	**6.829**	**15.658**	**14.135**	**29.793**
1997 11-Month Total	**.128**	**7.251**	**1.969**	**9.348**	**6.563**	**15.911**	**13.596**	**29.507**
1996 11-Month Total	**.120**	**7.449**	**1.968**	**9.536**	**6.450**	**15.986**	**13.393**	**29.379**

[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.

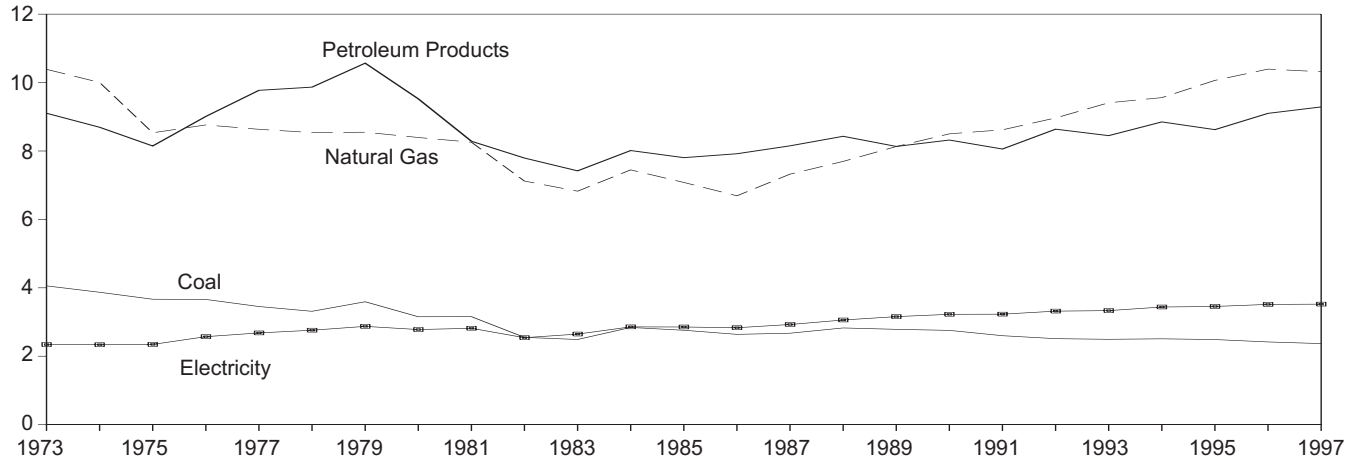
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1997, for example, an estimated 0.6 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.

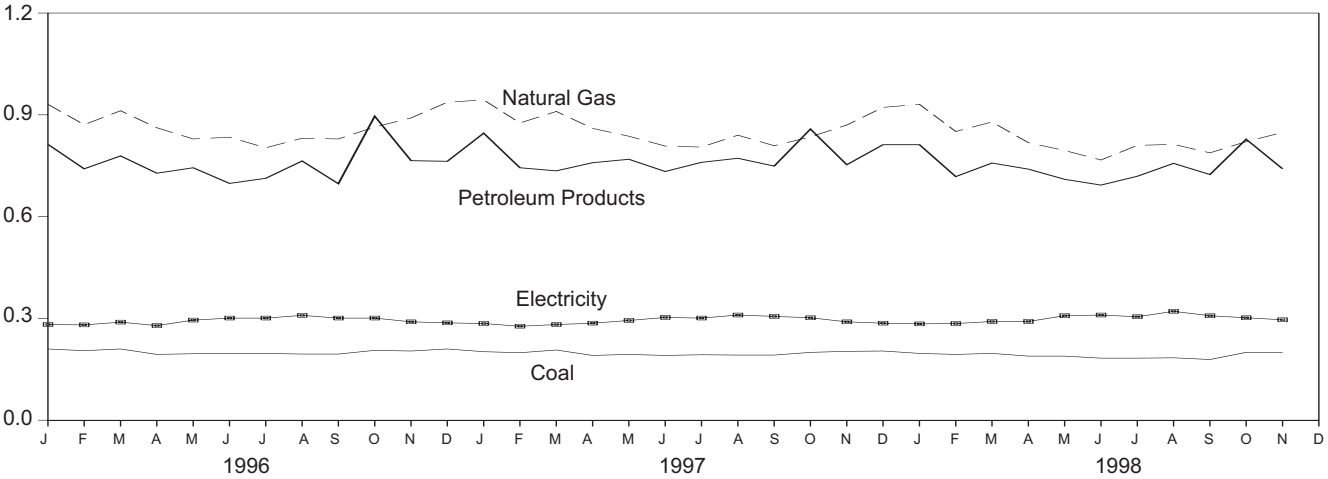
Figure 2.3 Industrial Energy Consumption

(Quadrillion Btu)

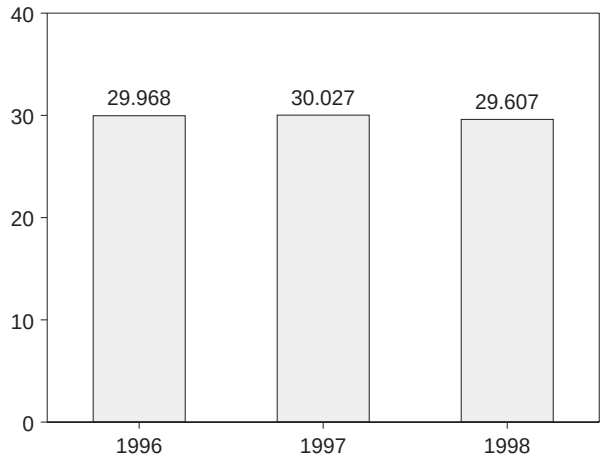
By Major Sources, 1973-1997



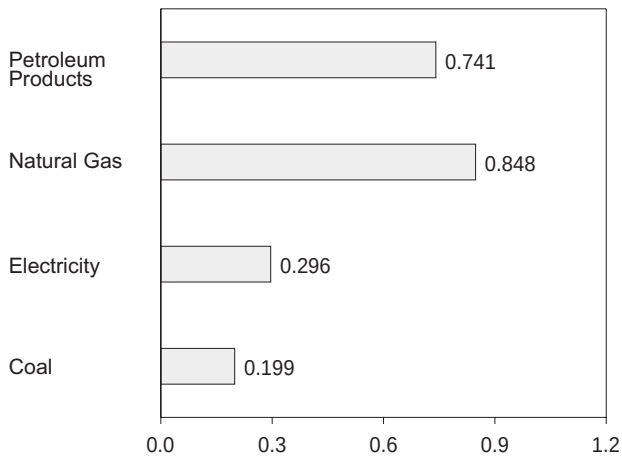
By Major Sources, Monthly



Total, January-November



By Major Sources, November 1998



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**	**7.101**	**29.943**
1991 Total	**2.601**	**8.619**	**8.057**	**.033**	**.009**	**19.319**	**3.230**	**22.549**	**7.029**	**29.578**
1992 Total	**2.515**	**8.967**	**8.638**	**.033**	**.027**	**20.180**	**3.319**	**23.499**	**7.083**	**30.581**
1993 Total	**2.496**	**9.410**	**8.449**	**.033**	**.017**	**20.405**	**3.334**	**23.739**	**7.013**	**30.752**
1994 Total	**2.510**	**9.560**	**8.850**	**.033**	**.024**	**20.976**	**3.439**	**24.416**	**7.171**	**31.587**
1995 Total	**2.488**	**10.064**	**8.624**	**.033**	**.026**	**21.236**	**3.455**	**24.691**	**7.170**	**31.861**
1996 January	.210	.931	.813	.003	.001	1.958	.282	2.240	.579	2.819
February	.205	.871	.741	.003	.003	1.821	.281	2.102	.551	2.653
March	.210	.912	.779	.003	.003	1.907	.289	2.195	.597	2.792
April	.194	.862	.728	.003	-.001	1.786	.279	2.066	.566	2.632
May	.196	.829	.744	.003	-.001	1.772	.295	2.066	.662	2.728
June	.197	.834	.698	.003	-.002	1.730	.301	2.031	.644	2.675
July	.197	.803	.713	.003	(s)	1.717	.301	2.018	.653	2.671
August	.195	.831	.764	.002	-.003	1.790	.309	2.098	.656	2.754
September	.195	.829	.697	.002	(s)	1.723	.301	2.024	.575	2.600
October	.206	.864	.896	.002	(s)	1.967	.301	2.269	.613	2.882
November	.204	.891	.765	.002	(s)	1.862	.290	2.152	.610	2.762
December	.210	.937	.763	.002	-.001	1.911	.287	2.198	.607	2.805
Total	**2.418**	**10.394**	**9.101**	**.033**	**(s)**	**21.945**	**3.516**	**25.460**	**7.313**	**32.773**
1997 January	.202	.944	.846	.003	.002	1.997	.285	2.282	R .589	R 2.871
February	.199	.876	.744	.003	.002	1.824	.277	2.101	R .521	R 2.623
March	.207	.910	.735	.003	.002	1.858	.282	2.140	R .594	R 2.734
April	.191	.860	.759	.003	(s)	1.814	.286	2.100	R .577	R 2.677
May	.194	.837	.769	.003	.002	1.806	.294	2.099	R .638	R 2.738
June	.191	.808	.733	.003	.001	1.736	.303	2.039	R .658	R 2.697
July	.193	.805	.760	.003	.002	1.762	.301	2.063	R .667	R 2.730
August	.192	.840	.772	.002	.007	1.814	.310	R 2.125	R .662	R 2.786
September	.192	.809	.749	.002	-.003	1.750	.306	2.056	R .600	R 2.656
October	.200	.835	.858	.002	.002	1.898	.302	2.200	R .598	R 2.798
November	.203	.870	.753	.002	.001	1.829	.290	2.119	R .598	R 2.717
December	.204	.922	.812	.002	.001	1.940	.286	2.226	R .610	R 2.836
Total	**2.370**	**10.317**	**9.289**	**.033**	**.018**	**22.027**	**3.523**	**25.550**	**R 7.313**	**R 32.863**
1998 January	.197	.931	.812	.003	.005	1.949	.284	2.233	.584	2.817
February	.194	.851	.718	.003	.002	1.767	.285	2.052	.552	2.604
March	.197	.879	.758	.003	(s)	1.838	.291	2.129	.617	2.747
April	.189	.818	.740	.003	-.001	1.750	.291	2.040	.587	2.627
May	.189	.795	.710	.003	.003	1.702	.308	2.010	.692	2.701
June	.183	.767	.693	.003	.001	1.648	.310	1.958	.683	2.641
July	.183	.810	.719	.003	.006	1.721	.305	2.027	.669	2.696
August	.184	.813	.757	.002	.005	1.761	.321	2.082	.674	2.756
September	.179	R .788	.724	.002	.003	R 1.697	.308	R 2.005	.597	R 2.602
October	E .200	R .821	.828	.002	.003	R 1.854	.302	R 2.157	.590	R 2.747
November	E .199	F .848	.741	.002	.001	1.790	.296	2.086	.583	2.669
11-Month Total	**E 2.094**	**E 9.121**	**8.202**	**.030**	**.029**	**19.477**	**3.302**	**22.779**	**6.828**	**29.607**
1997 11-Month Total	**2.166**	**9.395**	**8.478**	**.030**	**.018**	**20.087**	**3.237**	**23.324**	**6.703**	**30.027**
1996 11-Month Total	**2.208**	**9.457**	**8.338**	**.030**	**.001**	**20.034**	**3.228**	**23.262**	**6.706**	**29.968**

[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.

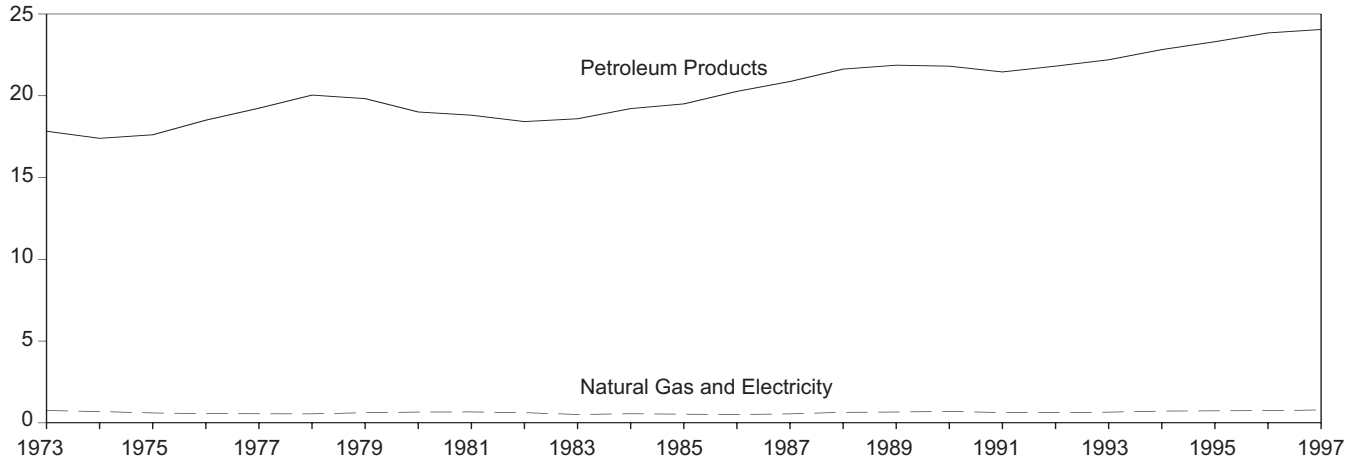
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1997, for example, an estimated 2.6 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.

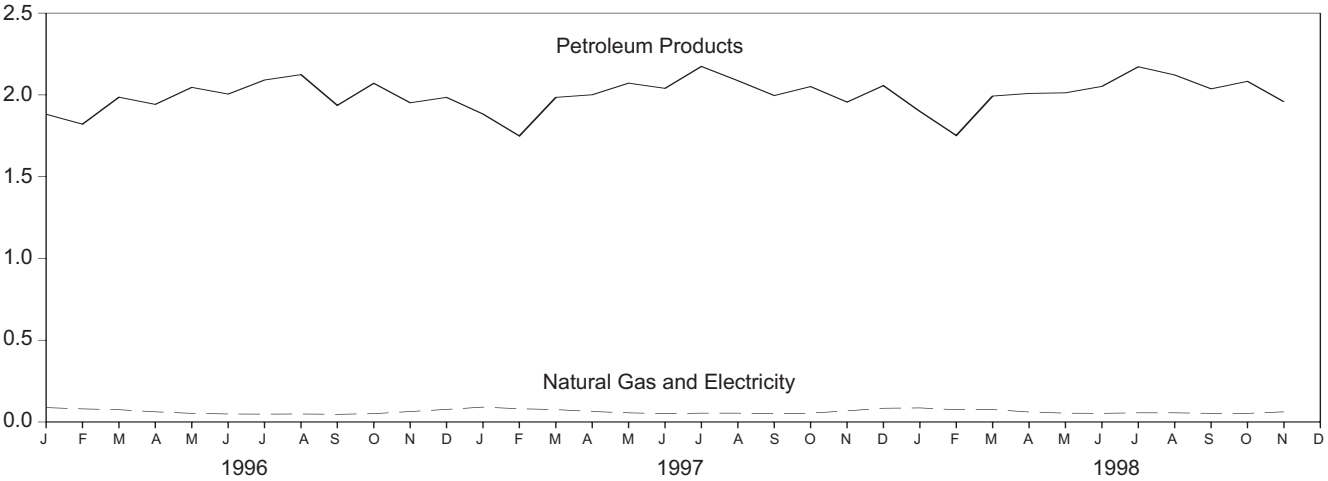
Figure 2.4 Transportation Energy Consumption

(Quadrillion Btu)

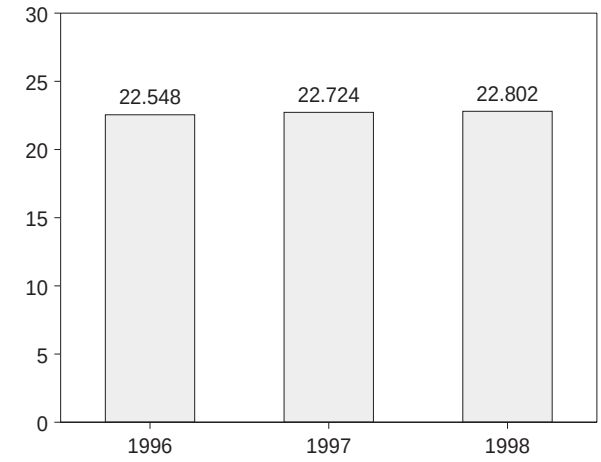
By Major Sources, 1973-1997



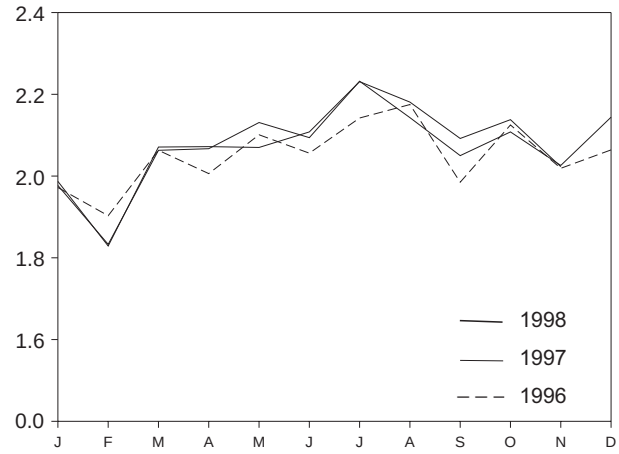
By Major Sources, Monthly



Total, January-November



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 January	([d])	.087	1.882	1.969	.001	1.970	.002	1.972
February	([d])	.079	1.821	1.900	.001	1.901	.002	1.903
March	([d])	.074	1.986	2.060	.001	2.061	.002	2.063
April	([d])	.061	1.942	2.003	.001	2.004	.002	2.006
May	([d])	.052	2.046	2.098	.001	2.099	.002	2.101
June	([d])	.048	2.005	2.053	.001	2.054	.002	2.056
July	([d])	.047	2.091	2.138	.001	2.139	.002	2.142
August	([d])	.048	2.124	2.172	.001	2.173	.003	2.175
September	([d])	.046	1.936	1.982	.001	1.983	.002	1.985
October	([d])	.050	2.071	2.121	.001	2.123	.002	2.125
November	([d])	.063	1.952	2.015	.001	2.017	.002	2.019
December	**(**[d]**)**	.076	1.985	2.061	.001	2.062	.002	2.064
Total	([d])	**.734**	**23.841**	**24.574**	**.013**	**24.588**	**.028**	**24.616**
1997 January	([d])	.090	1.883	1.973	.001	1.975	.002	1.977
February	([d])	.080	1.749	1.829	.001	1.831	.002	1.833
March	([d])	.075	1.985	2.059	.001	2.060	.002	2.063
April	([d])	.063	2.001	2.064	.001	2.065	.002	2.067
May	([d])	.055	2.072	2.128	.001	2.129	.002	2.131
June	([d])	.050	2.040	2.091	.001	2.092	[R].003	2.094
July	([d])	.053	2.174	2.228	.001	2.229	.003	2.232
August	([d])	.053	2.087	2.140	.001	2.141	.003	2.143
September	([d])	.050	1.996	2.046	.001	2.048	[R].003	2.050
October	([d])	.053	2.051	2.104	.001	2.105	.002	2.108
November	([d])	.067	1.956	2.022	.001	2.023	.002	2.026
December	**(**[d]**)**	.083	2.057	2.140	.001	2.141	.002	[R]2.144
Total	([d])	**.776**	**24.052**	**24.828**	[R]**.014**	[R]**24.843**	[R]**.029**	[R]**24.872**
1998 January	([d])	.085	1.899	1.983	.001	1.984	.002	1.987
February	([d])	.074	1.752	1.826	.001	1.827	.002	1.829
March	([d])	.075	1.993	2.068	.001	2.069	.002	2.071
April	([d])	.060	2.009	2.069	.001	2.070	.002	2.072
May	([d])	.053	2.013	2.066	.001	2.067	.002	2.070
June	([d])	.052	2.052	2.104	.001	2.105	.003	2.108
July	([d])	.055	2.172	2.227	.001	2.228	.003	2.231
August	([d])	.055	2.122	2.178	.001	2.179	.003	2.181
September	([d])	.052	2.037	2.089	.001	2.090	.003	2.092
October	([d])	.052	2.083	[R]2.135	.001	[R]2.136	.002	[R]2.138
November	([d])	[F].061	1.958	2.019	.001	2.021	.002	2.023
11-Month Total	**(**[d]**)**	[E]**.674**	**22.090**	**22.763**	**.013**	**22.776**	**.026**	**22.802**
1997 11-Month Total	**(**[d]**)**	**.689**	**21.995**	**22.684**	**.013**	**22.697**	**.027**	**22.724**
1996 11-Month Total	**(**[d]**)**	**.654**	**21.856**	**22.510**	**.012**	**22.523**	**.026**	**22.548**

[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 1990) 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.

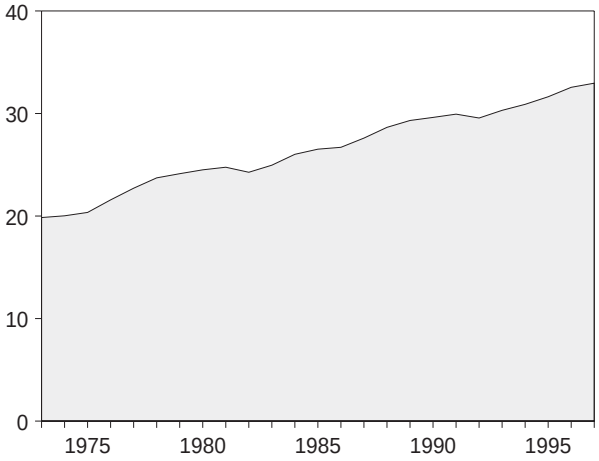
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Additional Notes and Sources: See end of section.

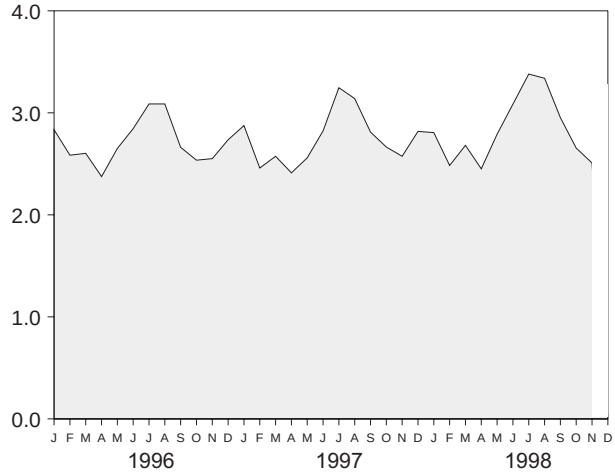
Figure 2.5 Energy Input at Electric Utilities

(Quadrillion Btu)

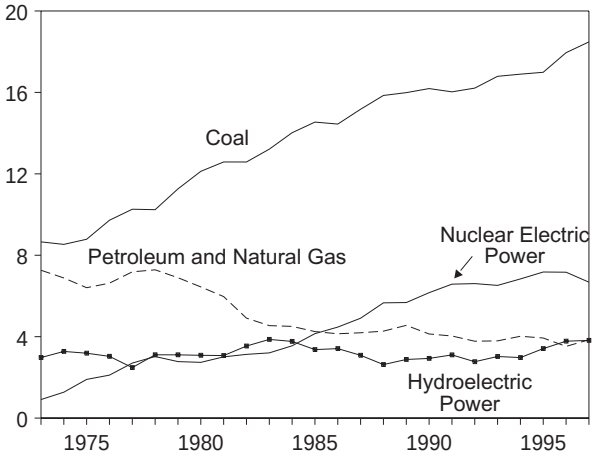
Total, 1973-1997



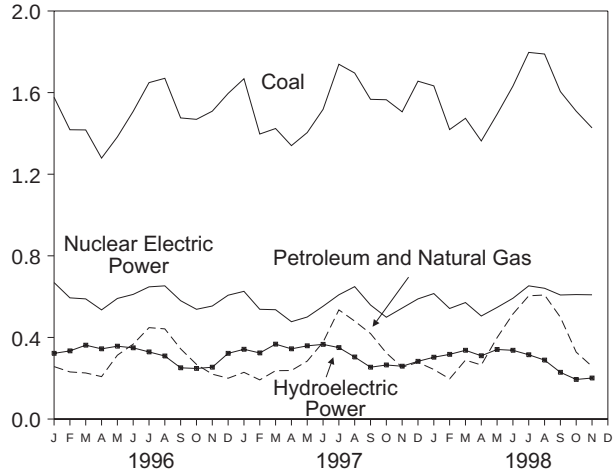
Total, Monthly



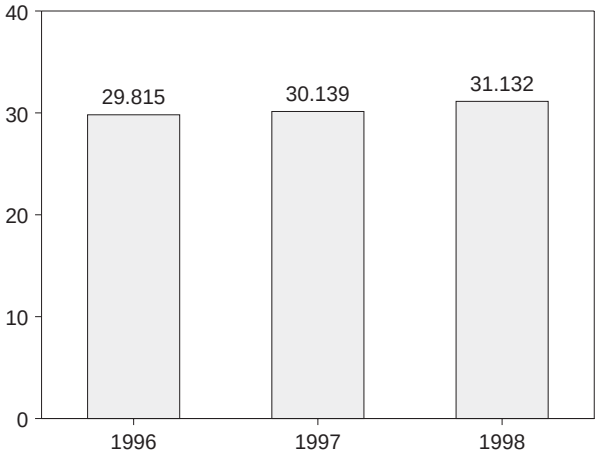
By Major Sources, 1973-1997



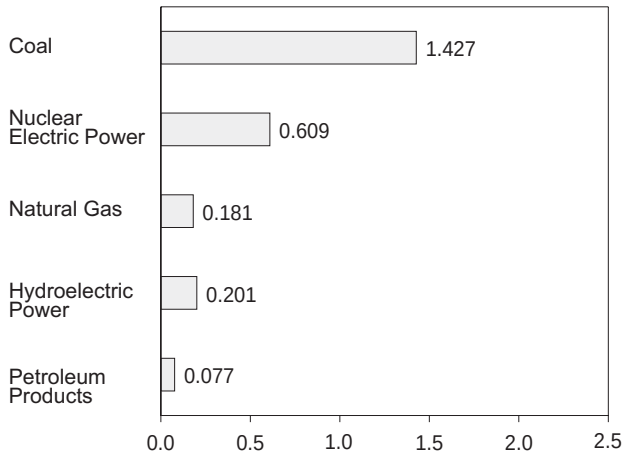
By Major Sources, Monthly



Total, January-November



By Major Sources, November 1998



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**	**2.932**	**.181**	**.022**	**29.617**
1991 Total	**16.028**	**2.856**	**1.178**	**6.579**	**3.104**	**.170**	**.021**	**29.937**
1992 Total	**16.211**	**2.826**	**.951**	**6.607**	**2.770**	**.169**	**.022**	**29.557**
1993 Total	**16.790**	**2.741**	**1.052**	**6.519**	**3.026**	**.158**	**.021**	**30.307**
1994 Total	**16.895**	**3.053**	**.968**	**6.837**	**2.972**	**.145**	**.021**	**30.892**
1995 Total	**16.990**	**3.276**	**.658**	**7.177**	**3.413**	**.099**	**.017**	**31.632**
1996 January	1.577	.172	.085	.669	.322	.007	.002	2.834
February	1.418	.140	.091	.594	.334	.008	.001	2.585
March	1.417	.160	.066	.589	.362	.007	.002	2.603
April	1.279	.174	.034	.535	.344	.008	.001	2.375
May	1.383	.271	.042	.591	.357	.005	.001	2.651
June	1.508	.307	.060	.611	.349	.008	.002	2.845
July	1.649	.366	.082	.648	.329	.012	.002	3.087
August	1.670	.376	.066	.653	.309	.012	.002	3.087
September	1.476	.292	.052	.580	.251	.010	.002	2.662
October	1.469	.232	.036	.538	.248	.011	.002	2.536
November	1.509	.174	.046	.554	.254	.011	.002	2.551
December	1.596	.136	.064	.607	.322	.010	.002	2.736
Total	**17.953**	**2.798**	**.725**	**7.168**	**3.778**	**.110**	**.020**	**32.552**
1997 January	1.668	.142	.087	.626	.342	.009	.002	2.875
February	1.397	.146	.046	.538	.324	.006	.002	2.459
March	1.424	.193	.044	.536	.367	.009	.002	2.574
April	1.340	.197	.041	.477	.344	.010	.002	2.412
May	1.404	.236	.048	.500	.359	.010	.002	2.559
June	1.518	.303	.074	.553	.366	.008	.002	2.823
July	1.739	.437	.098	.609	.350	.011	.002	3.246
August	1.696	.399	.081	.649	.304	.011	.002	3.140
September	1.567	.339	.080	.559	.254	.010	.002	2.811
October	1.565	.249	.075	.499	.265	.010	.002	2.665
November	1.506	.183	.071	.544	.259	.010	.002	2.574
December	1.656	.201	.077	.589	.283	.011	.002	2.818
Total	**18.480**	**3.025**	**.822**	**6.678**	**3.817**	**.115**	**.021**	**32.957**
1998 January	1.633	.174	.069	.615	.303	.010	.002	2.806
February	1.419	.136	.061	.542	.317	.008	.001	2.484
March	1.474	.198	.091	.571	.337	.010	.002	2.681
April	1.363	.194	.071	.505	.310	.007	.002	2.451
May	1.494	.299	.100	.547	.341	.006	.002	2.790
June	1.632	.386	.129	.592	.337	.007	.001	3.085
July	1.797	.457	.147	.653	.315	.009	.002	3.380
August	1.789	.466	.142	.641	.289	.010	.002	3.339
September	1.605	.387	.112	.608	.229	.010	.002	2.953
October	1.509	.251	.077	.610	.194	.011	.002	2.655
November	1.427	.181	.077	.609	.201	.010	.002	2.508
11-Month Total	**17.142**	**3.130**	**1.077**	**6.493**	**3.173**	**.099**	**.019**	**31.132**
1997 11-Month Total	**16.824**	**2.824**	**.745**	**6.089**	**3.534**	**.104**	**.019**	**30.139**
1996 11-Month Total	**16.357**	**2.662**	**.661**	**6.560**	**3.457**	**.100**	**.019**	**29.815**

[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.

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: This table reports energy input at electric utilities and does not include data on nonutility power producers (NUPP). NUPP data are collected by EIA on an annual basis starting in 1989. See EIA's *Electric Power Annual 1997, Volume II*, "Nonutility Power Producers" chapter for additional information.

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, data on agricultural use of natural gas are collected and reported in the commercial sector, rather than in the industrial sector. Since agricultural use of natural gas cannot be identified separately, it is included in the commercial sector in this report. 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*.
1980-1997: EIA, *Natural Gas Annual*.
1998: 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: 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 1996.

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 1996.

- 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 1983-1996, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

- 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, 1997 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 1996.

- **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 1979-1996. Sales for 1996 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 1979-1996. Sales for 1996 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 1979-1996. Sales for 1996 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.
1984-1995: 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 1996.

  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 1996.

- 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, 1997 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 1996.

- **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

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."
1989-1996: DOE, Assistant Secretary for Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data."

1997 forward: EIA estimates based on preliminary data from the National Energy Board of Canada and DOE, Assistant Secretary for Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data."

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: EIA, *Quarterly Coal Report*.

10. Electricity: End-use consumption of electricity is based on Table 7.2 sales data. "Other," which is primarily for use in government buildings, is added to the commercial sector, except for approximately 4 percent used by railroads and railways and attributed to the transportation sector. 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 0.04 quadrillion Btu in 1997) included on Table 2.6 are used at pumped storage facilities and are not considered renewable. Small quantities of ethanol (about 0.10 quadrillion Btu in 1997) 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					
Year	Biofuels	Solar Energy	**Total**[1]	Biofuels	Geothermal Energy	Conventional Hydroelectric Power	Solar Energy	Wind Energy	**Total**
1990	0.581	0.056	**0.645**	1.948	0.155	0.085	0.007	0.023	**2.217**
1991	0.613	0.058	**0.680**	1.943	0.170	0.085	0.008	0.027	**2.234**
1992	0.645	0.060	**0.714**	2.042	0.182	0.098	0.008	0.030	**2.360**
1993	0.592	0.062	**0.664**	2.084	0.206	0.119	0.009	0.031	**2.449**
1994	0.582	0.064	**0.656**	2.138	0.214	0.136	0.008	0.036	**2.533**
1995	0.641	0.065	**0.717**	2.084	0.210	0.152	0.008	0.033	**2.487**
1996	0.644	0.066	**0.722**	2.200	0.217	0.171	0.009	0.035	**2.633**
1997[E]	0.475	0.065	**0.553**	2.132	0.238	0.193	0.010	0.039	**2.612**

[1]Includes geothermal heat pump and direct energy use.
E=Estimate.
Source: Energy Information Administration, *Annual Energy Review 1997* (July 1998), 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" under "Fuel Groups."

Section 3. Petroleum

Total petroleum imports[1] averaged 10.3 million barrels per day in January 1999, 3 percent higher than the previous month's rate and 4 percent higher than the January 1998 rate.

In January 1999, 18.7 million barrels per day of petroleum products were supplied for domestic use, 3 percent higher than the January 1998 rate. Motor gasoline accounted for 42 percent of the total; distillate fuel oil, 20 percent; and kerosene-type jet fuel, 9 percent.

Motor gasoline supplied during January 1999 averaged 7.8 million barrels per day, 7 percent lower than the previous month's rate but 3 percent higher than the January 1998 rate. Total motor gasoline stocks were 225 million barrels at the end of January 1999, 9 million barrels below the stock level in the previous month and 4 million barrels above the level 1 year earlier.

Distillate fuel oil supplied during January 1999 averaged 3.7 million barrels per day, 8 percent higher than the previous month's rate and 5 percent higher than the January 1998 rate. Distillate fuel oil ending stocks for January 1999 were 144 million barrels, 12 million barrels below the stock level in the previous month but 11 million barrels above the level 1 year earlier.

Kerosene-type jet fuel supplied in January 1999 averaged 1.6 million barrels per day, 5 percent below the previous month's rate but 7 percent above the January 1998 rate. Kerosene-type jet fuel stocks measured 45 million barrels at the end of January 1999, the same as the stock level in the previous month but 1 million barrels above the level 1 year earlier.

Revised Crude Oil Production Estimates for 1998

Revisions to the crude oil production estimates for January 1998 through November 1998 appear this month on Tables 3.1a and 3.2a. Rapid crude oil price declines during 1998 caused correspondingly rapid declines in rig counts, well completions, and well maintenance activities. As prices dropped, an increasing number of marginal oil wells were shut in. The rapidly dropping prices exacerbated data reporting problems by States and companies as the usual data revision trends and correlations between and among data series often did not hold. Additional revisions to this series may appear in forthcoming issues of the *Monthly Energy Review* prior to publication of the *Petroleum Supply Annual 1998*, which is scheduled for release at the end of May 1999.

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 October 1998.

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

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

	Field Production			Stock Change[a]			Ending 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	[RE]8,721	[RE]6,515	1,826	522	-64	18,256	1,576
February	[RE]8,670	[RE]6,449	1,870	49	-169	18,322	1,572
March	[RE]8,542	[RE]6,399	1,846	457	59	18,393	1,588
April	[RE]8,655	[RE]6,483	1,859	492	358	18,624	1,614
May	[RE]8,494	[RE]6,363	1,808	47	1,247	17,876	1,654
June	[RE]8,428	[RE]6,252	1,734	-656	642	18,818	1,654
July	[RE]8,166	[RE]6,193	1,580	200	152	19,140	1,665
August	[RE]8,285	[RE]6,193	1,713	-293	517	19,108	1,672
September	[RE]8,003	[RE]5,918	1,716	-685	49	18,837	1,653
October	[RE]8,264	[RE]6,152	1,736	788	-752	19,086	1,654
November	[RE]8,219	[RE]6,072	1,759	293	391	18,515	1,674
December	[RE]7,947	[RE]5,938	[R]1,604	[R]-380	[R]-493	[R]19,198	[R]1,647
Average	[RE]**8,364**	[RE]**6,243**	[R]**1,753**	[R]**72**	[R]**162**	[R]**18,684**	[R]**1,647**
1999 January	[E]8,486	[PE]5,950	[E]1,738	[E]456	[E]-325	[E]18,725	[E]1,632

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of 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,* February 1999, Table S1.

Total domestic and crude oil production estimates for January through November 1998 have been revised. Please see page 41 for additional information.

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

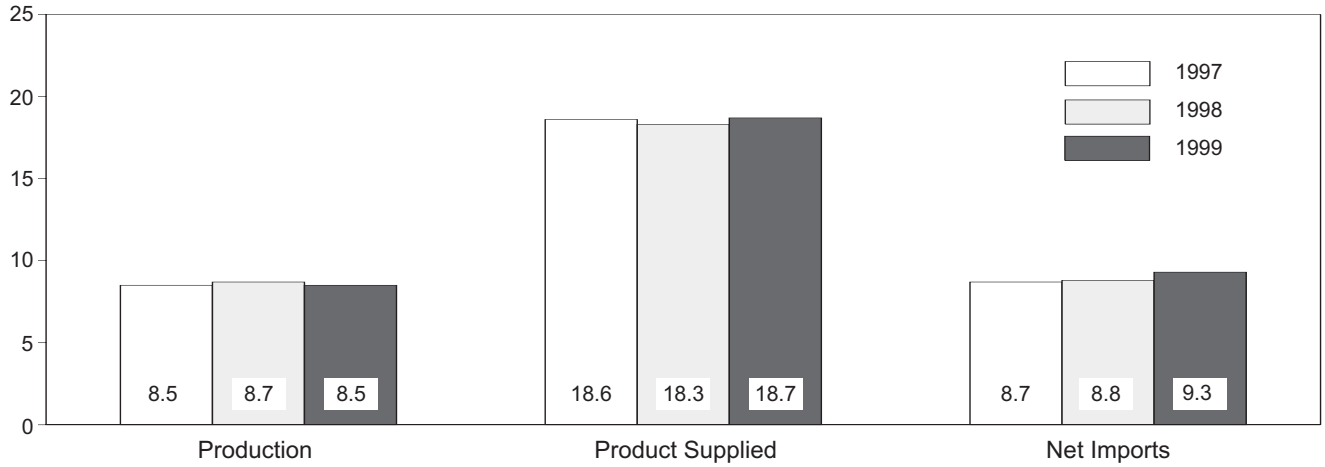
	Imports			Exports			
	Total	Crude Oil[a]	Petroleum Products	Total	Crude Oil	Petroleum Products	Net Imports[b]
	Thousand Barrels per Day						
1973 Average	**6,256**	**3,244**	**3,012**	**231**	**2**	**229**	**6,025**
1974 Average	**6,112**	**3,477**	**2,635**	**221**	**3**	**218**	**5,892**
1975 Average	**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	9,893	8,185	1,708	1,083	231	852	8,811
February	9,577	7,770	1,807	957	197	760	8,620
March	9,694	7,989	1,705	919	99	820	8,775
April	10,398	8,523	1,874	1,029	163	866	9,369
May	10,903	8,957	1,945	1,027	144	883	9,876
June	10,702	8,725	1,977	987	63	924	9,715
July	11,151	9,309	1,842	998	104	894	10,152
August	10,829	9,143	1,686	780	51	729	10,049
September	10,288	8,392	1,896	863	34	828	9,426
October	10,531	8,457	2,073	851	87	763	9,680
November	10,574	8,821	1,752	782	60	721	9,792
December	[R] 9,983	[R] 8,262	[R] 1,721	[R] 893	[R] 90	[R] 803	[R] 9,091
Average	[R] **10,382**	[R] **8,550**	[R] **1,832**	[R] **931**	[R] **110**	[R] **821**	[R] **9,452**
1999 January	[E] 10,278	[E] 8,592	[E] 1,686	[E] 981	[E] 104	[E] 877	[E] 9,296

[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,* February 1999, Table S1.

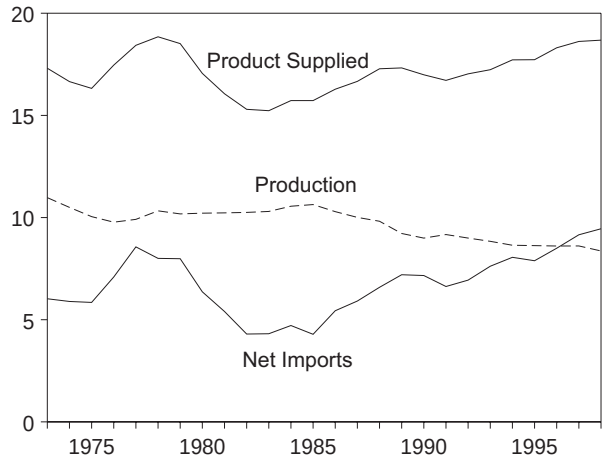
Figure 3.1 Petroleum Overview

(Million Barrels per Day)

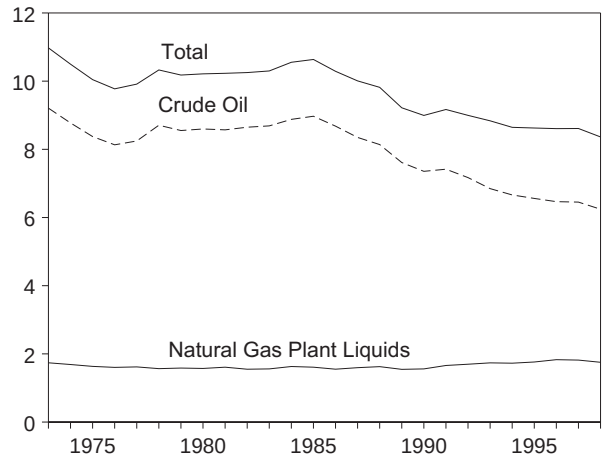
Overview, January



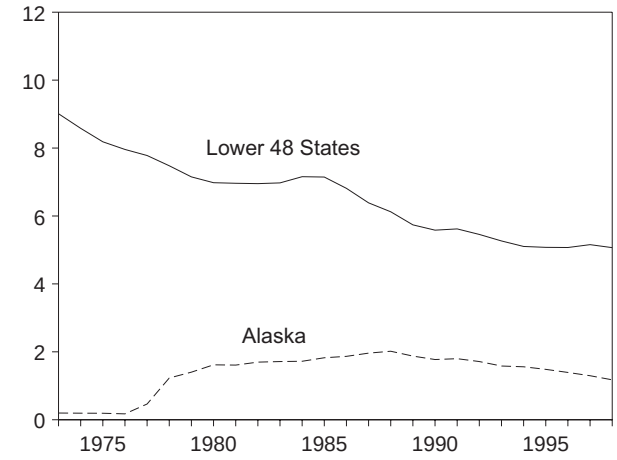
Overview, 1973-1998



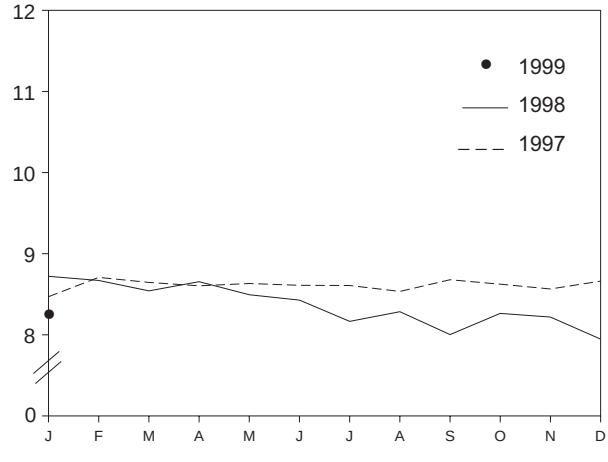
Production, 1973-1998



Crude Oil Production, 1973-1998



Total Production, Monthly

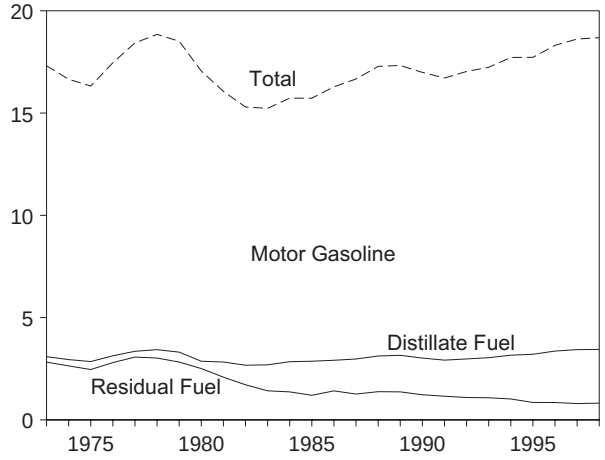


Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.1b, and 3.2a.

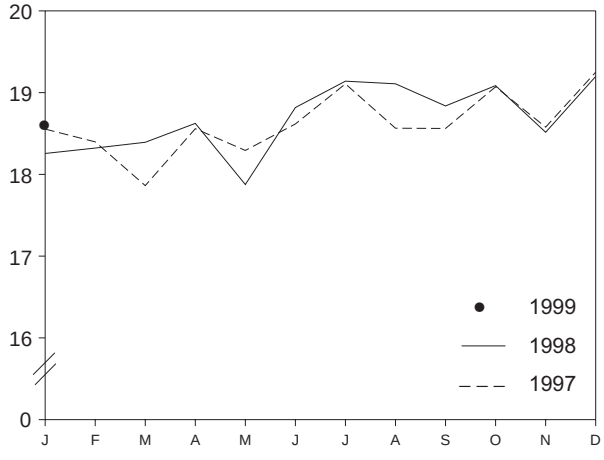
Figure 3.1 Petroleum Overview (Continued)

(Million Barrels per Day, Except as Noted)

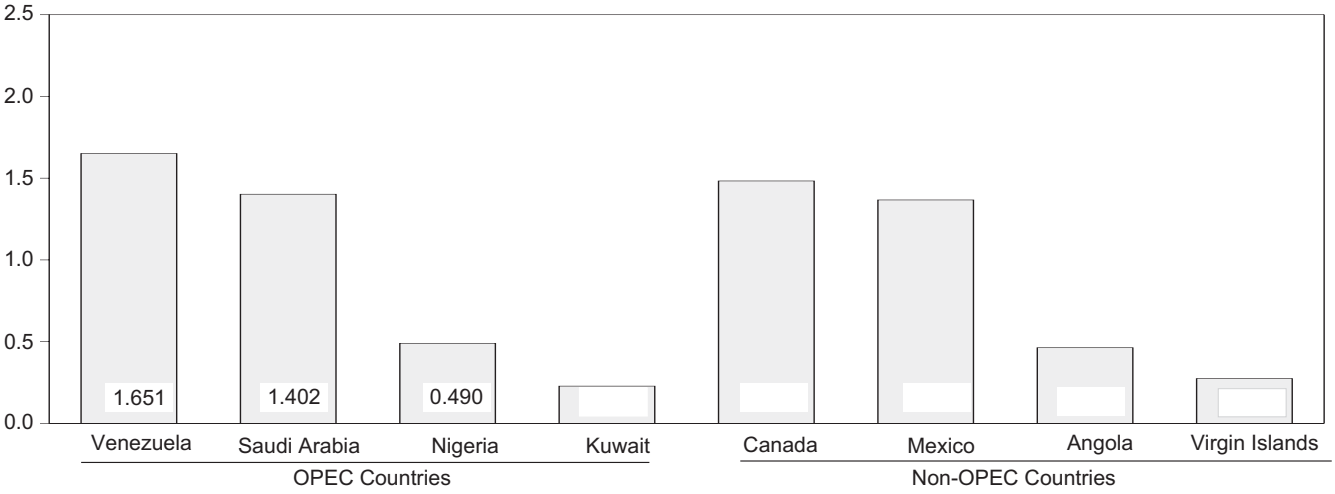
Product Supplied, 1973-1998



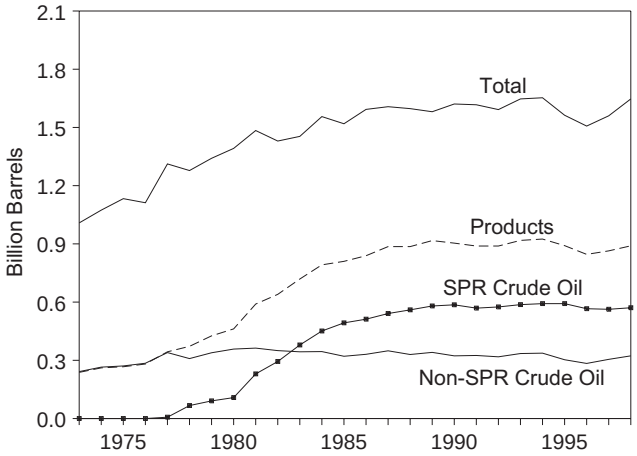
Product Supplied, Monthly



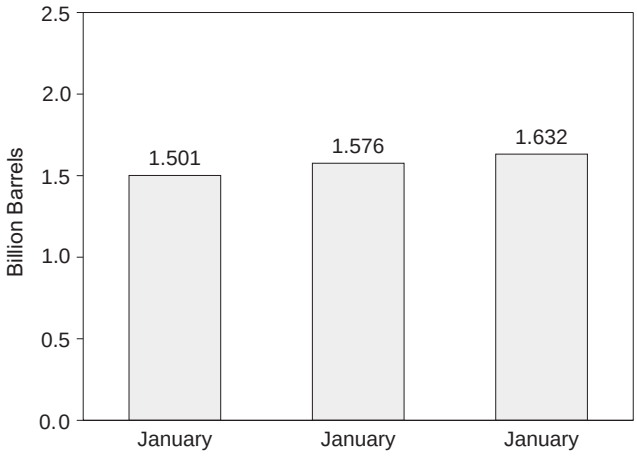
Imports from Selected Countries, December 1998



Stocks, End of Year, 1973-1998



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-3.3h, 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	[RE] 6,515	[E] 1,229	8,185	0	8,185	[R] 364	–
February	[RE] 6,449	[E] 1,238	7,770	0	7,770	[R] 62	–
March	[RE] 6,399	[E] 1,221	7,989	0	7,989	[R] 758	–
April	[RE] 6,483	[E] 1,200	8,523	0	8,523	[R] 610	–
May	[RE] 6,363	[E] 1,173	8,957	0	8,957	[R] -25	–
June	[RE] 6,252	[E] 1,135	8,725	0	8,725	[R] -202	–
July	[RE] 6,193	[E] 1,155	9,309	0	9,309	[R] 299	–
August	[RE] 6,193	[E] 1,133	9,143	0	9,143	[R] 83	–
September	[RE] 5,918	[E] 1,093	8,392	0	8,392	[R] -106	–
October	[RE] 6,152	[E] 1,197	8,457	0	8,457	[R] 267	–
November	[RE] 6,072	[E] 1,168	8,821	0	8,821	[R] 230	–
December	[RE] 5,938	[RE] 1,160	[R] 8,262	0	[R] 8,262	[R] 341	–
Average	[RE] **6,243**	[RE] **1,175**	[R] **8,550**	**0**	[R] **8,550**	[R] **226**	**–**
1999 January	[PE] 5,950	[PE] 1,166	[E] 8,592	[E] 0	[E] 8,592	[E] 216	–

[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,* February 1999, Table S2.

Total domestic production estimates (and unaccounted for crude oil) for January through November 1998 have been revised. Please see page 41 for additional information.

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

	Disposition						Ending 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)	522	14,313	231	0	884	563	321
February	0	(s)	50	14,034	197	0	886	563	322
March	0	0	457	14,590	99	0	900	563	336
April	0	0	492	14,961	163	0	915	563	351
May	0	(s)	47	15,104	144	0	916	563	353
June	0	(s)	-656	15,368	63	0	896	563	333
July	(s)	(s)	201	15,496	104	0	903	563	339
August	0	0	-293	15,660	51	0	894	563	330
September	0	0	-685	14,854	34	0	873	563	310
October	(s)	19	769	14,001	87	0	897	564	333
November	0	150	143	14,769	60	0	906	569	338
December	0	[R] 93	[R] -473	[R] 14,832	[R] 90	0	[R] 894	[R] 571	[R] 323
Average	**(s)**	[R] **22**	[R] **50**	[R] **14,837**	[R] **110**	**0**	[R] **894**	[R] **571**	[R] **323**
1999 January	[E] 0	[E] 93	[E] 363	[E] 14,619	[E] 104	[E] 0	[E] 904	[E] 571	[E] 333

[a] Stocks are totals as of 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,* February 1999, Table S2.

Table 3.3a Petroleum Imports: 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 January	0	0	0	0	0	0	148	145
February	0	0	0	0	0	0	216	216
March	0	0	0	0	0	0	127	127
April	17	0	0	0	0	0	201	201
May	0	0	0	0	0	0	230	230
June	0	0	0	0	0	0	388	388
July	0	0	0	0	0	0	266	266
August	0	0	0	0	0	0	271	266
September	0	0	0	0	0	0	236	236
October	0	0	0	0	0	0	260	260
November	0	0	0	0	0	0	228	228
December	0	0	0	0	14	14	262	262
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	194	194
February	0	0	0	0	0	0	283	283
March	0	0	0	0	127	127	307	307
April	0	0	0	0	233	233	262	262
May	17	0	0	0	137	137	399	399
June	0	0	0	0	270	270	275	275
July	0	0	0	0	277	277	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	647	647	230	216
November	0	0	0	0	542	542	224	224
December	0	0	0	0	486	486	228	228
Average	**1**	**0**	**0**	**0**	**334**	**334**	**281**	**280**

[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,* February 1999, Table S3.

Table 3.3b Petroleum Imports: 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 January	0	0	1,398	1,334	0	0	1,546	1,479
February	0	0	1,128	1,053	0	0	1,344	1,268
March	0	0	1,422	1,318	0	0	1,549	1,446
April	0	0	1,288	1,200	0	0	1,506	1,401
May	0	0	1,518	1,414	0	0	1,748	1,643
June	0	0	1,138	1,035	11	11	1,537	1,433
July	0	0	1,548	1,371	4	4	1,819	1,642
August	0	0	1,477	1,333	0	0	1,747	1,599
September	0	0	1,355	1,255	0	0	1,591	1,491
October	0	0	1,357	1,209	17	17	1,635	1,486
November	0	0	1,297	1,201	0	0	1,525	1,429
December	0	0	1,400	1,236	0	0	1,675	1,511
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	1,500	1,422	0	0	1,729	1,652
February	18	18	1,415	1,305	0	0	1,716	1,606
March	0	0	1,508	1,359	13	13	1,956	1,807
April	0	0	1,470	1,305	20	20	1,986	1,821
May	0	0	1,352	1,273	0	0	1,905	1,808
June	15	0	1,631	1,550	0	0	2,192	2,096
July	15	0	1,609	1,575	0	0	2,336	2,287
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	1,283	1,195	0	0	2,161	2,059
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**	**1,472**	**1,386**	**3**	**3**	**2,095**	**2,005**

[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,* February 1999, Table S3.

Table 3.3c Petroleum Imports: 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 January	313	38	(b)	(b)	(c)	(c)	52	43	0	0
February	200	16	(b)	(b)	(c)	(c)	44	43	0	0
March	241	38	(b)	(b)	(c)	(c)	58	55	0	0
April	211	2	(b)	(b)	(c)	(c)	57	57	0	0
May	340	0	(b)	(b)	(c)	(c)	49	15	0	0
June	313	0	(b)	(b)	(c)	(c)	72	65	0	0
July	305	0	(b)	(b)	(c)	(c)	56	48	0	0
August	323	0	(b)	(b)	(c)	(c)	53	49	0	0
September	186	0	(b)	(b)	(c)	(c)	26	26	0	0
October	209	0	(b)	(b)	(c)	(c)	125	82	0	0
November	214	3	(b)	(b)	(c)	(c)	36	12	0	0
December	214	0	(b)	(b)	(c)	(c)	81	32	0	0
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	306	9	(b)	(b)	(c)	(c)	36	33	0	0
February	295	7	(b)	(b)	(c)	(c)	24	24	0	0
March	244	13	(b)	(b)	(c)	(c)	50	47	0	0
April	336	0	(b)	(b)	(c)	(c)	44	26	0	0
May	330	16	(b)	(b)	(c)	(c)	21	21	0	0
June	362	31	(b)	(b)	(c)	(c)	0	0	0	0
July	308	26	(b)	(b)	(c)	(c)	96	84	0	0
August	264	10	(b)	(b)	(c)	(c)	59	41	0	0
September	306	7	(b)	(b)	(c)	(c)	73	54	0	0
October	289	31	(b)	(b)	(c)	(c)	84	71	0	0
November	219	22	(b)	(b)	(c)	(c)	165	138	0	0
December	200	31	(b)	(b)	(c)	(c)	34	34	0	0
Average	**288**	**17**	**(b)**	**(b)**	**(c)**	**(c)**	**57**	**48**	**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,* February 1999, Table S3.

Table 3.3d Petroleum Imports: 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 January	690	663	1,518	1,148	2,574	1,892	4,120	3,371
February	647	639	1,495	1,166	2,385	1,865	3,730	3,133
March	594	548	1,719	1,341	2,611	1,981	4,161	3,427
April	518	497	1,732	1,288	2,519	1,844	4,007	3,245
May	705	705	1,700	1,333	2,794	2,054	4,541	3,697
June	711	697	1,642	1,236	2,738	1,999	4,275	3,432
July	750	696	1,690	1,332	2,800	2,076	4,619	3,718
August	793	785	1,749	1,431	2,918	2,265	4,665	3,865
September	694	677	1,708	1,269	2,613	1,972	4,204	3,463
October	521	488	1,781	1,448	2,636	2,019	4,271	3,504
November	465	453	1,728	1,303	2,443	1,770	3,967	3,199
December	320	298	1,641	1,324	2,256	1,654	3,931	3,166
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	613	608	1,600	1,333	2,555	1,983	4,285	3,634
February	544	544	1,699	1,328	2,562	1,903	4,278	3,510
March	812	812	1,657	1,316	2,763	2,187	4,718	3,994
April	772	772	1,626	1,334	2,778	2,132	4,765	3,953
May	899	892	1,902	1,549	3,152	2,479	5,040	4,287
June	771	755	1,565	1,326	2,698	2,112	4,890	4,207
July	873	871	1,728	1,415	3,005	2,397	5,341	4,684
August	736	726	1,683	1,349	2,742	2,126	5,227	4,579
September	502	496	1,484	1,199	2,364	1,756	4,747	4,064
October	633	626	1,901	1,503	2,907	2,230	5,068	4,289
November	574	545	1,682	1,349	2,640	2,054	4,793	4,143
December	490	483	1,651	1,271	2,375	1,819	4,492	3,859
Average	**686**	**679**	**1,683**	**1,357**	**2,714**	**2,101**	**4,808**	**4,105**

[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,* February 1999, Table S3.

Table 3.3e Petroleum Imports: 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 January	312	312	21	21	0	0	1	0	1,490	1,117	86	86
February	195	195	0	0	0	0	4	0	1,413	1,026	42	42
March	257	257	0	0	12	0	1	0	1,322	1,001	53	53
April	244	233	22	22	0	0	(s)	0	1,427	1,030	18	18
May	403	379	22	22	0	0	9	0	1,373	1,056	19	19
June	356	356	56	47	1	0	10	0	1,395	1,091	37	37
July	292	292	11	0	0	0	28	0	1,393	1,093	78	78
August	480	456	43	43	0	0	38	0	1,393	1,042	73	73
September	391	391	47	27	0	0	13	0	1,276	1,000	64	64
October	502	485	79	65	0	0	1	0	1,407	1,059	36	36
November	353	353	35	25	0	0	1	0	1,516	1,151	104	104
December	420	405	39	21	0	0	3	0	1,675	1,232	78	78
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	427	427	5	0	0	0	6	0	1,679	1,313	36	36
February	417	417	48	48	0	0	0	0	1,717	1,382	41	41
March	302	302	46	30	0	0	27	0	1,460	1,132	63	63
April	452	452	62	14	0	0	11	0	1,546	1,239	36	36
May	503	495	82	60	3	0	28	0	1,608	1,316	70	70
June	399	399	77	33	0	0	45	0	1,683	1,404	81	81
July	551	551	69	48	0	0	29	0	1,624	1,338	73	73
August	422	422	42	21	0	0	28	0	1,555	1,248	57	57
September	461	457	77	23	0	0	22	0	1,572	1,227	20	20
October	470	457	71	30	0	0	29	0	1,551	1,202	24	24
November	509	505	31	31	0	0	15	0	1,446	1,199	0	0
December	463	459	57	36	0	0	11	0	1,483	1,184	0	0
Average	**448**	**445**	**56**	**31**	**(s)**	**0**	**21**	**0**	**1,576**	**1,264**	**42**	**42**

[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,* February 1999, Table S3.

Table 3.3f Petroleum Imports: 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 January	186	183	126	120	171	171	2	0	0	0	1,281	1,245
February	149	139	81	81	191	191	0	0	24	17	1,083	1,062
March	262	250	131	125	154	154	13	0	4	0	1,176	1,165
April	280	280	158	143	212	212	(s)	0	0	0	1,303	1,273
May	263	249	100	95	154	154	0	0	47	40	1,288	1,222
June	250	247	138	133	218	218	16	0	19	11	1,351	1,274
July	204	198	113	96	191	191	19	0	0	0	1,216	1,186
August	221	217	83	71	156	156	8	0	5	0	1,157	1,142
September	213	213	48	48	104	104	15	0	0	0	1,355	1,306
October	265	252	66	60	226	226	4	0	31	0	1,213	1,189
November	267	267	111	111	253	253	13	0	7	0	1,157	1,110
December	246	218	89	72	184	184	8	0	0	0	1,346	1,301
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	281	281	77	77	264	264	26	0	17	11	1,467	1,438
February	243	235	103	103	244	244	6	0	64	49	1,214	1,197
March	261	261	75	75	312	312	12	0	10	10	1,235	1,220
April	348	348	88	81	256	256	2	0	29	13	1,473	1,444
May	394	385	114	105	194	194	35	0	63	55	1,377	1,359
June	340	333	75	67	110	110	18	0	14	0	1,400	1,379
July	229	229	89	89	197	197	8	0	46	38	1,398	1,372
August	360	357	158	158	118	118	10	0	11	4	1,153	1,139
September	306	305	107	96	202	202	0	0	16	0	1,417	1,367
October	356	354	130	125	115	115	18	0	9	0	1,132	1,121
November	352	352	134	134	220	220	0	0	25	16	1,379	1,322
December	488	479	41	38	220	220	6	0	19	10	1,367	1,301
Average	**330**	**327**	**99**	**96**	**204**	**204**	**12**	**0**	**27**	**17**	**1,335**	**1,305**

[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,* February 1999, Table S3.

Table 3.3g Petroleum Imports: 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 January	16	0	59	0	199	178	6	0	11	0	23	0
February	38	0	101	0	236	221	17	0	14	0	23	0
March	35	0	35	0	284	264	24	0	18	0	58	0
April	20	0	50	0	375	357	17	0	0	0	36	0
May	9	0	47	0	380	364	22	0	63	63	21	0
June	26	0	52	0	434	408	25	0	14	14	12	0
July	7	0	45	0	375	359	25	0	42	33	47	10
August	14	0	53	0	369	362	33	0	32	32	21	0
September	13	0	56	0	274	254	22	0	39	37	21	0
October	24	0	97	0	389	359	14	0	42	33	34	0
November	18	0	79	0	249	220	20	0	0	0	33	0
December	14	0	98	0	187	166	18	0	26	0	13	0
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	6	0	87	0	217	208	18	0	0	0	15	0
February	18	0	85	0	169	169	21	0	12	0	13	0
March	5	0	90	32	210	198	5	0	3	0	0	0
April	36	0	63	0	232	232	4	0	(s)	0	9	0
May	27	0	55	0	196	172	18	0	0	0	14	0
June	16	0	86	0	283	252	13	0	34	34	26	0
July	59	0	24	0	318	311	21	0	69	69	34	0
August	11	0	41	0	287	260	23	0	(s)	0	8	0
September	26	0	58	0	201	162	12	0	34	0	16	0
October	49	0	84	0	199	186	20	0	15	0	4	0
November	53	0	124	0	262	252	12	0	51	0	21	0
December	14	0	43	0	202	199	15	0	57	0	33	0
Average	**26**	**0**	**70**	**3**	**232**	**217**	**15**	**0**	**23**	**9**	**16**	**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,* February 1999, Table S3.

Table 3.3h Petroleum Imports: 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 January	92	71	364	238	390	0	406	188	5,244	3,932	9,364	7,303
February	56	56	374	280	343	0	275	169	4,660	3,479	8,390	6,612
March	63	52	346	252	311	0	373	215	4,932	3,788	9,092	7,215
April	87	55	481	347	359	0	333	157	5,421	4,125	9,429	7,371
May	97	71	421	316	298	0	429	282	5,465	4,332	10,007	8,029
June	86	54	312	234	292	0	561	402	5,663	4,526	9,938	7,958
July	70	58	244	195	344	0	456	292	5,201	4,082	9,820	7,800
August	81	59	274	177	279	0	508	348	5,321	4,177	9,986	8,041
September	51	37	165	90	268	0	502	318	4,938	3,891	9,142	7,353
October	70	55	264	136	325	0	477	240	5,566	4,196	9,837	7,701
November	96	75	199	160	253	0	513	318	5,277	4,145	9,244	7,344
December	58	54	253	167	294	0	438	245	5,487	4,142	9,417	7,307
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	58	54	232	166	283	0	408	276	5,609	4,551	9,893	8,185
February	60	60	170	89	296	0	358	224	5,299	4,260	9,577	7,770
March	53	53	95	70	334	0	376	236	4,976	3,995	9,694	7,989
April	48	48	224	154	272	0	444	254	5,633	4,570	10,398	8,523
May	61	53	233	133	292	0	494	273	5,863	4,670	10,903	8,957
June	64	56	227	125	310	0	511	245	5,812	4,518	10,702	8,725
July	79	56	96	36	360	0	436	219	5,809	4,625	11,151	9,309
August	63	53	371	295	279	0	607	435	5,602	4,564	10,829	9,143
September	38	38	142	109	277	0	538	322	5,541	4,328	10,288	8,392
October	65	57	384	278	268	0	469	220	5,462	4,169	10,531	8,457
November	38	38	373	283	266	0	471	327	5,781	4,679	10,574	8,821
December	79	72	199	119	274	0	421	286	5,492	4,403	9,983	8,262
Average	**59**	**53**	**229**	**155**	**293**	**0**	**462**	**277**	**5,574**	**4,445**	**10,382**	**8,550**

[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.

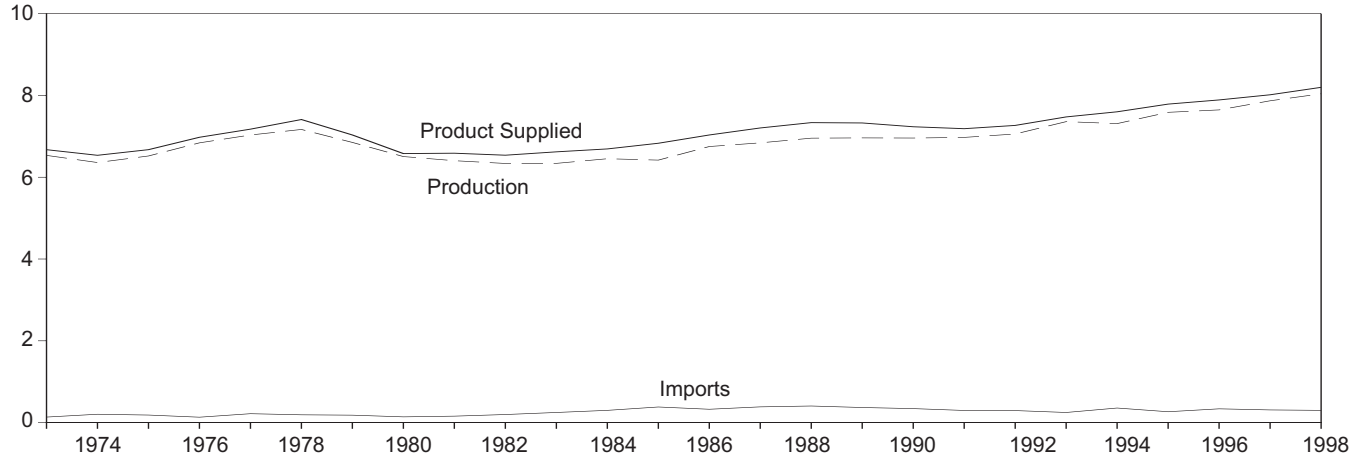
Notes: • Beginning in October 1977, Strategic Petroleum Reserve imports are included. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S3. • **1981 forward:** EIA, *Petroleum Supply Monthly,* February 1999, Table S3.

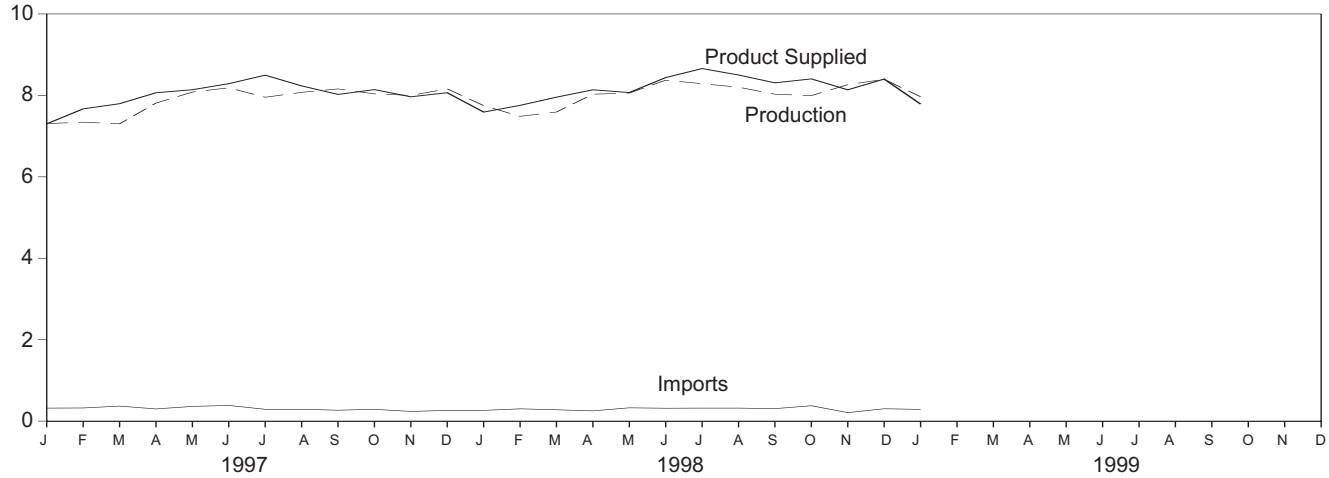
Figure 3.2 Finished Motor Gasoline

(Million Barrels per Day, Except as Noted)

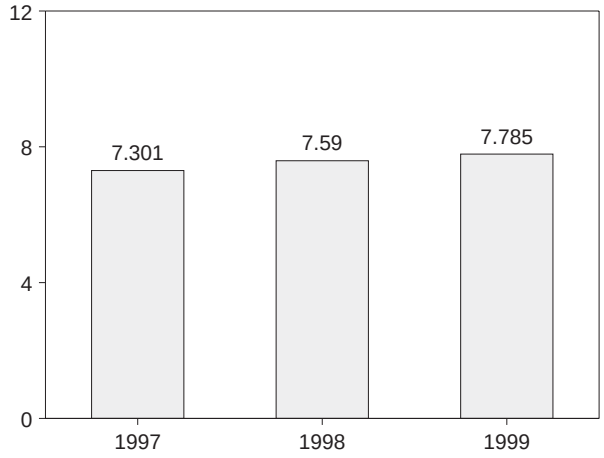
Overview, 1973-1998



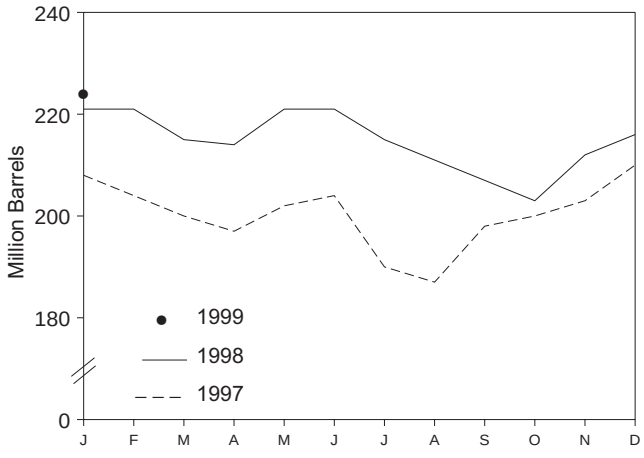
Overview, Monthly



Product Supplied, January



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

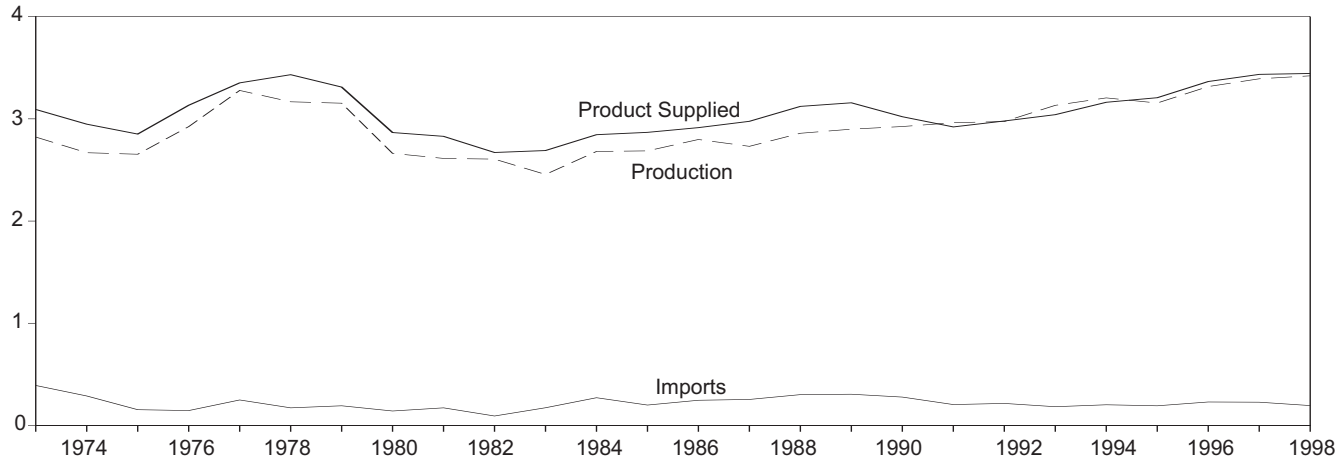
	Supply		Disposition			Motor Gasoline Ending Stocks[a]		Oxygenates Ending Stocks[a]
	Total Production	Imports[b]	Stock Change[b,c]	Exports	Product Supplied	Total[d]	Finished	
	Thousand Barrels per Day					Million Barrels		
1973 Average	**6,535**	**134**	**-9**	**4**	**6,674**	**209**	**NA**	**NA**
1974 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	7,749	265	296	128	7,590	221	175	13
February	7,485	303	-90	124	7,755	221	173	14
March	7,591	280	-205	121	7,956	215	166	13
April	8,029	253	64	81	8,137	214	168	13
May	8,057	328	212	103	8,070	221	175	13
June	8,372	317	92	159	8,437	221	178	14
July	8,287	321	-168	117	8,659	215	172	13
August	8,200	321	-119	141	8,500	211	169	13
September	8,029	308	-135	163	8,308	207	165	13
October	7,995	379	-152	121	8,405	203	160	12
November	8,263	210	248	89	8,136	212	167	13
December	[R]8,395	[R]305	[R]145	[R]153	[R]8,401	[R]216	[R]172	14
Average	**[R]8,041**	**[R]299**	**16**	**[R]125**	**[R]8,199**	**[R]216**	**[R]172**	**14**
1999 January	[E]7,966	[E]289	[E]354	[E]117	[E]7,785	[E]225	[E]179	NA

[a] Stocks are totals as of 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,* February 1999, Table S4.

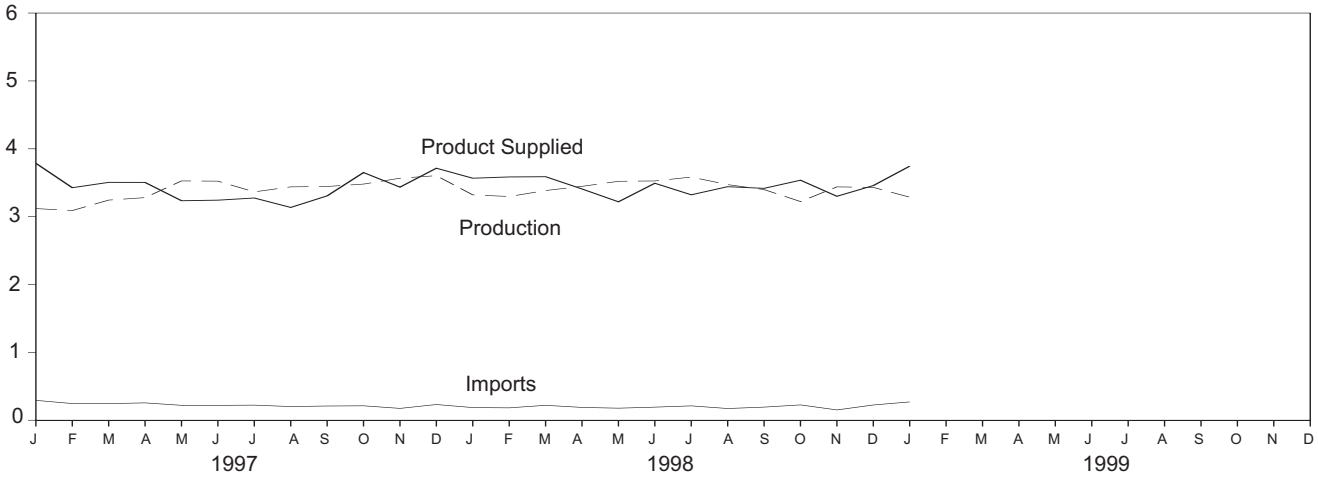
Figure 3.3 Distillate Fuel

(Million Barrels per Day, Except as Noted)

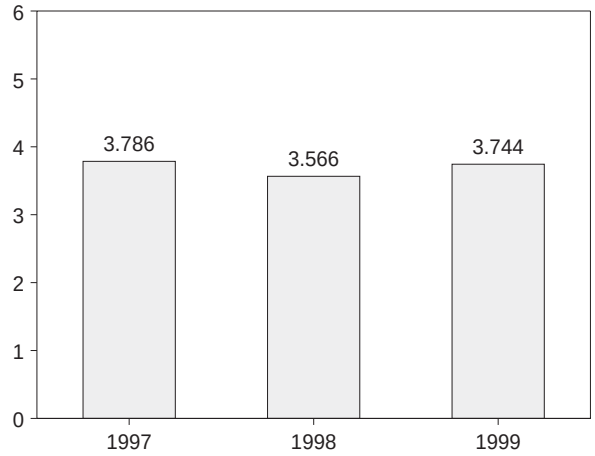
Overview, 1973-1998



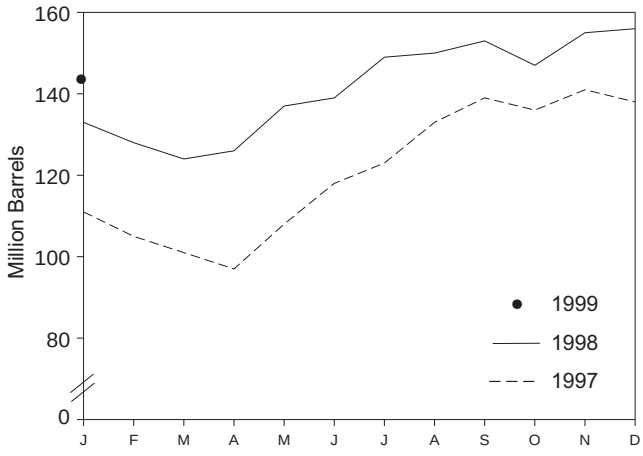
Overview, Monthly



Product Supplied, January



Stocks, End of Month



Source: Table 3.5.

Table 3.5 Distillate Fuel Oil Supply and Disposition

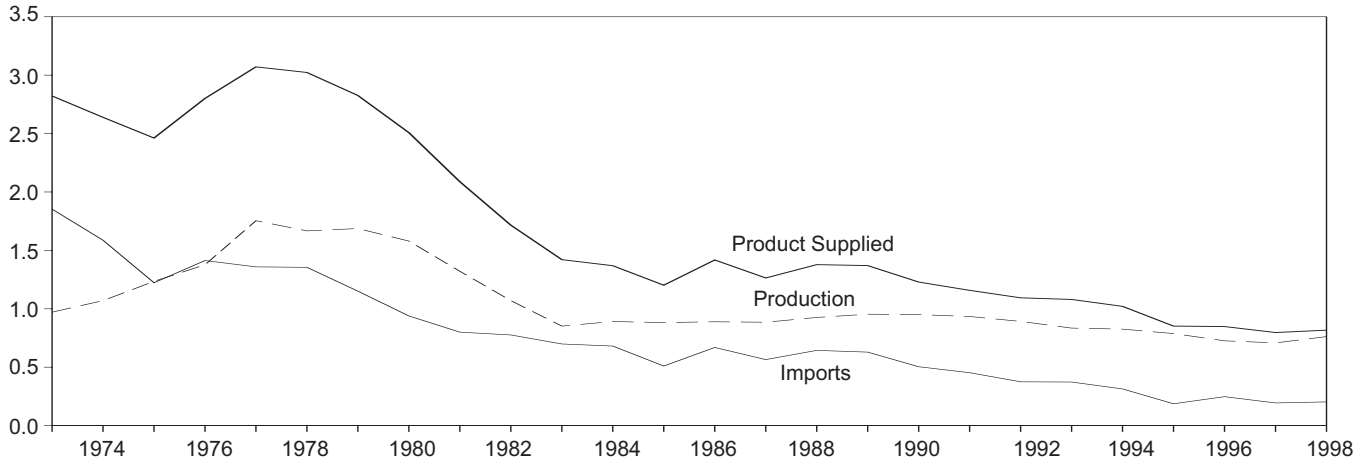
	Supply			Disposition			Ending Stocks[a]		
								Sulfur Content	
	Total Production	Imports	Crude Oil Used Directly[b]	Stock Change[c]	Exports	Product Supplied[b]	Total	0.05 Percent or Less[d]	Greater Than 0.05 Percent[d]
	Thousand Barrels per Day						Million Barrels		
1973 Average	**2,822**	**392**	**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	3,321	187	–	-192	133	3,566	133	68	65
February	3,297	183	–	-183	79	3,585	128	65	63
March	3,385	220	–	-113	129	3,589	124	63	61
April	3,447	189	–	42	186	3,408	126	63	63
May	3,521	178	–	359	121	3,219	137	69	68
June	3,526	193	–	78	149	3,492	139	70	69
July	3,583	212	–	312	161	3,322	149	76	73
August	3,472	173	–	54	150	3,442	150	73	78
September	3,399	194	–	68	107	3,417	153	73	80
October	3,223	226	–	-163	75	3,537	147	69	79
November	3,439	152	–	236	54	3,300	155	73	81
December	[R] 3,431	[R] 225	–	[R] 53	[R] 145	[R] 3,458	[R] 156	[R] 77	[R] 79
Average	[R] **3,421**	**195**	**–**	[R] **47**	[R] **124**	[R] **3,444**	[R] **156**	[R] **77**	[R] **79**
1999 January	[E] 3,287	[E] 270	–	[E] -333	[E] 145	[E] 3,744	[E] 144	[E] 72	[E] 71

[a] Stocks are totals as of 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,* February 1999, Table S5.

Figure 3.4 Residual Fuel

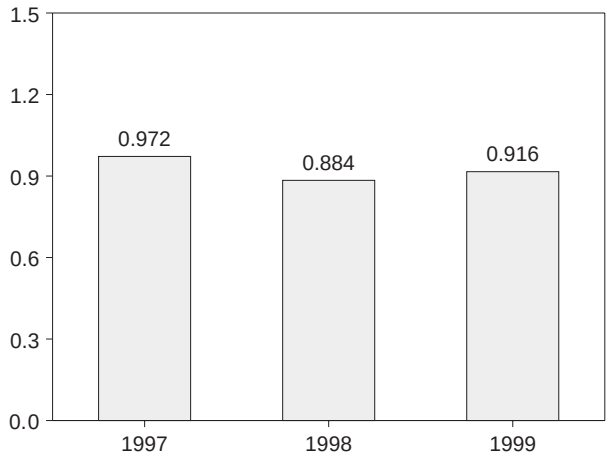
(Million Barrels per Day, Except as Noted)

Overview, 1973-1998

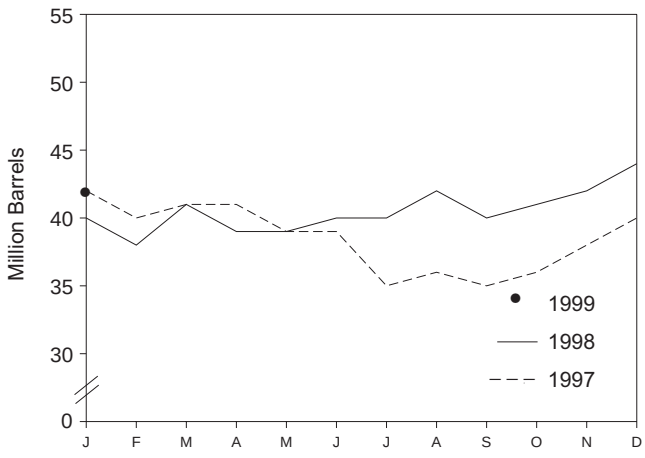


Overview, Monthly

Product Supplied, January



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]	Ending Stocks[c]
	Thousand Barrels per Day						Million Barrels
1973 Average	**971**	**1,853**	**17**	**-5**	**23**	**2,822**	**53**
1974 Average	**1,070**	**1,587**	**13**	**17**	**14**	**2,639**	[d] **60**
1975 Average	**1,235**	**1,223**	**15**	[d] **-2**	**15**	**2,462**	**74**
1976 Average	**1,377**	**1,413**	**17**	**-5**	**12**	**2,801**	**72**
1977 Average	**1,754**	**1,359**	**13**	**48**	**6**	**3,071**	**90**
1978 Average	**1,667**	**1,355**	**13**	**1**	**13**	**3,023**	**90**
1979 Average	**1,687**	**1,151**	**12**	**15**	**9**	**2,826**	**96**
1980 Average	**1,580**	**939**	**12**	**-10**	**33**	**2,508**	[d] **92**
1981 Average[e]	**1,321**	**800**	**48**	[d] **-37**	**118**	**2,088**	**78**
1982 Average	**1,070**	**776**	**48**	**-32**	**209**	**1,716**	[d] **66**
1983 Average	**852**	**699**	**–**	[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	766	223	–	-25	131	884	40
February	673	185	–	-55	120	793	38
March	789	180	–	93	135	742	41
April	852	221	–	-60	168	966	39
May	773	142	–	-18	227	707	39
June	749	211	–	38	152	770	40
July	782	266	–	(s)	124	925	40
August	778	229	–	62	105	840	42
September	749	225	–	-67	133	908	40
October	668	207	–	47	139	690	41
November	741	181	–	20	110	792	42
December	[R] 810	[R] 167	–	[R] 78	[R] 108	[R] 790	44
Average	**762**	[R] **203**	**–**	[R] **10**	[R] **138**	[R] **817**	**44**
1999 January	[E] 775	[E] 234	–	[E] -49	[E] 143	[E] 916	[E] 42

[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 totals as of 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.

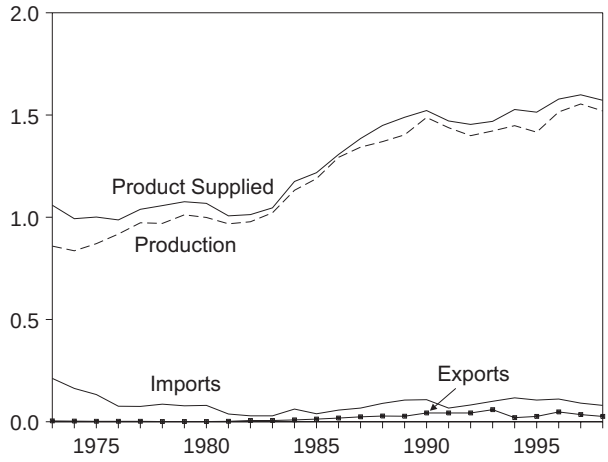
Note: Geographic coverage is the 50 States and the District of Columbia.

Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly,* February 1993, Table S6. • **1981 forward:** EIA, *Petroleum Supply Monthly,* February 1999, Table S6.

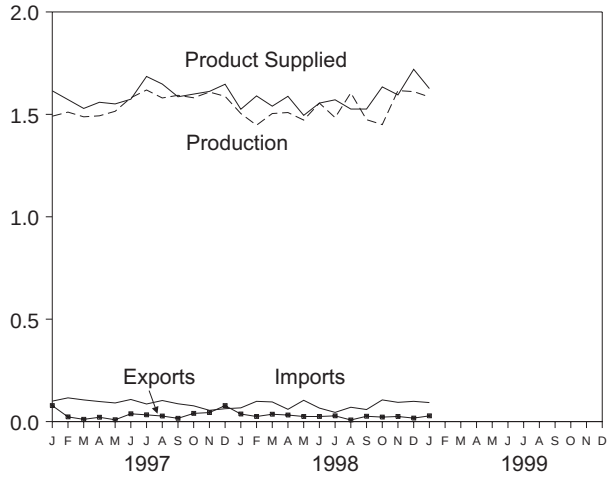
Figure 3.5 Jet Fuel

(Million Barrels per Day, Except as Noted)

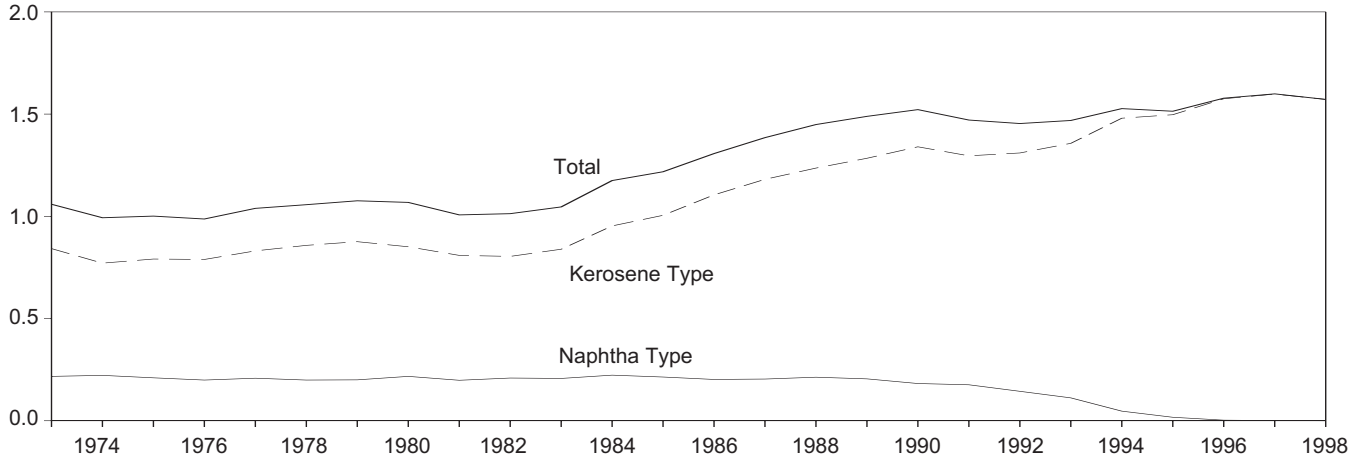
Overview, 1973-1998



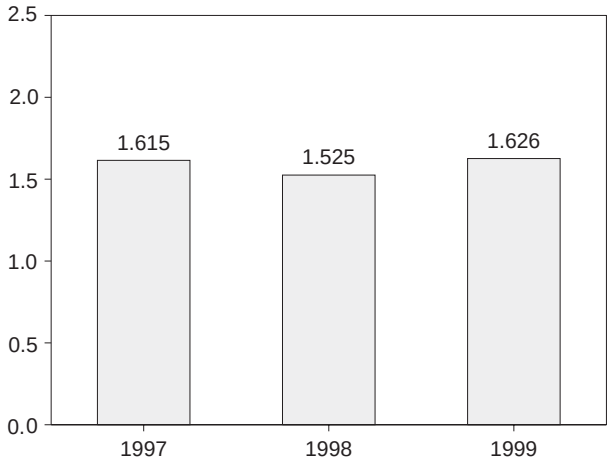
Overview, Monthly



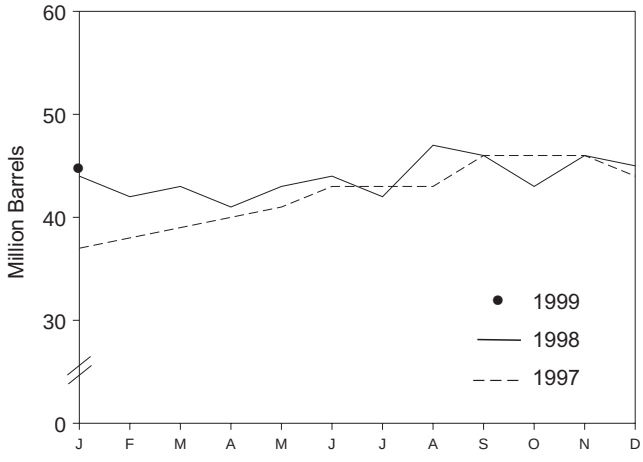
Product Supplied by Type, 1973-1998



Product Supplied, January



Stocks, End of Month



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

Table 3.7 Jet Fuel Supply and Disposition

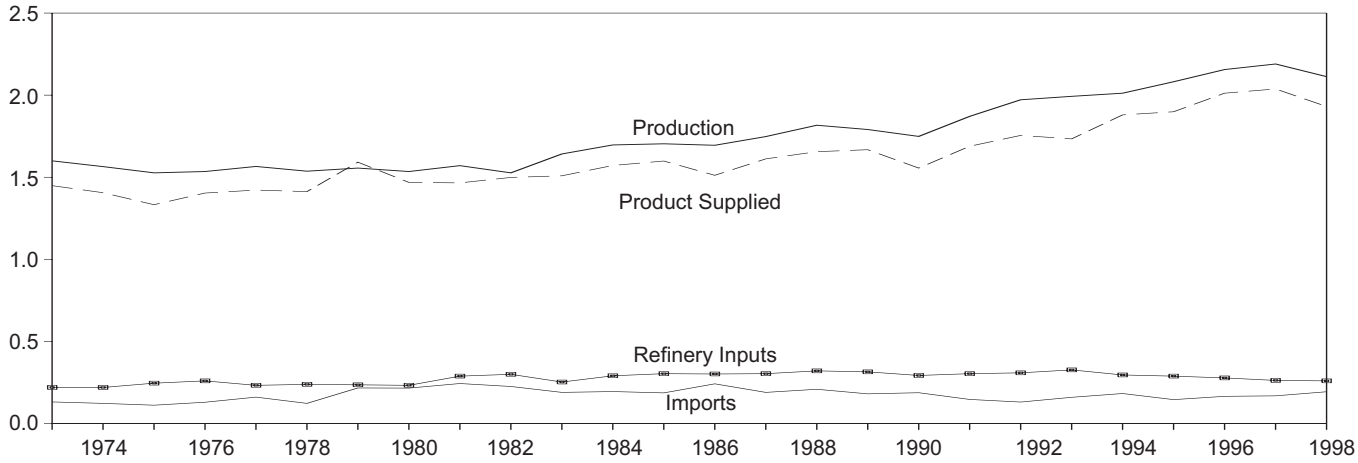
	Supply			Disposition					
	Production		Imports	Stock Change[b]	Exports	Product Supplied		Ending Stocks[a]	
	Total	Kerosene Type				Total	Kerosene Type	Total	Kerosene Type
	Thousand Barrels per Day							Million Barrels	
1973 Average	**859**	**679**	**212**	**8**	**4**	**1,059**	**842**	**29**	**23**
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	1,504	1,503	67	9	37	1,525	1,524	44	44
February	1,447	1,447	99	-70	25	1,590	1,590	42	42
March	1,504	1,503	96	24	36	1,540	1,547	43	43
April	1,509	1,508	60	-51	32	1,588	1,588	41	41
May	1,472	1,471	104	55	25	1,495	1,497	43	43
June	1,555	1,555	66	42	25	1,555	1,555	44	44
July	1,484	1,483	45	-71	28	1,571	1,573	42	42
August	1,605	1,604	70	140	8	1,526	1,527	47	47
September	1,474	1,473	59	-20	26	1,526	1,527	46	46
October	1,450	1,450	106	-100	22	1,634	1,623	43	43
November	1,616	1,616	94	90	25	1,595	1,596	46	46
December	[R] 1,611	[R] 1,611	[R] 99	[R] -27	[R] 17	[R] 1,720	[R] 1,721	45	45
Average	**1,520**	**1,519**	[R] **80**	[R] **2**	**26**	[R] **1,572**	[R] **1,572**	**45**	**45**
1999 January	[E] 1,585	[E] 1,585	[E] 93	[E] 24	[E] 28	[E] 1,626	[E] 1,626	[E] 45	[E] 45

[a] Stocks are totals as of 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,* February 1999, Table S7.

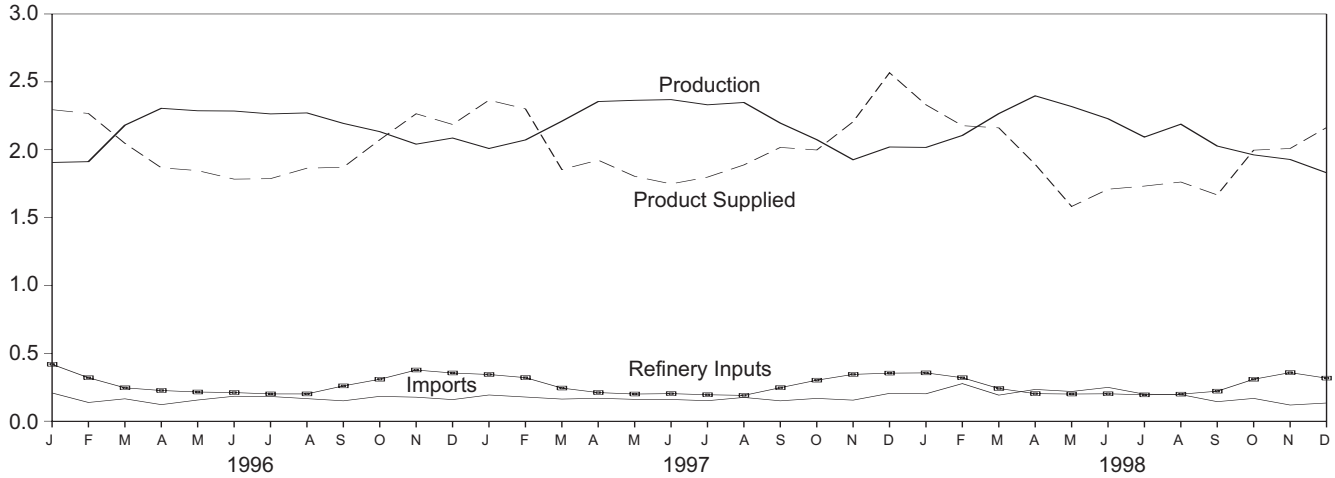
Figure 3.6 Liquefied Petroleum Gases

(Million Barrels per Day, Except as Noted)

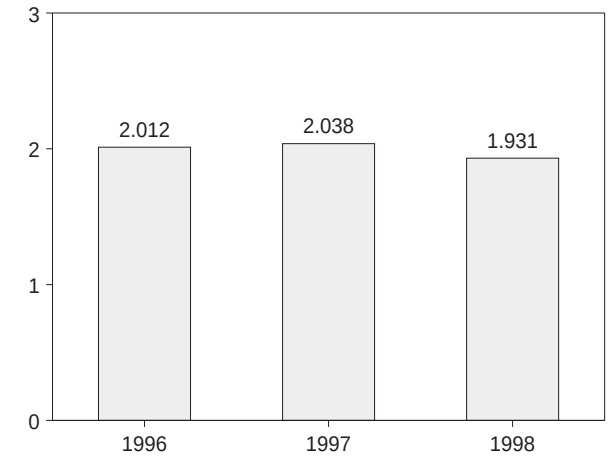
Overview, 1973-1998



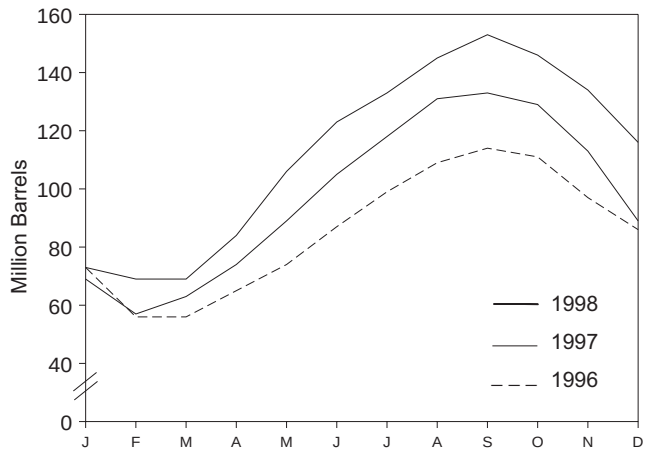
Overview, Monthly



Product Supplied, January-December



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

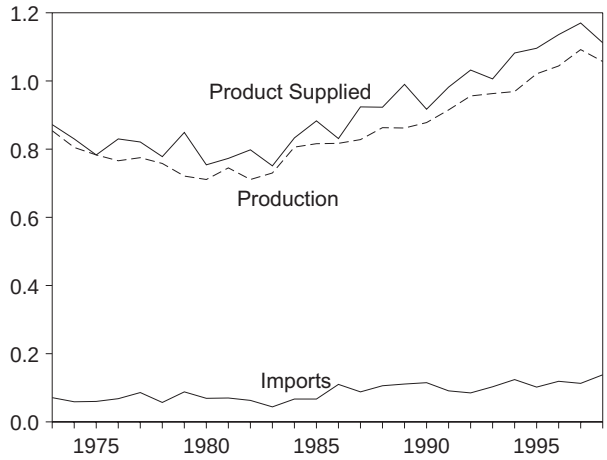
	Supply		Disposition				
	Total Production	Imports	Stock Change[a]	Refinery Inputs	Exports	Product Supplied	Ending Stocks[b]
	Thousand Barrels per Day						Million Barrels
1973 Average	**1,600**	**132**	**35**	**220**	**27**	**1,449**	**99**
1974 Average	**1,565**	**123**	**38**	**220**	**25**	**1,406**	**[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 January	1,906	208	-649	419	49	2,295	73
February	1,912	138	-596	320	60	2,267	56
March	2,181	165	15	246	38	2,047	56
April	2,305	122	279	226	56	1,867	65
May	2,287	156	315	215	67	1,846	74
June	2,285	184	439	211	36	1,783	87
July	2,264	182	385	201	72	1,787	99
August	2,271	166	321	201	50	1,864	109
September	2,194	150	165	260	47	1,871	114
October	2,133	183	-103	309	37	2,073	111
November	2,041	177	-466	377	41	2,265	97
December	2,086	159	-352	355	56	2,186	86
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	2,017	202	-522	356	53	2,331	73
February	2,105	277	-166	320	52	2,177	69
March	2,266	192	16	241	41	2,161	69
April	2,397	234	497	203	39	1,892	84
May	2,318	219	723	200	31	1,582	106
June	2,228	249	538	202	28	1,709	123
July	2,093	199	331	194	34	1,732	133
August	2,188	196	398	199	25	1,762	145
September	2,027	144	255	221	28	1,667	153
October	1,962	168	-224	309	49	1,997	146
November	1,928	119	-381	358	61	2,009	134
December	1,830	134	-583	317	67	2,163	116
Average	**2,113**	**194**	**74**	**260**	**42**	**1,931**	**116**

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of 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,* February 1999, Table S9.

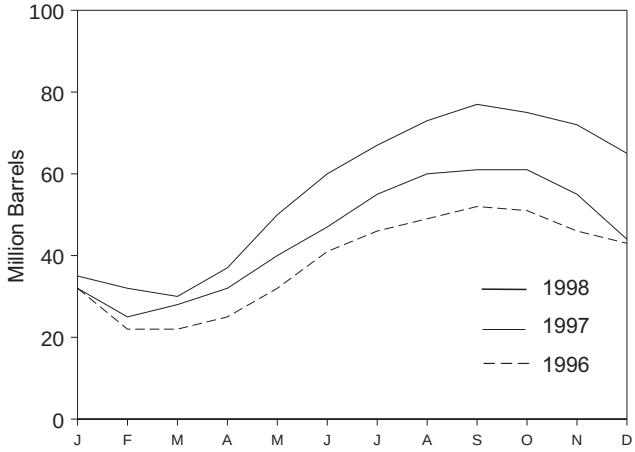
Figure 3.7 Propane and Propylene

(Million Barrels per Day, Except as Noted)

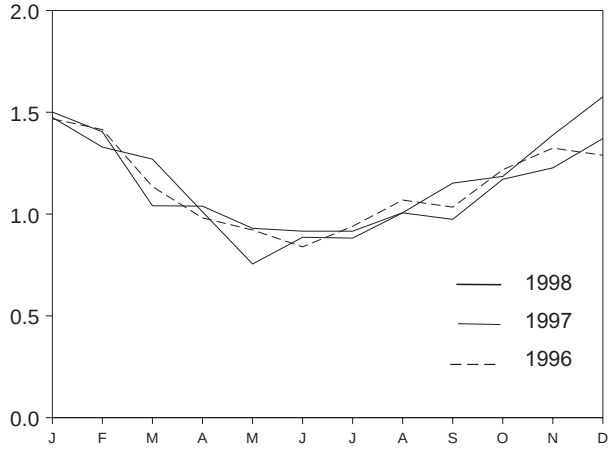
Overview, 1973-1998



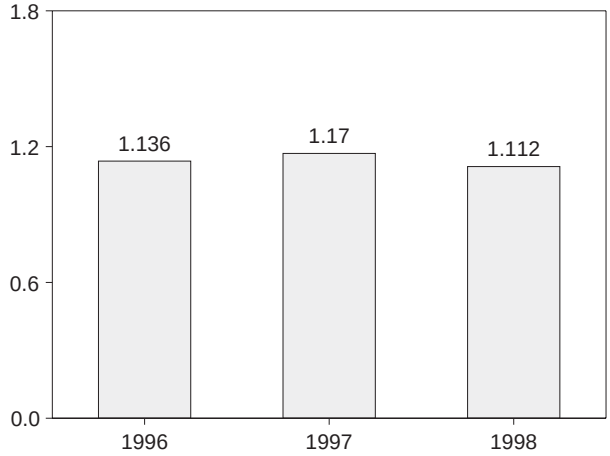
Stocks, End of Month



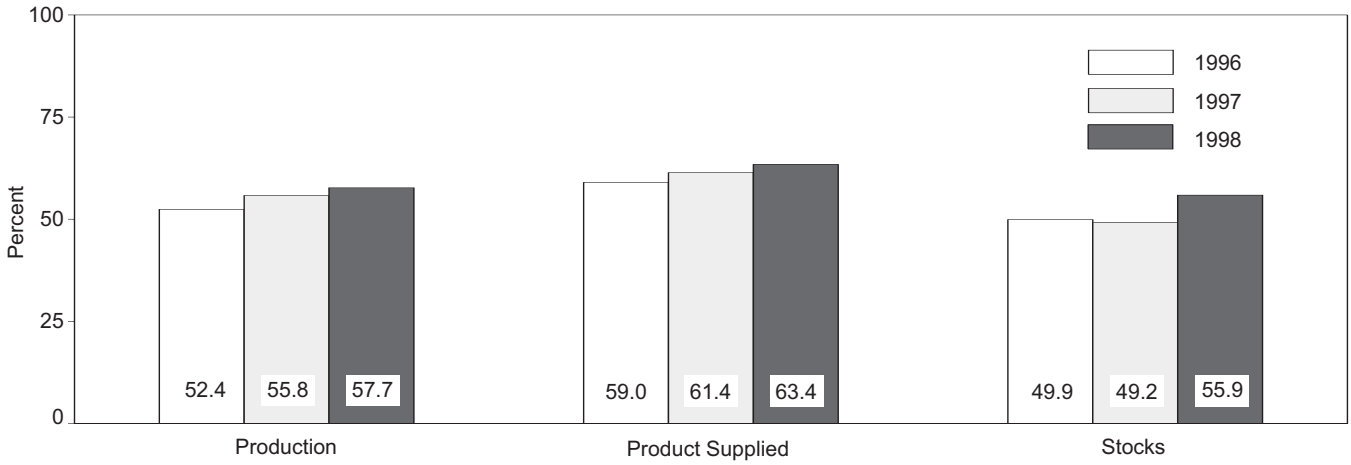
Product Supplied, Monthly



Product Supplied, January-December



Share of Liquefied Petroleum Gases, December



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	Ending 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 January	995	151	-353	0	30	1,468	32
February	1,001	106	-347	0	39	1,415	22
March	1,043	116	-1	0	25	1,135	22
April	1,047	78	114	0	31	981	25
May	1,048	104	209	0	21	922	32
June	1,031	122	293	0	21	839	41
July	1,043	114	188	0	29	940	46
August	1,051	126	83	0	24	1,069	49
September	1,057	95	97	0	21	1,034	52
October	1,058	151	-37	0	29	1,218	51
November	1,063	147	-148	0	34	1,324	46
December	1,093	122	-106	0	31	1,289	43
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	1,062	139	-303	0	29	1,475	35
February	1,066	204	-87	0	28	1,329	32
March	1,089	132	-77	0	28	1,270	30
April	1,091	183	241	0	22	1,011	37
May	1,068	136	427	0	22	755	50
June	1,050	179	329	0	13	886	60
July	997	124	222	0	17	882	67
August	1,041	157	177	0	15	1,006	73
September	1,044	81	136	0	15	974	77
October	1,038	123	-45	0	35	1,171	75
November	1,084	92	-92	0	41	1,227	72
December	1,055	109	-240	0	32	1,371	65
Average	**1,057**	**138**	**57**	**0**	**25**	**1,112**	**65**

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of 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,* February 1999, Table S8.

Table 3.10 Other Petroleum Products Supply and Disposition

	Supply		Disposition				
	Total Production	Imports	Stock Change[a]	Refinery Inputs	Exports	Products Supplied	Ending 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 January	2,833	873	448	613	335	2,311	220
February	2,817	745	-18	872	388	2,320	219
March	2,983	820	122	759	315	2,607	223
April	3,108	828	174	841	421	2,500	228
May	3,128	852	-45	1,010	427	2,588	227
June	3,227	923	-203	1,207	399	2,748	221
July	3,223	862	-170	1,131	361	2,764	216
August	3,332	907	-311	1,289	448	2,812	206
September	3,306	751	-56	1,083	410	2,620	204
October	3,146	1,068	-84	1,023	323	2,952	202
November	3,093	928	-34	1,113	366	2,576	201
December	3,088	982	42	1,224	321	2,485	202
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	3,030	765	369	695	370	2,361	226
February	3,042	760	396	623	360	2,422	237
March	3,023	736	245	751	358	2,405	245
April	3,138	916	-133	1,195	360	2,634	241
May	3,263	974	-84	1,143	377	2,801	238
June	3,298	940	-146	1,118	412	2,855	234
July	3,451	799	-252	1,142	431	2,930	226
August	3,574	697	-18	951	300	3,038	225
September	3,400	967	-52	1,038	370	3,010	224
October	3,244	986	-160	1,210	357	2,823	219
November	3,199	997	178	951	382	2,683	224
December	3,017	792	-159	990	312	2,666	219
Average	**3,225**	**861**	**13**	**986**	**366**	**2,721**	**219**

[a] A negative number indicates a decrease in stocks and a positive number indicates an increase.
[b] Stocks are totals as of 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,* February 1999, 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 January 1999 was forecast as 1.6 trillion cubic feet, slightly higher than production during the previous January.

Consumption of natural and supplemental gas in January 1999 was forecast as 2.5 trillion cubic feet, 5 percent higher than the level in January 1998.

Deliveries to residential consumers in January 1999 were forecast as 887 billion cubic feet, 10 percent higher than the previous January's deliveries. Total deliveries to industrial consumers during January 1999 were forecast as 782 billion cubic feet, 2 percent lower than the previous January's level.

Net imports of natural gas in January 1999 were forecast as 273 billion cubic feet, 2 percent higher than net imports in the previous January.

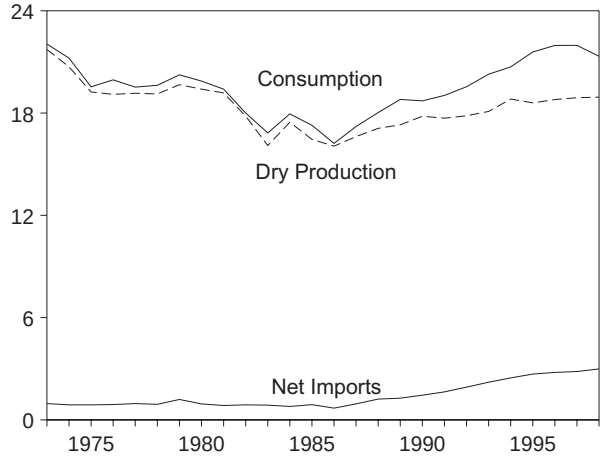
Stocks of working gas[1] in underground natural gas storage reservoirs at the end of January 1999 were forecast as 2.1 trillion cubic feet, 21 percent above the level of stocks available 1 year earlier. Net withdrawals from storage during January 1999 were forecast as 650 billion cubic feet, 39 percent higher than the amount of net withdrawals during the previous January.

[1]Gas available for withdrawal.

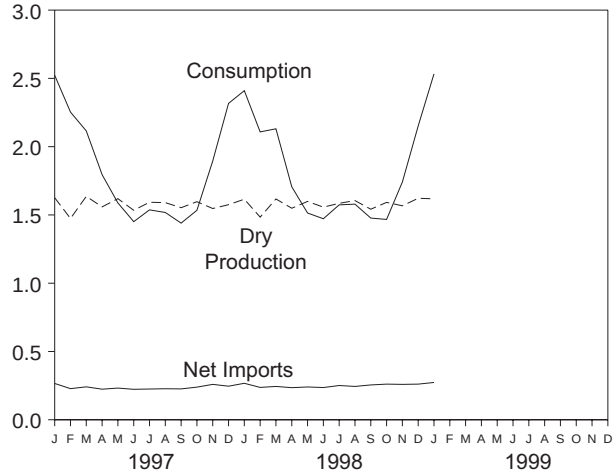
Figure 4.1 Natural Gas

(Trillion Cubic Feet)

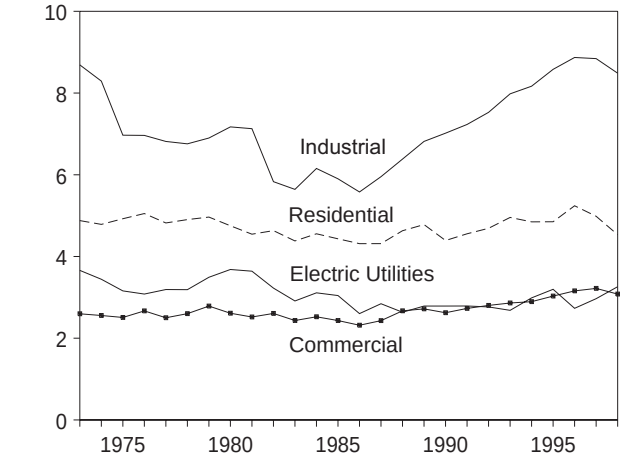
Overview, 1973-1998



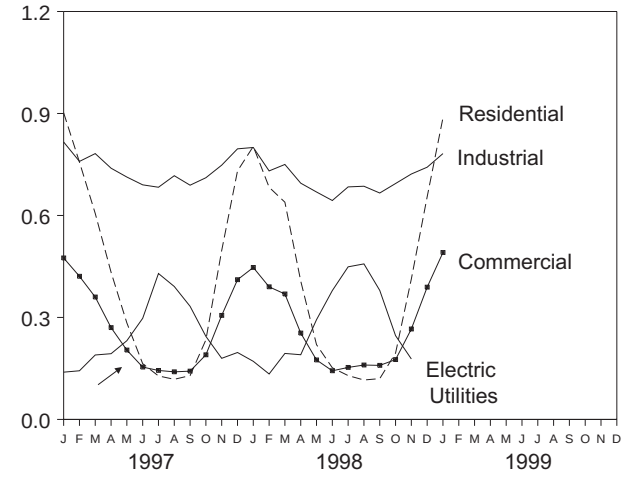
Overview, Monthly



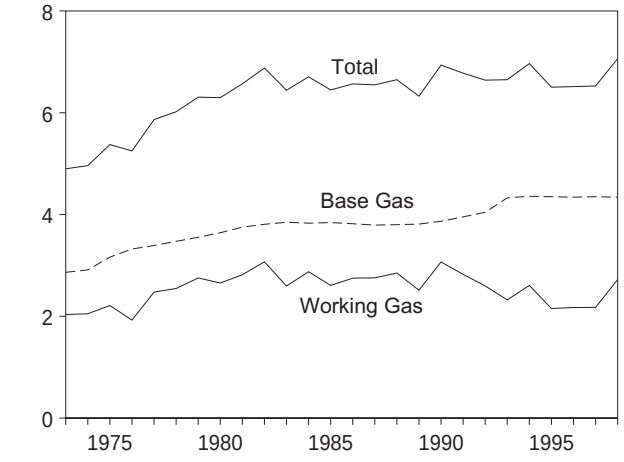
Consumption by Sector, 1973-1998



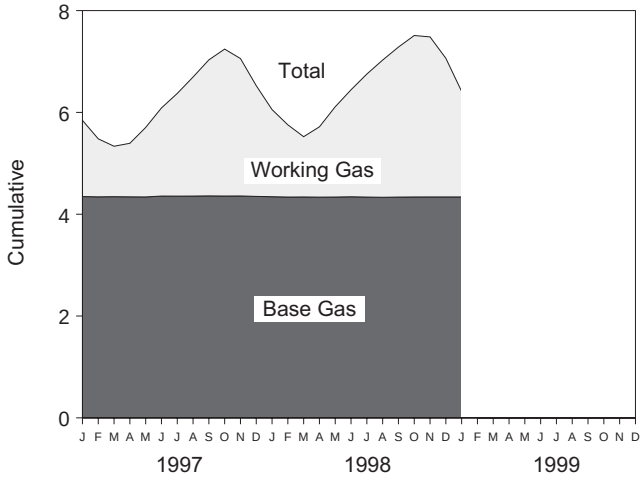
Consumption by Sector, Monthly



Underground Storage, End of Year, 1973-1998



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	**18,793**	**109**	**2,784**	**2**	**279**	**21,967**
1997 January	1,626	12	266	709	-90	2,523
February	1,474	10	228	371	170	2,253
March	1,636	9	241	160	69	2,115
April	1,559	8	224	-61	64	1,795
May	1,619	8	232	-333	62	1,588
June	1,534	6	223	-379	67	1,451
July	1,593	7	225	-293	5	1,537
August	1,590	8	227	-334	28	1,518
September	1,553	6	226	-349	3	1,440
October	1,597	8	239	-218	-92	1,534
November	1,547	10	259	196	-116	1,895
December	1,575	11	246	553	-68	2,317
Total	**18,902**	**103**	**2,837**	**24**	**106**	**21,972**
1998 January	[E]1,615	[E]12	267	466	50	2,410
February	[E]1,484	[E]10	237	299	78	2,108
March	[E]1,617	[E]11	244	241	18	2,131
April	[E]1,549	[E]9	235	-198	111	1,706
May	[E]1,599	[E]8	240	-393	60	1,514
June	[E]1,557	[E]7	236	-323	-6	1,472
July	[E]1,585	[E]9	[R]251	-314	42	1,574
August	[RE]1,605	[E]9	[R]244	-283	[R]5	1,579
September	[RE]1,542	[E]9	[R]255	-227	[R]-103	[R]1,477
October	[E]1,592	[E]10	[E]261	-255	[R]-141	[R]1,467
November	[E]1,567	[E]11	[RE]259	[R]34	[R]-130	[F]1,741
December	[F]1,622	[F]13	[F]261	[RF]420	[RF]-163	[F]2,152
Total	[RE]**18,934**	[E]**118**	[RE]**2,991**	[RE]**-532**	[RE]**-180**	[RE]**21,331**
1999 January	[F]1,618	[F]13	[F]273	[F]650	[F]-22	[F]2,533

[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 1980-1996 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 1997,* Table 99. • **1993 forward:** EIA, *Natural Gas Monthly,* January 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 are 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]	Total 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	**24,052**	**3,510**	**518**	**272**	**19,751**	**958**	**18,793**
1997 January	2,089	305	50	25	1,709	83	1,626
February	1,905	289	46	22	1,549	75	1,474
March	2,103	311	51	23	1,720	83	1,636
April	1,993	285	48	22	1,639	80	1,559
May	2,041	268	50	22	1,702	83	1,619
June	1,952	275	47	18	1,612	78	1,534
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	1,678	81	1,597
November	1,999	302	52	19	1,626	79	1,547
December	2,044	314	52	22	1,655	80	1,575
Total	**24,213**	**3,492**	**599**	**256**	**19,866**	**964**	**18,902**
1998 January	[E] 2,096	[E] 331	[E] 46	[E] 22	[E] 1,697	[E] 82	[E] 1,615
February	[E] 1,913	[E] 293	[E] 42	[E] 19	[E] 1,560	[E] 76	[E] 1,484
March	[E] 2,086	[E] 320	[E] 45	[E] 22	[E] 1,699	[E] 82	[E] 1,617
April	[E] 1,998	[E] 306	[E] 44	[E] 21	[E] 1,628	[E] 79	[E] 1,549
May	[E] 2,061	[E] 317	[E] 43	[E] 20	[E] 1,681	[E] 82	[E] 1,599
June	[E] 1,996	[E] 294	[E] 44	[E] 22	[E] 1,637	[E] 79	[E] 1,557
July	[E] 2,029	[E] 295	[E] 45	[E] 24	[E] 1,665	[E] 81	[E] 1,585
August	[E] 2,048	[RE] 292	[E] 45	[RE] 24	[RE] 1,687	[E] 82	[RE] 1,605
September	[RE] 2,000	[RE] 314	[RE] 43	[E] 22	[RE] 1,621	[RE] 79	[RE] 1,542
October	[RE] 2,044	[RE] 303	[E] 45	[E] 23	[E] 1,673	[E] 81	[E] 1,592
November	[E] 2,014	[E] 300	[E] 44	[E] 23	[E] 1,647	[E] 80	[E] 1,567
December	NA	NA	NA	NA	[F] 1,705	[F] 83	[F] 1,622
Total	**NA**	**NA**	**NA**	**NA**	**[RE] 19,899**	**[RE] 965**	**[RE] 18,934**
1999 January	NA	NA	NA	NA	[F] 1,701	[F] 82	[F] 1,618

[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 1997*, Table 98. • **1993 forward:** EIA, *Natural Gas Monthly*, January 1999, Table 1. Forecast values are 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]	United Arab Emirates[a]	Total	Canada[b]	Japan[a]	Mexico[b]	Total
1973 Total	**3**	**0**	**1,028**	**2**	**0**	**1,033**	**15**	**48**	**14**	**77**
1974 Total	**0**	**0**	**959**	**(s)**	**0**	**959**	**13**	**50**	**13**	**77**
1975 Total	**5**	**0**	**948**	**0**	**0**	**953**	**10**	**53**	**9**	**73**
1976 Total	**10**	**0**	**954**	**0**	**0**	**964**	**8**	**50**	**7**	**65**
1977 Total	**11**	**0**	**997**	**2**	**0**	**1,011**	**(s)**	**52**	**4**	**56**
1978 Total	**84**	**0**	**881**	**0**	**0**	**966**	**(s)**	**48**	**4**	**53**
1979 Total	**253**	**0**	**1,001**	**0**	**0**	**1,253**	**(s)**	**51**	**4**	**56**
1980 Total	**86**	**0**	**797**	**102**	**0**	**985**	**(s)**	**45**	**4**	**49**
1981 Total	**37**	**0**	**762**	**105**	**0**	**904**	**(s)**	**56**	**3**	**59**
1982 Total	**55**	**0**	**783**	**95**	**0**	**933**	**(s)**	**50**	**2**	**52**
1983 Total	**131**	**0**	**712**	**75**	**0**	**918**	**(s)**	**53**	**2**	**55**
1984 Total	**36**	**0**	**755**	**52**	**0**	**843**	**(s)**	**53**	**2**	**55**
1985 Total	**24**	**0**	**926**	**0**	**0**	**950**	**(s)**	**53**	**2**	**55**
1986 Total	**0**	**0**	**749**	**0**	**0**	**[c]750**	**9**	**50**	**2**	**61**
1987 Total	**0**	**0**	**993**	**0**	**0**	**993**	**3**	**49**	**2**	**54**
1988 Total	**17**	**0**	**1,276**	**0**	**0**	**1,294**	**20**	**52**	**2**	**74**
1989 Total	**42**	**0**	**1,339**	**0**	**0**	**1,382**	**38**	**51**	**17**	**107**
1990 Total	**84**	**0**	**1,448**	**0**	**0**	**1,532**	**17**	**53**	**16**	**86**
1991 Total	**64**	**0**	**1,710**	**0**	**0**	**1,773**	**15**	**54**	**60**	**129**
1992 Total	**43**	**0**	**2,094**	**0**	**0**	**2,138**	**68**	**53**	**96**	**216**
1993 Total	**82**	**0**	**2,267**	**2**	**0**	**2,350**	**45**	**56**	**40**	**140**
1994 Total	**51**	**0**	**2,566**	**7**	**0**	**2,624**	**53**	**63**	**47**	**162**
1995 Total	**18**	**0**	**2,816**	**7**	**0**	**2,841**	**28**	**65**	**61**	**154**
1996 January	2	0	260	1	0	264	7	6	2	14
February	3	0	231	1	0	234	5	6	2	13
March	3	0	238	1	0	242	7	6	3	15
April	5	0	231	1	0	237	2	6	2	10
May	3	0	246	4	0	252	3	4	2	8
June	0	0	226	1	0	227	3	6	3	12
July	3	0	233	1	0	237	4	8	3	14
August	3	0	235	(s)	0	238	2	6	9	17
September	0	0	234	1	3	238	3	6	2	11
October	5	0	241	1	0	248	4	6	2	12
November	5	0	246	1	0	252	7	6	2	14
December	5	0	264	(s)	2	271	5	6	2	13
Total	**35**	**0**	**2,883**	**14**	**5**	**2,937**	**52**	**68**	**34**	**153**
1997 January	8	0	267	2	2	278	4	6	2	12
February	8	0	230	3	0	241	5	6	2	12
March	3	0	251	3	0	257	9	6	1	16
April	3	0	235	(s)	0	238	5	6	3	14
May	3	2	234	2	0	242	4	4	2	10
June	5	0	225	2	0	232	3	4	3	10
July	5	0	229	1	0	236	3	4	3	10
August	8	0	237	(s)	0	245	4	8	6	18
September	5	2	232	(s)	0	239	3	4	6	13
October	5	0	246	1	0	252	2	6	4	12
November	8	5	258	2	0	272	6	6	2	13
December	8	0	253	2	0	263	7	6	4	17
Total	**66**	**10**	**2,899**	**17**	**2**	**2,994**	**56**	**62**	**38**	**157**
1998 January	10	0	273	(s)	0	283	5	7	4	17
February	8	2	235	3	0	248	4	4	3	11
March	5	0	258	(s)	0	264	8	7	4	19
April	3	0	242	3	0	248	4	6	3	13
May	8	0	242	1	0	250	2	2	6	10
June	5	2	243	(s)	0	251	3	6	6	15
July	5	0	257	2	0	263	[R]3	6	4	12
August	3	2	250	[R]1	0	256	[R]1	6	[R]5	12
September	5	0	261	2	0	268	2	8	[R]3	[R]13
October	5	0	266	[E]2	0	[E]273	[E]2	6	[E]4	[E]12
November	5	2	[E]260	[E]2	3	[E]272	[E]5	4	[E]4	[E]12
11-Month Total	**61**	**9**	**[E]2,787**	**[E]17**	**3**	**[E]2,876**	**[E]40**	**60**	**[E]46**	**[E]146**
1997 11-Month Total	**58**	**10**	**2,646**	**15**	**2**	**2,731**	**49**	**57**	**35**	**140**
1996 11-Month Total	**30**	**0**	**2,620**	**14**	**3**	**2,666**	**47**	**62**	**32**	**141**

[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. See Note 5 at end of section.

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

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,* January 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**	**21,967**
1997 January	104	88	902	475	816	NA	139	2,332	2,523
February	94	78	757	421	759	NA	143	2,081	2,253
March	104	73	606	360	782	NA	190	1,938	2,115
April	99	61	433	270	739	NA	193	1,635	1,795
May	102	54	284	204	713	NA	232	1,432	1,588
June	97	49	164	154	690	NA	297	1,305	1,451
July	101	52	128	144	683	NA	429	1,385	1,537
August	101	51	118	140	717	NA	391	1,366	1,518
September	99	49	129	142	689	NA	333	1,293	1,440
October	102	52	234	190	711	NA	244	1,380	1,534
November	99	65	497	306	748	NA	180	1,731	1,895
December	101	81	731	411	796	NA	197	2,135	2,317
Total	**1,202**	**752**	**4,984**	**3,219**	**8,843**	**4**	**2,968**	**20,018**	**21,972**
1998 January	E 106	82	803	447	800	NA	171	2,221	2,410
February	E 98	72	683	390	731	NA	134	1,938	2,108
March	E 106	73	639	369	750	NA	194	1,952	2,131
April	E 102	58	407	254	695	NA	190	1,546	1,706
May	E 105	52	220	175	669	NA	293	1,357	1,514
June	E 102	50	152	143	644	NA	379	1,319	1,472
July	E 104	54	129	153	684	NA	449	1,416	1,574
August	RE 106	54	116	160	686	NA	458	1,419	1,579
September	RE 101	51	120	159	666	NA	380	1,325	R 1,477
October	E 105	R 50	R 195	R 176	R 694	NA	246	R 1,312	R 1,467
November	F 103	F 60	F 413	F 266	F 722	NA	R 178	RF 1,579	RF 1,741
December	F 107	F 72	F 655	F 389	F 742	NA	NA	F 1,974	F 2,152
Total	**E 1,246**	**RE 728**	**RE 4,533**	**RE 3,080**	**RE 8,485**	**NA**	**NA**	**RE 19,357**	**RE 21,331**
1999 January	F 105	F 84	F 887	F 491	F 782	NA	NA	F 2,343	F 2,533

[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 1997,* Table 100. • **1993 forward:** EIA, *Natural Gas Monthly,* January 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 are 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	4,344	1,711	6,055	215	14.4	534	68	466
February	4,338	1,418	5,756	278	24.4	373	74	299
March	4,339	1,184	5,523	193	19.5	377	136	241
April	4,336	1,381	5,718	330	31.4	78	277	-198
May	4,338	1,773	6,111	412	30.2	42	435	-393
June	4,343	2,101	6,444	371	21.4	52	375	-323
July	4,337	2,416	6,753	402	20.0	52	366	-314
August	4,333	2,695	7,028	358	15.3	58	341	-283
September	4,337	2,946	7,284	274	10.2	78	305	-227
October	4,339	3,172	7,512	287	9.9	46	301	-255
November	R 4,340	R 3,143	R 7,483	R 444	R 16.5	165	131	R 34
December	RF 4,340	RF 2,723	RF 7,063	RF 549	RF 25.2	NA	NA	RF 420
Total	RE **4,340**	RE **2,723**	RE **7,063**	RE **549**	RE **25.2**	NA	NA	RE **-532**
1999 January	F 4,340	F 2,073	F 6,413	F 362	F 21.2	NA	NA	F 650

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

[b] For 1980-1996, 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) 1992.* 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 and United Arab Emirates. One shipment of LNG was received from Indonesia in December 1986. 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.

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

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

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

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

7. Balancing Item: The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems which vary in scope, format, definitions, and type of respondents.

The increase of 0.2 trillion cubic feet (Tcf) in the "Balancing Item" category in 1983, followed by a decline

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

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

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		

Current capacity is 8,332 billion cubic feet.

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 1997,* Table 11.
1993 forward: EIA, *Natural Gas Monthly,* January 1999, Table 9. Forecast values are 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 Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report."
1993 forward: EIA, *Natural Gas Monthly,* January 1999, Table 9. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.

Section 5. Oil and Gas Resource Development

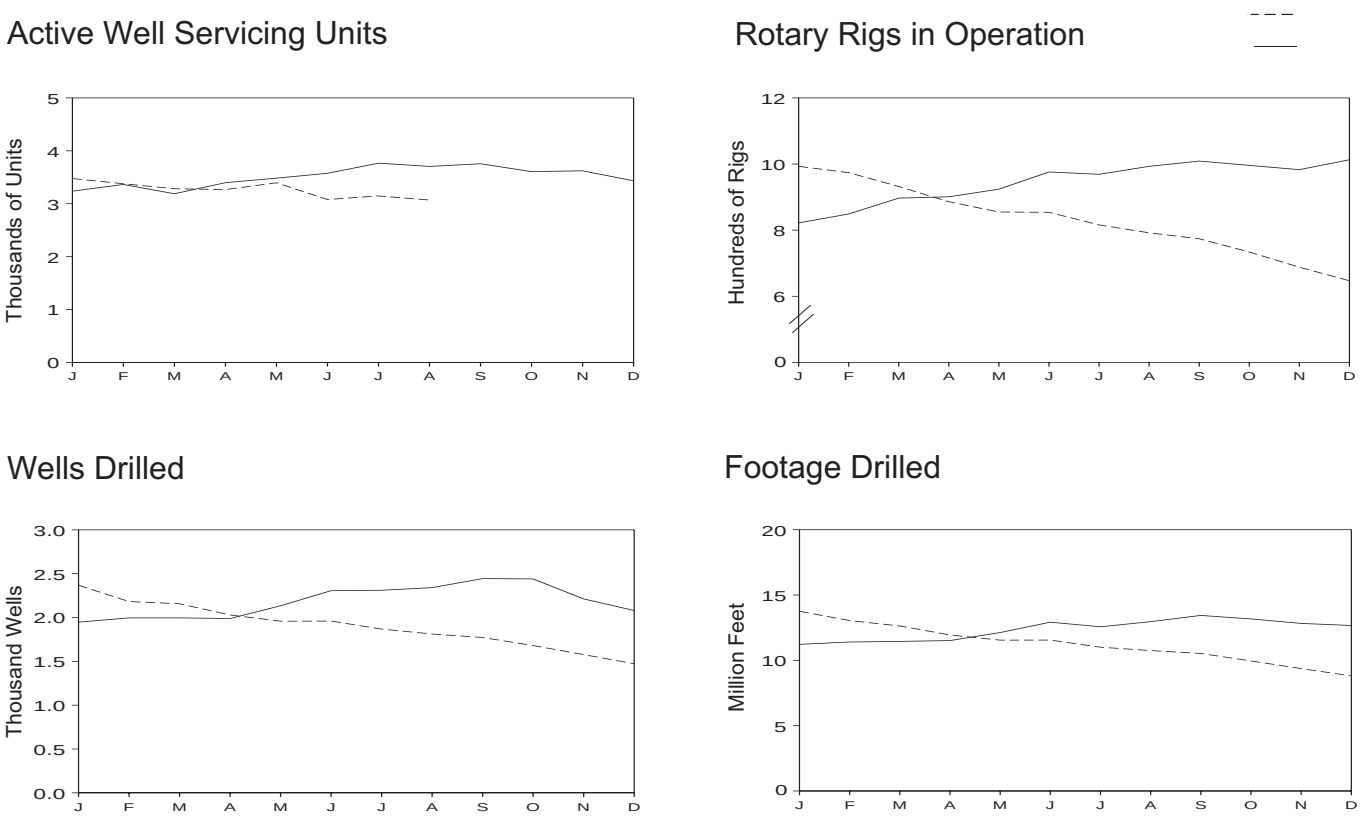
The January 1999 rotary rig count of 587 was 9 percent lower than the count in December and 41 percent lower than the count in January 1998. Of the total number of rigs in operation in January 1999, 483 were onshore and 104 were offshore. The number of onshore rigs fell 44 percent and the number of offshore rigs was down 22 percent from their January 1998 values. Rotary rigs drilling for natural gas as a share of total rigs rose from 61 percent in January 1998 to 79 percent in January 1999.

Total footage drilled in January 1999 was 8.8 million feet, up less than 1 percent from the footage drilled in December 1998 but down 36 percent from that drilled in January 1998.

The estimated number of exploratory and development oil and gas wells drilled during January 1999 was 1,027 12 percent lower than the number drilled in December 1998 and 45 percent lower than the number drilled in January 1998. The estimated number of oil wells drilled was 244, and the estimated number of gas wells was 783, 70 percent lower and 27 percent lower, respectively, than their January 1998 levels. The estimated number of dry holes drilled in January 1999 was 267, down 12 percent from the number drilled in December 1998 and down 45 percent from the number drilled in January 1998.

Data for active well servicing units have been unavailable for several months.

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**	**124,403**	**2,961**
1995 Average	**NA**	**NA**	**NA**	**101**	**622**	**323**	**385**	**723**	**117,078**	**3,043**
1996 Average	**NA**	**NA**	**NA**	**108**	**671**	**306**	**464**	**779**	**125,177**	**3,425**
1997 January	NA	NA	NA	110	712	342	478	822	11,224	3,237
February	NA	NA	NA	107	742	356	492	849	11,405	3,364
March	NA	NA	NA	127	770	377	518	897	11,449	3,189
April	NA	NA	NA	126	775	373	526	901	11,515	3,398
May	NA	NA	NA	120	804	379	541	924	12,127	3,483
June	NA	NA	NA	121	855	396	577	976	12,922	3,575
July	NA	NA	NA	125	844	382	584	969	12,569	3,766
August	NA	NA	NA	125	868	409	581	993	12,962	3,705
September	NA	NA	NA	128	881	392	614	1,009	13,438	3,755
October	NA	NA	NA	121	875	390	602	996	13,170	3,607
November	NA	NA	NA	126	857	354	625	983	12,826	3,622
December	NA	NA	NA	129	884	361	648	1,013	12,668	3,433
Average	**NA**	**NA**	**NA**	**122**	**821**	**376**	**564**	**943**	**148,275**	**3,510**
1998 January	NA	NA	NA	133	860	380	609	993	R 13,754	3,476
February	NA	NA	NA	139	835	380	589	974	R 13,045	3,378
March	NA	NA	NA	136	796	327	601	932	R 12,633	3,283
April	NA	NA	NA	138	748	291	591	886	R 11,942	3,268
May	NA	NA	NA	133	722	272	580	855	R 11,547	3,396
June	NA	NA	NA	128	726	267	585	854	R 11,551	3,079
July	NA	NA	NA	121	695	264	549	816	R 11,005	3,147
August	NA	NA	NA	118	674	226	565	792	R 10,749	NA
September	NA	NA	NA	118	656	215	559	774	R 10,526	NA
October	NA	NA	NA	111	623	214	519	734	R 9,954	NA
November	NA	NA	NA	109	579	190	499	688	R 9,371	NA
December	NA	NA	NA	102	545	155	491	647	R 8,810	NA
Average	**NA**	**NA**	**NA**	**123**	**703**	**264**	**560**	**827**	R **134,887**	**NA**
1999 January	NA	NA	NA	104	483	125	461	587	8,817	NA

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

[b] Sum of oil, gas, and miscellaneous other rigs (not shown).

[c] Values shown are totals.

[d] See Glossary.

R=Revised. NA=Not available.

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

Sources: • **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:** Association of Energy Service Companies, Dallas, Texas, *Field Reports.*

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	**2,197**	**1,521**	**11,278**	**14,996**	**40,408**	**15,606**	**14,403**	**70,417**	**42,605**	**17,127**	**25,681**	**85,413**
1985 Total	**1,679**	**1,191**	**8,924**	**11,794**	**33,439**	**12,977**	**12,132**	**58,548**	**35,118**	**14,168**	**21,056**	**70,342**
1986 Total	**1,084**	**793**	**5,549**	**7,426**	**18,013**	**7,719**	**7,112**	**32,844**	**19,097**	**8,512**	**12,661**	**40,270**
1987 Total	**925**	**754**	**5,049**	**6,728**	**15,239**	**7,301**	**6,052**	**28,592**	**16,164**	**8,055**	**11,101**	**35,320**
1988 Total	**855**	**731**	**4,691**	**6,277**	**12,781**	**7,824**	**5,350**	**25,955**	**13,636**	**8,555**	**10,041**	**32,232**
1989 Total	**607**	**704**	**3,924**	**5,235**	**9,597**	**8,835**	**4,264**	**22,696**	**10,204**	**9,539**	**8,188**	**27,931**
1990 Total	**653**	**691**	**3,715**	**5,059**	**11,545**	**10,353**	**4,594**	**26,492**	**12,198**	**11,044**	**8,309**	**31,551**
1991 Total	**592**	**534**	**3,314**	**4,440**	**11,178**	**8,992**	**4,285**	**24,455**	**11,770**	**9,526**	**7,599**	**28,895**
1992 Total	**493**	**423**	**2,511**	**3,427**	**8,264**	**7,786**	**3,607**	**19,657**	**8,757**	**8,209**	**6,118**	**23,084**
1993 Total	**502**	**548**	**2,468**	**3,518**	**7,896**	**9,469**	**3,853**	**21,218**	**8,398**	**10,017**	**6,321**	**24,736**
1994 Total	**566**	**720**	**2,400**	**3,686**	**6,124**	**8,818**	**2,879**	**17,821**	**6,690**	**9,538**	**5,279**	**21,507**
1995 Total	**542**	**569**	**2,198**	**3,309**	**7,085**	**7,768**	**2,877**	**17,730**	**7,627**	**8,337**	**5,075**	**21,039**
1996 Total	**482**	**560**	**2,130**	**3,172**	**7,774**	**8,599**	**3,082**	**19,455**	**8,256**	**9,159**	**5,212**	**22,627**
1997 January	37	58	155	250	679	751	267	1,697	716	809	422	1,947
February	28	29	162	219	720	789	268	1,777	748	818	430	1,996
March	33	39	146	218	747	788	243	1,778	780	827	389	1,996
April	37	44	150	231	778	697	282	1,757	815	741	432	1,988
May	38	39	164	241	856	783	254	1,893	894	822	418	2,134
June	43	33	166	242	898	868	298	2,064	941	901	464	2,306
July	40	42	145	227	860	909	315	2,084	900	951	460	2,311
August	30	29	180	239	825	953	324	2,102	855	982	504	2,341
September	37	53	216	306	811	1,033	294	2,138	848	1,086	510	2,444
October	26	42	228	296	792	1,072	280	2,144	818	1,114	508	2,440
November	34	61	175	270	727	919	296	1,942	761	980	471	2,212
December	35	53	180	268	689	853	270	1,812	724	906	450	2,080
Total	**418**	**522**	**2,067**	**3,007**	**9,382**	**10,415**	**3,391**	**23,188**	**9,800**	**10,937**	**5,458**	**26,195**
1998 January	33	51	185	269	775	1,025	299	2,099	808	1,076	484	2,368
February	30	50	175	255	712	991	R 224	R 1,927	742	1,041	R 399	R 2,182
March	27	51	169	247	626	1,011	273	1,910	653	1,062	442	2,157
April	23	50	160	233	545	995	256	1,796	568	1,045	416	2,029
May	22	49	155	226	509	976	247	1,732	531	1,025	402	1,958
June	21	49	155	225	R 502	985	247	R 1,734	R 523	1,034	402	R 1,959
July	21	46	148	215	494	924	235	1,653	515	970	383	1,868
August	18	48	144	210	423	951	228	1,602	441	999	372	1,812
September	17	47	141	205	403	941	223	1,567	420	988	364	1,772
October	17	44	133	194	401	873	212	1,486	418	917	345	1,680
November	15	42	125	182	356	840	199	1,395	371	882	324	1,577
December	12	42	118	172	290	826	185	1,301	302	868	303	1,473
Total	**256**	**569**	**1,808**	**2,633**	R **6,036**	**11,338**	R **2,828**	R **20,202**	R **6,292**	**11,907**	R **4,636**	R **22,835**
1999 January	10	37	104	151	234	746	163	1,143	244	783	267	1,294

R=Revised.

Notes: • Service wells, stratigraphic tests, and core tests are excluded. • Due to the method of estimation, data 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 January 1999 totaled 89 million short tons, 8 percent lower than in January 1998.

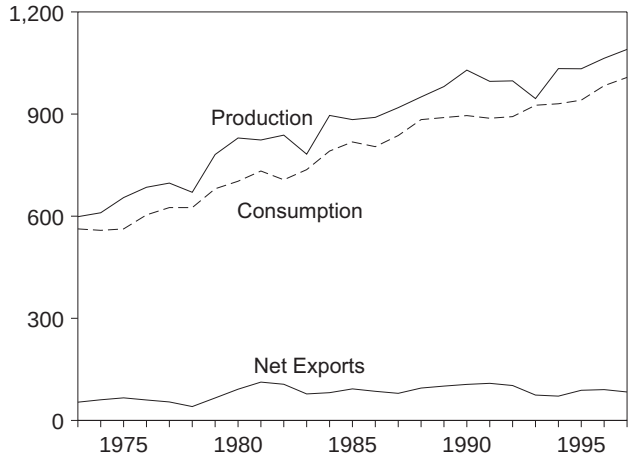
Electric utility coal consumption in November 1998 totaled 70 million short tons, 5 percent lower than the consumption level in November 1997. Electric utility coal stocks were 117 million short tons at the end of November 1998, 17 percent higher than the level a year ago.

Coal exports in November 1998 totaled 6 million short tons, 13 percent lower than exports in November 1997. Coal imports in November 1998 totaled 784 thousand short tons, 29 percent higher than imports in November 1997.

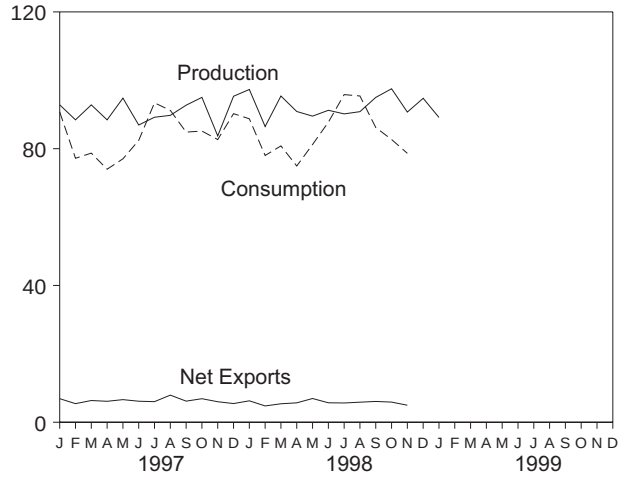
Figure 6.1 Coal

(Million Short Tons)

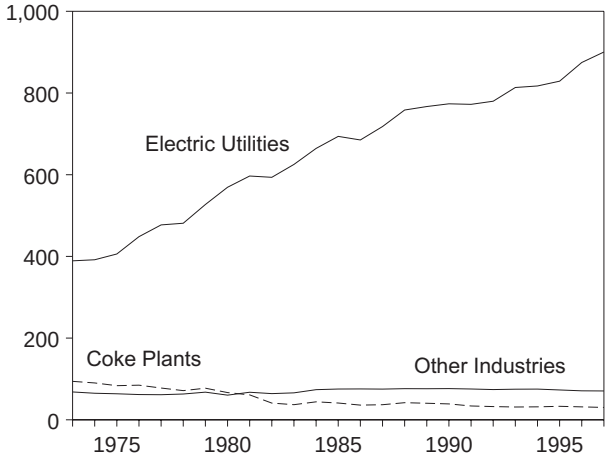
Overview, 1973-1997



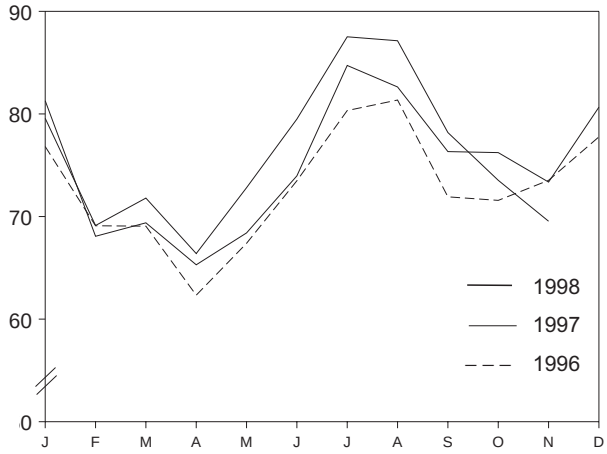
Overview, Monthly



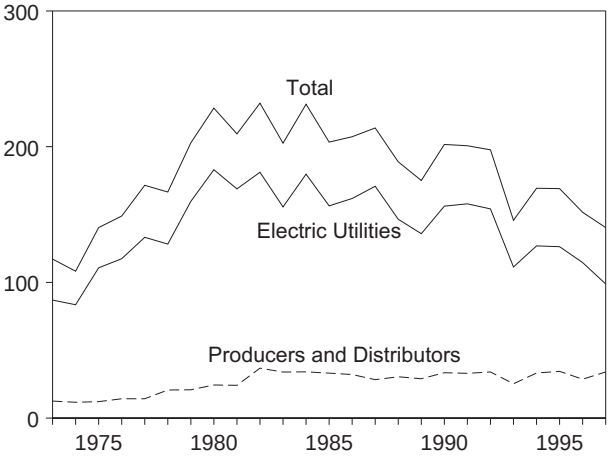
Consumption by Sector, 1973-1997



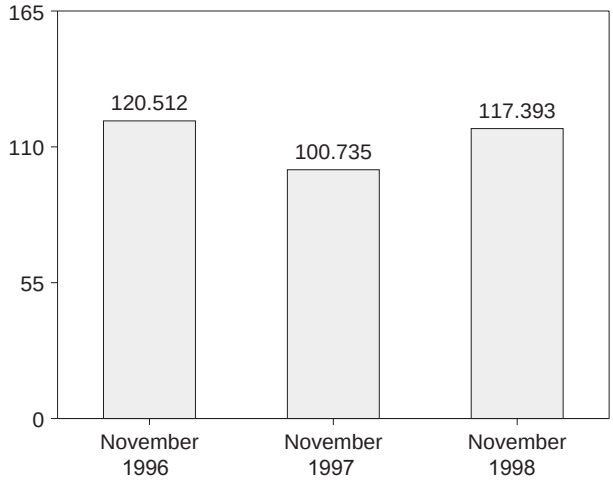
Consumption by Electric Utilities, Monthly



Stocks, End of Year, 1973-1997



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 January	83,814	86,453	524	6,743	160,869
February	84,533	78,406	715	6,892	159,056
March	91,409	78,501	474	6,880	161,343
April	89,124	71,042	172	7,330	170,131
May	89,525	76,076	790	7,663	175,099
June	84,748	82,147	591	8,046	171,623
July	89,262	89,111	802	7,877	163,853
August	95,083	90,041	620	7,412	160,665
September	87,773	80,505	649	8,214	161,368
October	94,752	80,672	642	8,077	164,013
November	86,905	82,897	668	7,976	159,145
December	86,928	87,485	479	7,361	151,627
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	97,318	88,743	705	6,980	144,248
February	86,473	78,016	447	5,217	149,608
March	95,400	80,808	687	6,097	155,108
April	90,876	74,944	792	6,466	162,630
May	89,514	81,226	475	7,415	165,807
June	91,223	87,751	925	6,619	163,066
July	90,178	95,816	804	6,434	155,316
August	90,823	95,415	813	6,678	150,278
September	94,993	86,196	528	6,609	151,714
October	97,527	[E] 82,693	791	6,682	[E] 150,416
November	90,711	[E] 78,642	784	5,752	[E] 157,968
December	94,734	NA	NA	NA	NA
Total	**1,109,768**	**NA**	**NA**	**NA**	**NA**
1999 January	89,128	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.

NA=Not available. E=Estimate.

Notes: • Data through 1996 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.

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 January	697	2,714	6,217	76,824	86,453
February	578	2,523	6,202	69,103	78,406
March	526	2,721	6,194	69,061	78,501
April	496	2,611	5,601	62,334	71,042
May	381	2,669	5,636	67,390	76,076
June	324	2,686	5,651	73,487	82,147
July	443	2,708	5,630	80,330	89,111
August	424	2,676	5,584	81,357	90,041
September	335	2,631	5,617	71,922	80,505
October	342	2,572	6,183	71,575	80,672
November	663	2,519	6,183	73,531	82,897
December	797	2,675	6,244	77,769	87,485
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	736	2,343	6,092	79,571	88,743
February	601	2,220	6,068	69,127	78,016
March	601	2,375	6,032	71,800	80,808
April	515	2,351	5,687	66,392	74,944
May	357	2,400	5,659	72,809	81,226
June	421	2,177	5,654	79,499	87,751
July	478	2,271	5,545	87,521	95,816
August	457	2,318	5,504	87,135	95,415
September	357	2,189	5,461	78,188	86,196
October	E 620	E 2,315	E 6,224	73,534	E 82,693
November	E 601	E 2,305	E 6,194	69,542	E 78,642
11-Month Total	**E 5,745**	**E 25,266**	**E 64,120**	**835,120**	**E 930,251**
1997 11-Month Total	**5,568**	**27,681**	**64,441**	**819,700**	**917,390**
1996 11-Month Total	**5,209**	**29,031**	**64,697**	**796,912**	**895,849**

E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 2 at end of section. • Data through 1995 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.

Table 6.3 Coal Stocks, End of Period

(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 January	2,616	5,278	117,728	125,622	35,247	160,869
February	2,600	4,855	115,553	123,007	36,049	159,056
March	2,583	4,431	117,478	124,492	36,851	161,343
April	2,589	4,476	126,051	133,116	37,015	170,131
May	2,595	4,521	130,803	137,919	37,179	175,099
June	2,601	4,565	127,113	134,280	37,344	171,623
July	2,672	4,810	120,215	127,697	36,156	163,853
August	2,743	5,055	117,899	125,697	34,968	160,665
September	2,814	5,301	119,473	127,588	33,780	161,368
October	2,765	5,430	123,749	131,944	32,069	164,013
November	2,716	5,559	120,512	128,787	30,359	159,145
December	**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	2,272	5,261	100,402	107,935	36,313	144,248
February	2,129	4,924	103,902	110,955	38,653	149,608
March	1,986	4,588	107,540	114,114	40,994	155,108
April	1,946	4,596	115,983	122,525	40,105	162,630
May	1,907	4,605	120,078	126,590	39,217	165,807
June	1,868	4,614	118,254	124,735	38,331	163,066
July	1,893	4,832	109,770	116,495	38,822	155,316
August	1,918	5,050	103,998	110,966	39,312	150,278
September	1,943	5,268	104,700	111,911	39,803	151,714
October	E 1,687	E 4,555	110,174	E 116,416	E 34,000	E 150,416
November	E 1,719	E 4,856	117,393	E 123,968	E 34,000	E 157,968

[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.

E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 3 at end of section. • Data through 1995 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.

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.
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- 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 "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.

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

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.

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."

Producers and Distributors

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

Section 7. Electricity

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

The Energy Information Administration maintains comprehensive data about electric utilities, which still account for most electric power in the country. Less information is available about nonutility power production, but some data are beginning to become available that provide perspective on the overall industry.

While little monthly data are available on the activities of nonutility power producers, some annual data can be provided. *Monthly Energy Review* Tables 7.1, 7.5, and 7.6 now provide annual data about nonutility power net generation and fossil fuel consumption.

In 1997, the total electric power industry net generation was 3.5 trillion kilowatthours of electricity. Of that sum, 3.1 trillion kilowatthours, or 88 percent, was produced by electric utilities and 0.4 trillion kilowatthours, or 12 percent, from nonutility power producers. While electric utilities relied most heavily on coal for producing power, nonutilities derived most of their power from natural gas.

Electric Utility Net Generation. During November 1998, electric utilities generated 239 billion kilowatthours of electricity, 2 percent lower than in November 1997. Coal-fired generation totaled 138 billion kilowatthours, 5 percent lower than the November 1997 level. Nuclear generation totaled 57 billion kilowatthours, 12 percent higher than the level 1 year earlier. Hydroelectric generation totaled 19 billion kilowatthours, 16 percent less than the November 1997 level. Natural gas-fired generation was 17 billion kilowatthours, 1 percent higher than the November 1997 level. Petroleum-fired generation totaled 7 billion kilowatthours, 11 percent above the level 1 year earlier.

Electric Utility Sales. Electric utility sales of electricity to all ultimate consumers in the United States in November 1998 were 247 billion kilowatthours, 1 percent higher than sales during November 1997. Sales to industrial consumers totaled 87 billion kilowatthours in November 1998, 2 percent higher than the level of sales 1 year earlier. Residential sales totaled 78 billion kilowatthours, 3 percent above the level of sales during the previous year. Commercial sales totaled 74 billion kilowatthours, 2 percent above the level 1 year earlier. In November 1998, other sales totaled 9 billion kilowatthours, 1 percent higher than the November 1997 level.

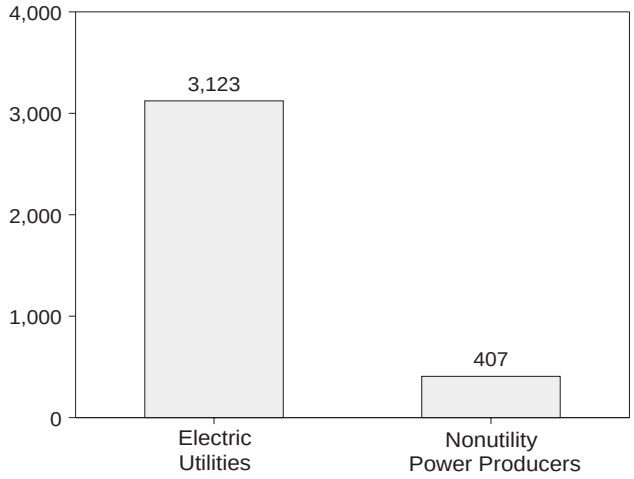
Electric Utility Consumption of Fossil Fuels. Electric utility consumption of coal during November 1998 was 70 million short tons, 5 percent lower than consumption in November 1997. Petroleum consumption (excluding petroleum coke) during November 1998 was 12 million barrels, 9 percent above the level of consumption in November 1997. During November 1998, electric utilities consumed 178 billion cubic feet of natural gas, 1 percent lower than the November 1997 consumption level.

Electric Utility Stocks of Coal and Petroleum. On November 30, 1998, electric utility stocks of all types of coal totaled 117 million short tons, 17 percent higher than the level on November 30, 1997. Stocks of petroleum (excluding petroleum coke) on November 30, 1998, totaled 53 million barrels, 12 percent above the level on November 30, 1997.

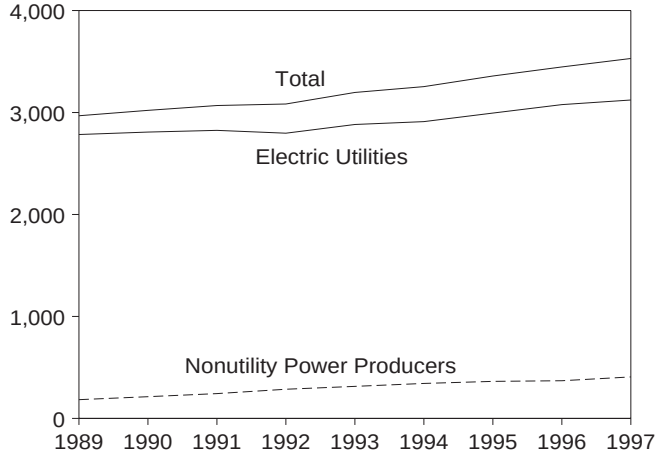
Figure 7.1 Electric Power Industry Net Generation

(Billion Kilowatthours)

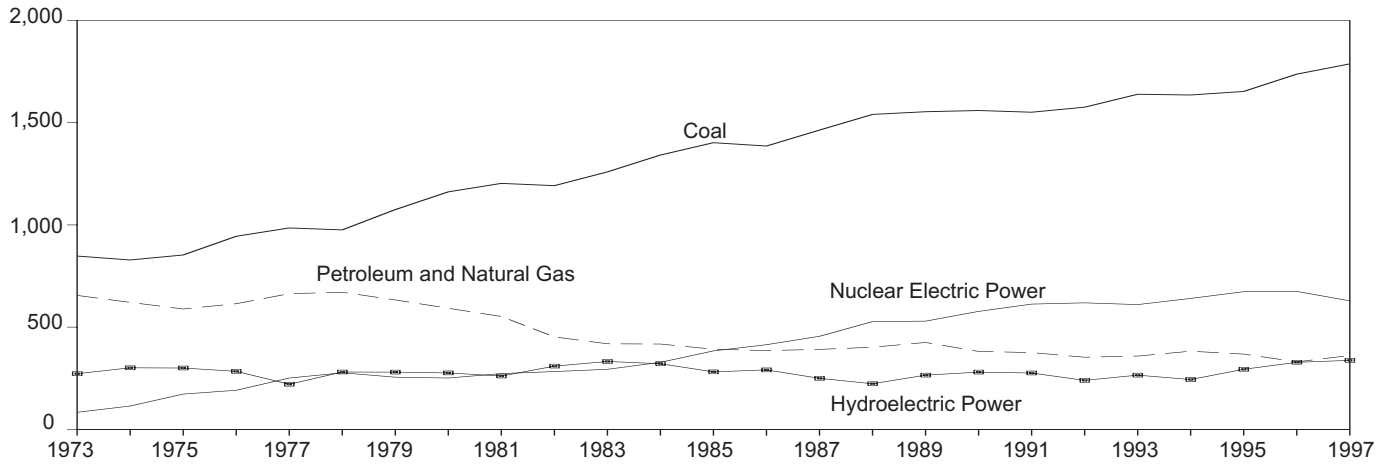
Electric Power Industry, 1997



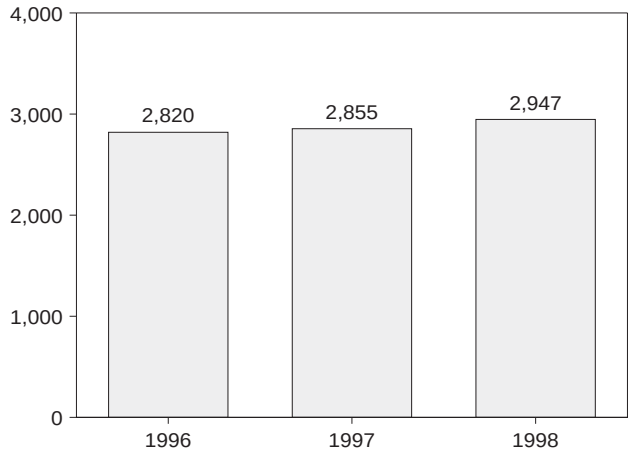
Electric Power Industry, 1989-1997



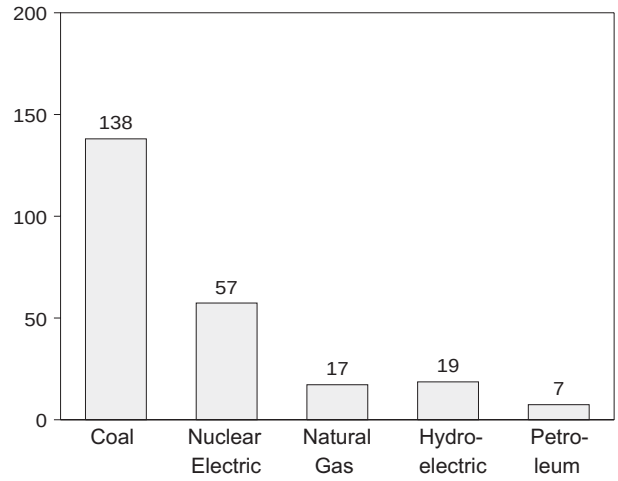
Electric Utilities by Source, 1973-1997



Electric Utilities Total, January-November



Electric Utilities Total, November 1998



Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.1.

Table 7.1 Electric Power Industry Net Generation

(Million Kilowatthours)

	Electric Utilities										
	Coal	Natural Gas[a]	Petroleum[b]	Nuclear Electric Power	Hydro-electric Power	Geo-thermal Energy	Wood and Waste	Other[c]	Total	Nonutility Power Producers	Total Electric Power Industry
1973 Total	**847,651**	**340,858**	**314,343**	**83,479**	**272,083**	**1,966**	**328**	**0**	**1,860,710**	**NA**	**NA**
1974 Total	**828,433**	**320,065**	**300,931**	**113,976**	**301,032**	**2,453**	**251**	**0**	**1,867,140**	**NA**	**NA**
1975 Total	**852,786**	**299,778**	**289,095**	**172,505**	**300,047**	**3,246**	**191**	**0**	**1,917,649**	**NA**	**NA**
1976 Total	**944,391**	**294,624**	**319,988**	**191,104**	**283,707**	**3,616**	**266**	**0**	**2,037,696**	**NA**	**NA**
1977 Total	**985,219**	**305,505**	**358,179**	**250,883**	**220,475**	**3,582**	**481**	**0**	**2,124,323**	**NA**	**NA**
1978 Total	**975,742**	**305,391**	**365,060**	**276,403**	**280,419**	**2,978**	**338**	**0**	**2,206,331**	**NA**	**NA**
1979 Total	**1,075,037**	**329,485**	**303,525**	**255,155**	**279,783**	**3,889**	**498**	**0**	**2,247,372**	**NA**	**NA**
1980 Total	**1,161,562**	**346,240**	**245,994**	**251,116**	**276,021**	**5,073**	**433**	**0**	**2,286,439**	**NA**	**NA**
1981 Total	**1,203,203**	**345,777**	**206,421**	**272,674**	**260,684**	**5,686**	**368**	**0**	**2,294,812**	**NA**	**NA**
1982 Total	**1,192,004**	**305,260**	**146,797**	**282,773**	**309,213**	**4,843**	**321**	**0**	**2,241,211**	**NA**	**NA**
1983 Total	**1,259,424**	**274,098**	**144,499**	**293,677**	**332,130**	**6,075**	**379**	**3**	**2,310,285**	**NA**	**NA**
1984 Total	**1,341,681**	**297,394**	**119,808**	**327,634**	**321,150**	**7,741**	**886**	**12**	**2,416,304**	**NA**	**NA**
1985 Total	**1,402,128**	**291,946**	**100,202**	**383,691**	**281,149**	**9,325**	**1,383**	**16**	**2,469,841**	**NA**	**NA**
1986 Total	**1,385,831**	**248,508**	**136,585**	**414,038**	**290,844**	**10,308**	**1,177**	**18**	**2,487,310**	**NA**	**NA**
1987 Total	**1,463,781**	**272,621**	**118,493**	**455,270**	**249,695**	**10,775**	**1,477**	**14**	**2,572,127**	**NA**	**NA**
1988 Total	**1,540,653**	**252,801**	**148,900**	**526,973**	**222,940**	**10,300**	**1,674**	**10**	**2,704,250**	**NA**	**NA**
1989 Total	**1,553,661**	**266,598**	**158,318**	**529,355**	**265,063**	**9,342**	**1,965**	**3**	**2,784,304**	**183,943**	**2,968,247**
1990 Total	**1,559,606**	**264,089**	**117,017**	**576,862**	**279,926**	**8,581**	**2,067**	**3**	**2,808,151**	**213,046**	**3,021,197**
1991 Total	**1,551,167**	**264,172**	**111,463**	**612,565**	**275,519**	**8,087**	**2,046**	**4**	**2,825,023**	**243,503**	**3,068,526**
1992 Total	**1,575,895**	**263,872**	**88,916**	**618,776**	**239,559**	**8,104**	**2,093**	**3**	**2,797,219**	**286,148**	**3,083,367**
1993 Total	**1,639,151**	**258,915**	**99,539**	**610,291**	**265,063**	**7,571**	**1,990**	**4**	**2,882,525**	**314,399**	**3,196,924**
1994 Total	**1,635,493**	**291,115**	**91,039**	**640,440**	**243,693**	**6,941**	**1,988**	**4**	**2,910,712**	**343,087**	**3,253,799**
1995 Total	**1,652,914**	**307,306**	**60,844**	**673,402**	**293,653**	**4,745**	**1,649**	**15**	**2,994,529**	**363,308**	**3,357,837**
1996 January	152,401	16,055	7,872	62,942	28,831	354	148	1	268,604	NA	NA
February	137,501	13,327	8,244	55,928	29,850	361	136	(s)	245,347	NA	NA
March	138,391	15,214	6,101	55,474	32,221	339	159	1	247,900	NA	NA
April	125,206	16,612	3,201	50,325	30,420	385	123	1	226,273	NA	NA
May	134,445	25,424	3,992	55,637	31,645	258	139	2	251,543	NA	NA
June	146,069	28,730	5,582	57,498	30,191	387	169	2	268,626	NA	NA
July	158,517	34,129	7,583	60,953	27,352	555	188	2	289,279	NA	NA
August	161,782	35,233	6,330	61,477	24,835	574	172	1	290,404	NA	NA
September	142,326	27,254	4,855	54,593	20,706	496	165	1	250,397	NA	NA
October	142,625	21,812	3,359	50,612	21,165	531	203	1	240,308	NA	NA
November	145,208	16,525	4,295	52,132	21,956	538	190	(s)	240,844	NA	NA
December	152,983	12,414	5,933	57,159	28,798	456	174	(s)	257,917	NA	NA
Total	**1,737,453**	**262,730**	**67,346**	**674,729**	**327,970**	**5,234**	**1,967**	**13**	**3,077,442**	**369,656**	**3,447,098**
1997 January	161,286	13,359	8,225	58,914	31,049	414	162	(s)	273,410	NA	NA
February	134,998	13,475	4,479	50,658	29,840	310	148	(s)	233,907	NA	NA
March	137,830	18,191	4,345	50,414	33,286	438	155	1	244,659	NA	NA
April	131,744	18,870	3,926	44,883	30,436	484	169	1	230,512	NA	NA
May	136,110	22,192	4,452	47,032	32,709	471	177	1	243,143	NA	NA
June	146,009	28,456	6,728	52,095	32,762	385	152	1	266,588	NA	NA
July	167,087	40,403	9,072	57,352	30,034	512	167	1	304,628	NA	NA
August	162,384	37,237	7,711	61,084	25,462	505	173	1	294,557	NA	NA
September	151,427	32,281	7,688	52,586	22,031	482	153	1	266,649	NA	NA
October	152,004	23,276	7,094	46,981	23,240	477	193	1	253,267	NA	NA
November	146,037	17,029	6,660	51,189	22,166	475	170	0	243,726	NA	NA
December	160,890	18,855	7,374	55,457	24,219	516	166	0	267,477	NA	NA
Total	**1,787,806**	**283,625**	**77,753**	**628,644**	**337,233**	**5,469**	**1,983**	**9**	**3,122,522**	**E 407,026**	**E 3,529,549**
1998 January	156,540	16,306	6,468	57,889	27,518	491	172	0	265,384	NA	NA
February	136,324	12,861	5,733	50,999	28,814	390	145	0	235,266	NA	NA
March	144,152	18,751	8,689	53,711	30,391	487	169	0	256,351	NA	NA
April	132,153	18,455	6,833	47,503	27,376	320	167	0	232,807	NA	NA
May	145,271	27,164	9,531	51,496	31,020	288	182	0	264,952	NA	NA
June	157,503	35,082	12,149	55,732	30,248	354	129	1	291,197	NA	NA
July	173,093	42,120	13,617	61,499	26,734	448	172	1	317,684	NA	NA
August	172,548	42,878	13,106	60,369	23,308	483	176	1	312,868	NA	NA
September	155,616	35,828	10,555	57,206	19,638	474	170	1	279,486	NA	NA
October	144,590	23,950	7,353	57,429	17,555	523	188	0	251,589	NA	NA
November	138,055	17,206	7,414	57,372	18,616	466	152	0	239,281	NA	NA
11-Month Total	**1,655,843**	**290,601**	**101,447**	**611,206**	**281,217**	**4,725**	**1,820**	**5**	**2,946,865**	**NA**	**NA**
1997 11-Month Total	**1,626,916**	**264,769**	**70,379**	**573,188**	**313,013**	**4,953**	**1,817**	**9**	**2,855,046**	**NA**	**NA**
1996 11-Month Total	**1,584,470**	**250,316**	**61,413**	**617,570**	**299,172**	**4,778**	**1,793**	**13**	**2,819,526**	**NA**	**NA**

[a] Includes supplemental gaseous fuel.
[b] Includes fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.
[c] "Other" is electricity produced from wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

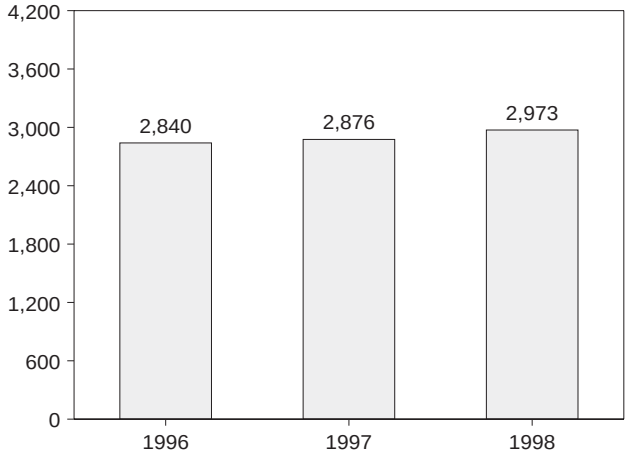
NA=Not available. E=Estimate. (s)=Less than 500 thousand kilowatthours.
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

See Table 7.5 for nonutility power producers' annual net generation of electricity by source.

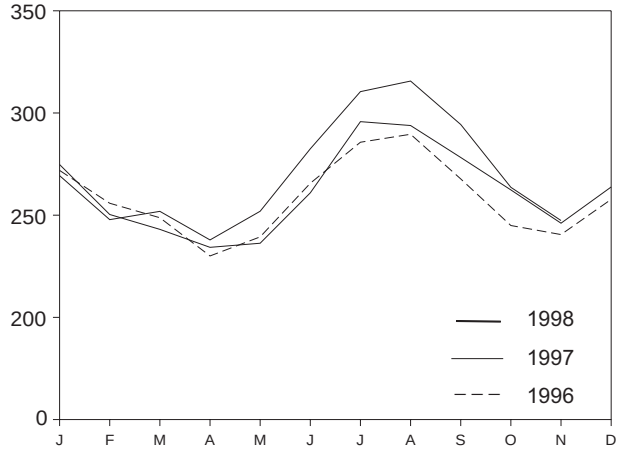
Figure 7.2 Electric Utility Retail Sales of Electricity

(Billion Kilowatthours)

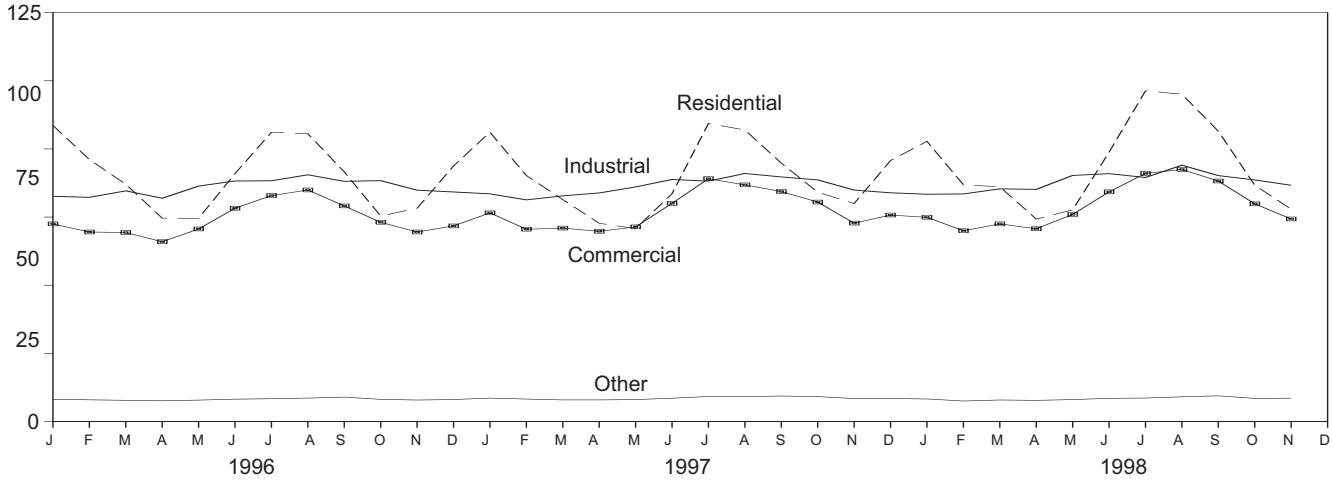
Total, January-November



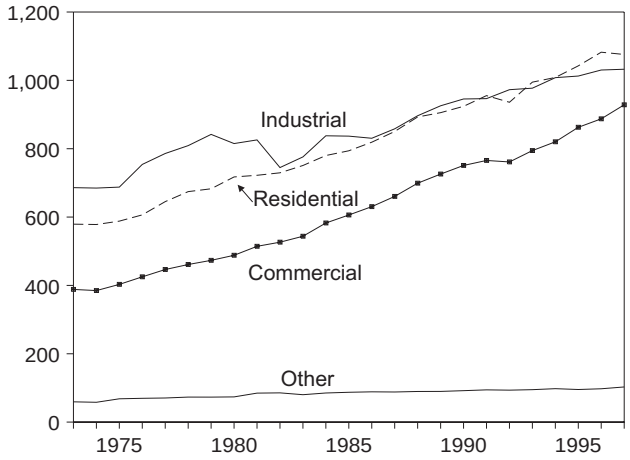
Total, Monthly



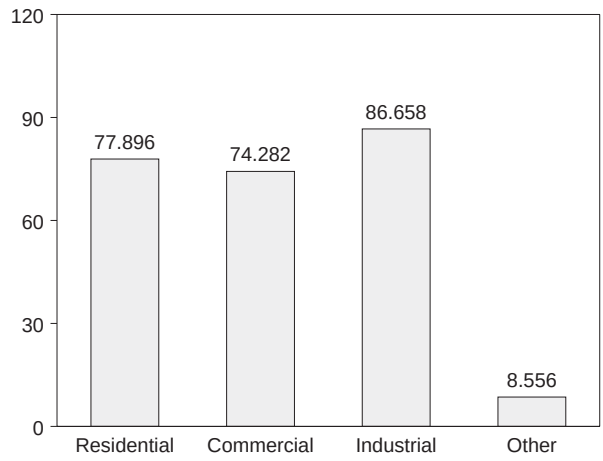
By Sector, Monthly



By Sector, 1973-1997



By Sector, November 1998



Note: Because vertical scales differ, graphs should not be compared.
Source: Table 7.2.

Table 7.2 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 January	108,619	72,499	82,610	8,173	271,901
February	96,116	69,524	82,245	7,956	255,841
March	87,038	69,328	84,610	7,776	248,752
April	74,613	65,961	81,902	7,590	230,065
May	74,537	70,619	86,376	7,855	239,386
June	90,945	78,244	88,245	8,195	265,629
July	106,124	82,882	88,318	8,367	285,690
August	105,556	84,927	90,513	8,597	289,592
September	91,584	79,093	88,113	8,955	267,744
October	75,377	73,076	88,358	8,140	244,951
November	78,253	69,526	84,862	7,879	240,520
December	93,729	71,746	84,205	8,058	257,738
Total	**1,082,491**	**887,425**	**1,030,356**	**97,539**	**3,097,810**
1997 January	R 106,127	R 76,539	R 83,516	R 8,588	R 274,769
February	R 90,242	R 70,536	R 81,315	R 8,237	R 250,330
March	R 81,412	R 70,937	R 82,783	R 7,924	R 243,056
April	R 72,733	R 69,769	R 83,850	R 7,923	R 234,275
May	R 70,769	R 71,402	R 86,058	R 8,047	R 236,276
June	R 83,575	R 80,020	R 88,804	R 8,542	R 260,942
July	R 109,321	R 89,079	R 88,181	R 9,180	R 295,761
August	R 106,960	R 86,803	R 90,993	R 9,112	R 293,868
September	R 94,792	R 84,363	R 89,724	R 9,357	R 278,236
October	R 84,112	R 80,495	R 88,632	R 9,127	R 262,366
November	R 79,984	R 72,768	R 84,895	R 8,432	R 246,079
December	R 95,738	R 75,729	R 83,904	R 8,433	R 263,803
Total	R **1,075,767**	R **928,440**	R **1,032,653**	R **102,901**	R **3,139,761**
1998 January	102,797	74,908	83,370	8,270	269,345
February	86,837	69,979	83,498	7,515	247,828
March	86,119	72,507	85,357	7,896	251,879
April	74,268	70,710	85,153	7,757	237,888
May	77,650	75,964	90,268	8,046	251,927
June	98,806	84,249	90,922	8,497	282,474
July	121,311	91,009	89,527	8,610	310,456
August	120,061	92,473	94,031	9,060	315,625
September	106,515	88,227	90,213	9,417	294,372
October	86,689	79,856	88,628	8,466	263,639
November	77,896	74,282	86,658	8,556	247,392
11-Month Total	**1,038,949**	**874,164**	**967,624**	**92,090**	**2,972,826**
1997 11-Month Total	**980,028**	**852,712**	**948,750**	**94,468**	**2,875,957**
1996 11-Month Total	**988,761**	**815,678**	**946,151**	**89,481**	**2,840,072**

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

R=Revised.

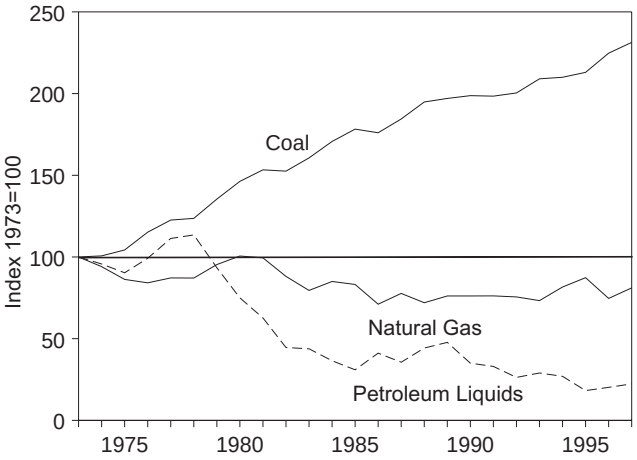
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

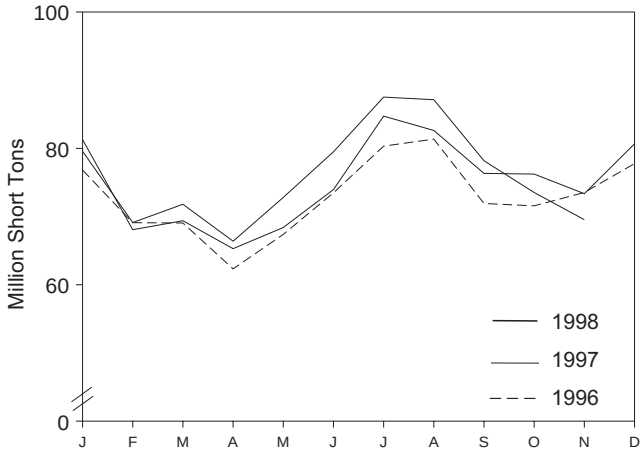
Please Read: This table reports electric utility retail sales of electricity. Retail sales include electricity that the utilities purchased from nonutility power producers (NUPP) for resale to the end-use sectors. It does not include NUPP-produced electricity for their own use (266,399 million kilowatthours estimated for 1997) or sold directly to other end-users (14,320 million kilowatthours estimated for 1997). See EIA's *Electric Power Annual 1996, Volume II*, the "U.S. Nonutility Power Producers" chapter for additional information.

Figure 7.3 Electric Utility Consumption and Stocks of Fossil Fuels

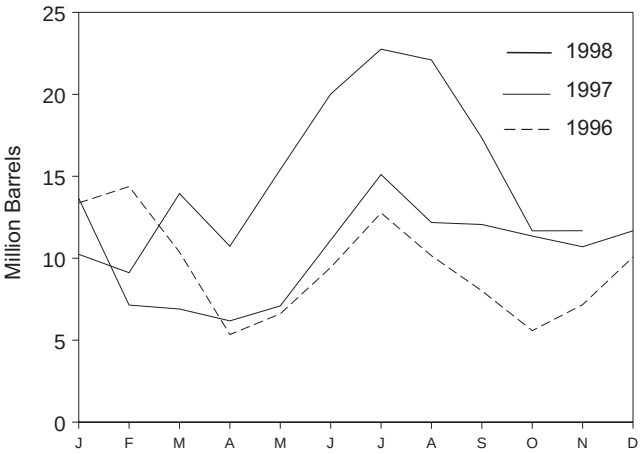
Fuels Consumed, 1973-1997



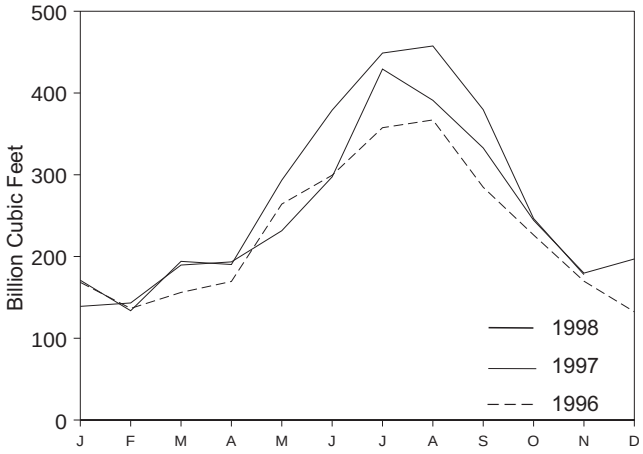
Coal Consumed, Monthly



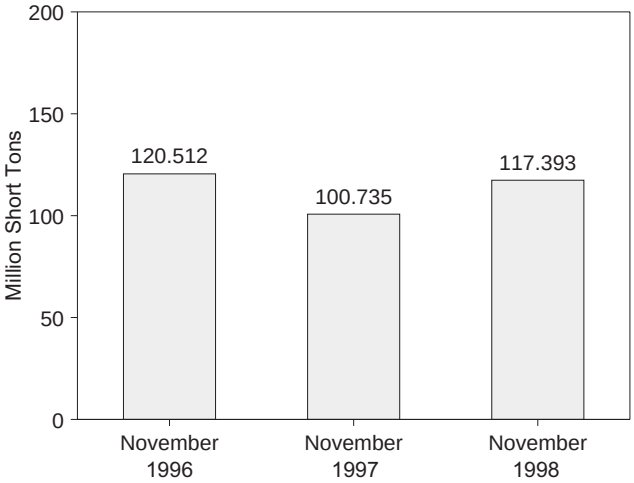
Petroleum Liquids Consumed, Monthly



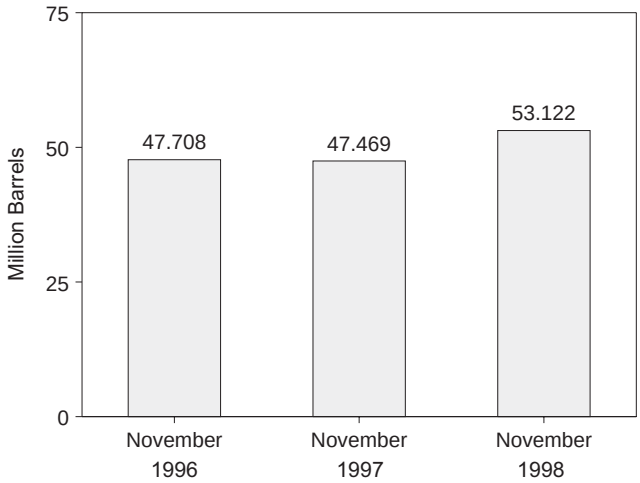
Natural Gas Consumed, Monthly



Coal Stocks, End of Month



Petroleum Liquids Stocks, End of Month



Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.3 and 7.4.

Table 7.3 Electric Utility Consumption of Fossil Fuels To Generate Electricity

	Coal				Petroleum						
					By Type of Petroleum		By Prime Mover Type				
	Anthracite	Bituminous Coal	Lignite	Total	Heavy Oil[a]	Light Oil[b]	Steam Plants	GT/IC[c]	Total Liquids	Petroleum Coke	Natural Gas[d]
	Thousand Short Tons				Thousand Barrels					Thousand Short Tons	Million Cubic Feet
1973 Total	**1,443**	**376,975**	**10,794**	**389,212**	**NA**	**NA**	**513,190**	**47,058**	**560,248**	**507**	**3,660,172**
1974 Total	**1,498**	**378,643**	**11,670**	**391,811**	**NA**	**NA**	**483,146**	**53,128**	**536,274**	**625**	**3,443,428**
1975 Total	**1,480**	**388,523**	**15,960**	**405,962**	**NA**	**NA**	**467,221**	**38,907**	**506,128**	**70**	**3,157,669**
1976 Total	**1,350**	**425,205**	**21,817**	**448,371**	**NA**	**NA**	**514,077**	**41,843**	**555,920**	**68**	**3,080,868**
1977 Total	**1,425**	**451,051**	**24,650**	**477,126**	**NA**	**NA**	**574,869**	**48,837**	**623,705**	**98**	**3,191,200**
1978 Total	**1,064**	**448,763**	**31,407**	**481,235**	**NA**	**NA**	**588,319**	**47,520**	**635,839**	**398**	**3,188,363**
1979 Total	**1,046**	**488,129**	**37,876**	**527,051**	**NA**	**NA**	**492,606**	**30,691**	**523,297**	**268**	**3,490,523**
1980 Total	**951**	**526,680**	**41,642**	**569,274**	**391,163**	**29,051**	**401,863**	**18,351**	**420,214**	**179**	**3,681,595**
1981 Total	**1,221**	**550,784**	**44,792**	**596,797**	**329,798**	**21,313**	**339,680**	**11,431**	**351,111**	**139**	**3,640,154**
1982 Total	**1,075**	**543,346**	**49,245**	**593,666**	**234,434**	**15,337**	**243,537**	**6,234**	**249,771**	**149**	**3,225,518**
1983 Total	**1,036**	**570,108**	**54,067**	**625,211**	**228,984**	**16,512**	**237,845**	**7,652**	**245,497**	**261**	**2,910,767**
1984 Total	**1,070**	**606,339**	**56,990**	**664,399**	**189,289**	**15,190**	**197,050**	**7,429**	**204,479**	**252**	**3,111,342**
1985 Total	**1,033**	**631,885**	**60,923**	**693,841**	**158,779**	**14,635**	**166,842**	**6,572**	**173,414**	**231**	**3,044,083**
1986 Total	**829**	**616,134**	**68,093**	**685,056**	**216,156**	**14,326**	**222,500**	**7,983**	**230,482**	**313**	**2,602,370**
1987 Total	**972**	**647,824**	**69,098**	**717,894**	**184,011**	**15,367**	**190,818**	**8,560**	**199,378**	**348**	**2,844,051**
1988 Total	**1,063**	**681,048**	**76,260**	**758,372**	**229,327**	**18,769**	**235,817**	**12,279**	**248,096**	**409**	**2,635,613**
1989 Total	**1,049**	**688,504**	**77,335**	**766,888**	**241,960**	**25,491**	**250,315**	**17,136**	**267,451**	**517**	**2,787,012**
1990 Total	**1,031**	**694,317**	**78,201**	**773,549**	**181,231**	**14,823**	**187,531**	**8,523**	**196,054**	**819**	**2,787,332**
1991 Total	**994**	**691,275**	**79,999**	**772,268**	**171,157**	**13,729**	**177,286**	**7,600**	**184,886**	**722**	**2,789,014**
1992 Total	**986**	**698,626**	**80,248**	**779,860**	**135,779**	**11,556**	**141,163**	**6,172**	**147,335**	**999**	**2,765,608**
1993 Total	**951**	**732,736**	**79,821**	**813,508**	**149,287**	**13,168**	**154,905**	**7,549**	**162,454**	**1,220**	**2,682,440**
1994 Total	**1,123**	**737,102**	**79,045**	**817,270**	**134,666**	**16,338**	**140,907**	**10,097**	**151,004**	**875**	**2,987,146**
1995 Total	**978**	**749,951**	**78,078**	**829,007**	**86,584**	**15,565**	**92,131**	**10,019**	**102,150**	**761**	**3,196,507**
1996 January	87	69,455	7,282	76,824	11,410	1,967	NA	NA	13,376	62	168,408
February	79	62,555	6,470	69,103	11,857	2,514	NA	NA	14,370	47	136,531
March	88	62,534	6,439	69,061	8,782	1,593	NA	NA	10,375	39	156,076
April	77	57,224	5,032	62,334	4,344	1,001	NA	NA	5,346	44	169,514
May	87	61,321	5,981	67,390	5,256	1,354	NA	NA	6,610	49	264,183
June	86	66,642	6,759	73,487	8,353	1,083	NA	NA	9,436	48	299,413
July	89	73,036	7,204	80,330	11,444	1,322	NA	NA	12,766	71	357,600
August	97	74,140	7,120	81,357	9,031	1,123	NA	NA	10,154	86	367,063
September	97	65,500	6,325	71,922	6,821	1,193	NA	NA	8,014	71	284,744
October	66	65,199	6,309	71,575	4,509	1,076	NA	NA	5,585	59	226,376
November	63	67,059	6,409	73,531	6,055	1,113	NA	NA	7,167	51	169,829
December	92	70,586	7,091	77,769	8,520	1,553	NA	NA	10,073	55	132,372
Total	**1,009**	**795,252**	**78,421**	**874,681**	**96,382**	**16,892**	**NA**	**NA**	**113,274**	**681**	**2,732,107**
1997 January	97	74,109	7,082	81,288	11,944	1,708	NA	NA	13,652	56	139,036
February	86	61,786	6,204	68,076	6,282	861	NA	NA	7,143	55	143,185
March	89	63,573	5,728	69,389	6,050	852	NA	NA	6,902	35	189,590
April	93	60,372	4,831	65,296	5,121	1,060	NA	NA	6,181	103	193,416
May	72	62,201	6,129	68,402	6,124	967	NA	NA	7,091	135	231,548
June	75	67,036	6,852	73,963	9,707	1,397	NA	NA	11,104	144	297,424
July	91	77,514	7,122	84,727	12,502	2,605	NA	NA	15,107	144	429,286
August	82	75,403	7,146	82,631	10,808	1,372	NA	NA	12,180	160	391,090
September	85	69,710	6,537	76,332	11,005	1,053	NA	NA	12,058	161	332,781
October	88	69,729	6,415	76,232	10,237	1,118	NA	NA	11,354	140	244,394
November	67	66,904	6,392	73,362	9,647	1,053	NA	NA	10,700	135	179,723
December	89	73,486	7,086	80,661	10,564	1,110	NA	NA	11,674	132	196,980
Total	**1,014**	**821,823**	**77,524**	**900,361**	**109,989**	**15,157**	**NA**	**NA**	**125,146**	**1,400**	**2,968,453**
1998 January	84	72,435	7,051	79,571	9,014	1,226	NA	NA	10,240	156	170,946
February	75	63,091	5,960	69,127	8,186	933	NA	NA	9,119	122	133,700
March	84	66,667	5,050	71,800	12,709	1,235	NA	NA	13,944	125	194,113
April	75	61,587	4,730	66,392	9,723	1,011	NA	NA	10,734	143	190,266
May	83	67,175	5,551	72,809	13,365	2,045	NA	NA	15,410	146	293,378
June	74	73,534	5,890	79,499	16,804	3,213	NA	NA	20,016	167	379,024
July	70	80,841	6,611	87,521	19,257	3,498	NA	NA	22,755	176	448,875
August	58	80,743	6,334	87,135	18,757	3,337	NA	NA	22,094	165	457,551
September	52	72,320	5,816	78,188	14,622	2,718	NA	NA	17,340	156	379,598
October	74	67,203	6,257	73,534	10,627	1,045	NA	NA	11,672	144	246,496
November	75	64,070	5,397	69,542	10,629	1,050	NA	NA	11,679	141	177,881
11-Month Total	**805**	**769,666**	**64,649**	**835,120**	**143,692**	**21,311**	**NA**	**NA**	**165,003**	**1,641**	**3,071,828**
1997 11-Month Total	**925**	**748,337**	**70,438**	**819,700**	**99,425**	**14,047**	**NA**	**NA**	**113,472**	**1,268**	**2,771,473**
1996 11-Month Total	**917**	**724,665**	**71,330**	**796,912**	**87,862**	**15,339**	**NA**	**NA**	**103,201**	**627**	**2,599,735**

[a] Heavy oil includes fuel oil nos. 4, 5, and 6, and residual fuel oils.
[b] Light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.
[c] GT/IC = Gas turbine and internal combustion plants.
[d] Includes supplemental gaseous fuels.
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: See end of section.

This table reports consumption of fossil fuels by electric utilities and does not include nonutility power producers. Please see Table 7.6 for annual consumption of fossil fuels by nonutility power producers.

Table 7.4 Electric Utility Stocks of Coal and Petroleum, End of Period

	Coal				Petroleum					
					By Type of Petroleum		By Prime Mover Type			
	Anthracite	Bituminous Coal	Lignite	Total	Heavy Oil[a]	Light Oil[b]	Steam Plants	GT/IC[c]	Total Liquids	Petroleum Coke
	Thousand Short Tons				Thousand Barrels					Thousand Short Tons
1973 Total	**1,066**	**84,941**	**961**	**86,967**	**NA**	**NA**	**79,121**	**10,095**	**89,216**	**312**
1974 Total	**930**	**81,712**	**867**	**83,509**	**NA**	**NA**	**97,718**	**15,199**	**112,917**	**35**
1975 Total	**982**	**107,927**	**1,815**	**110,724**	**NA**	**NA**	**108,825**	**16,432**	**125,257**	**31**
1976 Total	**1,000**	**114,130**	**2,306**	**117,436**	**NA**	**NA**	**106,993**	**14,703**	**121,696**	**32**
1977 Total	**2,321**	**128,210**	**2,688**	**133,219**	**NA**	**NA**	**124,750**	**19,281**	**144,031**	**44**
1978 Total	**2,178**	**123,020**	**3,027**	**128,225**	**NA**	**NA**	**102,402**	**16,386**	**118,788**	**198**
1979 Total	**3,274**	**152,981**	**3,459**	**159,714**	**NA**	**NA**	**111,121**	**20,301**	**131,422**	**183**
1980 Total	**4,741**	**174,154**	**4,115**	**183,010**	**105,351**	**30,023**	**117,227**	**18,147**	**135,374**	**52**
1981 Total	**5,537**	**158,258**	**5,098**	**168,893**	**102,042**	**26,094**	**112,380**	**15,756**	**128,136**	**42**
1982 Total	**6,080**	**170,480**	**4,573**	**181,132**	**95,515**	**23,369**	**105,287**	**13,597**	**118,884**	**41**
1983 Total	**6,507**	**145,250**	**3,841**	**155,598**	**70,573**	**18,801**	**78,285**	**11,090**	**89,375**	**55**
1984 Total	**6,710**	**167,118**	**5,899**	**179,727**	**68,503**	**19,116**	**76,836**	**10,784**	**87,619**	**50**
1985 Total	**7,189**	**142,144**	**7,043**	**156,376**	**57,304**	**16,386**	**64,704**	**8,985**	**73,689**	**49**
1986 Total	**7,099**	**148,665**	**6,042**	**161,806**	**56,841**	**16,269**	**64,258**	**8,853**	**73,111**	**40**
1987 Total	**6,940**	**156,670**	**7,187**	**170,797**	**55,069**	**15,759**	**61,705**	**9,123**	**70,827**	**51**
1988 Total	**6,561**	**133,434**	**6,512**	**146,507**	**54,187**	**15,099**	**60,311**	**8,974**	**69,285**	**86**
1989 Total	**6,403**	**122,967**	**6,490**	**135,860**	**47,446**	**13,824**	**53,309**	**7,962**	**61,270**	**105**
1990 Total	**6,499**	**142,650**	**7,016**	**156,166**	**67,030**	**16,471**	**73,306**	**10,195**	**83,501**	**94**
1991 Total	**6,513**	**145,367**	**5,996**	**157,876**	**58,636**	**16,357**	**65,032**	**9,961**	**74,993**	**70**
1992 Total	**6,215**	**142,156**	**5,759**	**154,130**	**56,135**	**15,714**	**62,374**	**9,475**	**71,849**	**67**
1993 Total	**5,639**	**98,560**	**7,142**	**111,341**	**46,769**	**15,674**	**53,360**	**9,083**	**62,443**	**89**
1994 Total	**4,879**	**115,325**	**6,693**	**126,897**	**46,342**	**16,644**	**52,814**	**10,172**	**62,986**	**69**
1995 Total	**4,325**	**116,749**	**5,231**	**126,304**	**35,102**	**15,392**	**40,992**	**9,503**	**50,495**	**65**
1996 January	4,243	108,151	5,334	117,728	34,383	15,067	NA	NA	49,451	61
February	4,090	105,817	5,646	115,553	30,715	14,495	NA	NA	45,211	57
March	4,128	107,771	5,579	117,478	28,915	13,694	NA	NA	42,609	53
April	4,080	115,991	5,980	126,051	31,507	13,428	NA	NA	44,935	47
May	4,026	120,977	5,800	130,803	32,421	13,521	NA	NA	45,942	38
June	3,969	117,658	5,487	127,113	32,110	14,239	NA	NA	46,349	64
July	3,911	110,859	5,445	120,215	31,884	14,461	NA	NA	46,345	47
August	3,853	108,638	5,408	117,899	32,718	14,651	NA	NA	47,369	35
September	3,792	110,376	5,305	119,473	31,487	14,270	NA	NA	45,757	27
October	3,765	114,657	5,327	123,749	33,269	14,490	NA	NA	47,758	45
November	3,762	111,365	5,384	120,512	33,108	14,600	NA	NA	47,708	62
December	**3,687**	**105,807**	**5,129**	**114,623**	**32,473**	**15,216**	**NA**	**NA**	**47,690**	**91**
1997 January	3,609	98,043	4,969	106,621	29,742	14,766	NA	NA	44,508	136
February	3,544	98,878	5,391	107,813	31,372	14,901	NA	NA	46,273	159
March	3,479	104,650	5,599	113,727	31,425	15,226	NA	NA	46,651	177
April	3,417	109,124	5,723	118,263	32,534	14,625	NA	NA	47,158	221
May	3,374	114,257	5,760	123,391	33,213	14,685	NA	NA	47,898	253
June	3,323	111,761	5,704	120,787	32,129	14,824	NA	NA	46,953	229
July	3,275	100,691	5,725	109,690	30,990	14,820	NA	NA	45,810	308
August	3,228	94,896	5,599	103,724	30,872	14,823	NA	NA	45,694	293
September	3,166	93,456	5,496	102,119	29,064	14,832	NA	NA	43,896	308
October	3,118	93,309	6,009	102,436	30,115	15,049	NA	NA	45,163	439
November	3,075	92,566	5,093	100,735	32,255	15,214	NA	NA	47,469	450
December	**3,021**	**90,905**	**4,900**	**98,826**	**33,336**	**15,456**	**NA**	**NA**	**48,792**	**469**
1998 January	2,958	92,425	5,019	100,402	33,928	15,908	NA	NA	49,837	403
February	2,906	96,107	4,890	103,902	33,898	15,789	NA	NA	49,687	358
March	2,846	99,839	4,855	107,540	31,205	15,353	NA	NA	46,558	418
April	2,803	108,085	5,095	115,983	35,036	16,051	NA	NA	51,087	498
May	2,743	111,954	5,382	120,078	32,936	14,668	NA	NA	47,605	501
June	2,699	110,499	5,056	118,254	30,056	14,490	NA	NA	44,545	683
July	2,672	102,246	4,852	109,770	31,660	15,064	NA	NA	46,724	577
August	2,655	96,384	4,960	103,998	32,627	15,093	NA	NA	47,720	623
September	2,640	96,991	5,070	104,700	31,281	14,766	NA	NA	46,047	562
October	2,596	102,914	4,664	110,174	35,433	15,809	NA	NA	51,242	588
November	2,542	110,284	4,567	117,393	37,083	16,039	NA	NA	53,122	602

[a] Heavy oil includes fuel oil nos. 4, 5, and 6, and residual fuel oils.
[b] Light oil includes fuel oil nos. 1 and 2, kerosene, and jet fuel.
[c] GT/IC = Gas turbine and internal combustion plants.
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: See end of section.

Please Read: This table reports stocks at electric utilities only and does not include stocks held by nonutility power producers, which are not collected by EIA. See EIA's *Electric Power Annual 1997, Volume II*, the "U.S. Nonutility Power Producers" chapter for additional information.

Table 7.5 Nonutility Power Net Generation of Electricity

(Million Kilowatthours)

	Coal[a]	Natural Gas[b]	Other Gas[c]	Petroleum[d]	Nuclear Electric Power[e]	Hydro-electric Power[f]	Geo-thermal Energy	Wood[g] and Waste[h]	Other[i]	Total
1989 Total	**30,163**	**96,983**	**([b])**	**5,543**	**47**	**7,053**	**5,254**	**34,909**	**3,990**	**183,943**
1990 Total	**30,699**	**113,835**	**([b])**	**7,031**	**113**	**8,071**	**7,018**	**40,761**	**5,518**	**213,046**
1991 Total	**38,773**	**128,230**	**([b])**	**7,494**	**77**	**8,098**	**7,773**	**46,221**	**6,837**	**243,503**
1992 Total	**45,189**	**154,429**	**([b])**	**10,508**	**65**	**9,352**	**8,318**	**51,264**	**7,023**	**286,148**
1993 Total	**50,859**	**169,502**	**([b])**	**12,814**	**76**	**11,396**	**9,454**	**53,318**	**6,981**	**314,399**
1994 Total	**56,197**	**174,813**	**12,111**	**14,464**	**52**	**13,095**	**9,816**	**54,898**	**7,640**	**343,087**
1995 Total	**57,261**	**191,235**	**13,569**	**14,416**	**0**	**14,626**	**9,614**	**54,962**	**7,625**	**363,308**
1996 Total	**58,304**	**193,155**	**14,315**	**14,329**	**0**	**16,390**	**9,892**	**55,400**	**7,872**	**369,656**
1997 Total	**E 64,324**	**E 213,533**	**E 14,674**	**E 16,548**	**E 0**	**E 18,515**	**E 10,876**	**E 59,789**	**E 8,767**	**E 407,026**

[a] Coal, anthracite culm, and coal waste.
[b] "Other Gas" data are included in "Natural Gas" for 1989-1993.
[c] Butane, methane, propane, waste heat, and waste gases.
[d] Petroleum, petroleum coke, diesel, kerosene, petroleum sludge and tar.
[e] Nuclear reactor and generator at Argonne National Laboratory used primarily for research and development in testing reactor fuels as well as for training. Generation from the unit is for internal consumption.
[f] Conventional hydropower only; there are no pumped storage projects among the nonutility power producers.
[g] Wood, wood waste, peat, wood liquors, railroad ties, pitch, and wood sludge.
[h] Municipal solid waste, agricultural waste, straw, tires, landfill gases, and other waste.
[i] Wind, photovoltaic, and solar thermal energy; and hydrogen, sulfur, batteries, chemicals, fish oil, and spent liquor.
E=Estimate.
Note: Total may not equal sum of components due to independent rounding.
Sources: Energy Information Administration, estimated from Form EIA-867, "Annual Nonutility Power Producer Report."

Table 7.6 Electric Power Industry Consumption of Fossil Fuels

	Coal			Petroleum			Natural Gas			Other Gas[a]
	Electric Utilities	Nonutility Power Producers[b]	Total	Electric Utilities[c]	Nonutility Power Producers[d]	Total	Electric Utilities[e]	Nonutility Power Producers	Total	Nonutility Power Producers
	Thousand Short Tons			Thousand Barrels			Million Cubic Feet			
1989 Total	**766,888**	**30,762**	**797,650**	**270,038**	**28,377**	**298,415**	**2,787,012**	**1,181,015**	**3,968,027**	**1,225,951**
1990 Total	**773,549**	**32,300**	**805,849**	**200,152**	**28,980**	**229,132**	**2,787,332**	**1,386,741**	**4,174,073**	**1,279,176**
1991 Total	**772,268**	**38,113**	**810,381**	**188,494**	**29,509**	**218,003**	**2,789,014**	**1,569,850**	**4,358,864**	**1,364,697**
1992 Total	**779,860**	**44,607**	**824,467**	**152,329**	**34,626**	**186,955**	**2,765,608**	**1,844,857**	**4,610,465**	**1,587,632**
1993 Total	**813,508**	**48,343**	**861,851**	**168,556**	**40,142**	**208,698**	**2,682,440**	**2,013,788**	**4,696,228**	**1,681,916**
1994 Total	**817,270**	**52,261**	**869,531**	**155,377**	**46,630**	**202,007**	**2,987,146**	**2,149,246**	**5,136,392**	**1,591,051**
1995 Total	**829,007**	**50,328**	**879,335**	**105,956**	**39,219**	**145,175**	**3,196,507**	**2,303,944**	**5,500,451**	**1,611,993**
1996 Total	**874,681**	**53,199**	**927,880**	**116,680**	**42,928**	**159,608**	**2,732,107**	**2,447,720**	**5,179,827**	**1,737,271**
1997 Total	**900,361**	**51,781**	**952,142**	**132,147**	**38,979**	**171,126**	**2,968,453**	**2,247,613**	**5,216,066**	**1,372,001**

[a] Butane, methane, propane, and other gases.
[b] Coal, anthracite culm, and coal waste.
[c] Includes petroleum coke (converted at 5 barrels per short ton).
[d] Petroleum, diesel, kerosene, petroleum sludge, and tar. Does not include petroleum coke, which, in thousand barrels, was 23,700 in 1994; 20,940 in 1995; 22,420 in 1996; and an estimated 21,575 in 1997.
[e] Includes supplemental gaseous fuels.
Notes: • Data for electric utilities are for fuels consumed to produce electricity. Data for nonutility power producers are for fuels consumed to produce both electricity and steam. • Totals may not equal sum of components due to independent rounding.
Sources: • **Electric Utilities:** Energy Information Administration (EIA), *Electric Power Monthly,* February 1999, Table 14. • **Nonutility Power Producers:** 1989-1992: EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report" data. 1993 forward—EIA, *Electric Power Annual 1997, Volume II* (October 1998), Table 51.

Sources for Table 7.1

Electric Utilities

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 geothermal energy and other) EIA, Form EIA-759, "Monthly Power Plant Report."
1990 forward—EIA, *Electric Power Monthly*, February 1999, Tables 4 and 5.

Nonutility Power Producers

EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report."

Total Electric Power Industry

Sum of Electric Utilities and Nonutility Power Producers.

Sources for Table 7.2

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, "Electric Utility Company Monthly Statement."
1984-1987—EIA, Form EIA-861, "Annual Electric Utility Report."
1988 forward—EIA, *Electric Power Monthly,* February 1999, Table 44.

Sources for Table 7.3

Prime Mover Type Data

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

All Other Data

1973-September 1977—FPC, Form FPC-4, "Monthly Power Plant Report."
October 1977-1979—FERC, Form FPC-4, "Monthly Power Plant Report."
1980-1987—EIA, *Electric Power Monthly,* March issues.
1988 forward—EIA, *Electric Power Monthly*, February 1999, Table 14.

Sources for Table 7.4

Prime Mover Type Data

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

All Other Data

1973-September 1977—FPC, Form FPC-4, "Monthly Power Plant Report."
October 1977-1979—FERC, Form FPC-4 "Monthly Power Plant Report."
1980-1987—EIA, *Electric Power Monthly*, March issues.
1988 forward—EIA, *Electric Power Monthly,* February 1999, Table 21.

Section 8. Nuclear Energy

In November 1998, U.S. nuclear generating units produced a total of 57 net terawatthours (billion kilowatthours) of electricity, 12 percent higher than in November 1997. Nuclear units generated at an average capacity factor of 82.5 percent, 12.9 percentage points higher than in November 1997. Nuclear power supplied 24.0 percent of the total electric utility-generated electricity in November 1998 compared with 21.0 in November 1997.

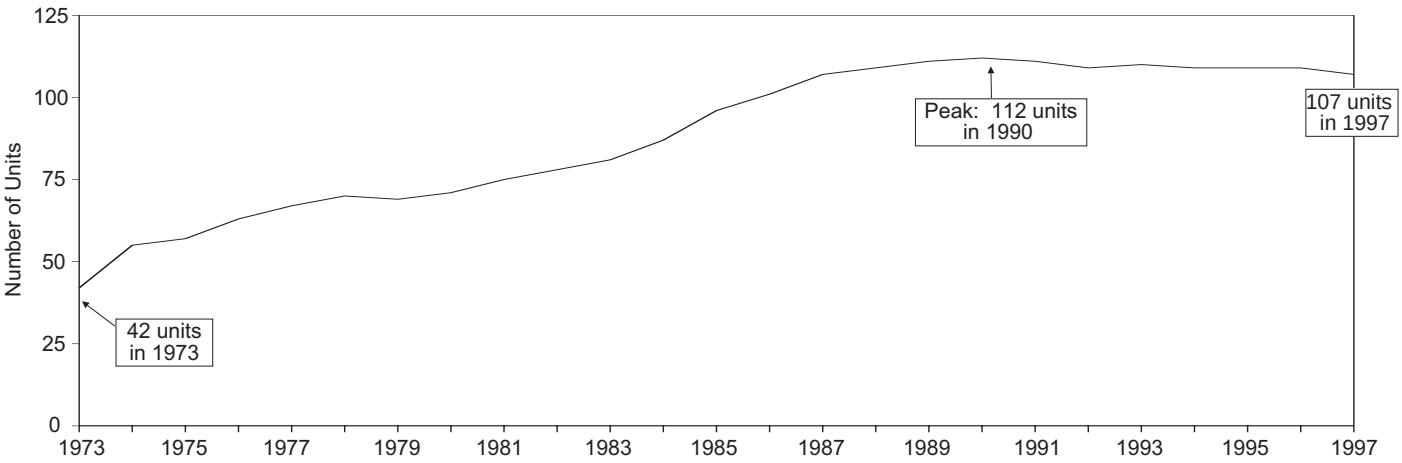
On November 30, 1998, there were 104 operable nuclear generating units in the United States, with a collective net summer capability of 96.6 million kilowatts of electricity.

Of the 104 operable units, 10 units generated no electricity during the month because of maintenance, refueling, or repair outage. By comparison, a total of 59 units were reported operating at 90 percent of capacity or more in November. Of these 59 units, a total of 28 operated at 100 percent or greater (based on net summer capability).

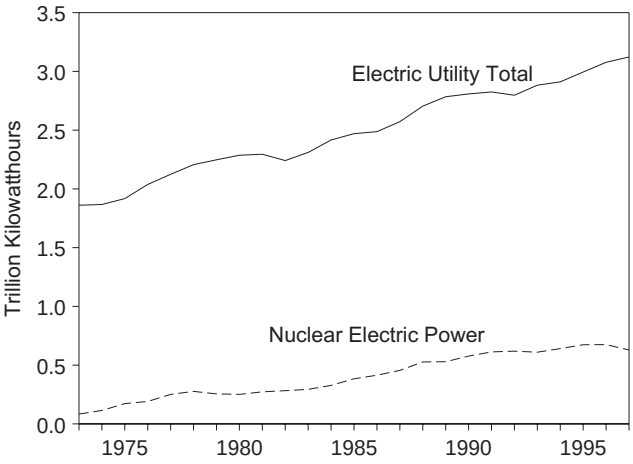
In addition, there were 3 other units with construction permits, although construction for all 3 units has been halted. The design capacity of the 3 units with construction permits was 3.6 million kilowatts.

Figure 8.1 Nuclear Power Plant Operations

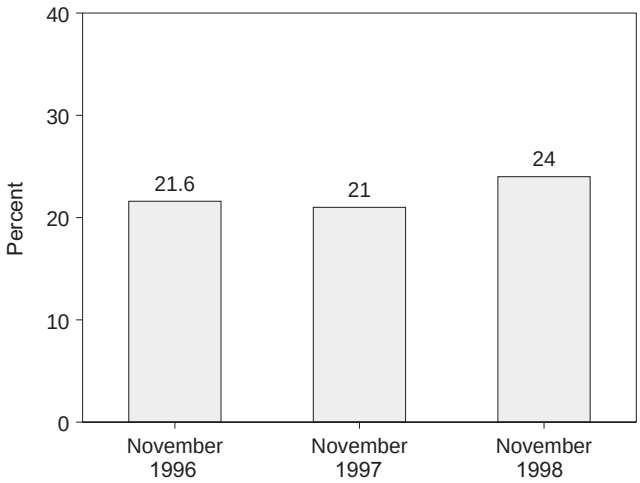
Operable Units,[a] End of Year, 1973-1997



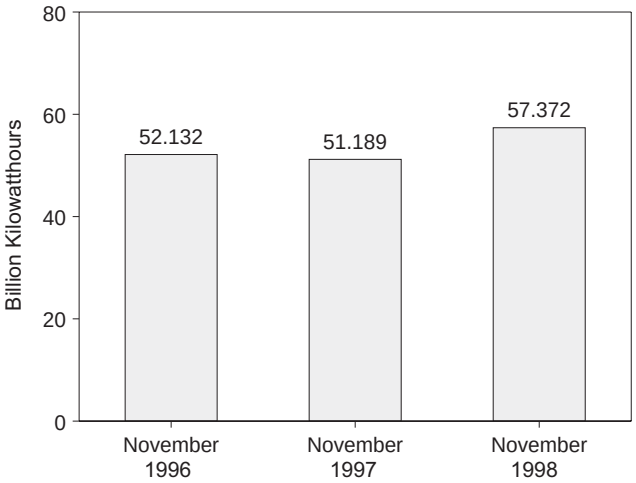
Electric Utility Net Generation, 1973-1997



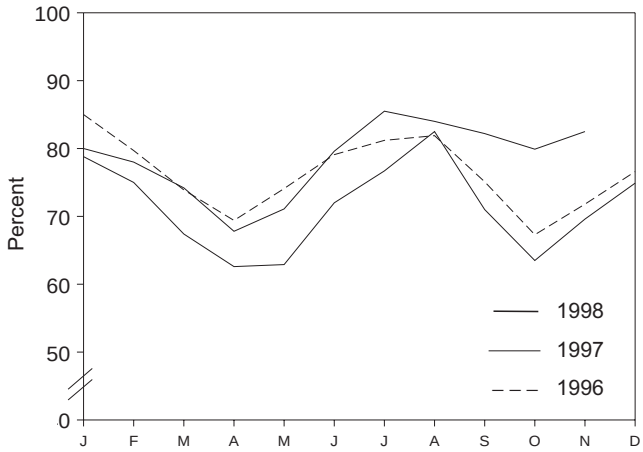
Nuclear Share of Electric Utility Net Generation



Nuclear Electricity Net Generation



Capacity Factor, 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 January	62,942	23.4	99.515	85.0
February	55,928	22.8	100.908	79.7
March	55,474	22.4	100.908	73.9
April	50,325	22.2	100.908	69.4
May	55,637	22.1	100.908	74.1
June	57,498	21.4	100.908	79.1
July	60,953	21.1	100.908	81.2
August	61,477	21.2	100.908	81.9
September	54,593	21.8	100.908	75.1
October	50,612	21.1	100.908	67.3
November	52,132	21.6	100.908	71.8
December	57,159	22.2	100.348	76.6
Year	**674,729**	**21.9**	**100.348**	**76.2**
1997 January	58,914	21.5	100.348	78.8
February	50,658	21.7	100.348	75.0
March	50,414	20.6	100.348	67.4
April	44,883	19.5	100.348	62.6
May	47,032	19.3	100.348	62.9
June	52,095	19.5	100.348	72.0
July	57,352	18.8	100.348	76.7
August	61,084	20.7	99.383	82.5
September	52,586	19.7	99.383	71.0
October	46,981	18.6	99.383	63.5
November	51,189	21.0	99.383	69.6
December	55,457	20.7	99.383	74.9
Year	**628,644**	**20.1**	**99.383**	**71.4**
1998 January	57,889	21.8	97.303	80.0
February	50,999	21.7	97.303	78.0
March	53,711	21.0	97.303	74.2
April	47,503	20.4	97.303	67.8
May	51,496	19.4	97.303	71.1
June	55,732	19.1	97.303	79.6
July	61,499	19.4	96.643	85.5
August	60,369	19.3	96.643	84.0
September	57,206	20.5	96.643	R 82.2
October	57,429	22.8	96.643	79.9
November	57,372	24.0	96.643	82.5
11-Month Total	**611,206**	**20.7**	**96.643**	**78.6**
1997 11-Month Total	**573,188**	**20.1**	**99.383**	**71.1**
1996 11-Month Total	**617,570**	**21.9**	**100.908**	**76.2**

[a] At electric utilities.
[b] At end of period.
[c] For the definition of "Net Summer Capability," see Note 3 at end of section .
[d] For an explanation of the method of calculating the capacity factor, see Note 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 January	0	0	0	0	0	109	0	124
February	0	0	0	1	0	110	0	124
March	0	0	0	0	0	110	0	124
April	0	0	0	0	0	110	0	124
May	0	0	0	0	0	110	0	124
June	0	0	0	0	0	110	0	124
July	0	0	0	0	0	110	0	124
August	0	0	0	0	0	110	0	124
September	0	0	0	0	0	110	0	124
October	0	0	0	0	0	110	0	124
November	0	0	0	0	0	110	0	124
December	0	0	0	0	1	109	0	124
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

[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 1997*, 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 $9.59 per barrel in November 1998, 43 percent lower than the level in November 1997. The refiner acquisition cost of imported crude oil in November 1998 was $10.98 per barrel, 39 percent lower than the November 1997 level. The refiner acquisition cost of domestic crude oil in November 1998 was $12.49, 35 percent lower than the November 1997 average.

Motor Gasoline. The national city average retail price of unleaded regular gasoline at all types of stations was 99 cents per gallon in December 1998, 16 percent lower than the price in December 1997. The price of unleaded premium gasoline averaged $1.19 per gallon in December 1998, 13 percent lower than the price in December 1997.

Residual Fuel Oil. The average price, excluding taxes, of residual fuel oil sold to end users in November 1998 was 30 cents per gallon, 1 percent lower than the previous month's price and 35 percent lower than the November 1997 average. The average resale price, excluding taxes, of residual fuel oil in November 1998 was 26 cents per gallon, 9 percent lower than the previous month's average and 41 percent lower than the price 1 year earlier.

Aviation Fuel. The average price, excluding taxes, of aviation gasoline sold to end users in November 1998 was 93 cents per gallon, 2 percent lower than the previous month's price and 18 percent lower than the November 1997 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in November 1998 was 44 cents per gallon, 6 percent lower than the previous month's price and 28 percent lower than the November 1997 average price.

No. 2 Distillate Fuel Oil. The November 1998 national average price, excluding taxes, of heating oil sold to residential customers was 80 cents per gallon, 2 percent higher than the previous month's price but 15 percent lower than the price 1 year earlier. The average price of No. 2 fuel oil sold to all end users was 47 cents per gallon in November 1998, 2 percent lower than the previous month's price and 27 percent lower than the November 1997 price.

Electricity. The average price of electricity sold by electric utilities to all ultimate consumers in the United States in November 1998 was 6.42 cents per kilowatthour, 3 percent lower than the November 1997 mean price. The price of electricity sold to residential consumers in November 1998 averaged 8.11 cents per kilowatthour, 2 percent lower than the November 1997 price. The price of electricity sold to commercial consumers averaged 7.11 cents per kilowatthour in November 1998, 4 percent lower than the November 1997 price. The price of electricity sold to other consumers was 6.25 cents per kilowatthour, 8 percent lower than the November 1997 price. The price of electricity sold to industrial users in November 1998 averaged 4.32 cents per kilowatthour, 3 percent lower than the price 1 year earlier.

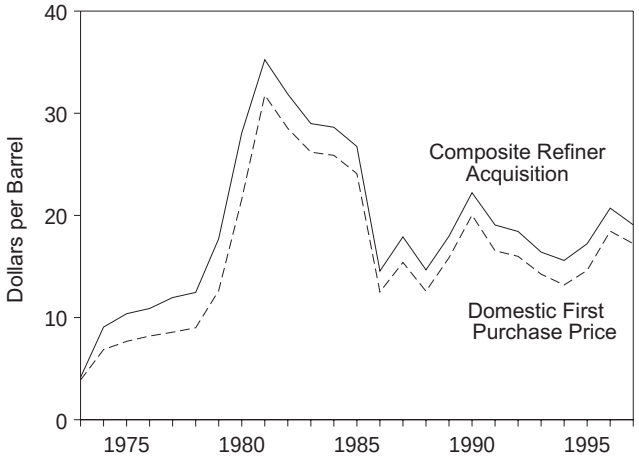
Beginning with January 1986, new series of national average price estimates were based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

Natural Gas. The estimated average wellhead price of natural gas for October 1998 was $1.84 per thousand cubic feet, 31 percent lower than the October 1997 price.

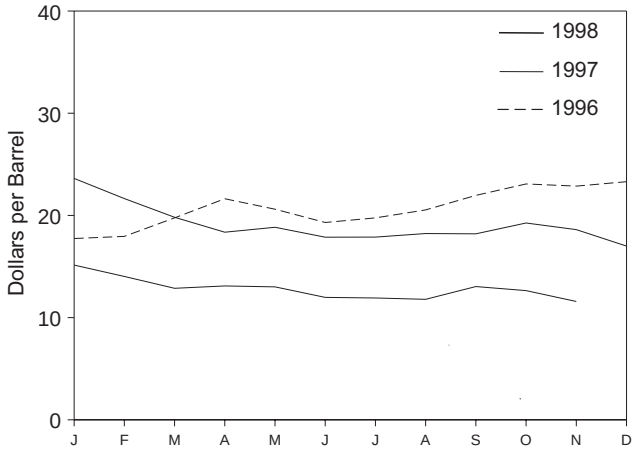
The average price of natural gas delivered to electric utility plants was $2.16 per thousand cubic feet in September 1998 (latest date for which data are available), 27 percent below the September 1997 price. The average price of natural gas used by residential consumers in October 1998 was $7.66 per thousand cubic feet, slightly lower than the October 1997 price. The average price of natural gas used by commercial consumers in October 1998 was $5.32 per thousand cubic feet, 7 percent lower than the October 1997 price. The average price of natural gas used by industrial consumers in October 1998 was $2.75 per thousand cubic feet, 25 percent below the October 1997 price.

Figure 9.1 Petroleum Prices

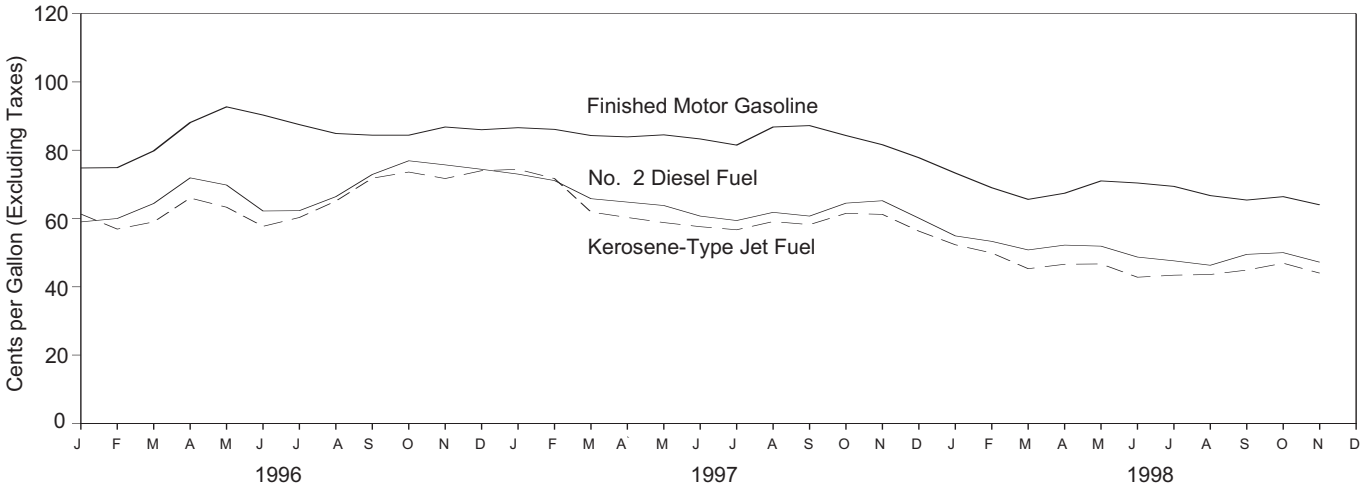
Crude Oil Prices, 1973-1997



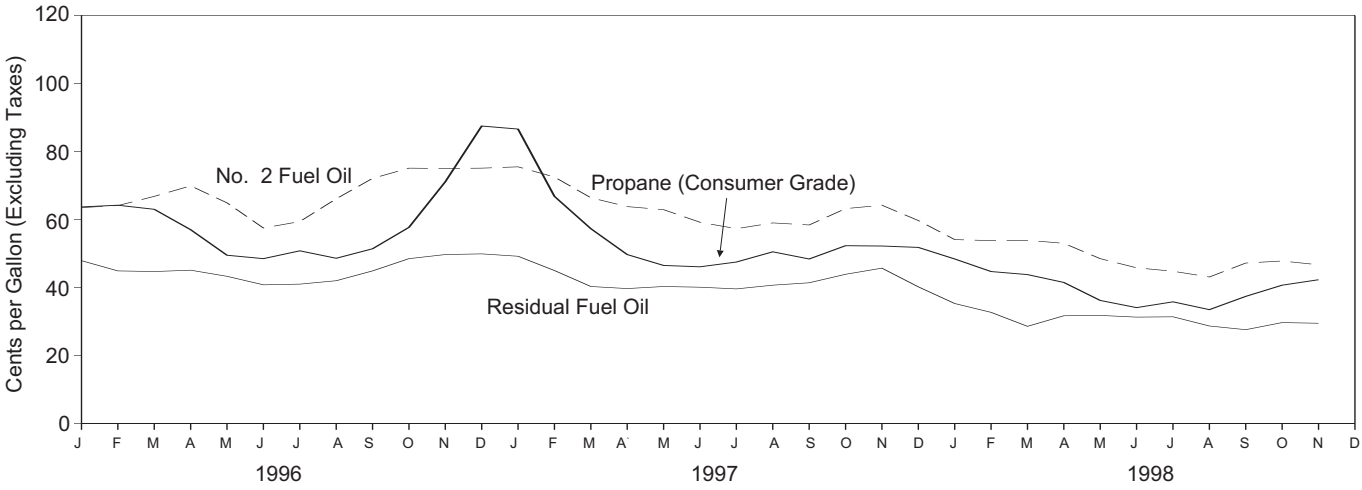
Composite Refiner Acquisition Cost, Monthly



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 January	15.43	16.17	17.31	17.98	17.48	17.74
February	15.54	16.86	17.81	18.10	17.77	17.95
March	17.63	18.77	19.61	19.63	19.90	19.76
April	19.58	19.56	20.73	21.88	21.33	21.63
May	17.94	18.34	19.61	21.15	20.12	20.61
June	16.94	17.61	18.83	19.30	19.32	19.31
July	17.63	18.21	19.35	19.91	19.60	19.76
August	18.29	19.27	20.30	20.55	20.53	20.54
September	19.93	21.03	21.95	21.87	22.04	21.96
October	21.09	22.23	23.05	22.93	23.22	23.08
November	20.20	21.31	22.24	23.08	22.66	22.87
December	21.34	21.56	22.48	23.38	23.22	23.30
Average	**18.46**	**19.32**	**20.31**	**20.77**	**20.64**	**20.71**
1997 January	21.76	21.31	22.31	24.29	23.05	23.62
February	19.38	18.99	19.98	22.47	20.92	21.65
March	17.85	17.11	18.45	20.57	19.16	19.82
April	16.64	16.20	17.52	19.01	17.85	18.36
May	17.24	16.81	17.87	19.20	18.54	18.84
June	15.90	15.99	17.12	18.45	17.38	17.87
July	15.91	16.38	17.28	18.35	17.48	17.88
August	16.21	16.68	17.78	18.59	17.96	18.23
September	16.44	16.76	17.85	18.49	17.96	18.20
October	17.68	17.26	18.51	19.73	18.88	19.26
November	16.84	16.13	17.35	19.23	18.08	18.61
December	15.06	14.21	15.70	17.92	16.16	17.00
Average	**17.24**	**16.94**	**18.11**	**19.67**	**18.59**	**19.08**
1998 January	13.48	12.76	14.12	15.87	14.55	15.14
February	12.16	11.72	13.11	14.77	13.41	14.03
March	11.53	11.08	12.39	13.52	12.36	12.87
April	11.64	11.18	12.34	13.47	12.85	13.10
May	11.49	11.28	12.24	13.52	12.66	13.01
June	10.00	10.17	11.27	12.43	11.67	11.98
July	10.46	10.37	11.41	12.39	11.56	11.92
August	10.18	10.20	11.29	12.45	11.34	11.79
September	11.28	[R] 11.75	[R] 12.47	13.40	12.78	13.04
October	[R] 11.32	[R] 10.94	[R] 12.07	13.42	[R] 12.12	[R] 12.64
November	9.59	9.35	10.58	12.49	10.98	11.58

[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 January	16.95	17.73	16.52	18.63	W	W	14.12	W	15.86	16.37
February	17.91	18.09	16.59	18.53	W	W	15.22	W	16.89	16.81
March	19.78	20.02	18.39	20.44	18.29	19.42	17.78	18.62	18.77	18.77
April	20.96	22.65	19.63	21.49	W	W	17.99	W	18.75	20.20
May	19.72	20.09	17.93	20.13	W	19.02	16.35	W	17.72	18.83
June	18.60	19.49	17.05	19.25	17.96	W	16.08	17.70	17.21	17.94
July	19.72	19.72	17.85	19.90	18.48	W	16.72	18.45	17.78	18.62
August	20.33	20.79	18.89	21.13	20.16	18.82	17.35	20.43	18.99	19.59
September	22.23	22.79	20.96	22.80	20.60	W	19.66	21.01	20.57	21.55
October	23.05	23.57	22.40	24.71	W	W	20.29	W	21.85	22.59
November	22.38	23.25	20.96	24.43	21.90	22.35	19.62	22.39	21.04	21.48
December	23.22	24.56	21.83	24.39	19.24	W	20.41	19.99	21.01	22.04
Average	**20.70**	**21.33**	**19.14**	**21.27**	**19.28**	**19.43**	**17.73**	**19.30**	**18.94**	**19.65**
1997 January	23.20	24.14	21.09	24.52	17.37	W	19.35	17.37	20.37	21.93
February	21.35	21.12	18.57	21.53	W	W	16.68	W	17.96	19.71
March	18.66	19.41	17.00	19.02	W	NA	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	17.92	16.84	18.99	15.60	19.03	15.27	15.67	16.27	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	17.72	15.99	19.12	15.24	17.40	14.99	15.33	16.04	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	15.00	17.02
December	16.58	17.18	13.79	17.39	W	W	12.51	W	13.31	14.97
Average	**18.81**	**18.84**	**16.73**	**19.46**	**15.17**	**18.59**	**15.33**	**15.26**	**16.27**	**17.52**
1998 January	14.47	15.36	12.11	15.21	W	W	11.29	W	12.24	13.12
February	13.12	14.27	11.48	13.78	W	W	10.34	W	11.42	12.10
March	12.53	13.10	9.77	13.56	W	W	9.70	W	10.92	11.22
April	12.93	13.48	11.01	13.86	W	W	10.32	7.92	10.60	11.63
May	13.79	13.08	11.25	14.13	7.63	W	9.78	7.90	10.53	11.94
June	11.79	11.85	10.04	11.57	8.56	W	9.16	8.71	9.76	10.51
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	9.85	12.23	9.77	11.13	8.54	9.68	9.69	10.60
September	12.59	13.20	R 11.13	13.92	R W	W	R 10.52	R W	R 11.45	R 11.96
October	R 11.79	R 13.37	R 11.05	R 12.58	R 9.82	W	R 9.43	R 9.90	R 10.15	R 11.69
November	11.39	11.33	9.75	W	8.42	10.85	6.93	8.30	7.97	10.29

[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 January	18.16	16.07	18.55	16.95	19.65	17.98	18.49	15.12	17.73	17.41	17.20
February	18.82	16.33	18.82	17.07	19.47	18.76	19.39	16.02	18.78	18.06	17.58
March	20.85	18.55	20.57	18.95	21.25	19.59	19.25	18.63	19.87	19.81	19.42
April	21.41	21.10	23.37	20.23	22.32	20.55	20.76	19.14	20.48	20.26	21.11
May	20.88	20.16	21.04	18.67	21.17	19.55	21.22	17.42	19.44	19.17	19.97
June	19.62	19.20	20.08	17.75	20.11	18.92	20.40	17.14	18.79	18.64	19.00
July	20.70	19.72	20.62	18.55	20.85	19.77	19.79	17.55	19.61	19.15	19.54
August	21.58	20.44	21.47	19.51	21.95	20.70	20.56	18.22	20.42	20.16	20.36
September	23.40	21.85	23.47	21.59	23.40	21.81	21.69	20.37	21.80	21.66	22.36
October	23.94	22.53	24.42	22.84	25.57	22.91	23.12	20.89	22.77	22.78	23.30
November	23.47	21.33	23.81	21.22	25.19	22.66	24.10	20.40	22.67	22.15	22.30
December	24.48	21.32	25.20	22.06	25.42	21.93	24.23	21.23	22.16	22.22	22.73
Average	**21.86**	**19.94**	**22.02**	**19.64**	**21.95**	**20.49**	**20.88**	**18.59**	**20.44**	**20.14**	**20.46**
1997 January	24.45	21.79	24.98	21.60	25.52	21.04	24.18	20.43	21.01	21.64	22.89
February	22.54	19.75	21.72	19.11	23.26	18.37	24.33	17.58	18.37	19.20	20.59
March	20.34	18.43	20.39	17.43	20.58	18.04	23.59	16.57	18.13	18.05	18.83
April	18.70	17.22	18.76	16.60	19.27	17.56	18.80	16.05	17.39	17.46	17.57
May	19.59	17.46	18.78	17.59	19.87	17.08	20.04	16.38	17.07	17.57	18.16
June	19.33	16.31	17.74	16.24	19.57	16.93	19.54	15.70	16.85	17.01	17.23
July	18.59	16.61	18.56	16.50	20.02	17.07	18.59	15.96	16.86	17.14	17.40
August	19.14	17.16	18.98	16.85	20.01	18.33	19.33	16.22	18.05	17.80	17.76
September	19.50	16.97	19.36	16.69	20.35	18.01	19.56	16.14	17.84	17.85	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**	**17.62**	**19.70**	**17.30**	**20.66**	**17.54**	**20.64**	**16.34**	**17.45**	**17.73**	**18.46**
1998 January	16.14	13.25	16.39	12.69	17.00	13.43	W	12.30	13.49	13.89	14.29
February	14.52	12.18	15.37	12.12	15.32	13.05	15.63	11.28	13.01	12.98	13.24
March	14.06	11.57	13.84	10.37	14.71	12.28	14.82	10.66	12.38	12.44	12.35
April	14.25	11.42	14.17	11.65	14.67	11.31	15.19	11.16	11.53	11.98	12.67
May	14.92	11.28	13.75	11.76	14.91	10.69	14.52	10.49	10.75	11.68	12.81
June	12.98	10.87	12.45	10.59	13.31	10.69	12.58	9.92	10.64	11.07	11.47
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	11.17	12.84	10.33	13.20	11.12	12.89	9.33	11.12	10.99	11.60
September	[R] 13.59	[R] 12.76	13.79	[R] 11.60	[R] 14.60	[R] 11.79	[R] 13.43	[R] 11.12	[R] 11.85	[R] 12.12	[R] 12.83
October	[R] 12.95	[R] 12.55	[R] 13.81	[R] 11.58	[R] 13.97	[R] 11.21	[R] 13.25	[R] 10.32	[R] 11.54	[R] 11.52	[R] 12.65
November	12.33	10.98	11.81	10.26	12.27	10.12	12.96	8.16	10.22	9.91	11.17

[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,* February 1999, 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 January	NA	112.9	131.7	118.6
February	NA	112.4	131.1	118.1
March	NA	116.2	134.8	121.9
April	NA	125.1	143.1	130.5
May	NA	132.3	150.7	137.8
June	NA	129.9	148.1	135.4
July	NA	127.2	145.3	132.8
August	NA	124.0	142.1	129.8
September	NA	123.4	141.7	129.3
October	NA	122.7	140.8	128.7
November	NA	125.0	142.8	130.8
December	NA	126.0	143.8	131.8
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**	**111.9**	**125.0**	**111.5**

[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 January	49.9	54.8	38.0	44.7	45.2	47.9
February	42.6	53.2	36.8	41.7	40.1	44.9
March	47.1	51.9	36.0	42.1	42.0	44.7
April	48.3	51.1	39.9	43.0	43.7	45.1
May	45.0	51.1	36.9	41.4	41.0	43.3
June	40.4	47.3	35.0	38.4	37.4	40.8
July	41.4	48.6	37.3	38.7	38.9	41.0
August	41.9	49.8	37.2	39.5	39.0	42.0
September	42.6	51.2	40.3	43.2	41.2	44.9
October	47.8	54.7	43.1	47.1	45.0	48.5
November	49.2	57.0	44.5	48.0	46.3	49.7
December	51.4	58.6	43.0	47.5	46.0	49.9
Average	**45.6**	**52.6**	**38.9**	**43.3**	**42.0**	**45.5**
1997 January	46.2	58.7	39.2	46.3	42.9	49.2
February	43.7	54.6	35.4	41.8	39.4	45.0
March	39.6	49.3	34.1	37.6	35.8	40.3
April	37.6	46.4	35.2	37.5	36.1	39.7
May	36.6	45.3	35.4	38.7	35.8	40.3
June	39.4	44.5	34.8	38.7	36.7	40.1
July	38.5	44.2	35.4	38.2	36.6	39.6
August	39.4	44.6	37.6	39.5	38.3	40.7
September	40.1	46.4	37.6	40.1	38.7	41.4
October	44.6	48.2	39.8	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**	**40.4**	**38.7**	**42.3**
1998 January	35.2	44.7	28.9	32.5	31.1	35.3
February	30.7	39.6	26.6	30.6	28.2	32.7
March	29.4	35.6	24.0	26.0	26.4	28.6
April	32.9	35.9	28.8	30.4	30.3	31.7
May	31.9	37.6	28.2	30.1	29.4	31.8
June	29.3	36.1	27.0	29.6	27.9	31.3
July	30.7	35.0	28.8	30.0	29.6	31.4
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	R 33.6	R 27.0	R 28.1	28.3	R 29.7
November	27.3	33.8	25.0	27.5	25.8	29.5

R=Revised.

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

Source: EIA, *Petroleum Marketing Monthly,* February 1999, 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 January	61.0	94.7	60.3	65.8	56.8	56.2	41.6
February	61.6	96.5	57.3	65.7	58.9	57.9	44.2
March	67.9	100.6	59.6	68.0	62.8	61.9	41.1
April	76.1	107.5	65.3	75.1	67.5	70.1	37.8
May	78.0	110.0	62.2	66.1	61.1	66.8	36.2
June	73.0	107.0	57.5	59.8	53.7	59.1	36.2
July	72.3	105.3	59.6	61.7	57.1	60.0	36.9
August	71.1	107.1	64.5	66.6	62.1	64.9	38.9
September	71.6	106.8	71.6	75.6	68.7	71.7	45.2
October	72.8	107.1	73.6	80.7	72.7	75.4	51.1
November	74.5	108.4	72.2	79.7	71.4	73.3	57.9
December	73.1	107.1	73.0	79.0	71.2	71.0	67.7
Average	**71.3**	**105.5**	**64.6**	**71.4**	**63.9**	**65.9**	**46.1**
1997 January	74.8	109.0	73.5	77.7	69.8	69.9	59.9
February	73.1	108.7	71.4	73.4	64.5	67.8	44.7
March	71.5	107.9	61.8	63.2	57.7	62.5	41.3
April	70.4	108.5	60.5	62.1	58.6	61.7	37.7
May	71.1	108.2	59.4	61.1	58.8	60.7	36.9
June	68.3	105.9	58.1	57.1	54.5	56.5	36.4
July	67.5	104.9	56.8	56.2	53.8	55.8	35.9
August	75.0	108.9	59.4	60.5	55.3	58.9	37.5
September	72.3	108.9	58.8	60.1	54.3	57.8	39.5
October	68.6	104.5	61.3	63.8	59.0	61.7	41.1
November	65.9	102.1	61.3	62.6	58.4	61.5	39.6
December	61.7	99.8	55.6	57.8	53.4	55.0	37.5
Average	**70.0**	**106.6**	**61.2**	**65.1**	**58.9**	**60.6**	**41.6**
1998 January	57.6	96.2	53.4	52.8	48.9	49.6	35.4
February	55.1	92.0	50.2	51.6	47.7	48.3	33.1
March	52.3	90.4	45.7	47.6	44.9	45.8	31.2
April	54.9	90.9	46.6	46.3	44.9	48.2	30.3
May	57.9	94.0	46.9	45.8	43.4	47.0	29.3
June	55.6	93.7	43.5	42.9	39.9	43.6	26.6
July	54.3	93.6	43.8	41.7	38.8	42.6	25.7
August	50.6	91.7	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	R 45.8	R 46.2	41.2	R 45.5	27.6
November	47.7	84.7	43.0	44.3	38.9	41.4	27.7

[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,* February 1999, 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 January	74.8	101.2	61.3	71.8	63.5	59.0	63.7
February	74.9	100.6	56.9	73.4	64.1	60.0	64.2
March	79.8	105.0	59.0	69.0	66.8	64.4	63.0
April	88.1	111.4	66.0	80.5	69.9	71.9	57.0
May	92.7	114.4	63.3	68.4	64.9	69.8	49.5
June	90.3	113.5	57.7	58.5	57.5	62.2	48.5
July	87.5	113.7	60.3	64.6	59.4	62.3	50.8
August	84.9	114.4	65.1	69.5	66.1	66.4	48.6
September	84.4	114.3	71.8	76.4	72.1	72.9	51.4
October	84.4	115.0	73.6	87.1	75.1	76.9	57.7
November	86.8	115.1	71.7	88.7	75.0	75.7	71.1
December	86.0	115.3	74.0	90.7	75.1	74.4	87.5
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	75.5	73.0	86.6
February	86.1	114.9	71.7	84.8	72.5	71.1	66.8
March	84.3	113.8	61.9	NA	66.4	65.8	57.3
April	83.9	114.7	60.3	69.8	63.8	64.8	49.7
May	84.5	115.7	58.8	68.4	62.9	63.8	46.5
June	83.3	114.6	57.6	64.3	59.2	60.7	46.1
July	81.5	112.5	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	72.8	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**	**113.8**	**61.2**	**74.4**	**63.6**	**64.2**	**55.2**
1998 January	73.3	104.3	52.3	72.3	54.1	54.9	48.4
February	69.0	101.1	49.9	68.2	53.8	53.3	44.7
March	65.6	98.2	45.3	65.3	53.9	50.8	43.8
April	67.4	98.6	46.6	56.7	53.0	52.2	41.5
May	71.0	99.9	46.7	56.0	48.5	51.9	36.2
June	70.4	99.0	42.8	46.1	45.8	48.7	34.1
July	69.4	98.4	43.4	47.4	44.8	47.6	35.8
August	66.7	95.9	43.6	41.5	43.1	46.3	33.5
September	65.4	94.1	44.9	46.2	47.2	49.5	37.4
October	66.4	95.1	46.9	50.6	47.8	50.0	40.7
November	64.0	93.2	44.0	44.2	46.7	47.2	42.3

[a] See Note 5 at end of section.

NA=Not available.

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

Source: EIA, *Petroleum Marketing Monthly,* February 1999, 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 January	93.0	89.1	92.6	92.0	94.9	94.5	102.9	97.8	92.3
February	93.2	90.8	93.7	93.8	95.6	96.2	104.1	100.5	93.1
March	96.7	93.8	97.3	99.3	99.7	99.6	106.6	103.5	95.9
April	98.7	96.5	100.3	101.5	98.8	102.1	109.0	105.4	97.1
May	95.4	93.6	98.8	95.9	94.9	96.8	105.2	98.2	92.9
June	90.1	87.2	92.2	87.9	88.7	88.8	101.4	91.8	83.9
July	87.5	83.6	88.5	87.5	87.7	84.9	97.2	89.7	79.4
August	89.5	85.1	89.0	89.0	88.3	84.0	93.4	90.6	82.0
September	96.4	91.9	94.4	93.1	96.6	92.5	99.1	97.3	88.9
October	101.1	99.1	100.7	103.0	104.0	103.0	107.9	105.7	99.4
November	103.4	99.7	101.9	103.7	104.5	105.0	111.6	108.8	102.2
December	105.1	101.6	103.6	105.9	106.4	108.1	114.4	111.1	104.0
Average	**97.2**	**94.0**	**96.9**	**97.6**	**98.6**	**98.6**	**106.3**	**102.4**	**95.3**
1997 January	105.2	102.2	104.4	106.4	106.9	108.7	114.7	111.3	104.2
February	102.2	101.0	103.5	103.4	104.5	105.2	112.0	108.4	102.2
March	94.3	98.6	103.1	97.7	100.6	99.3	111.5	104.6	97.7
April	90.9	95.2	100.4	95.9	99.6	97.6	109.7	102.5	95.0
May	90.6	91.9	97.7	93.0	97.3	93.4	107.9	99.9	92.4
June	88.0	89.1	92.9	89.1	94.1	89.9	103.9	96.9	87.8
July	86.7	85.6	91.1	87.5	91.8	83.7	100.0	90.5	82.1
August	85.7	85.3	92.7	84.7	91.0	84.5	92.9	89.6	80.7
September	87.1	86.3	91.7	87.0	91.2	85.5	94.5	90.7	82.8
October	90.2	88.2	93.1	89.4	94.6	89.0	100.6	94.8	85.9
November	92.3	88.6	94.7	90.7	95.4	91.4	101.6	97.2	89.5
December	91.0	88.5	94.1	89.7	94.6	91.7	101.7	97.8	89.9
Average	**94.3**	**94.2**	**98.7**	**96.0**	**99.0**	**96.3**	**106.6**	**102.9**	**94.9**
1998 January	88.7	87.4	92.9	88.8	93.4	91.4	101.4	96.2	89.2
February	85.7	86.7	91.7	87.6	92.6	90.0	100.8	95.4	88.5
March	83.0	84.4	92.2	86.6	90.2	88.6	98.3	92.6	86.3
April	81.6	81.3	89.1	83.4	88.9	85.7	97.1	91.3	84.0
May	80.3	79.4	86.9	81.8	87.2	83.2	95.0	89.2	82.1
June	78.6	75.6	84.3	78.4	84.4	78.1	92.1	83.6	75.7
July	76.0	70.5	81.5	76.1	83.3	74.2	89.0	78.7	70.1
August	74.3	68.5	80.9	74.0	78.8	71.4	83.8	76.8	69.9
September	74.4	70.8	80.5	74.2	78.8	72.4	85.2	80.0	71.7
October	74.1	R 71.1	82.4	75.3	R 81.6	75.5	R 88.0	82.0	74.1
November	73.3	72.3	82.0	74.7	80.9	77.0	89.3	83.1	76.5

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,* February 1999, 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 January	94.7	111.7	103.9	91.3	90.7	85.5	89.6	85.6	84.4	83.3	82.7
February	94.4	112.9	104.1	92.8	93.8	87.7	91.2	86.4	85.8	83.9	83.7
March	96.1	117.7	106.4	93.6	95.8	91.6	97.0	90.7	88.7	87.1	86.7
April	100.7	115.9	105.8	95.4	97.0	95.3	101.0	93.5	90.4	91.5	91.4
May	98.0	109.7	104.4	91.7	91.4	91.3	99.6	93.0	89.9	92.2	92.0
June	91.9	102.5	97.3	88.2	89.9	86.8	94.6	86.2	80.6	88.4	85.5
July	91.0	97.3	93.7	88.5	88.6	86.5	92.2	85.6	78.9	88.6	84.3
August	91.0	99.2	93.7	89.1	88.9	82.2	92.5	87.4	83.0	87.8	86.2
September	95.3	106.2	99.3	92.6	94.9	92.8	98.6	92.8	87.1	91.1	91.8
October	103.1	120.9	108.1	98.6	101.1	98.2	102.6	96.6	92.4	95.6	97.8
November	105.9	125.7	111.8	102.2	104.6	100.8	106.4	102.4	96.8	98.7	102.4
December	106.7	129.2	114.9	104.3	104.3	101.5	106.4	100.8	98.1	98.9	100.4
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	130.9	117.0	105.5	103.8	100.7	105.6	100.9	98.8	98.3	99.2
February	104.2	127.0	115.0	102.6	101.2	98.4	104.4	97.0	93.3	96.8	96.9
March	99.4	122.1	108.1	100.4	98.1	92.6	NA	94.6	90.2	96.7	91.7
April	99.1	W	105.6	96.7	95.7	92.4	91.7	NA	83.4	92.9	89.7
May	95.0	108.6	101.9	89.9	92.9	90.1	90.7	88.4	79.9	93.4	89.1
June	89.8	99.9	98.0	87.8	90.6	86.8	88.3	84.0	79.7	90.8	87.4
July	87.3	99.9	96.1	85.9	87.4	83.1	84.9	79.7	78.4	86.7	84.8
August	87.8	W	93.8	85.2	85.0	81.7	87.4	83.6	81.2	86.5	86.0
September	87.8	96.6	94.5	85.2	87.5	84.3	88.3	80.2	77.4	88.0	84.9
October	88.1	W	97.8	90.3	88.3	88.2	88.9	84.0	82.6	89.6	87.1
November	92.0	W	100.3	91.8	92.2	89.3	93.6	85.0	81.6	89.7	87.0
December	94.3	W	100.9	92.6	93.6	85.8	88.8	81.8	82.1	88.6	84.9
Average	**98.0**	**117.6**	**105.8**	**94.8**	**96.2**	**91.3**	**94.2**	**86.4**	**86.3**	**93.3**	**90.2**
1998 January	92.5	111.0	100.4	92.1	91.0	81.9	85.9	79.7	80.3	85.4	81.5
February	91.9	110.0	98.7	91.4	88.9	80.6	85.0	78.8	79.1	83.7	78.1
March	90.6	104.9	96.8	89.6	88.6	79.3	83.3	77.9	76.9	82.5	77.2
April	88.5	100.3	93.1	88.4	86.8	79.2	81.8	77.0	73.6	81.5	77.8
May	81.7	90.8	89.0	83.8	82.1	77.8	79.9	73.2	69.4	80.5	73.1
June	79.9	89.8	85.8	82.4	79.9	74.4	79.3	72.1	66.4	78.8	69.3
July	74.1	84.0	81.2	81.2	73.5	72.6	76.5	69.7	70.5	77.8	69.3
August	74.5	85.6	79.4	79.8	72.7	70.1	74.5	70.6	61.8	75.5	68.2
September	73.0	84.6	81.7	81.5	72.6	72.2	75.9	72.5	66.3	74.9	70.5
October	R 76.4	W	80.3	R 80.5	76.9	R 74.4	77.3	73.0	69.8	76.9	70.7
November	82.4	W	82.0	81.6	76.8	73.4	78.0	71.4	70.9	76.4	70.5

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,* February 1999, 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 January	87.2	99.7	90.1	84.0	94.6
February	86.8	99.6	90.9	83.3	95.9
March	86.6	101.1	90.0	84.5	99.1
April	95.7	109.7	101.0	90.0	101.5
May	97.1	116.7	108.6	97.9	97.8
June	91.0	112.8	NA	96.2	91.0
July	92.3	103.8	96.4	92.7	87.9
August	98.4	99.8	94.3	92.3	88.1
September	101.3	115.8	109.1	95.7	94.5
October	97.8	116.4	108.6	96.7	102.6
November	98.1	115.3	107.5	96.9	105.4
December	95.4	114.9	105.1	96.4	107.5
Average	**93.3**	**108.0**	**98.9**	**90.9**	**98.9**
1997 January	94.9	117.6	105.8	97.1	107.9
February	94.5	118.8	106.7	97.5	105.1
March	100.6	116.6	107.5	98.7	101.6
April	98.3	114.9	106.1	97.5	99.2
May	98.4	109.1	104.6	96.4	96.3
June	92.3	112.2	100.2	96.0	92.3
July	90.3	108.3	96.9	97.5	88.3
August	90.5	108.8	99.2	96.4	86.9
September	91.2	110.9	101.5	96.6	88.5
October	93.6	111.9	102.0	97.7	92.1
November	94.3	112.8	102.6	98.0	94.1
December	93.4	109.0	98.5	96.3	93.8
Average	**95.3**	**114.0**	**103.2**	**97.2**	**98.4**
1998 January	85.0	105.7	93.6	89.9	92.5
February	80.8	102.4	89.3	87.1	91.5
March	78.6	99.6	85.8	86.2	89.6
April	78.3	99.9	86.2	86.6	87.6
May	74.4	98.9	85.2	86.1	84.8
June	69.6	91.5	81.8	85.8	81.1
July	77.9	87.0	80.6	81.8	77.6
August	79.7	88.5	82.4	82.5	75.5
September	78.4	91.2	83.7	83.4	77.0
October	78.8	94.2	83.9	84.3	78.6
November	76.8	97.0	83.6	82.6	79.8

NA=Not available.

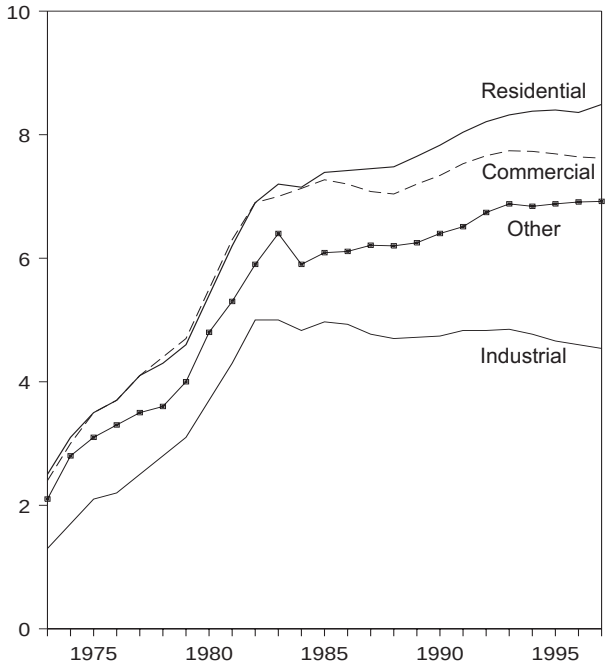
Notes: • States are grouped in Tables 9.8a, 9.8b, and 9.8c by geographic region of the country. • Values for the current month are preliminary. • Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly,* February 1999, Table 18.

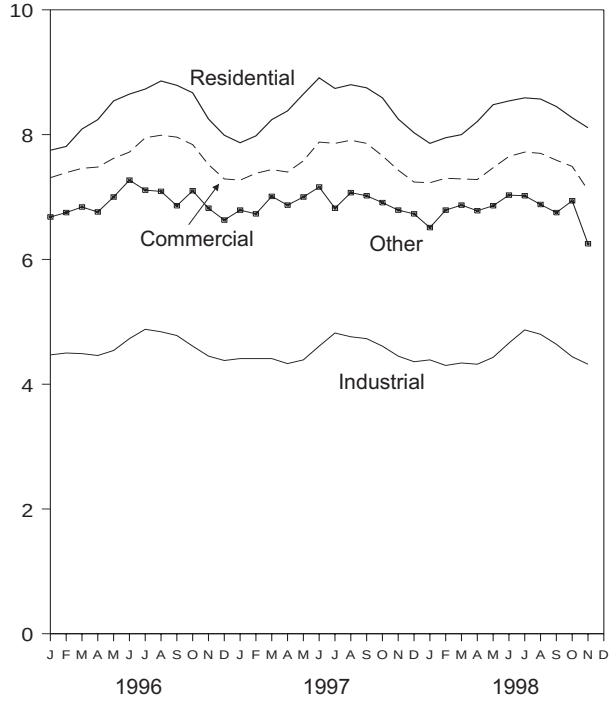
Figure 9.2 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

By Sector, 1973-1997



By Sector, Monthly

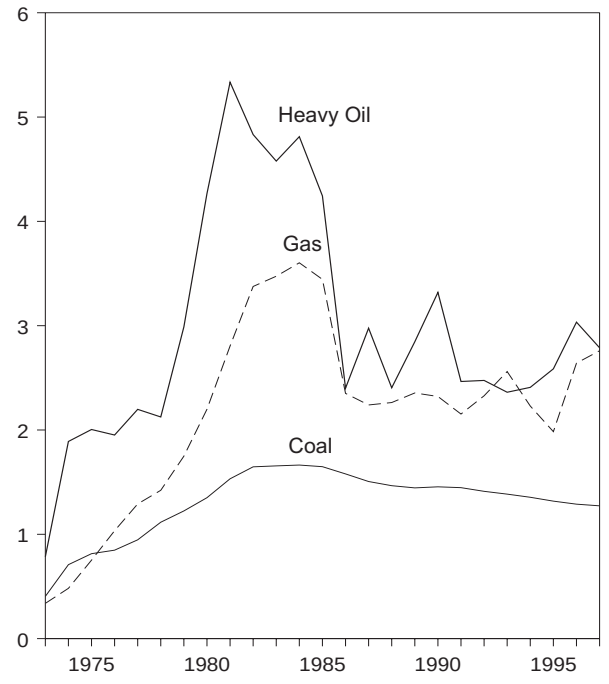


Source: Table 9.9.

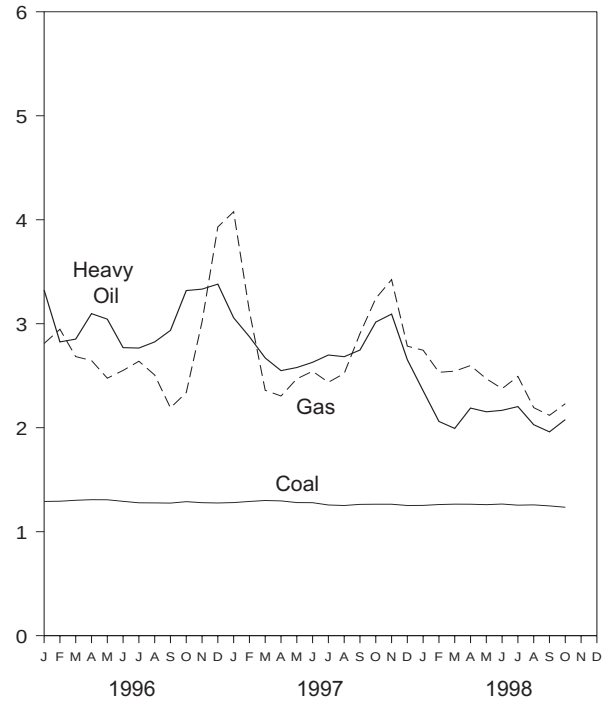
Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Plants

(Dollars per Million Btu)

Costs, 1973-1997



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 January	7.75	7.31	4.47	6.68	6.61
February	7.81	7.39	4.50	6.75	6.60
March	8.09	7.46	4.49	6.84	6.65
April	8.24	7.48	4.46	6.76	6.63
May	8.54	7.62	4.54	7.00	6.77
June	8.65	7.72	4.73	7.27	7.03
July	8.73	7.95	4.88	7.11	7.27
August	8.86	7.99	4.84	7.09	7.30
September	8.79	7.96	4.78	6.86	7.16
October	8.67	7.84	4.61	7.10	6.91
November	8.25	7.52	4.45	6.82	6.65
December	7.99	7.29	4.38	6.63	6.58
Average	**8.36**	**7.64**	**4.60**	**6.91**	**6.86**
1997 January	R 7.87	R 7.27	R 4.41	R 6.79	R 6.62
February	R 7.98	R 7.38	R 4.41	R 6.73	R 6.61
March	R 8.24	R 7.44	R 4.41	R 7.01	R 6.66
April	R 8.38	R 7.40	R 4.33	R 6.87	R 6.59
May	R 8.65	R 7.58	R 4.39	R 7.00	R 6.72
June	R 8.91	R 7.88	R 4.61	R 7.16	R 7.08
July	R 8.74	R 7.86	R 4.82	R 6.82	R 7.25
August	R 8.80	R 7.91	R 4.76	R 7.07	R 7.23
September	R 8.75	R 7.86	R 4.73	R 7.02	R 7.12
October	R 8.59	R 7.66	R 4.61	R 6.91	R 6.90
November	R 8.25	R 7.43	R 4.45	R 6.79	R 6.65
December	R 8.03	R 7.24	R 4.36	R 6.73	R 6.60
Average	R **8.43**	R **7.59**	R **4.53**	R **6.91**	R **6.85**
1998 January	7.86	7.23	4.39	6.51	6.57
February	7.95	7.30	4.30	6.79	6.50
March	8.00	7.29	4.34	6.87	6.52
April	8.21	7.28	4.32	6.78	6.49
May	8.48	7.47	4.43	6.86	6.67
June	8.54	7.65	4.66	7.03	6.98
July	8.59	7.72	4.87	7.02	7.22
August	8.57	7.70	4.80	6.88	7.15
September	8.45	7.59	4.64	6.75	6.97
October	8.27	7.49	4.44	6.94	6.70
November	8.11	7.11	4.32	6.25	6.42
11-Month Average	**8.30**	**7.46**	**4.51**	**6.79**	**6.77**
1997 11-Month Average	**8.47**	**7.62**	**4.54**	**6.93**	**6.87**
1996 11-Month Average	**8.47**	**7.71**	**4.63**	**6.96**	**6.91**

R=Revised.

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

Sources: See end of section.

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 January	67,852	129.1	13,855	332.4	14,540	337.1	155,022	281.0	155.5
February	66,620	129.3	6,099	282.5	7,021	300.6	131,688	294.7	148.5
March	69,921	130.2	9,031	285.2	9,595	296.8	149,233	268.4	149.0
April	70,361	130.8	8,263	309.7	8,724	319.0	160,918	264.6	150.0
May	72,158	130.7	5,882	304.4	6,437	317.6	251,461	247.6	151.8
June	69,677	129.2	8,825	277.0	9,508	288.2	285,271	255.1	155.1
July	75,178	127.8	10,793	276.6	11,380	284.4	346,295	263.9	158.2
August	78,545	127.7	10,484	282.5	10,971	290.6	346,542	250.7	154.6
September	72,730	127.5	5,538	293.6	5,926	307.1	269,988	219.1	145.3
October	75,756	128.9	5,675	331.9	6,407	354.7	217,115	233.8	146.6
November	71,375	127.9	6,382	333.3	7,159	354.4	162,258	301.9	151.0
December	72,525	127.6	8,098	338.1	8,961	355.2	128,870	393.1	156.1
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	79,108	125.3	9,569	235.5	10,105	242.4	164,826	274.5	142.8
February	70,246	126.1	8,736	206.0	9,255	214.0	122,862	253.3	139.0
March	75,647	126.5	10,676	199.3	11,135	204.6	181,096	254.4	142.4
April	74,733	126.4	11,749	218.9	12,289	225.0	186,127	259.8	144.7
May	76,123	126.0	11,554	215.3	12,185	221.5	252,716	247.1	146.5
June	76,493	126.6	13,428	216.7	14,237	222.4	330,939	237.6	149.7
July	79,591	125.5	20,875	220.3	21,736	224.1	389,582	249.3	154.7
August	82,140	125.8	19,250	202.9	20,095	207.2	390,296	219.3	147.5
September	78,776	124.8	12,919	196.0	13,602	202.1	331,911	211.9	142.6
October	79,358	123.5	14,952	207.8	15,683	213.7	230,695	223.1	140.1
10 Months	**772,215**	**125.6**	**133,707**	**211.6**	**140,321**	**217.2**	**2,581,048**	**238.8**	**145.3**
1997 10 Months	**729,851**	**127.6**	**87,588**	**276.3**	**93,221**	**286.1**	**2,408,915**	**271.1**	**152.3**
1996 10 Months	**718,801**	**129.1**	**84,446**	**297.9**	**90,509**	**308.7**	**2,313,534**	**254.3**	**151.6**

[a] Includes supplemental gaseous fuels.

[b] Heavy oil includes fuel oil nos. 4, 5, and 6, and topped crude oil. The weighted averages for petroleum and all fossil fuels include both heavy and light oil (fuel oil nos. 1 and 2, kerosene, and jet fuel) prices. Data do not include petroleum coke.

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

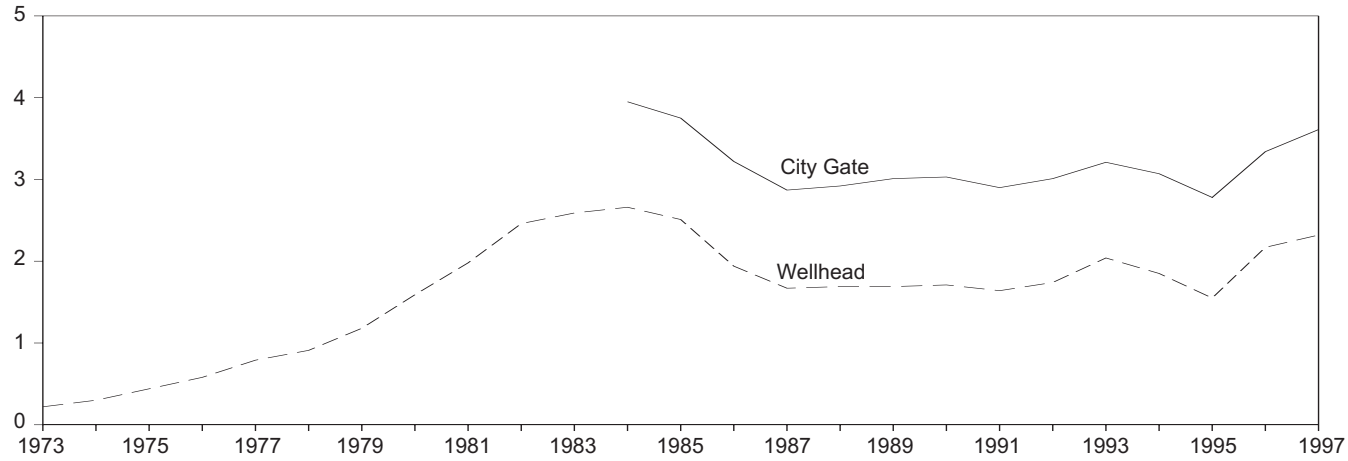
Notes: • Yearly costs are averages of monthly values, weighted by quantities in Btu. • See Note 8 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Sources: See end of section.

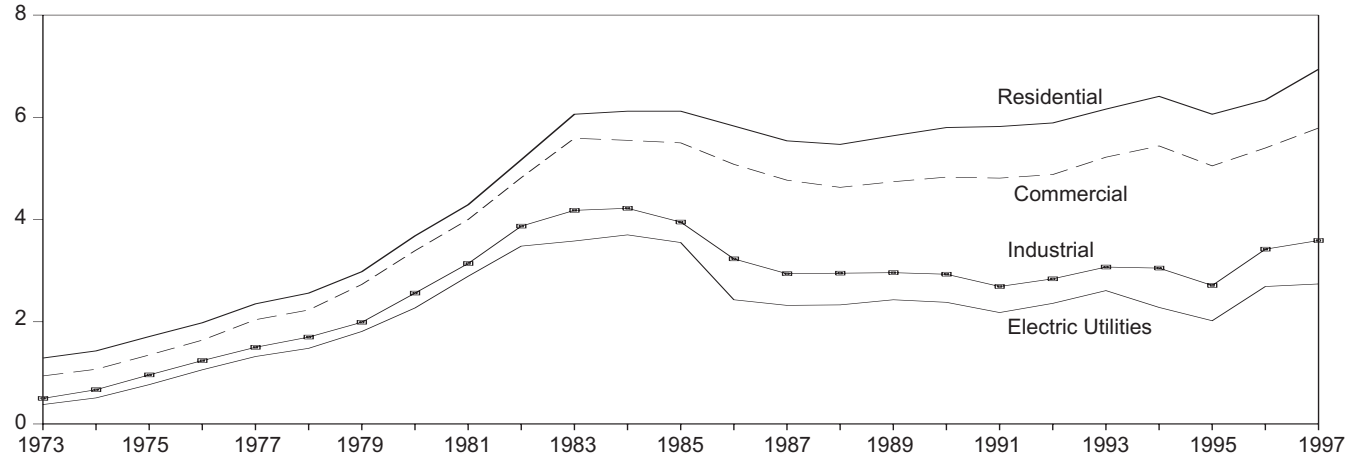
Figure 9.4 Natural Gas Prices

(Dollars per Thousand Cubic Feet)

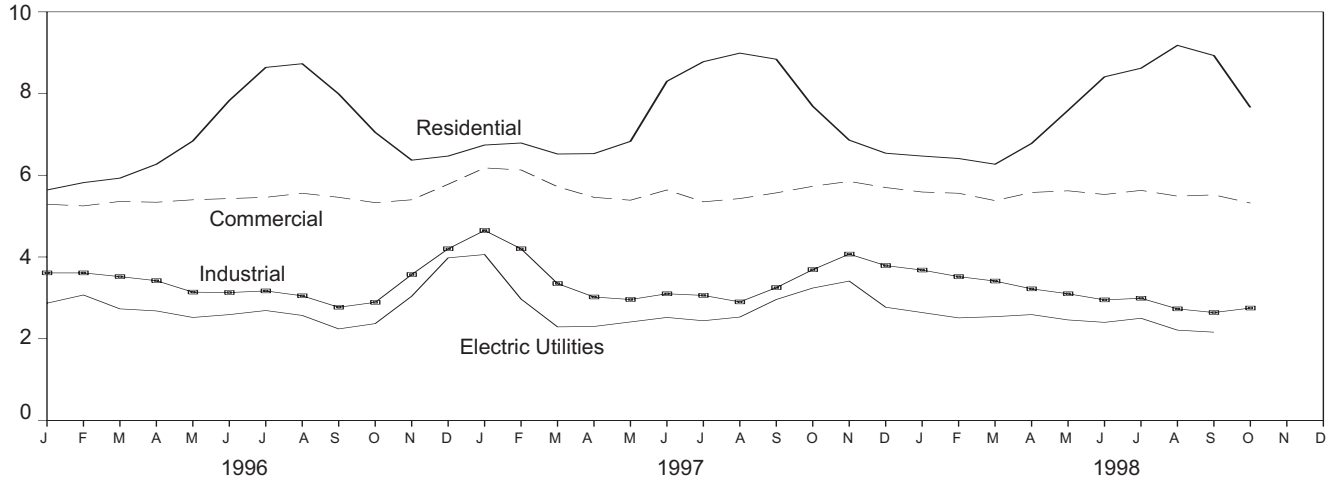
Selected Prices, 1973-1997



Delivered to Consumers, 1973-1997



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 January	2.05	3.14	5.64	5.29	83.2	3.61	22.0	2.87
February	1.89	3.16	5.82	5.25	83.3	3.61	22.7	3.07
March	1.95	3.17	5.93	5.36	81.8	3.52	22.3	2.73
April	2.08	3.22	6.27	5.34	79.5	3.42	20.5	2.68
May	2.01	3.18	6.84	5.40	74.6	3.14	18.7	2.52
June	2.08	3.41	7.83	5.43	70.0	3.13	16.7	2.59
July	2.25	3.49	8.64	5.46	67.8	3.17	18.6	2.69
August	2.10	3.46	8.73	5.56	66.3	3.05	17.4	2.57
September	1.85	3.05	7.99	5.46	67.1	2.77	16.9	2.24
October	1.94	2.94	7.05	5.33	69.1	2.89	17.2	2.37
November	2.50	3.46	6.37	5.40	75.7	3.57	18.5	3.04
December	3.26	4.18	6.47	5.78	78.1	4.20	20.0	3.98
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	6.18	78.8	4.65	21.6	4.06
February	2.49	3.76	6.79	6.13	78.4	4.20	19.7	2.97
March	1.79	3.04	6.52	5.72	74.0	3.35	18.8	2.29
April	1.81	2.92	6.53	5.46	71.8	3.02	18.4	2.30
May	2.00	3.11	6.83	5.39	65.5	2.96	18.1	2.41
June	2.08	3.41	8.30	5.64	61.7	3.10	17.4	2.52
July	2.00	3.44	8.78	5.35	59.5	3.06	15.3	2.44
August	2.08	3.34	8.99	5.43	57.9	2.90	15.6	2.53
September	2.33	3.50	8.84	5.57	59.5	3.25	15.1	2.96
October	2.68	3.86	7.69	5.73	62.9	3.69	16.8	3.24
November	2.92	3.91	6.86	5.85	70.4	4.07	18.0	3.41
December	2.28	3.42	6.54	5.70	72.8	3.79	17.2	2.77
Average	**2.32**	**3.61**	**6.94**	**5.79**	**70.8**	**3.59**	**17.7**	**2.74**
1998 January	[E] 1.89	3.28	6.47	5.59	72.4	3.68	14.9	2.64
February	[E] 1.80	3.08	6.41	5.56	71.0	3.52	15.3	2.51
March	[E] 1.95	3.22	6.27	5.38	71.6	3.41	16.5	2.54
April	[E] 2.02	3.21	6.78	5.58	67.0	3.22	15.0	2.59
May	[E] 1.96	3.11	7.59	5.62	60.2	3.10	13.9	2.46
June	[E] 1.78	2.98	8.41	5.53	59.9	2.95	13.9	2.40
July	[E] 2.05	3.36	8.62	5.63	51.3	2.99	12.7	2.50
August	[E] 1.84	3.13	9.18	5.49	46.8	2.73	13.6	2.21
September	[RE] 1.83	2.75	8.93	5.52	49.4	2.64	14.5	2.16
October	[E] 1.84	2.93	7.66	5.32	55.0	2.75	14.2	NA
10-Month Average	**[E] 1.90**	**3.13**	**6.93**	**5.52**	**64.1**	**3.13**	**14.5**	**NA**
1997 10-Month Average	**2.27**	**3.55**	**7.04**	**5.80**	**70.6**	**3.49**	**17.8**	**2.64**
1996 10-Month Average	**2.02**	**3.19**	**6.32**	**5.34**	**77.8**	**3.27**	**19.4**	**2.59**

[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 June 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,* February 1999, 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,* February 1999, 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*, February 1999, 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*, February 1999, 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*, February 1999, 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*, February 1999, Table 26.

Sources for Table 9.11

Prices, 1973-1989

Wellhead: Energy Information Administration (EIA), *Natural Gas Annual 1994, Volume 1,* Table 99.
City Gate, 1984-1986: EIA, *Natural Gas Monthly*, December 1989, Table 4.
City Gate, 1987-1989: EIA, *Natural Gas Monthly*, December 1994, Table 4.
Delivered to Consumers, 1973-1990: EIA, *Natural Gas Annual 1997*, Table 101.

Prices, 1991 forward

EIA, *Natural Gas Monthly*, January 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 November 1998 was 67 million barrels per day, up 0.9 million barrels per day from the level in the previous month.

Organization of Petroleum Exporting Countries (OPEC) production during November 1998 averaged 29 million barrels per day, up 0.3 million barrels per day from the level during the previous month. During November 1998, production increased in Iran by 150 thousand barrels per day, Nigeria by 100 thousand barrels per day, and in both Venezuela and Kuwait by 50 thousand barrels per day, Libya by 15 thousand barrels per day, and Qatar by 5 thousand barrels per day. Production decreased in both Saudi Arabia and Iraq by 50 thousand barrels per day. Production remained unchanged in the United Arab Emirates, Indonesia, and Algeria.

Among the non-OPEC nations, production during November 1998 increased in Mexico by 355 thousand barrels per day, Norway by 176 thousand barrels per day, China by 90 thousand barrels per day, and Canada by 44 thousand barrels per day. Production decreased in the United States by 81 thousand barrels per day, Russia by 17 thousand barrels per day, and Egypt by 10 thousand barrels per day. Production remained unchanged in the United Kingdom.

Petroleum Consumption. In September 1998, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 41.8 million barrels per day, less than 1 percent lower than the September 1997 rate. The consumption rate was higher than it was 1 year ago in Canada and France (both +3 percent)[1], and the United States (+1 percent). The consumption rate was lower in Italy and Japan (both -6 percent), Germany (-5 percent), and the United Kingdom (-1 percent), compared with the rate 1 year earlier.

Petroleum Stocks. For all OECD countries, petroleum stocks at the end of September 1998 totaled 3.9 billion barrels, 5 percent higher than the ending stock level in September 1997. Stocks were higher in Italy (+10 percent), Canada and Germany (both +9 percent), France (+8 percent), the United States (+4 percent), and the United Kingdom (+1 percent). Stock levels were lower in Japan (-1 percent), compared with levels 1 year earlier.

Nuclear Electricity Generation. Based on *Nucleonics Week*[2] information for November 1998, all reporting countries with nuclear capacity generated 207.5 gross terawatthours (one terawatthour equals 1 billion kilowatthours) of nuclear-generated electricity.

As of November 30, 1998, 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 January	1,220	1,540	3,735	550	2,038	1,400	2,160	500	8,118	2,290	2,940	26,490
February	1,220	1,540	3,685	550	2,057	1,400	2,180	500	8,248	2,265	2,940	26,585
March	1,210	1,540	3,715	550	2,057	1,400	2,190	500	8,248	2,285	2,990	26,685
April	1,230	1,530	3,685	550	2,067	1,400	2,160	505	8,088	2,250	2,990	26,455
May	1,245	1,530	3,635	550	2,055	1,400	2,200	505	8,135	2,275	2,990	26,520
June	1,250	1,550	3,685	550	2,065	1,400	2,200	505	8,195	2,270	2,990	26,660
July	1,250	1,520	3,685	550	2,065	1,400	2,170	505	8,295	2,260	3,040	26,740
August	1,250	1,540	3,715	550	2,040	1,400	2,190	505	8,220	2,260	3,090	26,760
September	1,250	1,560	3,735	550	2,070	1,400	2,150	525	8,200	2,310	3,090	26,840
October	1,260	1,580	3,635	550	2,075	1,400	2,210	525	8,255	2,310	3,140	26,940
November	1,260	1,570	3,685	550	2,075	1,400	2,220	505	8,255	2,250	3,190	26,960
December	1,260	1,570	3,635	887	2,077	1,410	2,225	545	8,358	2,305	3,240	27,512
Average	**1,242**	**1,547**	**3,686**	**579**	**2,062**	**1,401**	**2,188**	**510**	**8,218**	**2,278**	**3,053**	**26,764**
1997 January	1,260	1,570	3,685	1,085	2,085	1,430	2,280	585	8,265	2,300	3,190	27,735
February	1,270	1,590	3,685	1,125	2,077	1,430	2,310	585	8,408	2,330	3,190	28,000
March	1,280	1,600	3,685	1,175	2,105	1,440	2,240	585	8,515	2,360	3,200	28,185
April	1,280	1,560	3,685	1,275	2,107	1,450	2,310	585	8,568	2,360	3,220	28,400
May	1,280	1,580	3,635	1,325	2,027	1,450	2,270	605	8,548	2,210	3,240	28,170
June	1,260	1,530	3,735	605	2,050	1,450	2,340	690	8,540	2,325	3,260	27,785
July	1,280	1,530	3,685	605	2,070	1,450	2,330	685	8,560	2,325	3,270	27,790
August	1,280	1,530	3,685	1,515	2,070	1,450	2,350	685	8,660	2,325	3,390	28,940
September	1,280	1,490	3,485	1,735	2,075	1,450	2,300	685	8,665	2,325	3,430	28,920
October	1,280	1,490	3,635	1,625	2,075	1,450	2,400	685	8,665	2,325	3,430	29,060
November	1,280	1,540	3,685	1,390	2,075	1,450	2,360	705	8,615	2,305	3,460	28,865
December	1,290	1,540	3,685	781	2,175	1,450	2,320	705	8,725	2,310	3,490	28,471
Average	**1,277**	**1,546**	**3,664**	**1,187**	**2,083**	**1,446**	**2,317**	**649**	**8,562**	**2,316**	**3,315**	**28,362**
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
11-Mo. Avg.	**1,249**	**1,516**	**3,638**	**2,136**	**2,092**	**1,381**	**2,157**	**697**	**8,415**	**2,350**	**3,179**	**28,811**
1997 11-Mo. Avg.	**1,276**	**1,546**	**3,662**	**1,224**	**2,074**	**1,446**	**2,317**	**644**	**8,547**	**2,317**	**3,299**	**28,351**
1996 11-Mo. Avg.	**1,240**	**1,545**	**3,690**	**550**	**2,060**	**1,400**	**2,185**	**507**	**8,205**	**2,275**	**3,036**	**26,695**

[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 November 1998, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 540 thousand barrels per day.

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

Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available.

Sources: See end of section.

Table 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**	**35,814**	**60,212**
1993 Average	**16,715**	**1,679**	**2,890**	**890**	**2,673**	**2,350**	**–**	**6,730**	**1,915**	**6,847**	**35,119**	**60,238**
1994 Average	**16,964**	**1,746**	**2,939**	**896**	**2,685**	**2,521**	**–**	**6,135**	**2,375**	**6,662**	**35,482**	**60,992**
1995 Average	**17,208**	**1,805**	**2,990**	**920**	**2,618**	**2,768**	**–**	**5,995**	**2,489**	**6,560**	**36,327**	**62,331**
1996 January	17,265	1,788	3,115	920	2,795	3,085	–	5,839	2,600	6,495	36,964	63,455
February	17,340	1,718	3,100	920	2,800	3,165	–	5,944	2,625	6,577	37,271	63,856
March	17,390	1,814	3,050	920	2,870	2,990	–	5,830	2,570	6,571	37,019	63,704
April	17,180	1,854	3,020	920	2,860	3,160	–	5,839	2,467	6,444	37,104	63,559
May	17,190	1,768	3,195	920	2,875	2,980	–	5,866	2,512	6,394	37,037	63,558
June	17,305	1,829	3,205	920	2,880	3,150	–	5,839	2,457	6,458	37,225	63,885
July	17,395	1,808	3,150	920	2,870	3,201	–	5,813	2,537	6,338	37,236	63,976
August	17,325	1,872	3,130	920	2,830	3,022	–	5,857	2,385	6,360	36,886	63,646
September	17,425	1,854	3,140	920	2,860	3,095	–	5,826	2,517	6,482	37,271	64,111
October	17,385	1,936	3,165	920	2,860	3,005	–	5,813	2,642	6,481	37,528	64,468
November	17,355	1,889	3,190	930	2,860	3,210	–	5,909	2,743	6,476	37,966	64,926
December	17,842	1,905	3,115	930	2,900	3,198	–	5,830	2,760	6,506	37,989	65,501
Average	**17,367**	**1,837**	**3,131**	**922**	**2,855**	**3,104**	**–**	**5,850**	**2,568**	**6,465**	**37,290**	**64,054**
1997 January	18,040	1,874	3,210	885	2,940	3,268	–	E 5,789	2,693	6,402	37,941	65,676
February	18,245	1,920	3,240	885	2,970	3,263	–	E 5,729	2,660	6,514	38,041	66,041
March	18,460	1,900	3,215	890	2,970	3,063	–	E 5,772	2,638	6,452	37,833	66,018
April	18,615	1,823	3,230	890	2,945	3,388	–	E 5,893	2,515	6,441	38,171	66,571
May	18,385	1,737	3,275	880	2,990	3,194	–	E 5,902	2,315	6,474	37,738	65,908
June	17,980	1,835	3,220	870	3,005	3,025	–	E 5,902	2,135	6,442	37,343	65,128
July	17,965	1,889	3,190	880	3,035	3,194	–	E 5,923	2,447	6,409	37,786	65,576
August	18,975	1,895	3,190	870	3,080	2,890	–	E 5,945	2,407	6,347	37,534	66,474
September	19,005	1,930	3,195	860	3,105	2,927	–	E 5,958	2,483	6,486	37,907	66,827
October	19,045	1,956	3,195	860	3,087	3,209	–	E 5,954	2,610	6,467	38,301	67,361
November	18,810	1,970	3,158	860	3,085	3,192	–	E 5,945	2,602	6,459	38,342	67,207
December	18,416	1,985	3,090	860	3,056	3,229	–	E 5,893	2,700	6,531	38,536	67,007
Average	**18,496**	**1,893**	**3,200**	**874**	**3,023**	**3,153**	**–**	**E 5,884**	**2,517**	**6,452**	**37,955**	**66,317**
1998 January	19,061	1,912	3,240	860	3,085	3,293	–	E 5,979	2,597	E 6,438	38,514	67,458
February	19,513	1,944	3,155	860	3,140	3,230	–	E 5,997	2,583	E 6,538	38,578	67,989
March	19,380	1,952	3,170	860	3,160	3,123	–	E 5,962	2,600	E 6,465	38,468	67,863
April	19,680	1,988	3,140	860	3,140	3,160	–	E 5,876	2,602	E 6,484	38,361	67,674
May	19,680	1,943	3,210	870	3,149	2,917	–	E 5,789	2,499	E 6,384	37,923	67,168
June	19,225	1,932	3,260	870	3,050	3,140	–	E 5,928	2,495	E 6,290	38,188	66,888
July	19,290	2,045	3,200	880	3,120	3,120	–	E 5,923	2,525	E 6,322	R 38,296	R 66,861
August	19,250	2,016	3,180	870	3,055	2,440	–	E 5,910	2,536	E 6,276	R 37,508	R 65,793
September	19,385	2,064	3,216	870	2,906	2,863	–	E 5,936	2,690	E 6,069	R 37,733	R 66,098
October	19,225	R 2,024	R 3,150	870	2,792	R 2,920	–	E 5,979	2,718	E 6,270	R 37,824	R 66,059
November	19,330	2,068	3,240	860	3,147	3,096	–	E 5,962	2,718	E 6,189	38,431	66,936
11-Mo. Avg.	**19,364**	**1,990**	**3,197**	**866**	**3,067**	**3,025**	**–**	**E 5,931**	**2,596**	**E 6,338**	**38,162**	**66,973**
1997 11-Mo. Avg.	**18,503**	**1,884**	**3,211**	**875**	**3,020**	**3,146**	**–**	**5,884**	**2,500**	**6,444**	**37,901**	**66,253**
1996 11-Mo. Avg.	**17,323**	**1,830**	**3,133**	**921**	**2,851**	**3,096**	**–**	**5,852**	**2,550**	**6,461**	**37,226**	**63,920**

[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.

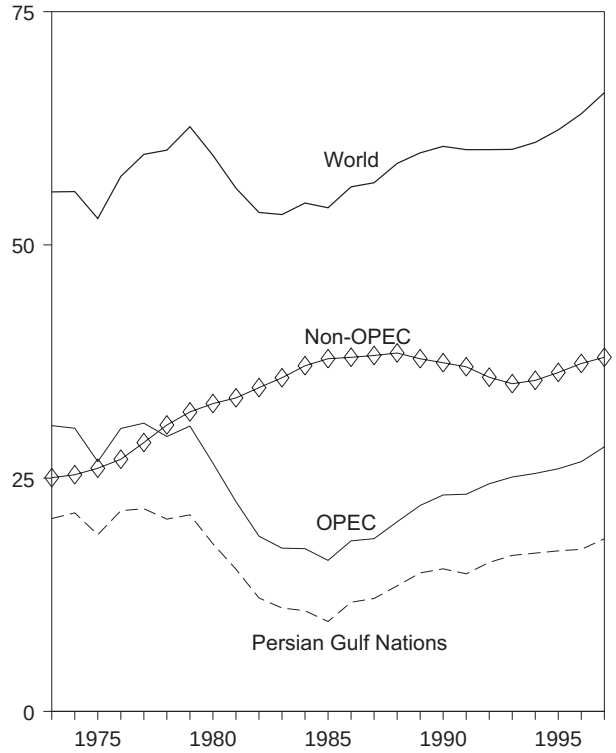
Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available. • Data for countries may not sum to World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

Sources: See end of section.

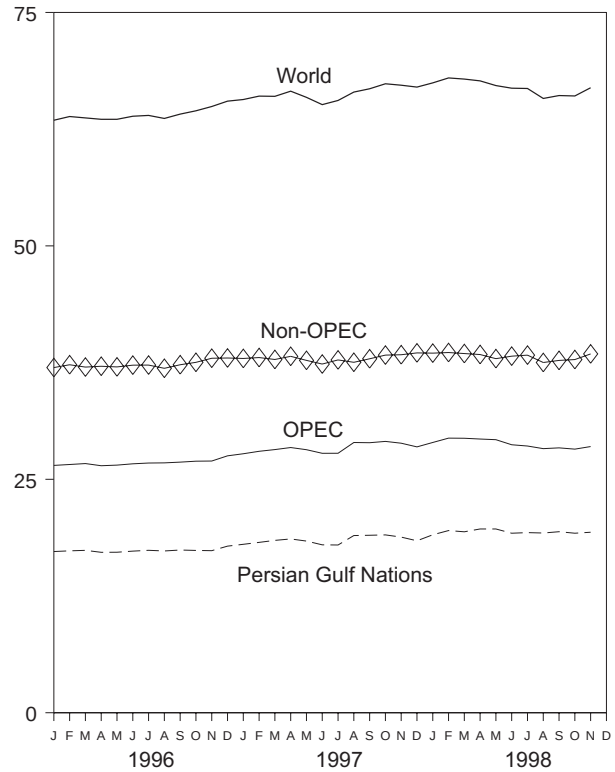
Figure 10.1 Crude Oil Production

(Million Barrels per Day)

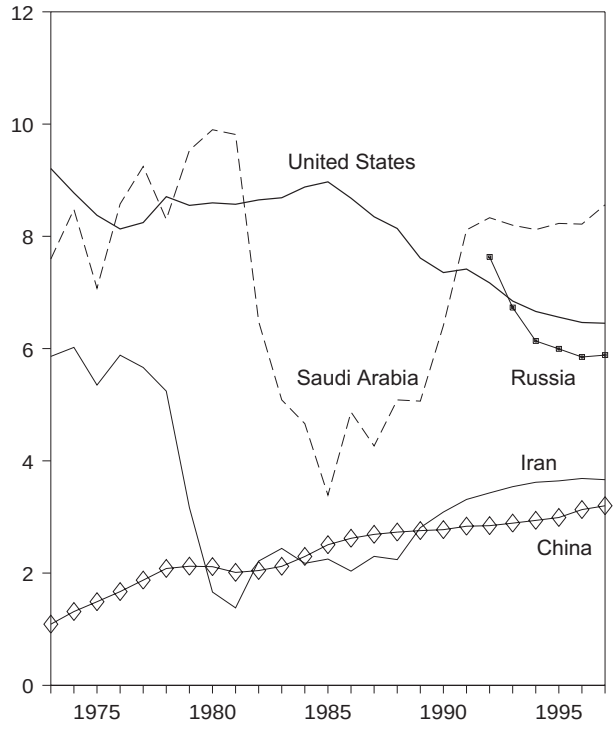
World Production, 1973-1997



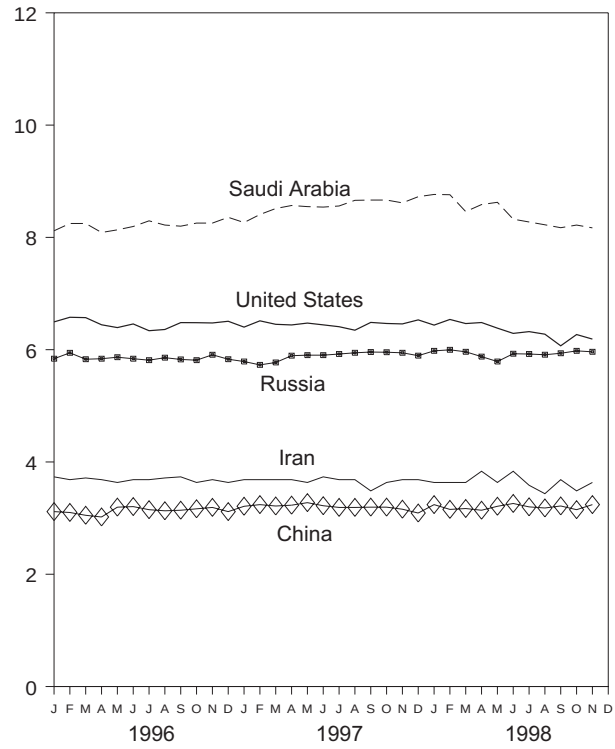
World Production, Monthly



Selected Producers, 1973-1997



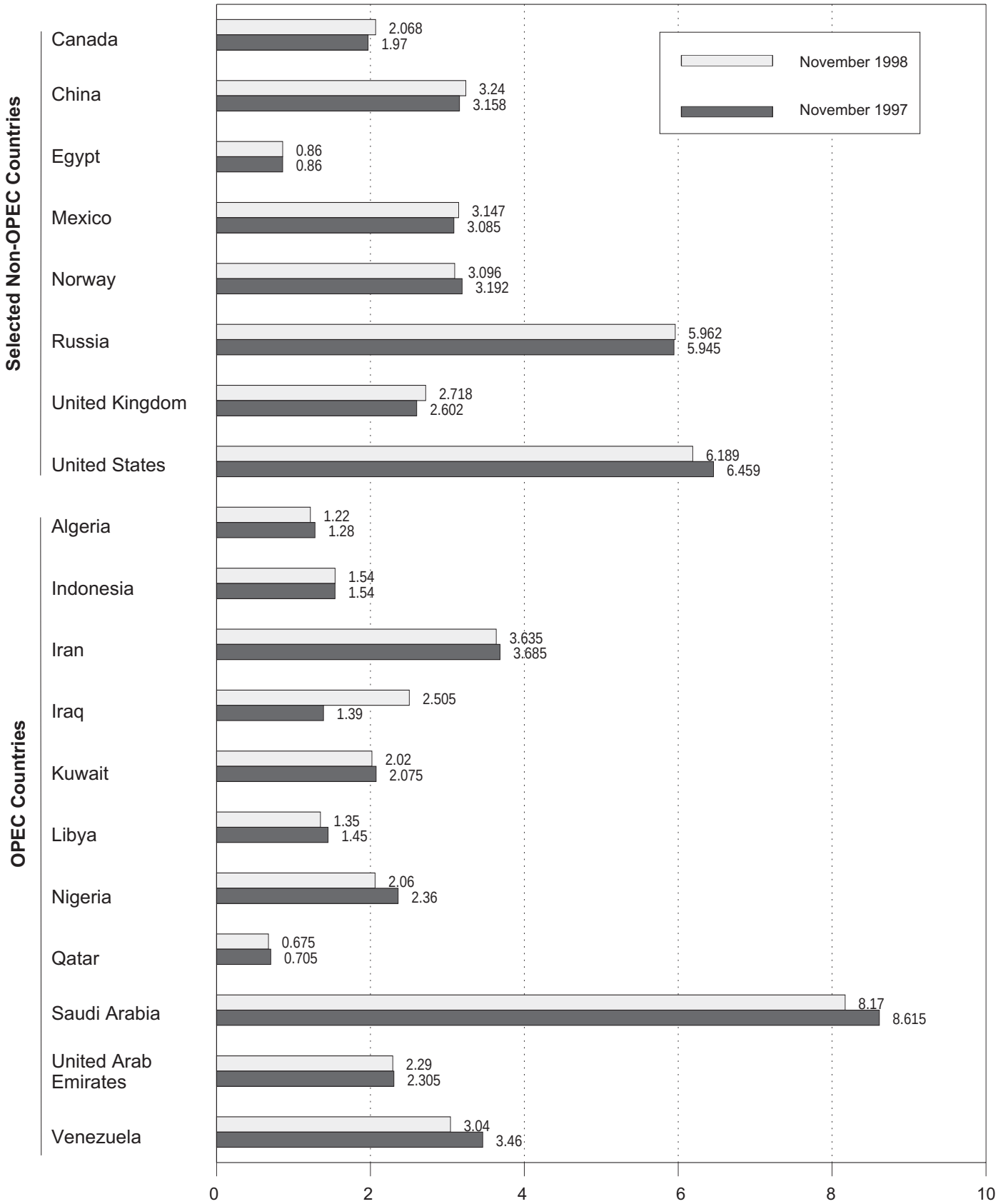
Selected Producers, Monthly



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)

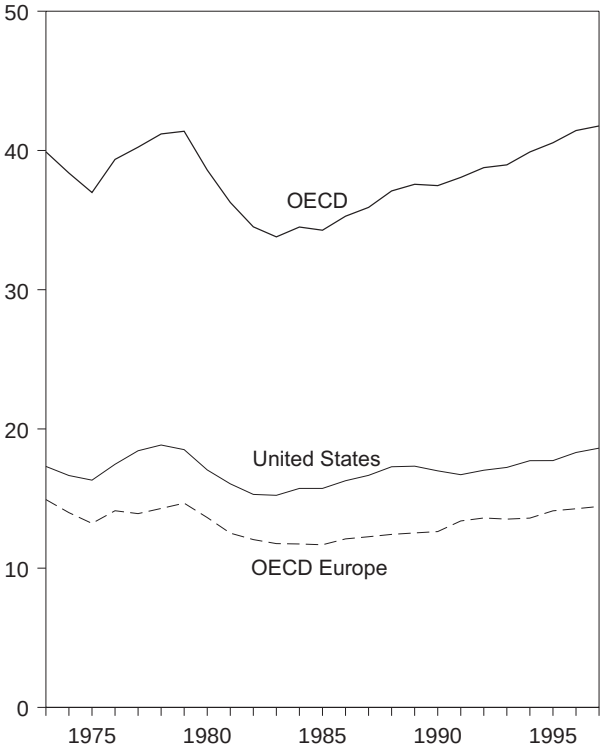


Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

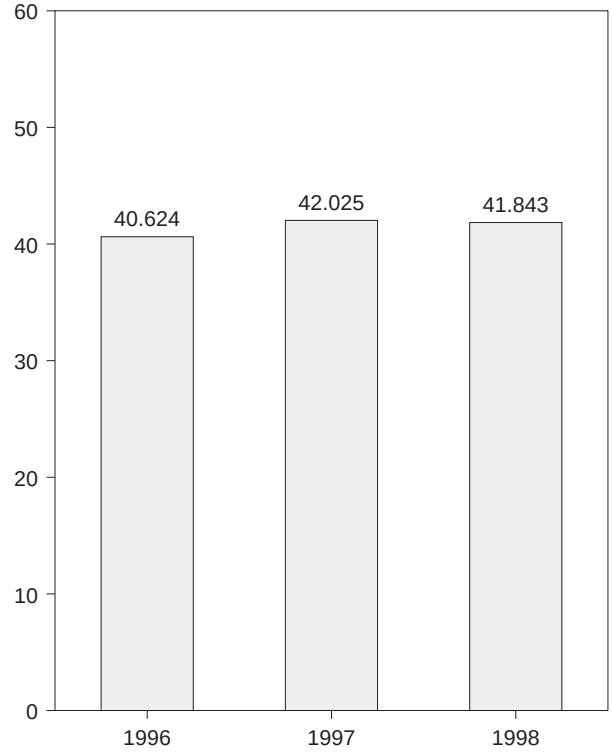
Figure 10.3 Petroleum Consumption in OECD Countries

(Million Barrels per Day)

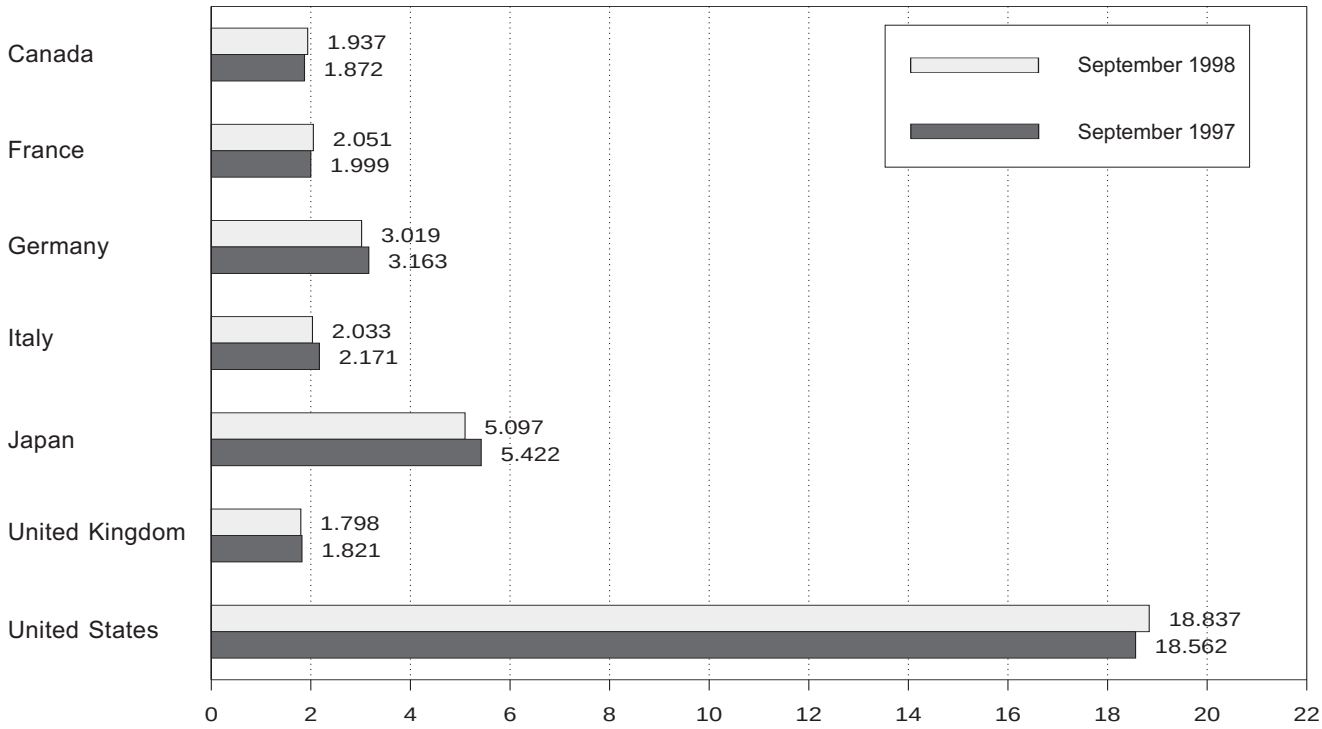
Overview, 1973-1997



OECD Total, September



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 January	1,805	1,879	2,901	2,113	6,328	1,762	18,261	14,036	1,241	41,672
February	1,874	2,183	3,030	2,259	6,886	1,919	18,620	15,138	1,242	43,760
March	1,744	1,979	2,860	2,189	6,437	1,859	18,301	14,275	1,219	41,976
April	1,667	1,919	2,743	1,961	5,748	1,853	17,885	13,676	1,227	40,203
May	1,715	1,810	2,864	1,880	5,147	1,846	17,957	13,778	1,167	39,763
June	1,796	1,819	2,830	1,908	5,114	1,738	18,107	13,597	1,205	39,819
July	1,802	1,977	2,957	2,158	5,502	1,790	18,211	14,245	1,139	40,899
August	1,880	1,841	3,035	1,786	5,567	1,795	18,658	13,873	1,190	41,168
September	1,763	1,929	3,095	2,074	5,361	1,877	17,655	14,775	1,071	40,624
October	1,809	1,989	2,860	2,201	5,580	1,910	19,171	14,722	1,198	42,479
November	1,941	1,880	2,975	2,083	6,114	1,966	18,535	14,700	1,109	42,399
December	1,771	2,021	2,796	2,088	6,648	1,836	18,334	14,458	1,278	42,489
Average	**1,797**	**1,935**	**2,911**	**2,058**	**5,867**	**1,845**	**18,309**	**14,269**	**1,191**	**41,432**
1997 January	1,836	2,170	2,904	2,028	6,294	1,850	18,554	14,689	1,145	42,519
February	1,857	2,142	2,652	2,115	6,756	1,933	18,398	14,618	1,150	42,778
March	1,755	1,801	2,692	1,919	6,149	1,754	17,863	13,606	1,148	40,521
April	1,724	1,916	3,219	1,990	5,306	1,804	18,559	14,690	1,181	41,460
May	1,811	1,712	2,760	1,888	5,080	1,712	18,293	13,524	1,073	39,782
June	1,882	1,878	3,123	1,938	5,135	1,781	18,617	14,382	1,097	41,113
July	1,983	2,077	3,074	2,020	5,450	1,757	19,107	14,734	1,150	42,423
August	1,920	1,795	2,745	1,798	5,404	1,710	18,565	13,530	1,114	40,533
September	1,872	1,999	3,163	2,171	5,422	1,821	18,562	15,003	1,166	42,025
October	1,934	2,144	2,869	2,207	5,414	1,845	19,071	15,095	1,140	42,654
November	1,832	1,731	2,882	2,174	5,732	1,805	18,578	14,393	1,152	41,688
December	1,876	2,107	2,761	2,299	6,453	1,836	19,250	14,972	1,146	43,697
Average	**1,857**	**1,955**	**2,903**	**2,045**	**5,711**	**1,799**	**18,620**	**14,433**	**1,138**	**41,760**
1998 January	1,888	2,040	2,734	2,030	6,109	1,784	18,256	14,277	1,046	41,577
February	1,829	2,160	2,950	2,150	6,465	1,832	18,322	15,181	1,148	R 42,946
March	1,861	1,982	3,153	2,111	5,905	1,854	18,393	R 15,139	1,225	R 42,523
April	1,805	1,999	2,840	2,016	5,086	1,716	18,624	14,234	1,073	40,823
May	1,766	1,822	2,594	1,892	4,806	1,689	17,876	R 13,456	1,128	R 39,031
June	1,890	2,008	2,929	2,091	5,016	1,784	18,818	R 14,774	1,151	R 41,649
July	1,955	2,095	3,020	2,096	5,316	1,770	19,140	R 14,834	1,168	R 42,413
August	1,910	1,859	2,836	1,878	5,282	1,761	19,108	R 13,980	1,124	R 41,403
September	1,937	2,051	3,019	2,033	5,097	1,798	18,837	14,885	1,087	41,843
9-Mo. Avg.	**1,872**	**2,000**	**2,896**	**2,032**	**5,447**	**1,776**	**18,598**	**14,521**	**1,128**	**41,565**
1997 9-Mo. Avg.	**1,849**	**1,941**	**2,926**	**1,983**	**5,658**	**1,790**	**18,502**	**14,301**	**1,136**	**41,446**
1996 9-Mo. Avg.	**1,783**	**1,925**	**2,923**	**2,036**	**5,784**	**1,826**	**18,184**	**14,149**	**1,189**	**41,088**

[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.

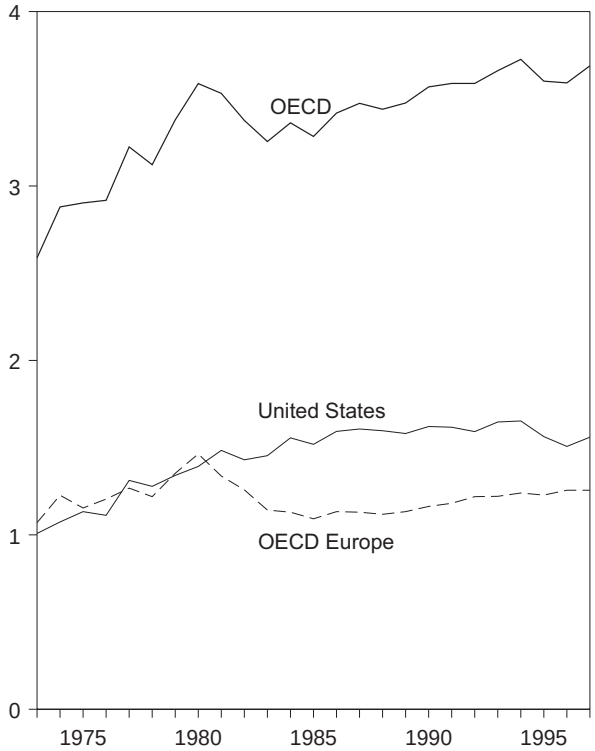
Notes: • Data through 1993 are final. Subsequent data are preliminary. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

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.*

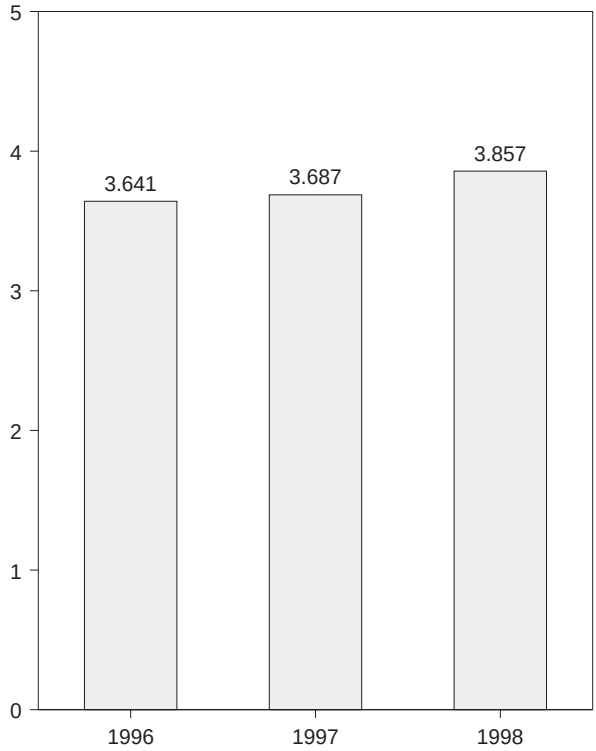
Figure 10.4 Petroleum Stocks in OECD Countries

(Billion Barrels)

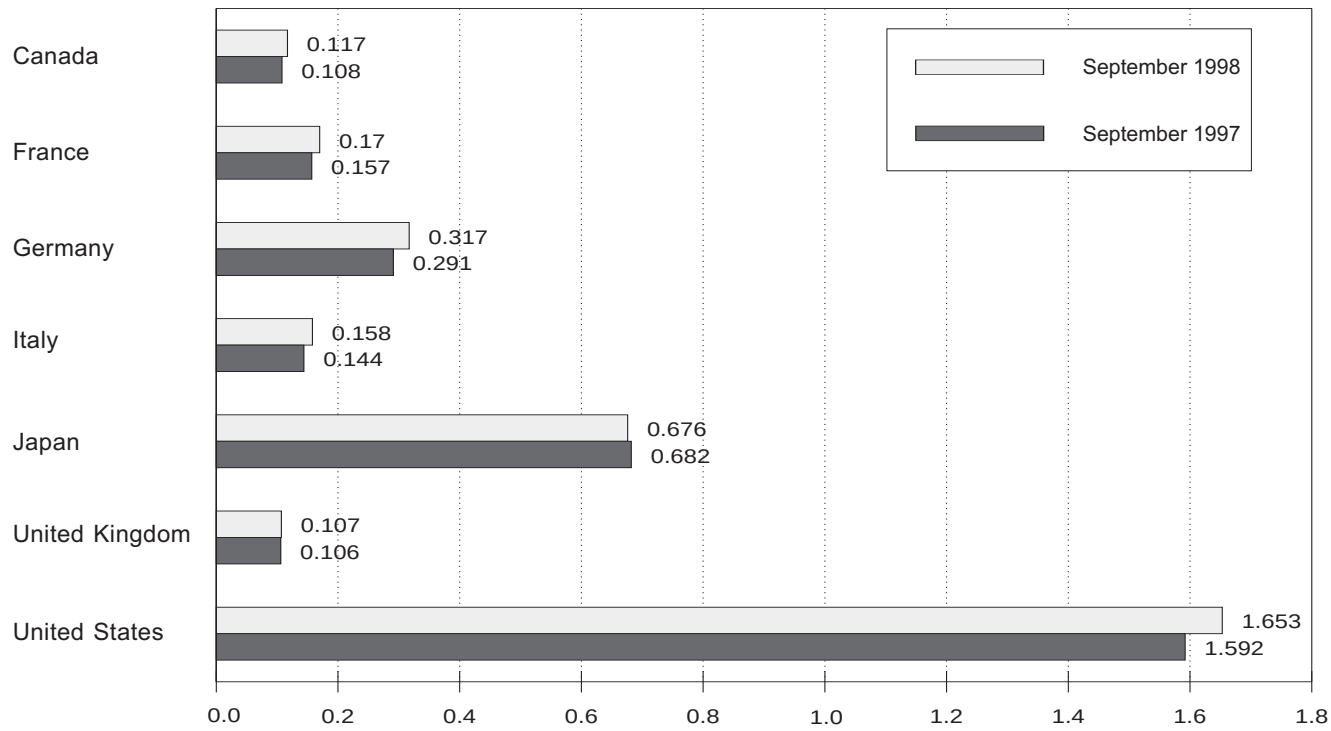
Overview, End of Year, 1973-1997



OECD Stocks, End of Month, September



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, End of Period

(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 January	104	154	301	157	638	107	1,544	1,236	73	3,596
February	102	156	298	156	615	103	1,500	1,224	69	3,511
March	109	156	296	153	627	106	1,482	1,212	70	3,500
April	109	165	298	150	622	109	1,502	1,236	72	3,540
May	107	163	295	157	641	105	1,520	1,233	75	3,575
June	107	160	296	158	640	104	1,546	1,229	73	3,597
July	110	162	297	155	637	105	1,550	1,242	83	3,621
August	110	160	295	159	658	101	1,545	1,237	79	3,629
September	113	152	295	162	664	105	1,551	1,229	83	3,641
October	111	156	296	155	673	104	1,538	1,237	82	3,640
November	105	160	297	152	665	106	1,522	1,243	81	3,616
December	**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	112	163	298	154	673	111	1,576	1,281	78	3,720
February	110	161	290	155	664	108	1,572	1,276	75	3,698
March	118	155	285	146	655	109	1,588	1,251	73	3,684
April	116	163	292	161	658	106	1,614	1,280	75	3,743
May	115	171	306	168	667	111	1,654	1,343	79	3,858
June	114	164	308	164	658	109	1,654	1,316	80	3,823
July	115	164	313	157	660	109	1,665	1,318	75	3,833
August	R 118	168	319	161	672	106	1,672	R 1,334	77	R 3,874
September	117	170	317	158	676	107	1,653	1,332	79	3,857

[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.

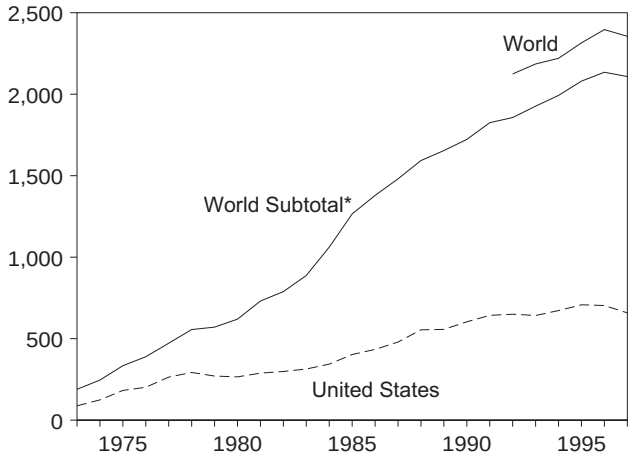
Notes: • Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined products. Petroleum stocks include all nonmilitary petroleum held for storage, regardless of ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, 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

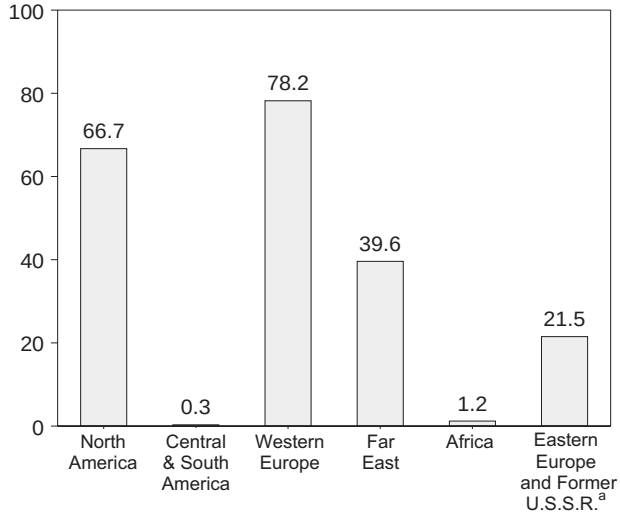
(Billion Kilowatthours)

U.S. and World, 1973-1997



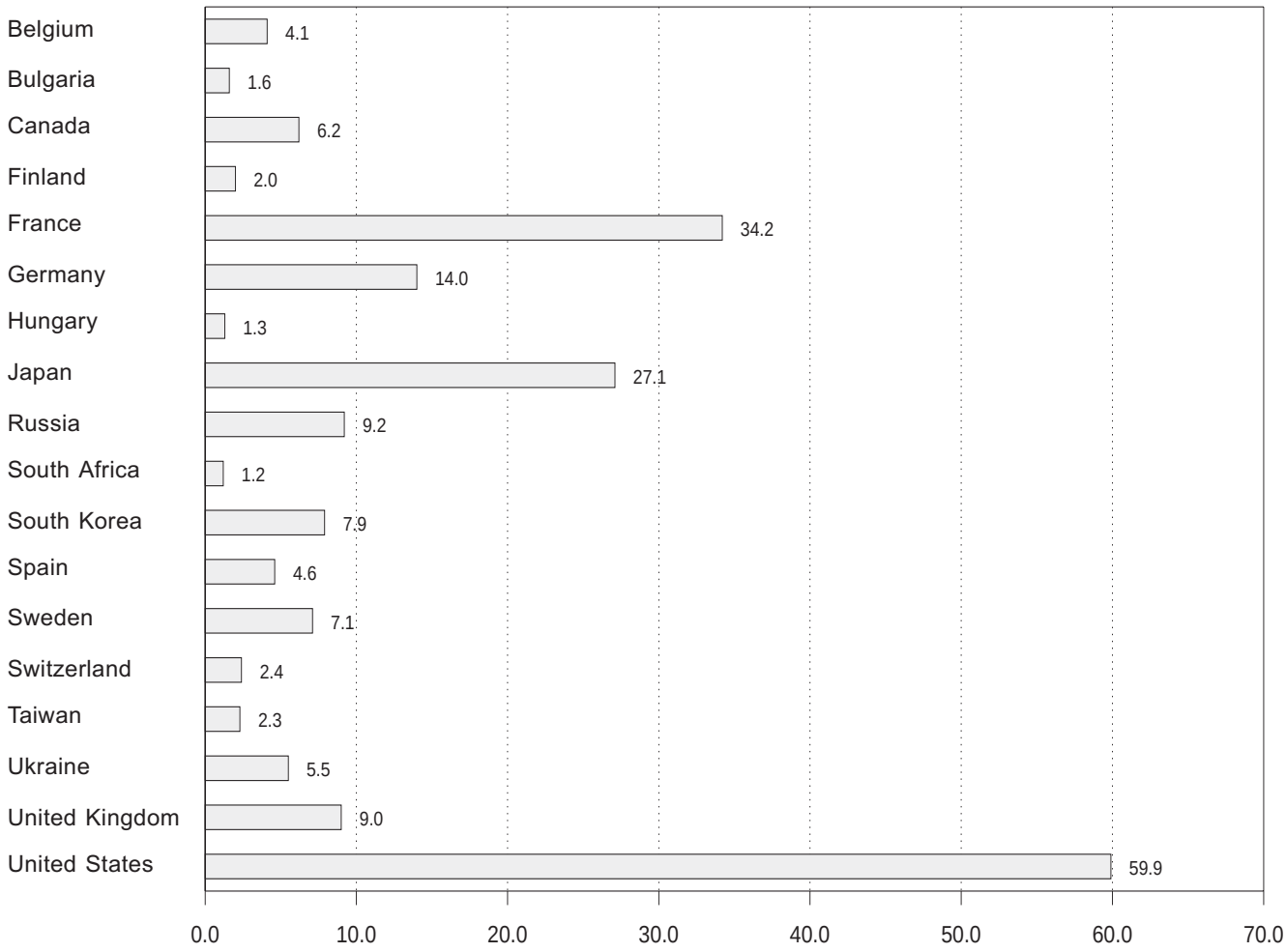
*World excluding Eastern Europe.

By Region, November 1998



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

By Selected Country, November 1998



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 January	76.0	1.0	[E]83.4	[c]33.4	.7	194.5	[b]24.6	[b]219.1
February	69.0	.8	[E]76.2	[c]30.5	.7	177.1	[b]23.3	[b]200.5
March	69.0	.8	[E]77.6	[c]35.0	1.1	183.5	[b]24.7	[b]208.1
April	61.4	.7	[E]73.2	[c]33.1	1.1	169.4	[b]20.2	[b]189.6
May	64.7	.7	[E]68.1	[c]33.3	1.1	168.0	[b]17.2	[b]185.1
June	66.7	.7	[E]63.7	[c]34.2	.8	166.0	[b]17.6	[b]183.6
July	72.0	.5	[E]65.9	[c]39.2	.6	178.2	[b]16.7	[b]194.9
August	71.5	.7	[E]65.7	[c]39.6	1.3	178.8	[b]15.4	[b]194.2
September	63.6	.8	[E]69.3	[c]32.7	1.3	167.7	[b]14.9	[b]182.6
October	61.2	1.0	[E]74.4	[c]31.3	1.4	169.3	[b]17.4	[b]186.7
November	62.4	1.1	[E]77.5	[c]33.0	1.4	175.4	[b]19.9	[b]195.3
December	69.0	1.2	[E]84.3	[c]36.9	1.1	192.5	[b]23.3	[b]215.8
Total	**806.4**	**9.8**	[E]**879.5**	[E]**426.4**	**12.5**	**2,134.6**	[E]**261.6**	[E]**2,396.2**
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]**444.9**	**13.3**	**2,108.5**	[E]**246.8**	[E]**2,355.3**
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	[E].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
11-Month Total	[E]**708.4**	[E]**9.9**	[E]**799.8**	[E]**434.2**	**13.1**	**1,965.3**	[b]**223.2**	[b]**2,188.5**
1997 11-Month Total	[E]**687.2**	**10.1**	[E]**804.8**	[E]**414.1**	**11.9**	**1,928.1**	[b]**222.2**	[b]**2,150.3**
1996 11-Month Total	[E]**737.4**	**8.7**	[E]**795.2**	[c]**375.1**	**11.4**	**1,927.9**	[b]**211.9**	[b]**2,139.8**

[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.

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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 January	9.3	1.0	65.7	76.0	.7	.3	1.0
February	9.3	.9	58.8	69.0	.6	.2	.8
March	10.2	.9	57.8	69.0	.7	.1	.8
April	8.1	.9	52.4	61.4	.7	.0	.7
May	6.1	.9	57.7	64.7	.7	.0	.7
June	5.9	.5	60.2	66.7	.7	.0	.7
July	7.7	.4	63.9	72.0	.5	.0	.5
August	8.0	.3	63.2	71.5	.6	.1	.7
September	6.7	.5	56.4	63.6	.3	.4	.8
October	7.6	.5	53.1	61.2	.5	.4	1.0
November	7.8	.5	54.1	62.4	.7	.4	1.1
December	8.5	.7	59.8	69.0	.7	.4	1.2
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	E .7	.2	E .9
November	E 6.2	.6	E 59.9	E 66.7	.3	.0	.3
11-Month Total	**E 65.6**	**9.1**	**E 633.7**	**E 708.4**	**E 6.8**	**3.1**	**E 9.9**
1997 11-Month Total	**76.9**	**9.5**	**E 600.8**	**E 687.2**	**7.2**	**2.9**	**10.1**
1996 11-Month Total	**86.7**	**7.2**	**E 643.5**	**E 737.4**	**6.7**	**2.0**	**8.7**

– =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.

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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 January	4.3	1.8	38.5	15.0	.0	.4	.5	5.4	7.4	2.4	[E]7.7	[E]83.4
February	4.1	1.7	35.5	12.7	.0	.1	.5	4.9	7.2	2.3	[E]7.4	[E]76.2
March	3.9	1.8	35.8	13.1	.0	.2	.5	4.9	7.5	2.4	[E]7.5	[E]77.6
April	3.4	1.7	33.3	12.6	.0	.4	.5	4.6	7.3	2.3	[E]7.0	[E]73.2
May	3.4	1.4	30.6	12.4	.0	.4	.3	5.3	5.0	2.3	[E]7.0	[E]68.1
June	3.2	1.4	27.7	12.0	.0	.4	.0	4.6	5.8	1.6	[E]7.0	[E]63.7
July	3.3	1.6	30.0	12.6	.0	.4	.1	4.6	4.7	1.6	[E]7.0	[E]65.9
August	3.1	1.4	29.9	13.1	.0	.4	.5	4.6	4.4	1.2	[E]7.0	[E]65.7
September	3.5	1.4	30.8	13.3	.0	.4	.5	4.6	5.7	2.0	[E]7.1	[E]69.3
October	3.3	1.7	34.0	13.8	.0	.4	.5	5.1	7.0	2.2	[E]6.6	[E]74.4
November	4.0	1.8	34.8	15.1	.0	.4	.5	4.8	6.9	2.3	[E]7.0	[E]77.5
December	3.7	1.8	36.3	15.9	.0	.4	.5	5.5	7.4	2.4	[E]10.4	[E]84.3
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	[E]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	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	[E]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**	**[E]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	[E]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
11-Month Total	**41.6**	**19.8**	**[E]348.4**	**146.3**	**.0**	**3.5**	**[E]4.8**	**[E]53.6**	**[E]66.1**	**23.2**	**[E]92.4**	**[E]799.8**
1997 11-Month Total	**42.9**	**18.9**	**[E]353.6**	**155.0**	**.0**	**2.7**	**4.9**	**50.8**	**[E]64.0**	**22.9**	**[E]89.1**	**[E]804.8**
1996 11-Month Total	**39.6**	**17.7**	**360.7**	**145.8**	**.0**	**3.8**	**4.1**	**53.5**	**68.9**	**22.6**	**[E]78.5**	**[E]795.2**

[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 the monthly data. • Data for countries may not sum to regional totals due to independent rounding.

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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**	[E] **8.0**	**286.1**	**.5**	**64.0**	**35.3**	[E] **407.0**	**11.9**
1996 January	NA	.6	24.5	(s)	5.2	3.0	[c]33.4	.7
February	NA	.7	22.2	(s)	4.8	2.7	[c]30.5	.7
March	NA	.8	25.1	(s)	6.2	2.9	[c]35.0	1.1
April	NA	.8	24.1	(s)	5.6	2.5	[c]33.1	1.1
May	NA	.6	23.5	(s)	5.8	3.3	[c]33.3	1.1
June	NA	.7	23.7	(s)	6.5	3.2	[c]34.2	.8
July	NA	.4	27.9	(s)	7.3	3.7	[c]39.2	.6
August	NA	.4	29.0	(s)	6.6	3.5	[c]39.6	1.3
September	NA	.7	22.4	(s)	6.3	3.2	[c]32.7	1.3
October	NA	.9	21.1	(s)	5.8	3.4	[c]31.3	1.4
November	NA	.8	23.0	(s)	5.9	3.3	[c]33.0	1.4
December	NA	.9	26.7	.0	6.4	3.0	[c]36.9	1.1
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)	[E] 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	**NA**	[E] **11.0**	**318.0**	**.4**	**78.9**	[E] **36.6**	[E] **444.9**	**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
11-Month Total	[E] **13.3**	[E] **10.0**	**297.1**	**.4**	**79.0**	**34.4**	[E] **434.2**	**13.1**
1997 11-Month Total	[E] **8.7**	[E] **10.4**	**289.9**	**.4**	**71.3**	**33.3**	[E] **414.1**	**11.9**
1996 11-Month Total	**NA**	**7.4**	**266.5**	**.4**	**66.1**	**34.8**	[c] **375.1**	**11.4**

[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 January	NA	2.4	NA	1.4	NA	1.6	–	10.4	NA	8.8	[c]24.6
February	NA	2.1	NA	1.3	NA	1.6	–	10.3	NA	8.0	[c]23.3
March	NA	2.3	NA	1.3	NA	1.6	–	11.2	NA	8.3	[c]24.7
April	NA	1.8	NA	1.1	NA	1.0	–	9.1	NA	7.2	[c]20.2
May	NA	1.0	NA	1.2	NA	.8	–	8.3	NA	5.8	[c]17.2
June	NA	1.8	NA	1.1	NA	1.0	NA	7.7	NA	6.0	[c]17.6
July	NA	.9	NA	1.1	NA	.9	NA	7.9	NA	6.0	[c]16.7
August	NA	1.0	NA	1.0	NA	.8	NA	8.4	NA	4.3	[c]15.4
September	NA	1.0	NA	.9	NA	.8	NA	7.3	NA	4.9	[c]14.9
October	NA	1.3	NA	1.2	NA	1.0	NA	8.3	NA	5.5	[c]17.4
November	NA	1.3	NA	1.3	NA	1.0	NA	9.2	NA	7.0	[c]19.9
December	NA	1.7	NA	1.4	NA	1.5	NA	10.5	NA	8.3	[c]23.3
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	.2	1.7	NA	1.4	NA	1.5	NA	11.2	1.2	8.4	[c]25.6
February	.2	1.7	NA	1.2	NA	1.3	NA	9.9	1.2	8.4	[c]23.9
March	.3	1.8	NA	1.4	NA	1.3	NA	10.7	.9	8.4	[c]24.6
April	.2	1.2	NA	1.0	NA	.9	.3	8.5	.9	7.2	[c]20.2
May	.2	.9	NA	1.0	NA	.9	.4	7.8	.9	6.2	[c]18.3
June	.1	E .9	NA	1.0	NA	.8	.5	6.5	.8	6.1	[c]16.7
July	.1	E .9	NA	1.0	NA	.6	.5	7.2	.6	6.0	[c]16.9
August	.0	1.1	NA	.9	NA	.9	.4	7.5	.9	6.0	[c]17.7
September	.0	E 1.1	NA	1.0	NA	.9	.5	7.8	.9	5.7	[c]17.9
October	.0	1.1	NA	1.3	NA	1.0	.2	9.3	.9	5.9	[c]19.9
November	(s)	E 1.1	NA	1.3	NA	.9	.5	9.9	.9	5.7	[c]20.5
December	(s)	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**	**NA**	**12.1**	**3.9**	**108.1**	**11.0**	**80.8**	E 246.8
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
11-Month Total	**1.6**	E 17.3	**6.2**	**12.6**	**NA**	**12.1**	**4.6**	**92.1**	**9.5**	E 67.2	[c]223.2
1997 11-Month Total	**1.4**	**13.5**	**NA**	**12.6**	**NA**	**10.9**	**3.4**	**96.6**	**9.9**	**73.9**	[c]222.2
1996 11-Month Total	**NA**	**17.0**	**NA**	**12.8**	**NA**	**12.1**	**NA**	**98.2**	**NA**	**71.7**	[c]211.9

[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: Annual Data

1973-1979: Energy Information Administration (EIA), *International Energy Annual 1981,* Table 8.
1980-1996: Office of Energy Markets and End Use, International Energy Database, April 1998.
1997: Average of monthly data.

Other Countries: Monthly Data

1996-1998: *Petroleum Intelligence Weekly,* the *Oil and Gas Journal,* and other industry sources.

World: Annual Data

1973-1979: EIA, *International Energy Annual 1981,* Table 8.
1980-1996: Office of Energy Markets and End Use, International Energy Database, April 1998.
1997: Average of monthly data.

World: Monthly Data

1996-1998: EIA, *International Petroleum Statistics Report,* sum of all countries' 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[a]	5.800	5.954	5.800	5.863	5.734	3.762

[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	R 5.102	R 5.126	R 5.445	6.212	5.352	5.495	5.738	3.613
1997[a]	R 5.098	R 5.134	5.442	R 6.220	5.353	5.478	5.726	3.616
1998[a]	R 5.098	R 5.134	5.442	R 6.220	5.353	5.478	5.726	3.616

[a] Preliminary.
R=Revised.
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[a]	1,026	1,107	1,027	1,019	1,026	1,023	1,011
1998[a]	1,026	1,107	1,027	1,019	1,026	1,023	1,011

[a] Preliminary.

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[c]	21.287	23.011	26.800	22.105	20.525	20.856	25.000	26.174
1998[c]	21.287	23.011	26.800	22.105	20.525	20.856	25.000	26.174

[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]	21.281	22.649	26.800	22.087	20.532	20.857	25.000	26.181
1998[b]	21.281	22.649	26.800	22.087	20.532	20.857	25.000	26.181

[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					Coal Coke Imports and Exports
		Consumption			Imports and Exports	
	Production	Sectors Other Than Electric Utilities	Electric Utilities	Total		
1973	22.132	22.674	17.920	21.464	25.400	24.800
1974	21.711	22.330	17.200	20.919	25.400	24.800
1975	21.582	22.272	17.064	20.762	25.400	24.800
1976	22.045	22.618	17.526	21.254	25.400	24.800
1977	22.661	24.101	17.244	22.066	25.400	24.800
1978	23.079	24.388	17.104	22.398	25.400	24.800
1979	23.170	24.272	17.454	22.069	25.400	24.800
1980	22.869	22.719	17.652	21.405	25.400	24.800
1981	23.291	23.749	18.168	22.080	25.400	24.800
1982	23.289	24.578	18.160	22.518	25.400	24.800
1983	22.734	24.536	16.516	21.583	25.400	24.800
1984	23.107	25.128	17.018	22.322	25.400	24.800
1985	22.428	23.031	16.784	20.817	25.400	24.800
1986	23.084	24.399	15.578	21.512	25.400	24.800
1987	23.108	26.293	15.962	22.435	25.400	24.800
1988	23.266	26.021	17.312	22.423	25.400	24.800
1989	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[a]	22.573	24.638	14.360	20.652	25.400	24.800
1998[a]	22.573	24.638	14.360	20.652	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	10,399	10,680	21,096	3,412
1991	10,425	10,740	20,997	3,412
1992	10,340	10,678	20,914	3,412
1993	10,309	10,682	20,914	3,412
1994	10,309	10,676	20,914	3,412
1995	10,304	10,658	20,914	3,412
1996	10,338	10,623	20,960	3,412
1997[c]	10,338	10,623	20,960	3,412
1998[c]	10,338	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, by determining the average American Petroleum Institute (API) gravity of crude imported from each foreign country from Form ERA-60 in 1977 and converting average API gravity to average Btu content 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 volume 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	µ
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

[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
1998	
Energy Plug: *Performance Profiles of Major Energy Producers 1996*	January 1998
Energy Plug: *International Energy Annual 1996*	February 1998
Energy Plug: *Assessment of Summer 1997 Motor Gasoline Price Increase*	April 1998
Energy Plug: *Deliverability on the Interstate Natural Gas Pipeline System*	May 1998
Energy Plug: *The Changing Structure of the Electric Power Industry: Selected Issues, 1998*	June 1998
Energy Plug: *Annual Energy Review 1997*	July 1998
Energy Plug: *State Energy Price and Expenditure Report 1995*	August 1998
Energy Plug: A View of the Forest Products Industry From a Wood Energy Perspective	August 1998
Energy Plug: 25th Anniversary of the 1973 Oil Embargo: Energy Trends Since the First Major U.S. Energy Crisis	September 1998
Energy Plug: Energy Education Resources: Kindergarten Through 12th Grade	September 1998
Energy Plug: *Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity*	October 1998
Energy Plug: *Emissions of Greenhouse Gases in the United States 1997*	October 1998
Energy Plug: *Wind Energy Developments: Incentives in Selected Countries*	November 1998
Energy Plug: *Annual Energy Outlook 1999*	November 1998
1997	
Energy Plug: *Annual Energy Outlook 1997*	January 1997
Energy Plug: *The Changing Structure of the Electric Power Industry: An Update*	January 1997
Energy Plug: *Performance Profiles of Major Energy Producers 1995*	January 1997
Energy Plug: *The Effects of Title IV of the Clean Air Act Amendments of 1990 on Electric Utilities: An Update*	March 1997
Energy Plug: *International Energy Outlook 1997*	April 1997
Energy Plug: *Restructuring Energy Industries: Lessons From Natural Gas*	May 1997
Energy Plug: *An Analysis of U.S. Propane Markets: Winter 1996-97*	June 1997
Energy Plug: *State Energy Price and Expenditure Report 1994*	June 1997
Energy Plug: *Annual Energy Review 1996*	July 1997
Energy Plug: *Motor Gasoline Assessment 1997*	July 1997
Energy Plug: *Commercial Buildings Characteristics 1995*	July 1997
Energy Plug: *Household Vehicles Energy Consumption 1994*	August 1997
Energy Plug: *Electricity Prices in a Competitive Environment*	August 1997
Energy Plug: *Petroleum 1996: Issues and Trends*	September 1997
Energy Plug: The Intricate Puzzle of Oil and Gas "Reserves Growth"	September 1997
Energy Plug: *Emissions of Greenhouse Gases in the United States 1996*	October 1997
Energy Plug: *Electricity Reform Abroad and U.S. Investment*	October 1997
Energy Plug: *Annual Energy Outlook 1998*	November 1997
Energy Plug: Winter Heating Fuels Assessments	December 1997
Energy Plug: *Oil and Gas Resources of the West Siberian Basin, Russia*	December 1997
1996	
Energy Plug: *Renewable Energy Annual 1995*	January 1996
Energy Plug: *State Energy Price and Expenditure Report 1993*	January 1996
Energy Plug: *Annual Energy Outlook 1996*	February 1996
Energy Plug: *Alternatives to Traditional Transportation Fuels 1994, Volume 1*	February 1996

1996 (Continued)

1995

1994

1993

1992

Energy Preview: Residential Energy Consumption and Expenditures Preliminary Estimates, 1990 . . . . . April 1992
EIA Data News: Oxygenate Data Collection Begins . . . . . May 1992
Highlights: *Lighting in Commercial Buildings* . . . . . June 1992
Article: Demand, Supply, and Price Outlook for Oxygenated Gasoline, Winter 1992-1993 . . . . . August 1992
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management . . . . . September 1992
EIA Data News: EIA Statistics on Nonutility Power Producers . . . . . October 1992
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management . . . . . November 1992
Article: Energy Efficiency in the Manufacturing Sector . . . . . December 1992

1991

Highlights: *U.S. Energy Industry Financial Developments, 1990 Fourth Quarter* . . . . . March 1991
Article: U.S. Wholesale Electricity Transactions . . . . . April 1991

1990

Article: Refining Results Highlight Energy Companies' First-Half Profit Performance . . . . . June 1990
Highlights: *U.S. Oil and Gas Reserves by Year of Field Discovery* . . . . . August 1990

1989

Article: A Review of Valdez Oil Spill Market Impacts . . . . . March 1989
Article: Monthly U.S. Crude Oil Production Estimates . . . . . March 1989
Article: Superconductivity and Energy Production and Consumption . . . . . May 1989
Highlights: *Commercial Buildings Consumption and Expenditures 1986* . . . . . May 1989
Article: Higher Prices Yield Improved Energy Industry Financial Results
in the First Half of 1989 . . . . . June 1989
Article: The Future Structure of the U.S. Commercial Nuclear Power Equipment
Manufacturing Industry . . . . . July 1989
Highlights: *Potential Costs of Restricting Chlorofluorocarbon Use* . . . . . September 1989
Highlights: *Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985* . . . . . October 1989
Highlights: *Household Energy Consumption and Expenditures 1987, Part 1: National Data* . . . . . November 1989
Article: Improved Energy Profits Offset by Refining Results in 1989 . . . . . December 1989

1988

Article: Measures of Energy Consumption, Expenditures, and Prices . . . . . May 1988
Article: The U.S. Energy Industry's Financial Recovery Continued in the First Half of 1988 . . . . . June 1988
Article: A U.S. Perspective on Condensate . . . . . June 1988
Highlights: *Characteristics of Commercial Buildings 1986* . . . . . June 1988
Article: State Energy Severance Taxes, 1972-1987 . . . . . July 1988
Highlights: *Manufacturing Energy Consumption Survey: Consumption of Energy, 1985* . . . . . September 1988
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1987* . . . . . October 1988
Highlights: *Manufacturing Energy Consumption Survey: Fuel Switching, 1985* . . . . . November 1988
Article: Increased Refining Income Led U.S. Energy Industry Financial Recovery in 1988 . . . . . December 1988

1987

Article: Manufacturing Sector Energy Consumption, 1985 Provisional Estimates . . . . . January 1987
Highlights: *Consumption and Expenditures, April 1984 Through March 1985,*
Part 1: National Data . . . . . April 1987
Highlights: *Consumption and Expenditures, April 1984 Through March 1985,*
Part 2: Regional Data . . . . . May 1987
Article: U.S. Energy Industry Financial Developments, 1987 Second Quarter . . . . . June 1987
Article: End-Use Consumption of Residential Energy . . . . . July 1987
Highlights: *Uranium Industry Annual 1986* . . . . . September 1987
Highlights: *Potential Oil Production from ANWR* . . . . . October 1987
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1986* . . . . . November 1987
Article: The U.S. Energy Industry in 1987: A Slow Recovery . . . . . December 1987

1986

Article: State Motor Gasoline Taxes, 1960-1985 . . . . . March 1986
Article: The Impact of Low Oil Prices on Electric Utility Fuel Choice . . . . . June 1986
Article: U.S. Energy Industry Financial Developments, 1986 Second Quarter . . . . . June 1986
Highlights: *International Energy Annual 1985* . . . . . September 1986
Article: U.S. Energy Industry Financial Developments, 1986 . . . . . December 1986

1985

Highlights: *Annual Energy Review 1984* . . . . . January 1985
Highlights: *Performance Profiles of Major Energy Producers 1983* . . . . . February 1985
Article: Estimating Well Completions . . . . . March 1985
Highlights: *State Energy Price and Expenditure Report 1970-1982* . . . . . March 1985
Highlights: *State Energy Data Report, Consumption Estimates, 1960-1983* . . . . . April 1985
Highlights: *Annual Outlook for U.S. Electric Power 1985* . . . . . June 1985
Highlights: *Short-Term Energy Outlook, Volume 1, October 1985* . . . . . August 1985
Highlights: Analysis of Growth in Electricity Demand, 1980-1984 . . . . . August 1985
Highlights: *Profiles of Foreign Direct Investment in U.S. Energy 1984* . . . . . November 1985
Highlights: *Performance Profiles of Major Energy Producers 1984* . . . . . December 1985

1984

Highlights: *Annual Energy Review 1983* . . . . . February 1984
Highlights: *Annual Energy Outlook 1983* . . . . . March 1984
Highlights: *State Energy Data Report, Consumption Estimates, 1960-1982* . . . . . March 1984
Highlights: State Energy Price and Expenditure Report, 1970-1981 . . . . . May 1984
Highlights: Solar Collector Manufactruring Activity 1983 . . . . . June 1984
Highlights: *International Energy Annual 1983* . . . . . September 1984
Highlights: *Estimates of U.S. Wood Energy Consumption, 1980-1983* . . . . . September 1984
Highlights: *Energy Conservation Indicators 1983 Annual Report*. . . . . November 1984
Highlights: *Annual Energy Outlook 1984* . . . . . December 1984

1983

Highlights: *Residential Energy Consumption Survey: Consumption and Expenditures* . . . . . January 1983
Highlights: *Residential Energy Consumption Survey: Housing Characteristics* . . . . . February 1983
Article: The Effect of Weather on Energy Use . . . . . April 1983
Article: Trends in U.S. Energy Since 1973 . . . . . May 1983
Article: Data Series on Petroleum Use at Electric Utilities . . . . . July 1983
Highlights: *Energy Price and Expenditure Data Report, 1970-1980* . . . . . July 1983
Highlights: *Railroad Deregulation: Impact on Coal* . . . . . August 1983
Highlights: *Port Deepening and User Fees: Impact on U.S. Coal Exports* . . . . . August 1983
Highlights: *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report* . . . . . September 1983
Article: Residential Energy Consumption, 1978 Through 1981 . . . . . September 1983
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

1979

Article: The Energy Requirements of U.S. Agriculture . . . . . July 1979
Article: Three Mile Island—Possible Regulatory Responses and Their Impacts on the Nation's Short-Term Electric Utility Fuel Outlook . . . . . October 1979
Article: Reduction in Natural Gas Requirements Due to Fuel Switching . . . . . December 1979

1978

Article: Short-Term Petroleum Supply and Demand . . . . . May 1978

1977

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

1976

Article: Curtailments of Natural Gas Service . . . . . January 1976
Article: Home Heating Conservation Alternatives and the Solar Collector Industry . . . . . March 1976
Article: Trends in United States Petroleum Imports . . . . . September 1976

1975

Article: Energy Consumption . . . . . March 1975
Article: Nuclear Power . . . . . April 1975
Article: The Price of Crude Oil . . . . . June 1975
Article: U.S. Coal Resources and Reserves . . . . . July 1975
Article: Propane—A National Energy Resource . . . . . September 1975
Article: Short-Term Energy Supply and Demand Forecasting at FEA . . . . . October 1975

Glossary

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 Consumption, End-Use: *Primary end-use energy consumption* is the sum of fossil fuel consumption by the four end-use sectors (residential, commercial, industrial, and transportation) and generation of hydroelectric power by nonelectric utilities. *Net end-use energy consumption* includes electric utility sales to those sectors but excludes electrical system energy losses. *Total end-use energy consumption* includes both electric utility sales to the four end-use sectors *and* electrical system energy losses.

Energy Consumption, Total: The sum of fossil fuel consumption by the five sectors (residential, commercial, industrial, transportation, and electric utility) plus hydroelectric power, nuclear electric power, net imports of coal coke, and electricity generated for distribution from wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

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 Specifica-

tions 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 requirements may vary by altitude. See **Motor Gasoline Grades.**

Premium Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than 90. Note: Octane requirements may vary by altitude. See **Motor Gasoline Grades.**

Motor Gasoline, 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 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 vessel; shielding to protect personnel; provision for heat removal; and control elements and instrumentation.

Octane Rating: A number used to indicate gasoline's antiknock performance in motor vehicle engines. The two recognized laboratory engine test methods for determining the antiknock rating of gasolines are the Research method and the Motor method. To provide a single number as guidance to the consumer, the antiknock index (R + M)/2, which is the average of the Research and Motor octane numbers, was developed.

Offshore: That geographic area that lies seaward of the coastline. In general, the coastline is the line of ordinary low water along with that portion of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland water.

Oil: See **Crude Oil**.

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

Operable Unit (Nuclear): In the United States, a nuclear generating unit that has completed low-power testing and been issued a full-power operating license by the Nuclear Regulatory Commission, or equivalent permission to operate.

Organization for Economic Cooperation and Development (OECD): Members are Australia, Austria, Belgium, Canada, Denmark, 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: See **Energy Consumption, End-Use.**

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 Plug:

State Energy Consumption