

Monthly Energy Review

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

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Monthly Energy Review

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Section 1. Energy Overview

Energy production during September 1997 totaled 5.7 quadrillion Btu, a 1.9-percent increase from the level of production during September 1996. Coal production increased 6.3 percent, production of crude oil and natural gas plant liquids decreased 1.2 percent, and natural gas production increased 0.9 percent. All other forms of energy production combined were down 0.9 percent from the level of production during September 1996.

Energy consumption during September 1997 totaled 7.1 quadrillion Btu, 3.9 percent above the level of consumption during September 1996. Consumption of coal rose

4.9 percent, consumption of both natural gas and petroleum products increased 4.7 percent. Consumption of all other forms of energy combined decreased 1.6 percent from the level 1 year earlier.

Net imports of energy during September 1997 totaled 1.7 quadrillion Btu, 14.3 percent above the level of net imports 1 year earlier. Net imports of petroleum increased 14.8 percent, but net imports of natural gas were down 11.2 percent. Net exports of coal fell 18.2 percent from the level in September 1996.

Table 1.1 Energy Summary for September 1997
(Quadrillion Btu)

	September			Cumulative January Through September				
	1997	1996	Percent Change ^a	1997	1997 Daily Rate	1996	1996 Daily Rate	Percent Change ^a
Production	5.696	5.587	1.9	51.892	0.190	51.778	0.189	0.6
Coal	1.986	1.868	6.3	17.397	.064	16.920	.062	3.2
Natural Gas (Dry)	F 1.586	1.572	.9	E 14.516	E .053	14.503	.053	.5
Crude Oil ^b and Natural Gas Plant Liquids	E 1.323	1.340	-1.2	E 12.043	E .044	12.130	.044	-.4
Other ^c .....	.800	.808	-.9	7.936	.029	8.225	.030	-3.2
Consumption	7.061	6.793	3.9	67.415	.247	67.166	.245	.7
Coal	E 1.759	1.677	4.9	E 15.579	E .057	15.256	.056	2.5
Natural Gas ^d	F 1.504	1.437	4.7	E 16.617	E .061	16.713	.061	-.2
Petroleum Products ^e	2.967	2.835	4.7	26.977	.099	26.666	.097	1.5
Other ^f .....	.831	.844	-1.6	8.241	.030	8.532	.031	-3.1
Net Imports	1.696	1.484	14.3	15.252	.056	14.432	.053	6.1
Coal ^g	-.163	-.199	-18.2	-1.517	-.006	-1.622	-.006	-6.1
Natural Gas	F .206	.232	-11.2	E 2.105	E .008	2.098	.008	.7
Petroleum ^h	1.623	1.414	14.8	14.359	.053	13.648	.050	5.6
Other ⁱ .....	.030	.037	-17.3	.305	.001	.308	.001	-.4

^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.

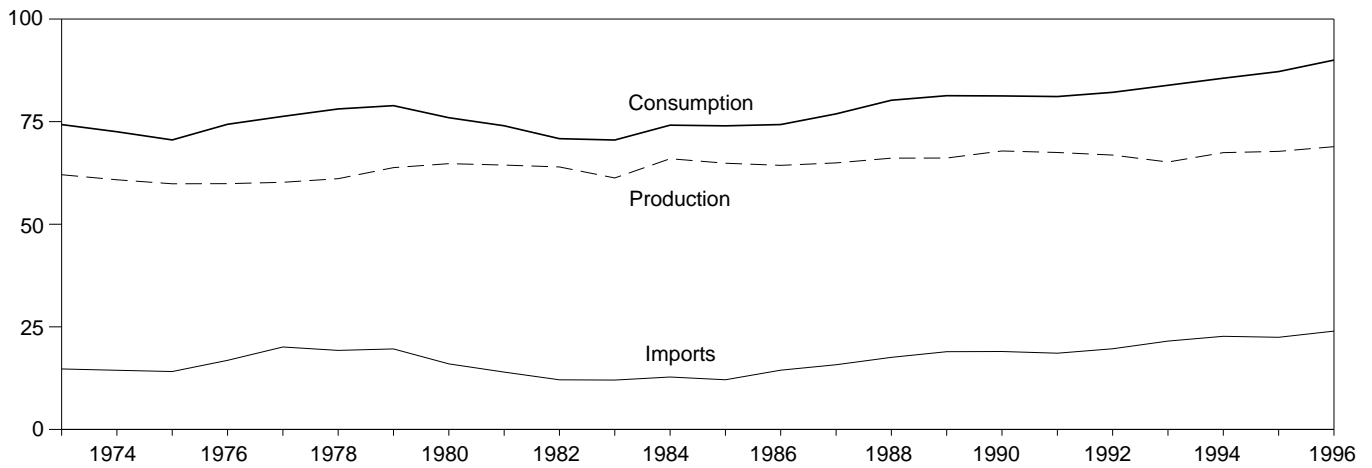
Sources: Tables 1.3, 1.4, and 1.5.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in production and consumption. In 1996, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

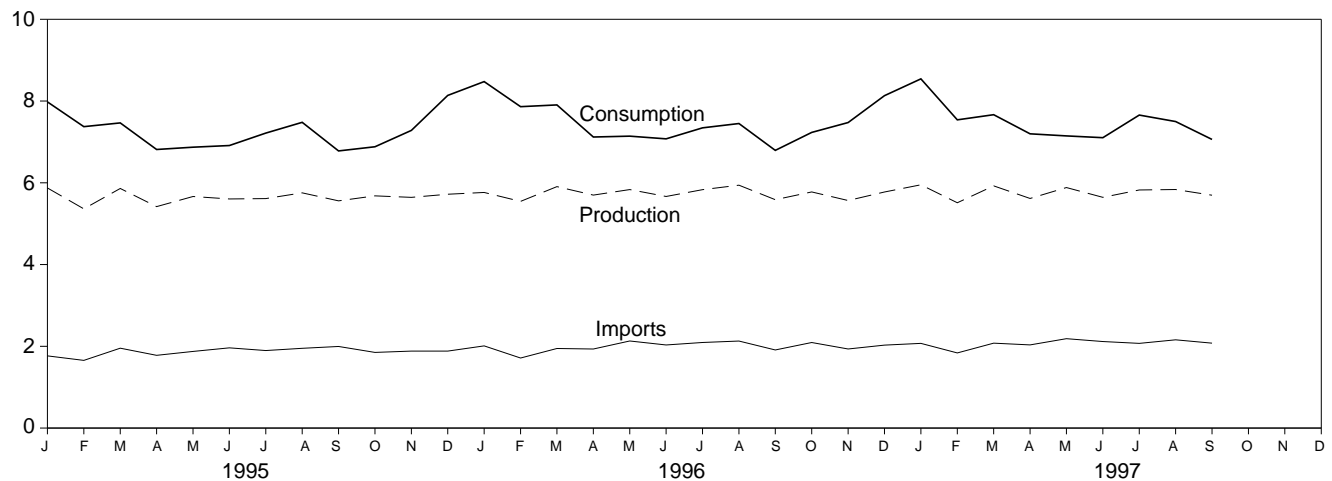
Figure 1.1 Energy Overview

(Quadrillion Btu)

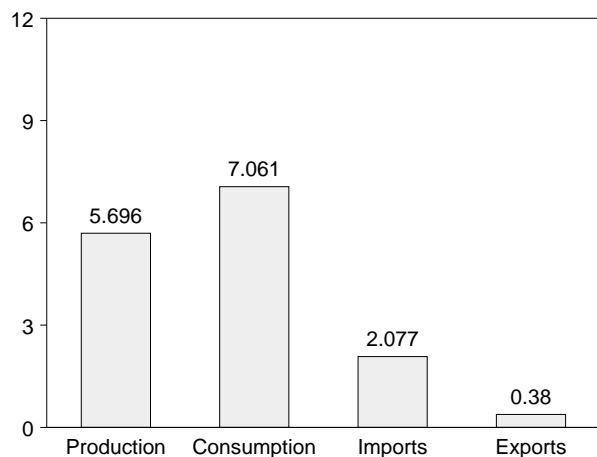
Consumption, Production, and Imports, 1973-1996



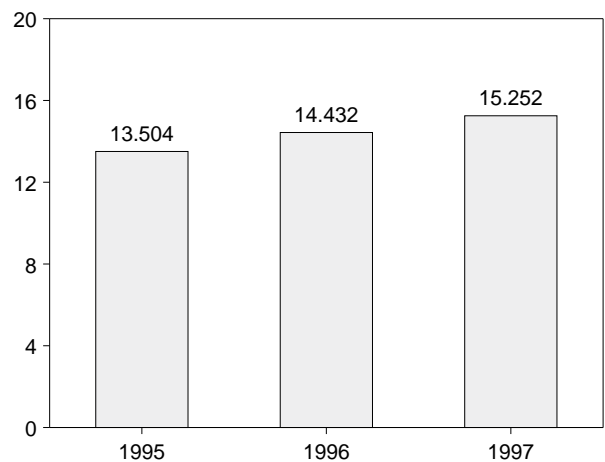
Consumption, Production, and Imports, Monthly



Overview, September 1997



Net Imports, January-September



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	66.129	81.325	18.947	4.765	14.181
1990 Total	67.853	81.265	18.987	4.910	14.077
1991 Total	67.484	81.116	18.577	5.220	13.357
1992 Total	66.853	82.144	19.650	5.017	14.633
1993 Total	65.163	83.863	21.530	4.350	17.180
1994 Total	67.448	85.587	22.695	4.125	18.570
1995 January	5.874	7.979	1.766	.360	1.406
February	5.363	7.374	1.656	.346	1.311
March	5.861	7.465	1.954	.380	1.574
April	5.418	6.815	1.779	.380	1.399
May	5.665	6.871	1.875	.390	1.485
June	5.605	6.912	1.962	.394	1.568
July	5.614	7.216	1.897	.356	1.542
August	5.754	7.479	1.951	.362	1.589
September	5.558	6.780	1.996	.366	1.631
October	5.681	6.882	1.851	.396	1.455
November	5.644	7.282	1.883	.389	1.494
December	5.720	8.138	1.883	.453	1.431
Total	67.759	87.193	22.454	4.571	17.884
1996 January	5.764	8.476	2.010	.389	1.621
February	5.546	7.863	1.714	.376	1.338
March	5.907	7.905	1.947	.359	1.588
April	5.699	7.120	1.934	.378	1.556
May	5.834	7.141	2.130	.378	1.753
June	5.666	7.075	2.033	.387	1.647
July	5.832	7.344	2.094	.396	1.698
August	5.942	7.450	2.129	.381	1.747
September	5.587	6.793	1.911	.428	1.484
October	5.777	7.233	2.093	.425	1.668
November	5.567	7.474	1.935	.412	1.523
December	5.775	8.132	2.029	.399	1.630
Total	68.897	90.005	23.959	4.706	19.253
1997 January	5.952	8.543	2.072	.397	1.676
February	5.512	7.540	1.838	.337	1.501
March	5.925	7.666	2.077	.372	1.705
April	5.617	7.198	2.035	.359	1.676
May	5.884	7.147	2.187	.363	1.824
June	^R 5.645	^R 7.104	2.117	.359	1.758
July	^R 5.825	^R 7.657	^R 2.072	^R .376	^R 1.697
August	^R 5.836	^R 7.499	^R 2.159	^R .439	^R 1.720
September	5.696	7.061	2.077	.380	1.696
9-Month Total	51.892	67.415	18.636	3.383	15.252
1996 9-Month Total	51.778	67.166	17.902	3.471	14.432
1995 9-Month Total	50.713	64.892	16.837	3.334	13.504

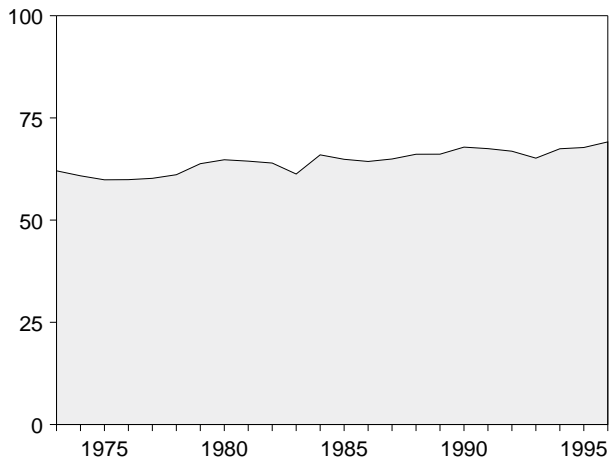
^a The sum of domestic energy production and net imports of energy does not equal domestic energy consumption. The difference is attributed to stock changes; losses and gains in conversion, transportation, and distribution; the addition of blending compounds shipments of anthracite to U.S. Armed Forces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

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.

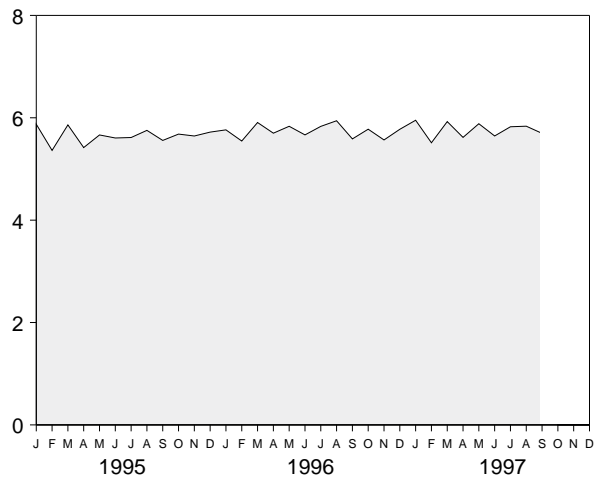
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Figure 1.2 Energy Production
(Quadrillion Btu)

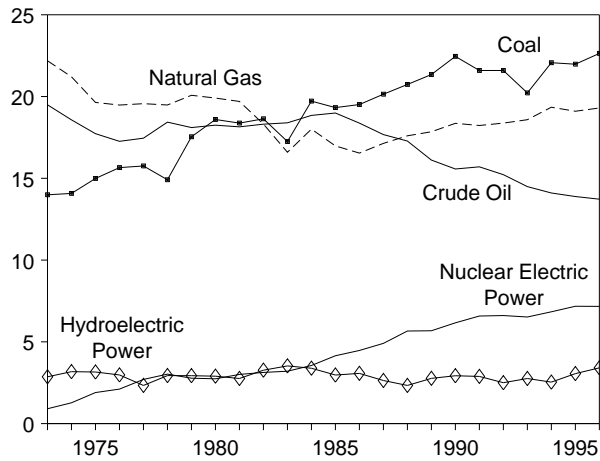
Total, 1973-1996



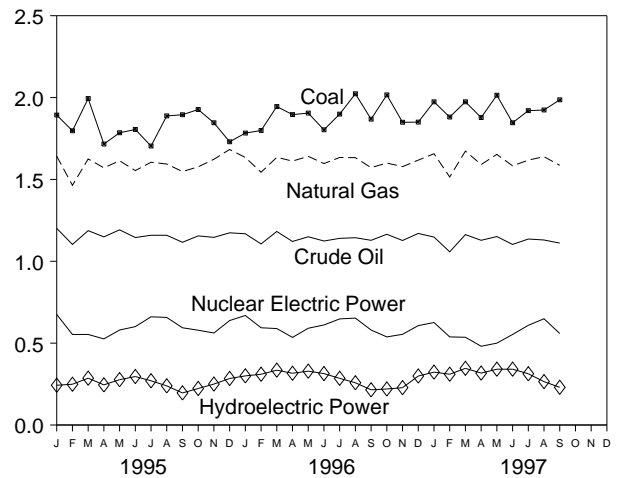
Total, Monthly



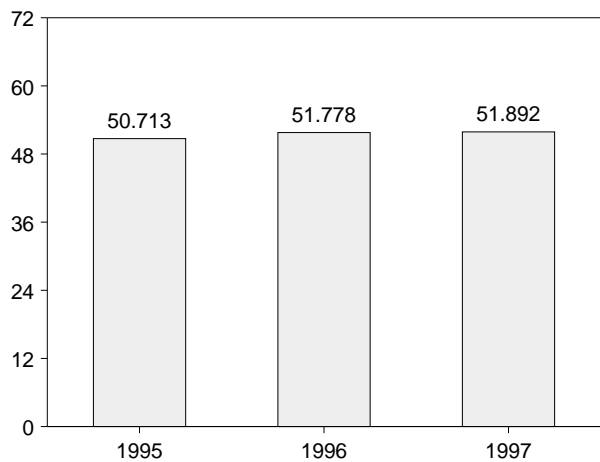
By Major Sources, 1973-1996



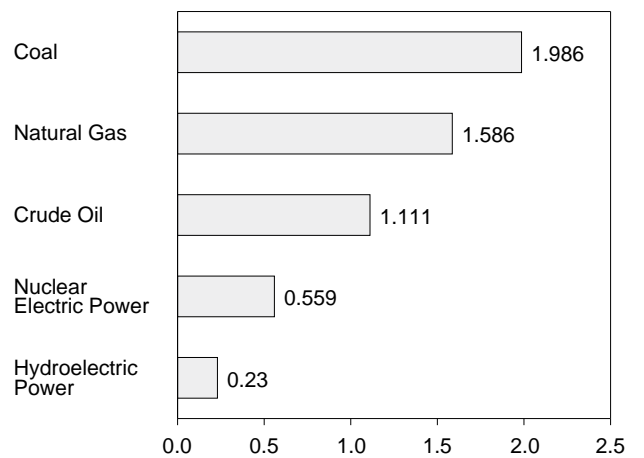
By Major Sources, Monthly



Total, January-September



By Major Sources, September 1997



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	Hydroelectric 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	2.767	.197	.020	66.129
1990 Total	22.456	18.362	15.571	2.175	6.161	2.926	.181	.021	67.853
1991 Total	21.594	18.229	15.701	2.306	6.579	2.885	.170	.021	67.484
1992 Total	21.593	18.375	15.223	2.363	6.607	2.501	.169	.022	66.853
1993 Total	20.221	18.584	14.494	2.408	6.519	2.757	.158	.021	65.163
1994 Total	22.068	19.348	14.103	2.391	6.837	2.536	.145	.020	67.448
1995 January	1.893	1.642	1.201	.210	.675	.243	.009	.001	5.874
February	1.797	1.464	1.103	.189	.553	.249	.006	.001	5.363
March	1.994	1.625	1.187	.209	.553	.286	.007	.001	5.861
April	1.716	1.571	1.149	.204	.526	.245	.006	.002	5.418
May	1.785	1.614	1.192	.211	.580	.277	.005	.001	5.665
June	1.805	1.554	1.145	.198	.601	.296	.006	.001	5.605
July	1.704	1.605	1.159	.206	.661	.270	.006	.002	5.614
August	1.888	1.594	1.159	.204	.657	.239	.011	.002	5.754
September	1.895	1.548	1.116	.200	.594	.196	.008	.002	5.558
October	1.927	1.577	1.155	.207	.579	.223	.013	.002	5.681
November	1.846	1.623	1.146	.205	.562	.250	.012	.002	5.644
December	1.730	1.683	1.174	.199	.638	.284	.011	.001	5.720
Total	21.978	19.101	13.887	2.442	7.177	3.057	.099	.017	67.759
1996 January	1.783	1.634	1.168	.201	.669	.300	.007	.002	5.764
February	1.799	1.544	1.106	.184	.594	.310	.008	.001	5.546
March	1.945	1.635	1.182	.212	.589	.335	.007	.002	5.907
April	1.896	1.612	1.121	.209	.535	.316	.008	.001	5.699
May	1.905	1.641	1.150	.212	.591	.329	.005	.001	5.834
June	1.803	1.597	1.124	.208	.611	.314	.008	.002	5.666
July	1.899	1.634	1.140	.214	.648	.285	.012	.002	5.832
August	2.023	1.633	1.144	.218	.653	.258	.012	.002	5.942
September	1.868	1.572	1.128	.212	.580	.215	.010	.002	5.587
October	2.016	1.600	1.165	.224	.538	.220	.011	.002	5.777
November	1.849	1.578	1.127	.217	.554	.228	.011	.002	5.567
December	1.850	1.618	1.170	.220	.607	.299	.010	.002	5.775
Total	22.635	19.300	13.723	2.530	7.168	3.411	.110	.020	68.897
1997 January	1.974	1.657	E 1.148	.212	.626	.323	.009	.002	5.952
February	1.881	1.515	E 1.058	.201	.538	.310	.006	.002	5.512
March	1.974	1.673	E 1.163	.223	.536	.346	.009	.002	5.925
April	1.878	1.591	E 1.128	.210	.481	.317	.010	.002	5.617
May	2.014	1.653	E 1.151	.214	.500	.341	.010	.002	5.884
June	1.846	R 1.583	E 1.103	.209	.553	.341	.008	.002	R 5.645
July	1.920	R 1.618	E 1.136	.217	.609	.313	.011	.002	R 5.825
August	1.924	R 1.639	E 1.130	.217	.649	.265	.011	.002	R 5.836
September	1.986	F 1.586	E 1.111	.212	.559	.230	.010	.002	5.696
9-Month Total	17.397	E 14.516	E 10.128	1.915	5.051	2.786	.084	.015	51.892
1996 9-Month Total	16.920	14.503	10.261	1.869	5.469	2.663	.078	.015	51.778
1995 9-Month Total	16.475	14.218	10.412	1.831	5.399	2.301	.064	.012	50.713

^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 data. E=Estimate. F=Forecast.

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

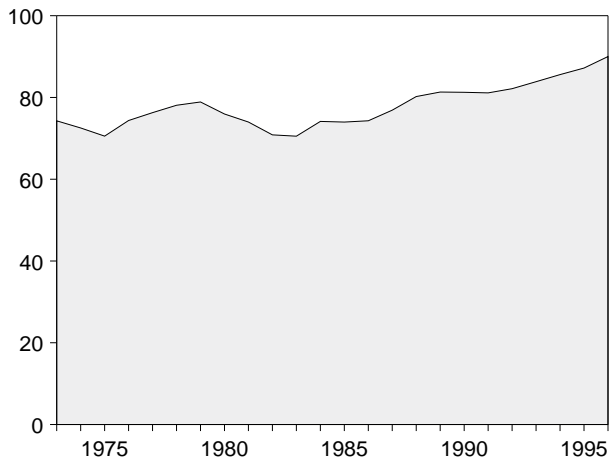
States and the District of Columbia.

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 1996, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

Figure 1.3 Energy Consumption
(Quadrillion Btu)

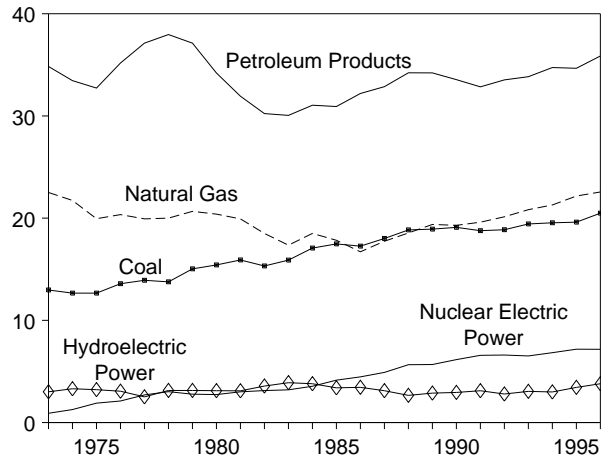
Total, 1973-1996



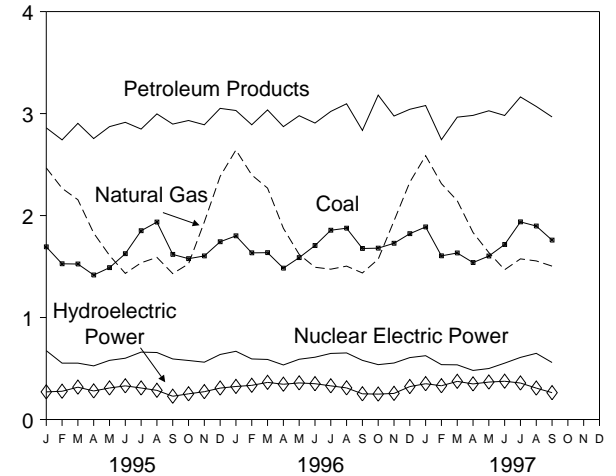
Total, Monthly



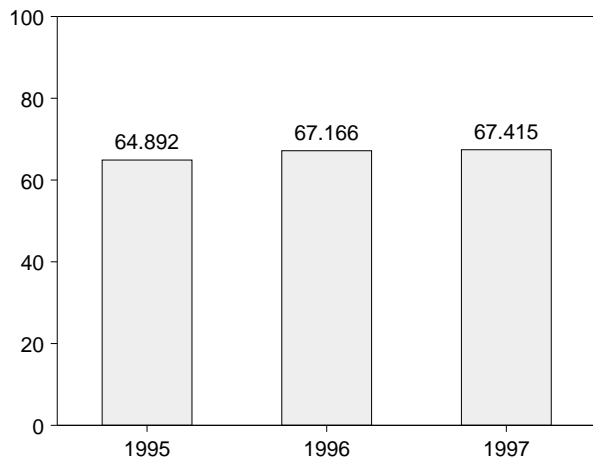
By Major Sources, 1973-1996



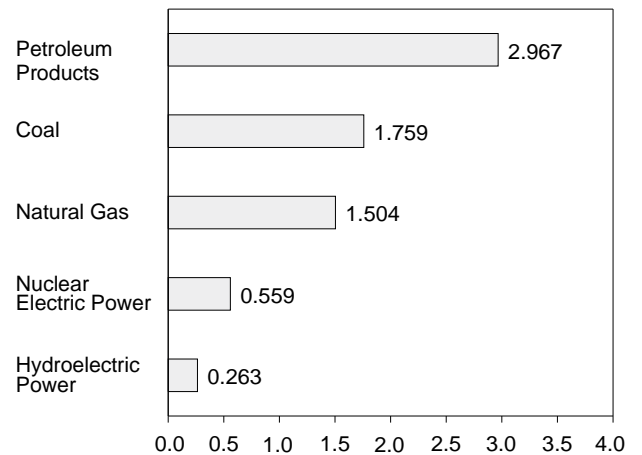
By Major Sources, Monthly



Total, January-September



By Major Sources, September 1997



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	2.881	.197	.051	81.325
1990 Total	19.101	19.296	33.553	6.161	2.946	.181	.026	81.265
1991 Total	18.770	19.606	32.845	6.579	3.115	.170	.030	81.116
1992 Total	18.868	20.131	33.527	6.607	2.793	.169	.049	82.144
1993 Total	19.430	20.827	33.841	6.519	3.050	.158	.038	83.863
1994 Total	19.544	21.288	34.735	6.837	2.994	.145	.044	85.587
1995 January	1.693	2.467	2.860	.675	.271	.009	.005	7.979
February	1.527	2.267	2.742	.553	.277	.006	.003	7.374
March	1.525	2.155	2.904	.553	.317	.007	.004	7.465
April	1.417	1.828	2.755	.526	.280	.006	.003	6.815
May	1.489	1.609	2.872	.580	.309	.005	.006	6.871
June	1.626	1.433	2.914	.601	.330	.006	.002	6.912
July	1.851	1.537	2.848	.661	.309	.006	.003	7.216
August	1.936	1.590	2.997	.657	.286	.011	.003	7.479
September	1.619	1.431	2.897	.594	.228	.008	.004	6.780
October	1.577	1.526	2.932	.579	.252	.013	.004	6.882
November	1.604	1.937	2.890	.562	.273	.012	.004	7.282
December	1.743	2.384	3.051	.638	.308	.011	.003	8.138
Total	19.608	22.163	34.663	7.177	3.439	.099	.044	87.193
1996 January	1.801	2.643	3.030	.669	.324	.007	.003	8.476
February	1.634	2.398	2.890	.594	.335	.008	.004	7.863
March	1.636	2.269	3.036	.589	.364	.007	.005	7.905
April	1.484	1.875	2.872	.535	.346	.008	.000	7.120
May	1.587	1.619	2.979	.591	.359	.005	.001	7.141
June	1.706	1.493	2.907	.611	.351	.008	-.001	7.075
July	1.856	1.474	3.021	.648	.330	.012	.002	7.344
August	1.876	1.504	3.096	.653	.310	.012	-.001	7.450
September	1.677	1.437	2.835	.580	.252	.010	.002	6.793
October	1.680	1.572	3.181	.538	.249	.011	.002	7.233
November	1.728	1.948	2.976	.554	.256	.011	.002	7.474
December	1.822	2.327	3.042	.607	.323	.010	.001	8.132
Total	20.486	22.560	35.864	7.168	3.798	.110	.020	90.005
1997 January	1.888	2.587	3.079	.626	.351	.009	.003	8.543
February	1.605	2.313	2.744	.538	.331	.006	.003	7.540
March	1.633	2.146	2.965	.536	.374	.009	.003	7.666
April	1.539	1.834	2.982	.481	.349	.010	.002	7.198
May	1.603	1.637	3.027	.500	.367	.010	.004	7.147
June	1.716	^R 1.469	2.981	.553	.375	.008	.003	^R 7.104
July	^E 1.938	^R 1.575	3.163	.609	.358	.011	.003	^R 7.657
August	^E 1.897	^R 1.555	3.070	.649	.308	.011	.009	^R 7.499
September	^E 1.759	^F 1.504	2.967	.559	.263	.010	-.001	7.061
9-Month Total	^E 15.579	^E 16.617	26.977	5.051	3.077	.084	.029	67.415
1996 9-Month Total	15.256	16.713	26.666	5.469	2.970	.078	.015	67.166
1995 9-Month Total	14.683	16.317	25.791	5.399	2.606	.064	.032	64.892

^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 data. E=Estimate. F=Forecast.

Notes: • See Note 2 at end of section. • Totals may not equal sum of

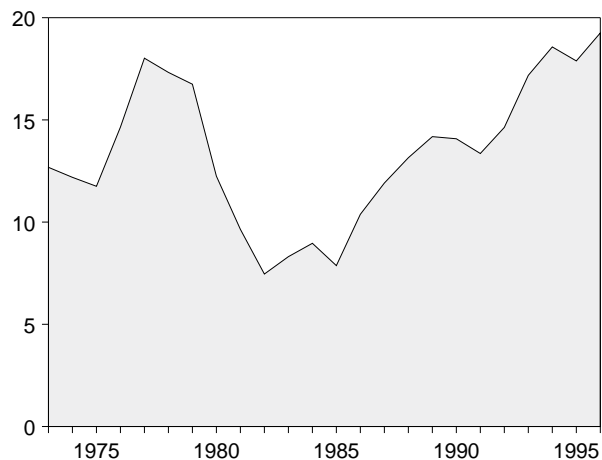
components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

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.

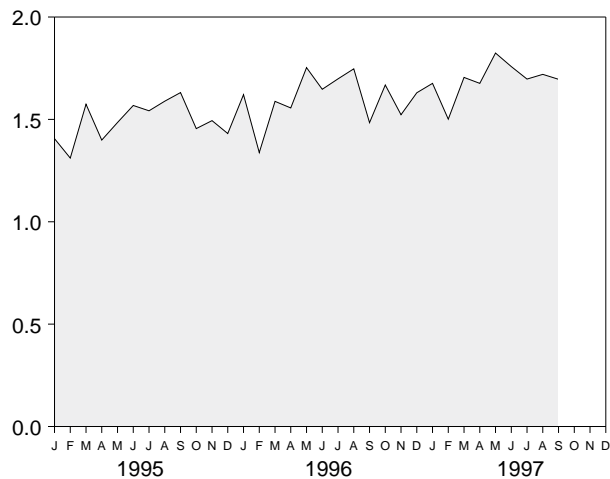
Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1996, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of Section 2 for details.

Figure 1.4 Energy Net Imports
(Quadrillion Btu, Except as Noted)

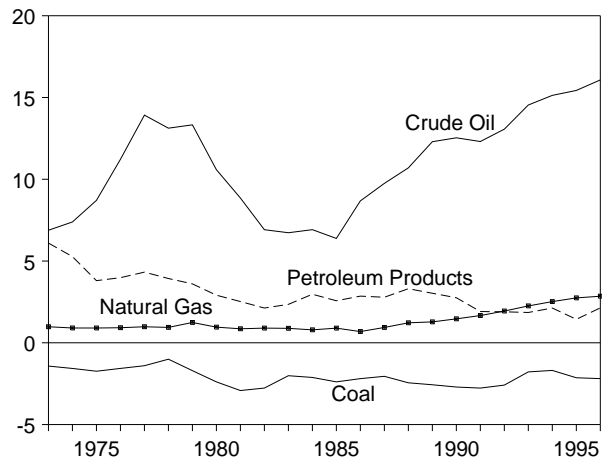
Total, 1973-1996



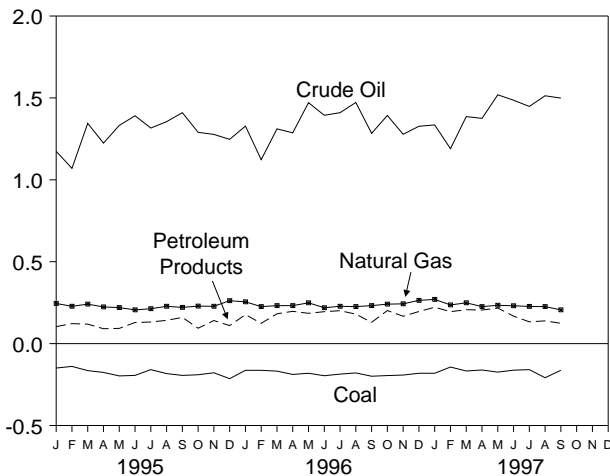
Total, Monthly



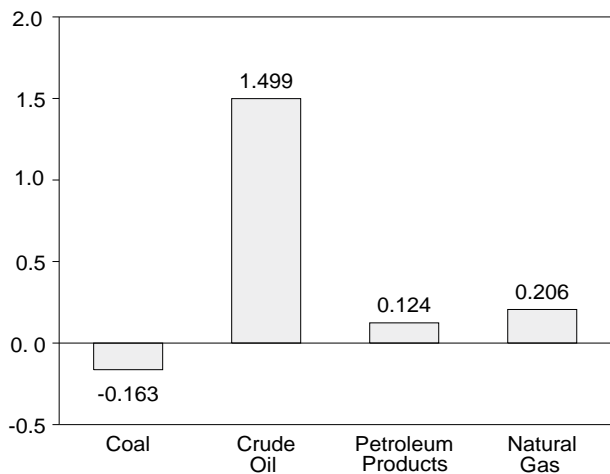
By Major Sources, 1973-1996



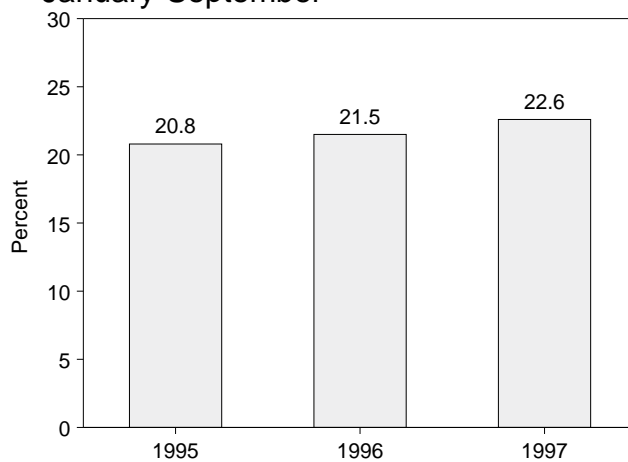
By Major Sources, Monthly



By Major Sources, September 1997



As Share of Consumption, January-September



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	.113	.030	14.181
1990 Total	-2.705	1.464	12.536	2.757	.020	.005	14.077
1991 Total	-2.769	1.666	12.308	1.912	.231	.009	13.357
1992 Total	-2.587	1.941	13.065	1.895	.292	.027	14.633
1993 Total	-1.780	2.255	14.542	1.854	.292	.017	17.180
1994 Total	-1.689	2.518	15.131	2.128	.459	.024	18.570
1995 January	-.149	.245	1.174	.104	.028	.004	1.406
February	-.139	.228	1.070	.122	.027	.002	1.311
March	-.165	.241	1.345	.119	.031	.003	1.574
April	-.176	.224	1.224	.091	.035	.001	1.399
May	-.197	.220	1.332	.093	.032	.004	1.485
June	-.194	.206	1.391	.129	.034	.001	1.568
July	-.159	.213	1.316	.132	.039	.002	1.542
August	-.183	.228	1.355	.142	.046	.001	1.589
September	-.194	.221	1.410	.160	.032	.002	1.631
October	-.190	.229	1.290	.094	.029	.003	1.455
November	-.178	.228	1.277	.141	.024	.002	1.494
December	-.214	.262	1.247	.110	.024	.002	1.431
Total	-2.138	2.745	15.432	1.437	.382	.026	17.884
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	-.179	.226	1.472	.180	.052	-.003	1.747
September	-.199	.232	1.284	.130	.036	(s)	1.484
October	-.195	.241	1.393	.202	.029	(s)	1.668
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	.387	(s)	19.253
1997 January	-.181	E .270	1.335	.222	E .028	.002	1.676
February	-.143	E .236	1.190	.195	E .021	.002	1.501
March	-.167	E .249	1.386	.207	E .028	.002	1.705
April	-.161	E .226	1.375	.205	E .032	(s)	1.676
May	-.174	E .234	1.519	.217	E .026	.002	1.824
June	-.162	E .231	1.486	.168	E .034	.001	1.758
July	-.159	RE .227	1.448	.133	E .046	.002	R 1.697
August	-.208	RE .226	1.513	.139	E .043	.007	R 1.720
September	-.163	F .206	1.499	.124	E .033	-.003	1.696
9-Month Total	-1.517	E 2.105	12.750	1.610	E .291	.014	15.252
1996 9-Month Total	-1.622	2.098	12.078	1.570	.307	.001	14.432
1995 9-Month Total	-1.556	2.026	11.617	1.092	.305	.020	13.504

^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.

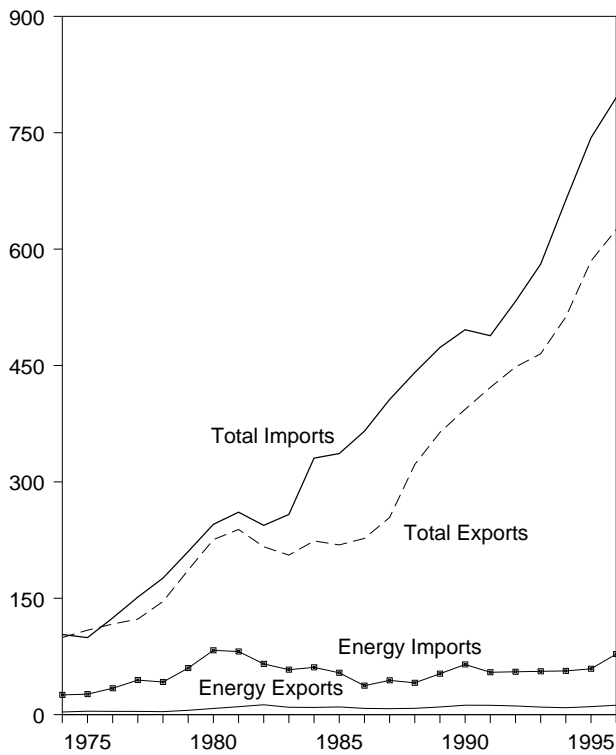
R=Revised data. E=Estimate. F=Forecast. (s)=Less than +0.5 trillion Btu

and greater than -0.5 trillion Btu.

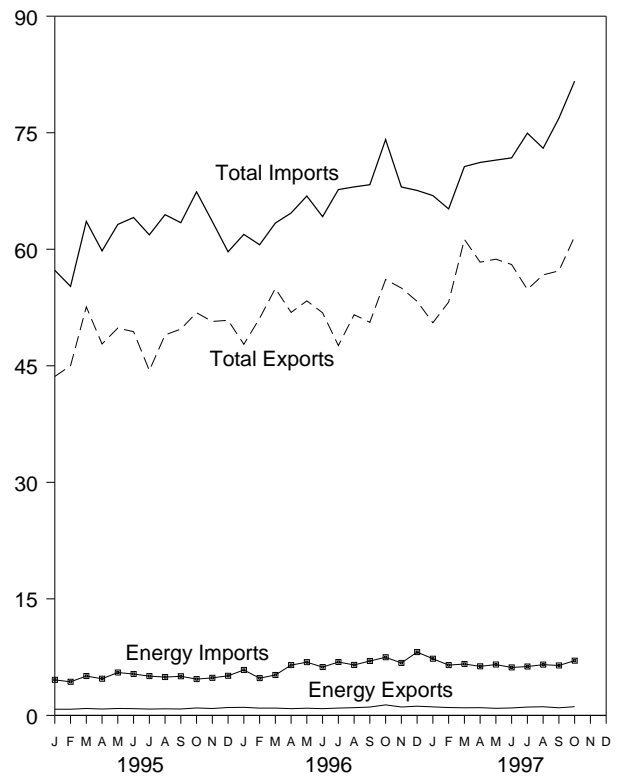
Notes: • See Notes 3 and 4 at end of section. • Net imports equal imports minus exports. Minus sign indicates exports are greater than imports. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

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.

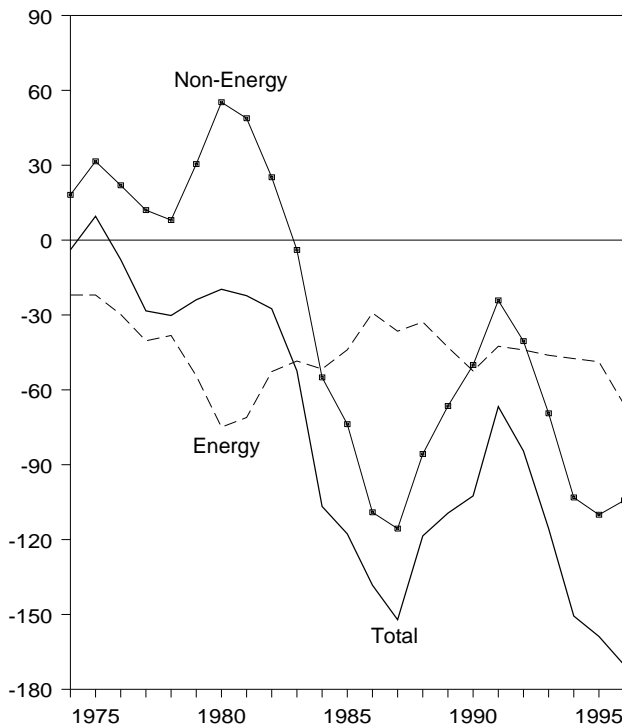
Figure 1.5 Merchandise Trade Value
(Billion Dollars)



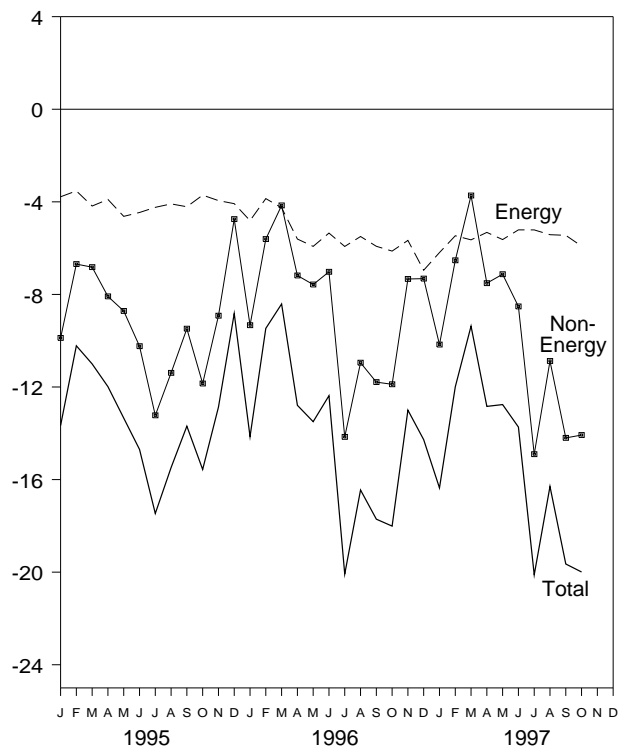
Imports and Exports, Monthly



Trade Balance, 1974-1996



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 January	491	4,148	-3,657	792	4,572	-3,780	-9,881	43,633	57,293	-13,661
February	528	3,948	-3,420	793	4,321	-3,528	-6,690	44,999	55,217	-10,218
March	552	4,654	-4,102	882	5,064	-4,182	-6,822	52,579	63,583	-11,004
April	504	4,344	-3,840	818	4,715	-3,897	-8,087	47,808	59,792	-11,984
May	538	5,115	-4,577	883	5,511	-4,628	-8,715	49,855	63,198	-13,343
June	508	4,955	-4,447	865	5,325	-4,460	-10,237	49,393	64,090	-14,697
July	476	4,687	-4,211	815	5,053	-4,238	-13,226	44,390	61,854	-17,464
August	469	4,567	-4,098	844	4,933	-4,089	-11,391	48,972	64,452	-15,480
September	444	4,648	-4,204	820	5,031	-4,211	-9,482	49,723	63,417	-13,693
October	587	4,278	-3,691	954	4,665	-3,711	-11,851	51,828	67,390	-15,562
November	529	4,423	-3,894	883	4,830	-3,947	-8,920	50,710	63,577	-12,867
December	696	4,601	-3,905	1,011	5,089	-4,078	-4,748	50,853	59,679	-8,826
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	763	6,694	-5,931	1,096	7,287	-6,191	-10,168	50,544	66,903	-16,359
February	681	5,773	-5,092	1,009	6,474	-5,465	-6,528	53,202	65,196	-11,993
March	639	6,018	-5,379	973	6,614	-5,641	-3,729	61,275	70,645	-9,370
April	677	5,686	-5,009	992	6,313	-5,321	-7,516	58,341	71,178	-12,837
May	590	6,098	-5,508	907	6,538	-5,631	-7,128	58,719	71,478	-12,759
June	637	5,713	-5,076	956	6,166	-5,210	-8,520	58,037	71,767	-13,730
July	761	5,780	-5,019	1,074	6,287	-5,213	-14,903	54,829	74,945	-20,116
August	722	6,002	-5,280	1,112	6,532	-5,420	-10,877	56,705	73,001	-16,297
September	656	5,901	-5,245	976	6,423	-5,447	^R -14,199	^R 57,221	^R 76,868	^R -19,646
October	758	6,479	-5,721	1,120	7,034	-5,914	-14,077	61,647	81,638	-19,991
10-Month Total	6,884	60,144	-53,260	10,215	65,668	-55,453	-97,646	570,520	723,619	-153,099
1996 10-Month Total	6,422	58,524	-52,102	9,916	63,199	-53,283	-89,658	516,761	659,705	-142,941
1995 10-Month Total	5,097	45,344	-40,247	8,466	49,190	-40,724	-96,382	483,180	620,286	-137,106

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

^b Petroleum, coal, natural gas, and electricity.

R=Revised data.

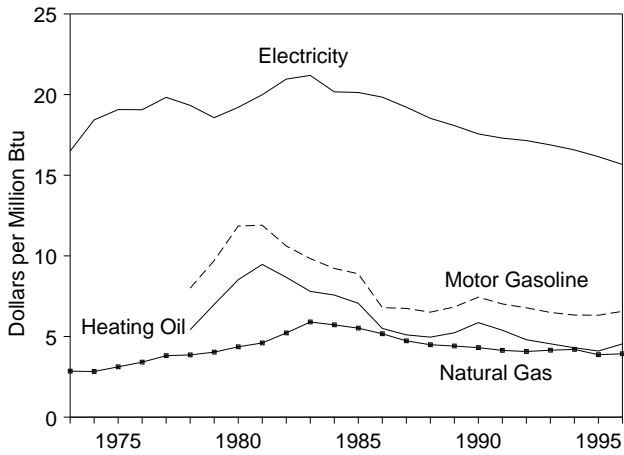
Notes: • Monthly data are not adjusted for seasonal variations. • See Note 5 at end of section. • Totals may not equal sum of components due to independent rounding. • The U.S. import statistics reflect both government

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.

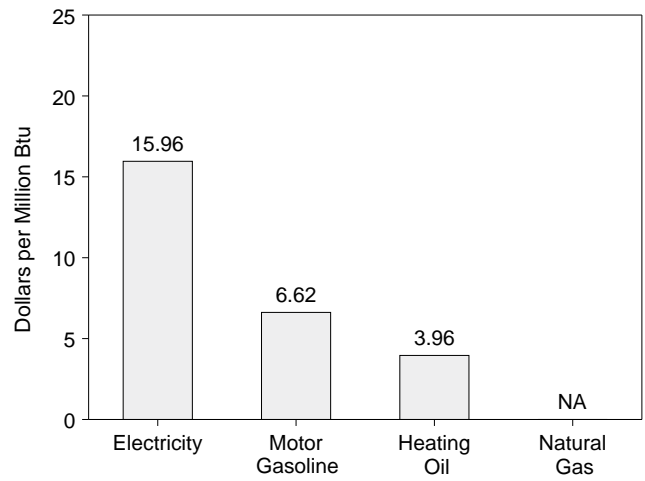
Sources: • U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division. For details, see "Sources for Table 1.6" at the end of this section.

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

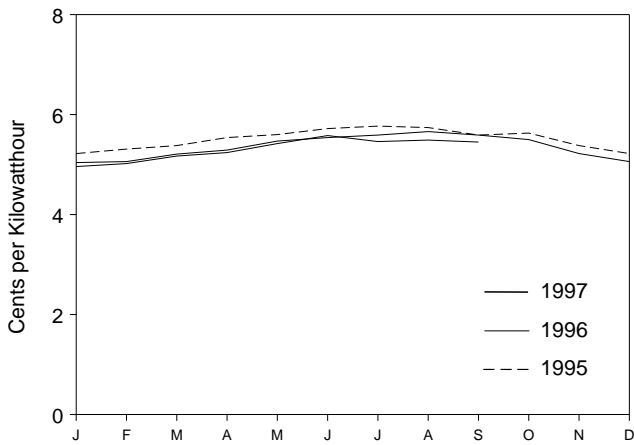
Costs, 1973-1996



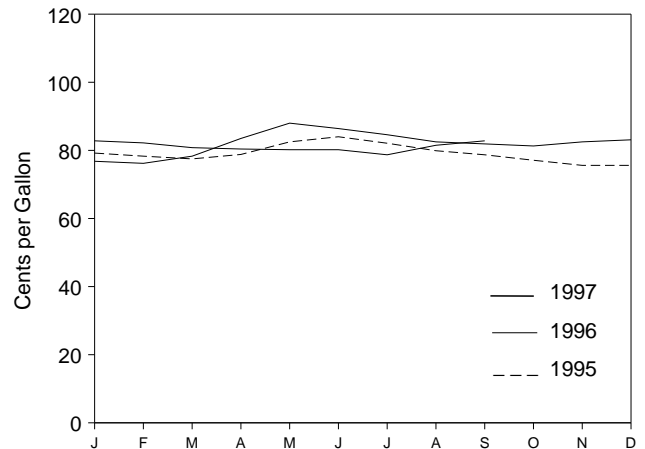
Costs, September 1997



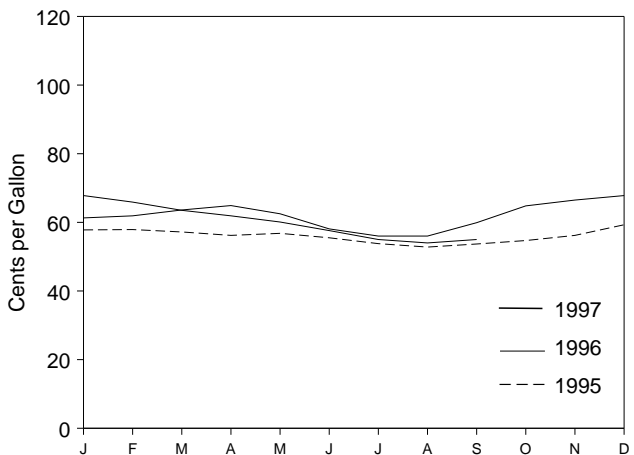
Electricity, Monthly



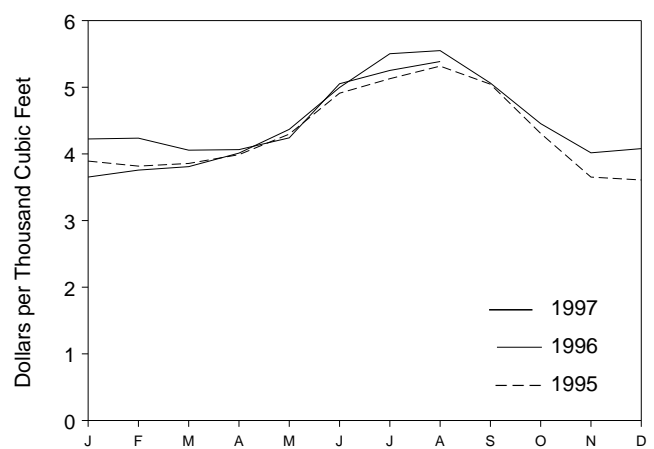
Motor Gasoline, Monthly



Heating Oil, Monthly



Natural Gas, Monthly



NA=Not available.
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 Kilowattour	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 January	150.3	79.2	6.33	57.8	4.17	389.2	3.79	5.22	15.31
February	150.9	78.3	6.26	57.9	4.18	381.7	3.72	5.31	15.56
March	151.4	77.5	6.19	57.2	4.12	385.7	3.76	5.38	15.76
April	151.9	78.8	6.30	56.2	4.05	398.9	3.88	5.54	16.23
May	152.2	82.5	6.60	56.8	4.09	429.7	4.18	5.60	16.43
June	152.5	84.0	6.72	55.5	4.00	491.1	4.78	5.72	16.76
July	152.5	82.1	6.56	53.8	3.88	512.8	4.99	5.77	16.91
August	152.9	79.9	6.39	52.8	3.81	531.7	5.18	5.74	16.83
September	153.2	78.7	6.29	53.7	3.87	504.6	4.91	5.59	16.40
October	153.7	77.1	6.16	54.7	3.94	430.7	4.19	5.63	16.49
November	153.6	75.6	6.04	56.2	4.05	365.2	3.56	5.38	15.76
December	153.5	75.6	6.04	59.3	4.28	360.9	3.51	5.22	15.31
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	5.04	14.77
February	154.9	76.2	6.10	61.9	4.46	375.7	3.66	5.06	14.83
March	155.7	78.3	6.26	63.6	4.59	380.9	3.71	5.21	15.27
April	156.3	83.5	6.68	64.9	4.68	401.2	3.91	5.29	15.51
May	156.6	88.0	7.04	62.5	4.50	436.8	4.25	5.47	16.04
June	156.7	86.4	6.91	58.1	4.19	499.7	4.87	5.54	16.23
July	157.0	84.6	6.76	56.0	4.04	550.3	5.36	5.59	16.37
August	157.3	82.5	6.60	56.0	4.04	555.0	5.40	5.66	16.58
September	157.8	81.9	6.55	59.9	4.32	506.3	4.93	5.59	16.38
October	158.3	81.3	6.50	64.8	4.67	445.4	4.34	5.50	16.11
November	158.6	82.5	6.59	66.5	4.79	401.6	3.91	5.22	15.30
December	158.6	83.1	6.64	67.8	4.89	407.9	3.97	5.06	14.82
Average	156.9	82.1	6.56	63.0	4.54	404.1	3.93	5.35	15.67
1997 January	159.1	82.8	6.62	67.8	4.89	422.4	4.11	4.96	14.53
February	159.6	82.2	6.57	65.9	4.75	423.6	4.12	5.02	14.71
March	160.0	80.8	6.46	63.5	4.58	405.6	3.95	5.17	15.17
April	160.2	80.4	6.43	61.9	4.46	406.4	3.96	5.24	15.37
May	160.1	80.2	6.41	60.1	4.34	424.1	4.13	5.42	15.89
June	160.3	80.2	6.41	57.6	4.15	505.3	4.92	5.58	16.35
July	160.5	78.7	6.29	55.0	3.97	^R 525.2	^R 5.11	5.46	16.01
August	160.8	81.5	6.51	54.0	3.90	^R 538.6	^R 5.24	5.49	16.09
September	161.2	82.8	6.62	55.0	3.96	NA	NA	5.45	15.96

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

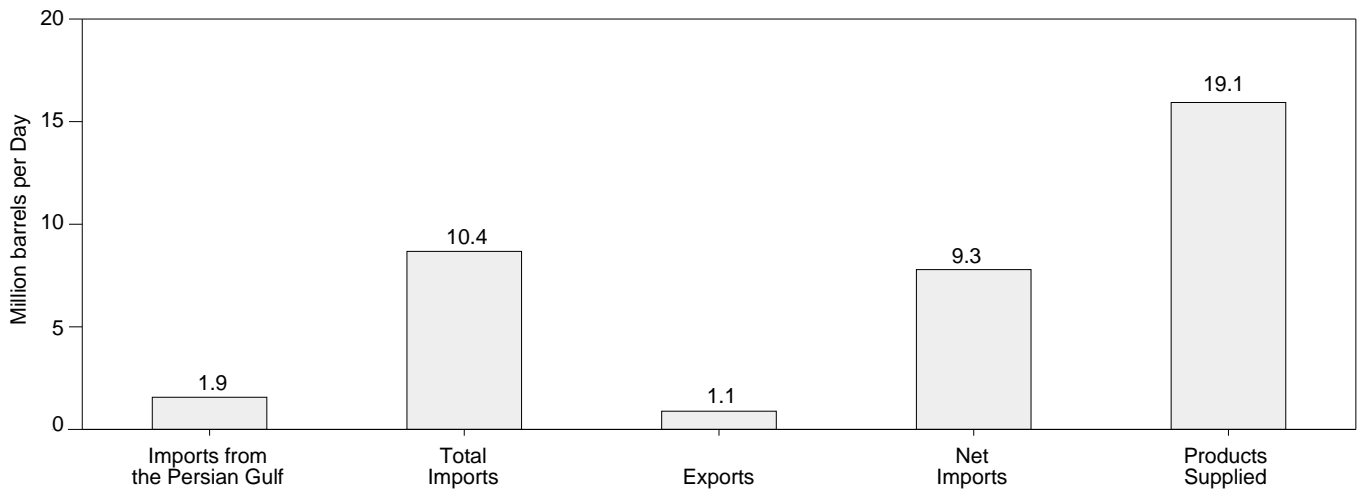
R=Revised data. NA=Not available.

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.

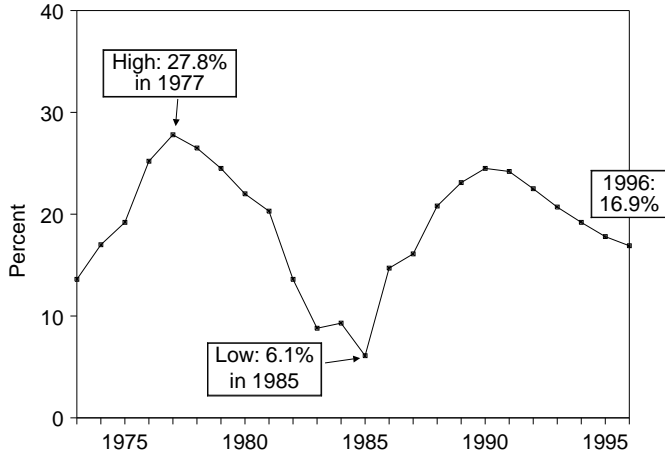
Sources: • **Annual Data:** Annual prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9, adjusted by the CPI. • **Monthly Data:** Monthly prices in Tables 9.4 (All Types), 9.8c, 9.11, and 9.9 (Monthly Series), adjusted by the CPI. • **CPI: 1973-1993**—*Economic Report of the President*, February 1997, Table B-59. **1994 forward**—Council of Economic Advisers, *Economic Indicators*, November 1997, "Consumer Prices - All Urban Consumers." • **Conversion Factors:** Tables A1, A4, and A8.

Figure 1.7 Overview of U.S. Petroleum Trade
(Quadrillion Btu)

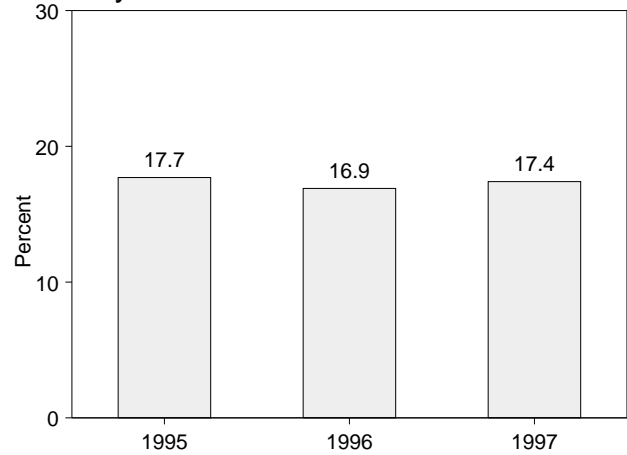
Overview, October 1997



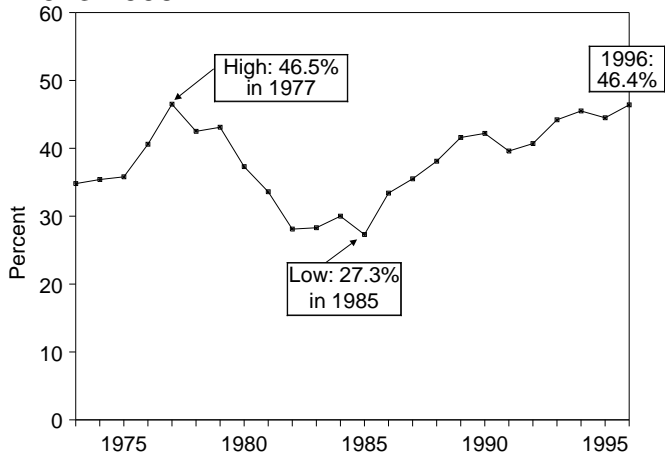
Imports from the Persian Gulf as a Share of Total Imports
1973-1996



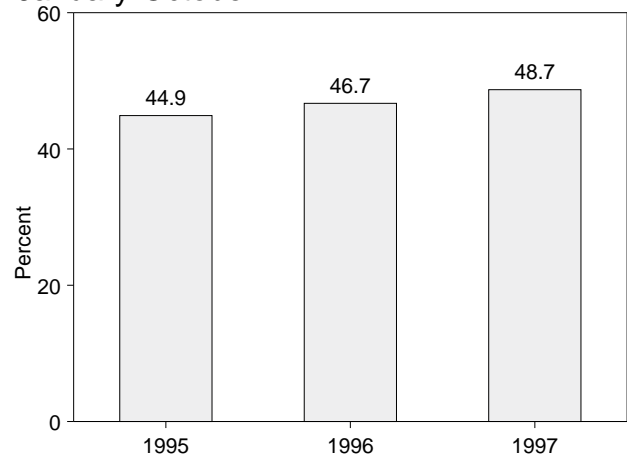
January-October



Net Imports as Share of Product Supplied
1973-1996



January-October



Note: Because vertical scales differ, graphs should not be compared.
Source: Table 1.8.

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 January	1,459	8,015	978	7,037	17,219	8.5	46.5	40.9	18.2
February	1,550	8,345	1,062	7,283	18,279	8.5	45.7	39.8	18.6
March	1,788	9,006	948	8,059	17,484	10.2	51.5	46.1	19.8
April	1,547	8,465	998	7,467	17,142	9.0	49.4	43.6	18.3
May	1,490	8,709	876	7,832	17,293	8.6	50.4	45.3	17.1
June	1,558	9,558	919	8,639	18,131	8.6	52.7	47.6	16.3
July	1,460	8,863	895	7,969	17,147	8.5	51.7	46.5	16.5
August	1,541	9,061	821	8,240	18,044	8.5	50.2	45.7	17.0
September	1,691	9,736	805	8,930	18,026	9.4	54.0	49.5	17.4
October	1,524	8,577	962	7,615	17,651	8.6	48.6	43.1	17.8
November	1,677	9,074	1,002	8,072	17,979	9.3	50.5	44.9	18.5
December	1,593	8,612	1,135	7,477	18,366	8.7	46.9	40.7	18.5
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	9,633	1,038	8,595	18,560	8.4	51.9	46.3	16.1
February	1,533	9,475	1,015	8,460	18,308	8.4	51.8	46.2	16.2
March	1,641	9,712	932	8,780	17,869	9.2	54.4	49.1	16.9
April	1,862	9,934	937	8,997	18,572	10.0	53.5	48.4	18.7
May	1,706	10,442	876	9,565	18,244	9.4	57.2	52.4	16.3
June	1,785	10,357	955	9,402	18,563	9.6	55.8	50.6	17.2
July	1,719	9,703	1,012	8,691	19,065	9.0	50.9	45.6	17.7
August	1,850	10,155	1,074	9,081	18,506	10.0	54.9	49.1	18.2
September	1,873	10,201	997	9,204	18,480	10.1	55.2	49.8	18.4
October	1,882	10,414	1,066	9,347	19,121	9.8	54.5	48.9	18.1
10-Month Average ...	1,741	10,006	990	9,016	18,531	9.4	54.0	48.7	17.4
1996 10-Month Average ...	1,604	9,508	973	8,535	18,284	8.8	52.0	46.7	16.9
1995 10-Month Average ...	1,560	8,834	925	7,909	17,634	8.8	50.1	44.9	17.7

^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)

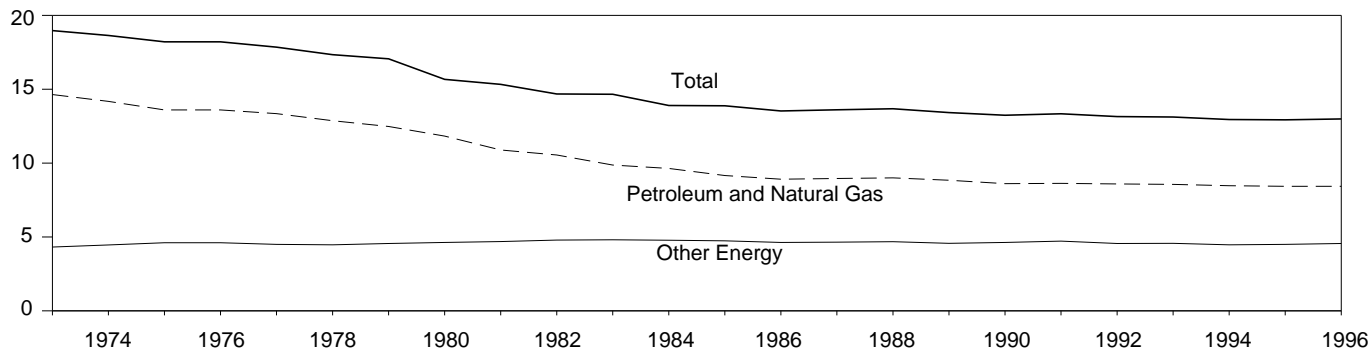


Table 1.9 Energy Consumption per Dollar of Gross Domestic Product
(Seasonally Adjusted at Annual Rates)

	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	27.731	81.325	6,062.0	8.84	4.57	13.42
1990 Year	52.849	28.416	81.265	6,136.3	8.61	4.63	13.24
1991 Year	52.452	28.665	81.116	6,079.4	8.63	4.72	13.34
1992 Year	53.657	28.487	82.144	6,244.4	8.59	4.56	13.15
1993 Year	54.668	29.195	83.863	6,389.6	8.56	4.57	13.12
1994 Year	56.022	29.565	85.587	6,610.7	8.47	4.47	12.95
1995 1 st Quarter	56.537	29.859	86.395	6,703.7	8.43	4.45	12.89
2 nd Quarter	57.101	30.040	87.141	6,708.8	8.51	4.48	12.99
3 rd Quarter	56.813	30.836	87.649	6,759.2	8.41	4.56	12.97
4 th Quarter	56.854	30.716	87.570	6,796.5	8.37	4.52	12.88
Year	56.827	30.367	87.193	6,742.1	8.43	4.50	12.93
1996 1 st Quarter	59.282	31.663	90.945	6,826.4	8.68	4.64	13.32
2 nd Quarter	58.591	31.890	90.480	6,926.0	8.46	4.60	13.06
3 rd Quarter	57.442	31.060	88.501	6,943.8	8.27	4.47	12.75
4 th Quarter	58.392	31.718	90.110	7,017.4	8.32	4.52	12.84
Year	58.424	31.581	90.005	6,928.4	8.43	4.56	12.99
1997 1 st Quarter	^R 58.179	^R 31.539	^R 89.719	7,101.6	8.19	^R 4.44	^R 12.63
2 nd Quarter	^R 59.202	^R 31.478	^R 90.681	7,159.6	^R 8.27	^R 4.40	^R 12.67
3 rd Quarter	59.314	31.679	90.994	7,217.6	8.22	4.39	12.61

^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 data.

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: 1973-1995**—U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, May 1997, Table 2A. **1996 forward**—U.S. Department of Commerce, Bureau of Economic Analysis, *United States Department of Commerce News*, November 26, 1997, Table 2.

Figure 1.9 Passenger Car Efficiency

(Index, 1973 = 100)

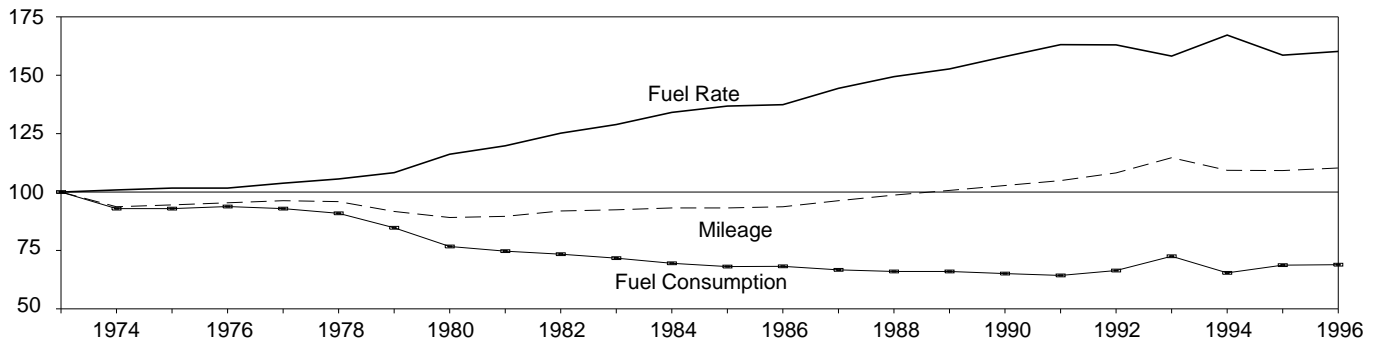


Table 1.10 Passenger Car Efficiency

	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	10,256	100.0	771	100.0	13.30	100.0
1974	9,606	93.7	716	92.9	13.42	100.9
1975	9,690	94.5	716	92.9	13.52	101.7
1976	9,785	95.4	723	93.8	13.53	101.7
1977	9,879	96.3	716	92.9	13.80	103.8
1978	9,835	95.9	701	90.9	14.04	105.6
1979	9,403	91.7	653	84.7	14.41	108.3
1980	9,141	89.1	591	76.7	15.46	116.2
1981	9,186	89.6	576	74.7	15.94	119.8
1982	9,428	91.9	566	73.4	16.65	125.2
1983	9,475	92.4	553	71.7	17.14	128.9
1984	9,558	93.2	536	69.5	17.83	134.1
1985	9,560	93.2	525	68.1	18.20	136.8
1986	9,608	93.7	526	68.2	18.27	137.4
1987	9,878	96.3	514	66.7	19.20	144.4
1988	10,121	98.7	509	66.0	19.87	149.4
1989	10,332	100.7	509	66.0	20.31	152.7
1990	10,548	102.8	502	65.1	21.02	158.0
1991	10,757	104.9	496	64.3	21.69	163.1
1992	11,100	108.2	512	66.4	21.68	163.0
1993	11,760	114.7	559	72.5	21.04	158.2
1994	11,210	109.3	504	65.4	22.24	167.2
1995	11,203	109.2	530	68.7	21.10	158.6
1996 ^a	11,314	110.3	531	68.9	21.30	160.2

^a Preliminary data.

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

Sources: Indices are prepared from statistics published by the U.S. Department of Transportation, Federal Highway Administration, Federal

Highway Statistics Division. • 1973-1985: *Highway Statistics Summary to 1985*, Table VM-201A. • 1986 forward: *Highway Statistics*, annual, Table VM-1.

Table 1.11 Heating Degree-Days by Census Division

Census Divisions	November 1 through November 30					Cumulative July 1 through November 30				
	Normal ^a	1996	1997	Percent Change		Normal ^a	1996	1997	Percent Change	
				Normal to 1997	1996 to 1997				Normal to 1997	1996 to 1997
New England Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	720	841	803	11.5	-4.5	1,329	1,582	1,580	18.9	-0.1
Middle Atlantic New Jersey, New York, Pennsylvania	647	776	730	12.8	-5.9	1,120	1,295	1,308	16.8	1.0
East North Central Illinois, Indiana, Michigan, Ohio, Wisconsin	731	916	830	13.5	-9.4	1,259	1,512	1,488	18.2	-1.6
West North Central Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	798	996	903	13.2	-9.3	1,349	1,613	1,497	11.0	-7.2
South Atlantic Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia	335	430	413	23.3	-4.0	513	627	629	22.6	.3
East South Central Alabama, Kentucky, Mississippi, Tennessee	432	525	548	26.9	4.4	661	764	804	21.6	5.2
West South Central Arkansas, Louisiana, Oklahoma, Texas	272	278	351	29.0	26.3	354	353	458	29.4	29.7
Mountain Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	665	653	670	.8	2.6	1,195	1,208	1,176	-1.6	-2.6
Pacific^b California, Oregon, Washington	385	370	316	-17.9	-14.6	663	666	556	-16.1	-16.5
U.S. Average^b	528	620	589	11.6	-5.0	888	1,017	1,003	13.0	-1.4

^a "Normal" is based on calculations of data from 1961 through 1990.

^b Excludes Alaska and Hawaii.

Notes: Degree-days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Heating degree-days are the number of degrees that the daily average temperature falls below 65° F. Cooling degree-days are the number of degrees that the daily average temperature rises above 65° F. The daily average temperature

is the mean of the maximum and minimum temperatures in a 24-hour period. For example, a weather station recording an average daily temperature of 40° F would report 25 heating degree-days for that day (and 0 cooling degree-days). If a weather station recorded an average daily temperature of 78° F, cooling degree-days for that station would be 13 (and 0 heating degree days).

Sources: See end of section.

Table 1.12 Cooling Degree-Days by Census Division

Census Divisions	November 1 through November 30					Cumulative January 1 through November 30				
	Normal ^a	1996	1997	Percent Change		Normal ^a	1996	1997	Percent Change	
				Normal to 1997	1996 to 1997				Normal to 1997	1996 to 1997
New England Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	0	0	0	(^c)	(^c)	420	365	413	-1.7	13.2
Middle Atlantic New Jersey, New York, Pennsylvania	0	0	0	(^c)	(^c)	675	617	588	-12.9	-4.7
East North Central Illinois, Indiana, Michigan, Ohio, Wisconsin	0	0	0	(^c)	(^c)	736	629	552	-25.0	-12.2
West North Central Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota	0	0	0	(^c)	(^c)	981	813	830	-15.4	2.1
South Atlantic Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia	49	46	39	(^c)	(^c)	1,895	1,858	1,809	-4.5	-2.6
East South Central Alabama, Kentucky, Mississippi, Tennessee	6	3	0	(^c)	(^c)	1,561	1,440	1,324	-15.2	-8.1
West South Central Arkansas, Louisiana, Oklahoma, Texas	33	19	3	(^c)	(^c)	2,449	2,451	2,220	-9.4	-9.4
Mountain Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming	4	0	0	(^c)	(^c)	1,173	1,230	1,169	-.3	-5.0
Pacific^b California, Oregon, Washington	4	0	6	(^c)	(^c)	693	757	762	10.0	.7
U.S. Average^b	13	10	8	(^c)	(^c)	1,185	1,142	1,085	-8.4	-5.0

^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:

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1974-1987: "U.S. Exports," FT410, December issues.
1988: "Report on U.S. Merchandise Trade, 1988 Final Revisions."

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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."

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1997: "U.S. International Trade in Goods and Services," FT-900, monthly.

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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 Revi-

sions,” 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.”

1993-1994: “U.S. International Trade in Goods and Services, Annual Revision for 1995.”

1995-1996: “U.S. International Trade in Goods and Services, Annual Revision for 1996.”

1997: “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 September 1997 was 7.1 quadrillion Btu. Petroleum products accounted for 42 percent of the energy consumed in September 1997, while coal accounted for 25 percent, and natural gas accounted for 21 percent.

Residential and commercial sector consumption was 2.3 quadrillion Btu in September 1997, up 5 percent from the September 1996 level. The sector accounted for 33 percent of September 1997 total consumption, about the same share as in September 1996.

Industrial sector consumption was 2.7 quadrillion Btu in September 1997, up 3 percent from the September 1996 level. The industrial sector accounted for 38 percent of September 1997 total consumption, about the same share as in September 1996.

Transportation sector consumption of energy was 2.0 quadrillion Btu in September 1997, up 3 percent from the September 1996 level. The sector accounted for 29 percent of September 1997 total consumption, about the same share as in September 1996.

Electric utility consumption of energy totaled 2.8 quadrillion Btu in September 1997, up 6 percent from the September 1996 level. Coal contributed 55 percent of the energy consumed by electric utilities in September 1997, while nuclear electric power contributed 20 percent; natural gas 12 percent; hydroelectric 9 percent; petroleum 3 percent; and geothermal, wood, waste, wind, photovoltaic, and solar thermal energy, less than 1 percent.

Table 2.1 Energy Consumption Summary for September 1997
(Quadrillion Btu)

Energy Source	End-Use Sectors				Electric Utilities	Total
	Residential and Commercial	Industrial	Transportation	Total ^a		
Coal	^E 0.008	^E 0.187	(^b)	^E 0.200	1.559	^E 1.759
Natural Gas ^c	^F .277	^F .833	^F .052	^F 1.164	.340	^F 1.504
Petroleum Products ^d .....	.159	.762	1.964	2.885	.082	2.967
Nuclear Electric Power	—	—	—	—	.559	.559
Hydroelectric Power ^e	—	.002	—	.002	.261	.263
Geothermal	—	—	—	—	.010	.010
Net Imports of Coal Coke	—	-.003	—	-.003	—	-.003
Other ^f	—	—	—	—	.002	.002
Primary Consumption .....	.444	1.781	2.016	4.248	2.813	7.061
Electricity .....	.635	.307	.001	.943	—	—
Net Consumption	1.079	2.088	2.018	5.191	—	—
Electrical System Energy Losses	1.259	.609	.002	1.870	—	—
Total Consumption	2.338	2.697	2.020	7.061	—	—

^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. E=Estimate. F=Forecast

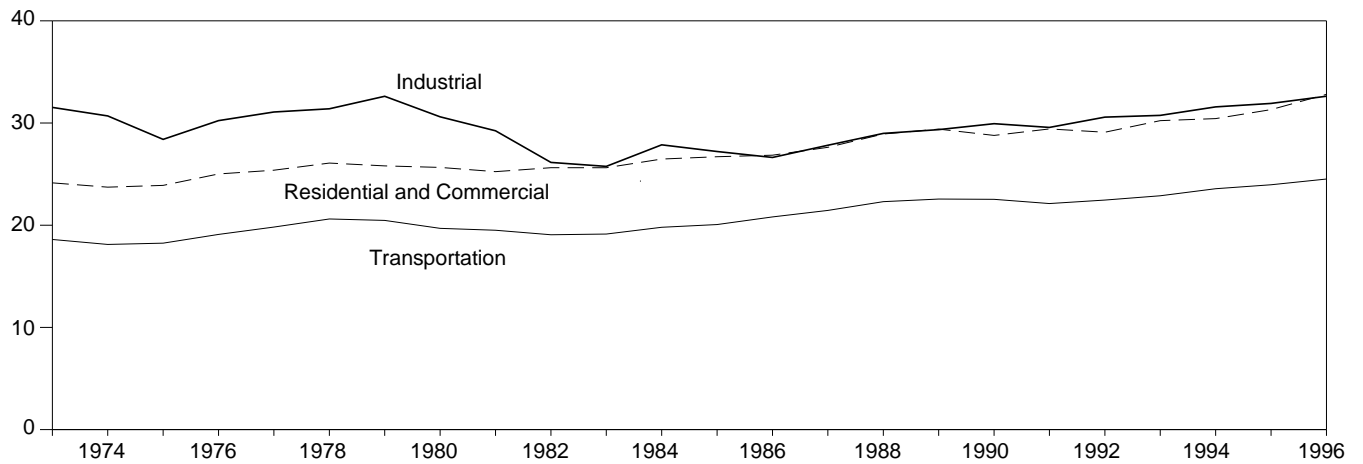
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

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

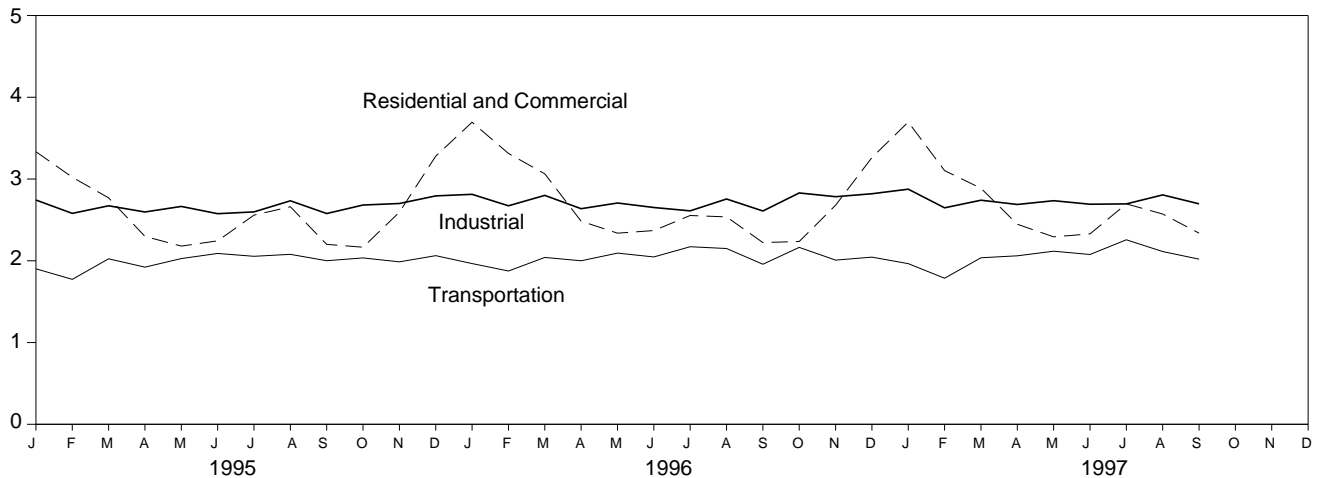
Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. For the full year of 1996, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

Figure 2.1 Energy Consumption by End-Use Sector
(Quadrillion Btu)

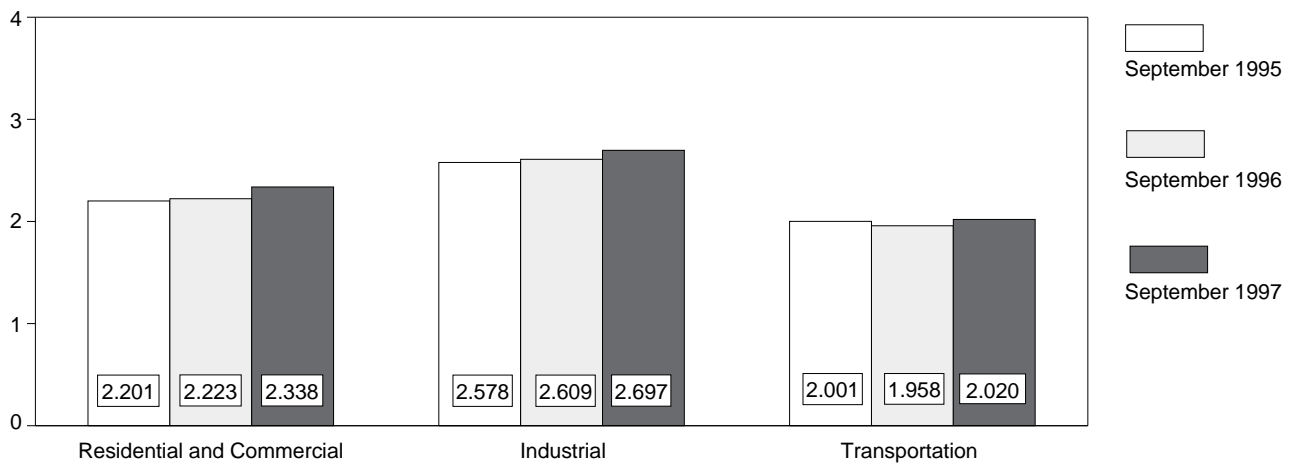
Overview, 1973-1996



Overview, Monthly



Overview, September



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	21.116	27.826	21.419	21.448	57.678	76.894
1988 Total	16.004	28.925	22.085	28.986	22.274	22.305	60.366	80.218
1989 Total	16.261	29.404	22.272	29.353	22.530	22.561	61.070	81.325
1990 Total	15.568	28.786	22.841	29.936	22.504	22.535	60.921	81.265
1991 Total	15.985	29.424	22.549	29.570	22.091	22.121	60.626	81.116
1992 Total	16.089	29.099	23.498	30.577	22.432	22.462	62.025	82.144
1993 Total	16.736	30.233	23.739	30.749	22.857	22.884	63.327	83.863
1994 Total	16.760	30.433	24.414	31.581	23.544	23.573	64.719	85.587
1995 January	2.117	3.334	2.168	2.743	1.899	1.902	6.185	7.979
February	1.973	3.022	2.059	2.580	1.771	1.773	5.801	7.374
March	1.697	2.770	2.092	2.673	2.022	2.024	5.809	7.465
April	1.332	2.298	2.031	2.597	1.920	1.922	5.280	6.815
May	1.110	2.180	2.033	2.665	2.025	2.027	5.167	6.871
June	1.039	2.244	1.944	2.576	2.088	2.090	5.073	6.912
July	1.077	2.559	1.938	2.598	2.052	2.055	5.072	7.216
August	1.115	2.661	2.063	2.734	2.076	2.079	5.260	7.479
September	1.051	2.201	2.027	2.578	1.999	2.001	5.078	6.780
October	1.098	2.166	2.089	2.682	2.032	2.035	5.219	6.882
November	1.519	2.595	2.117	2.701	1.985	1.987	5.620	7.282
December	2.034	3.280	2.189	2.794	2.061	2.063	6.285	8.138
Total	17.162	31.310	24.749	31.918	23.933	23.960	65.850	87.193
1996 January	2.363	3.695	2.240	2.813	1.963	1.966	6.570	8.476
February	2.146	3.313	2.129	2.673	1.873	1.875	6.150	7.863
March	1.902	3.064	2.210	2.800	2.039	2.041	6.150	7.905
April	1.456	2.484	2.077	2.637	1.998	2.000	5.529	7.120
May	1.161	2.338	2.053	2.707	2.092	2.094	5.306	7.141
June	1.071	2.370	2.016	2.652	2.045	2.047	5.137	7.075
July	1.090	2.554	1.966	2.611	2.169	2.172	5.231	7.344
August	1.089	2.537	2.108	2.756	2.147	2.150	5.350	7.450
September	1.045	2.223	2.040	2.609	1.956	1.958	5.044	6.793
October	1.145	2.236	2.223	2.830	2.161	2.164	5.532	7.233
November	1.556	2.680	2.180	2.784	2.005	2.008	5.744	7.474
December	2.008	3.263	2.220	2.820	2.043	2.045	6.275	8.132
Total	18.032	32.759	25.458	32.690	24.494	24.523	68.018	90.005
1997 January	2.348	3.697	2.279	2.876	1.962	1.965	6.595	8.543
February	2.020	3.103	2.120	2.648	1.785	1.787	5.927	7.540
March	1.741	2.887	2.139	2.741	2.035	2.037	5.916	7.666
April	1.413	2.447	2.102	2.689	2.059	2.061	5.575	7.198
May	1.183	2.293	2.088	2.735	2.115	2.117	5.388	7.147
June	1.058	2.329	^R 2.026	2.692	2.075	2.077	^R 5.164	^R 7.104
July	^R 1.131	^R 2.696	^R 2.021	^R 2.696	2.254	2.257	^R 5.415	^R 7.657
August	^R 1.101	^R 2.572	^R 2.136	^R 2.806	^R 2.111	^R 2.113	^R 5.355	^R 7.499
September	1.079	2.338	2.088	2.697	2.018	2.020	5.191	7.061
9-Month Total	13.076	24.363	18.999	24.580	18.413	18.434	50.526	67.415
1996 9-Month Total	13.323	24.579	18.838	24.259	18.281	18.303	50.468	67.166
1995 9-Month Total	12.510	23.268	18.356	23.744	17.852	17.872	48.726	64.892

R=Revised data.

Notes: • Totals may not equal sum of components due to independent rounding and the use of sector-specific conversion factors for natural gas and

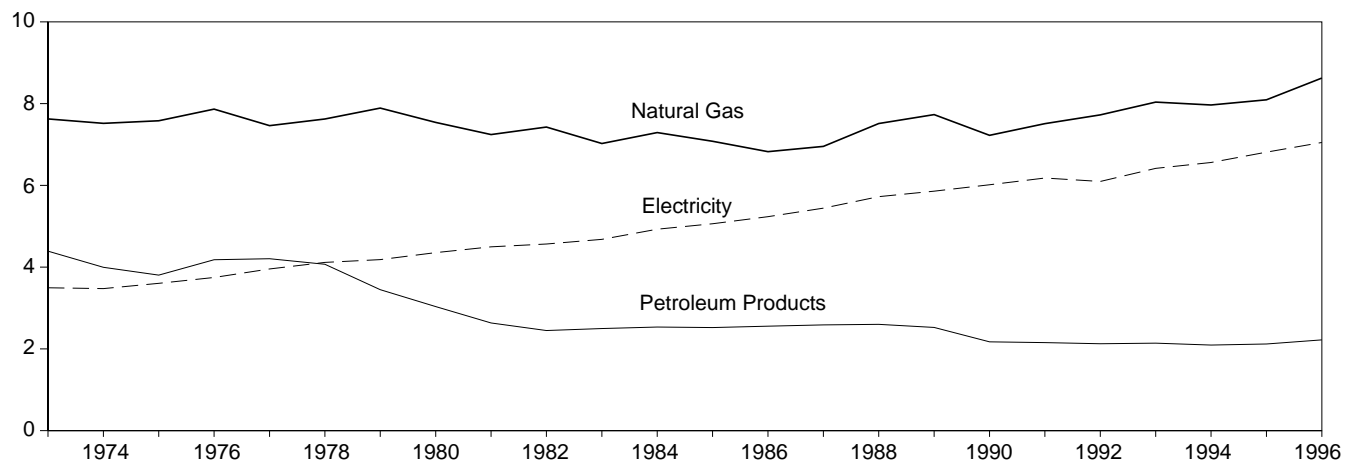
coal. • Geographic coverage is the 50 States and the District of Columbia. Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in total consumption. In 1996, for example, 3.9 quadrillion Btu of renewable energy used by electric utilities to generate electricity for distribution is included, but an estimated 3.4 quadrillion Btu used by residential, commercial, and industrial consumers is not. See Note 12 at the end of section for details.

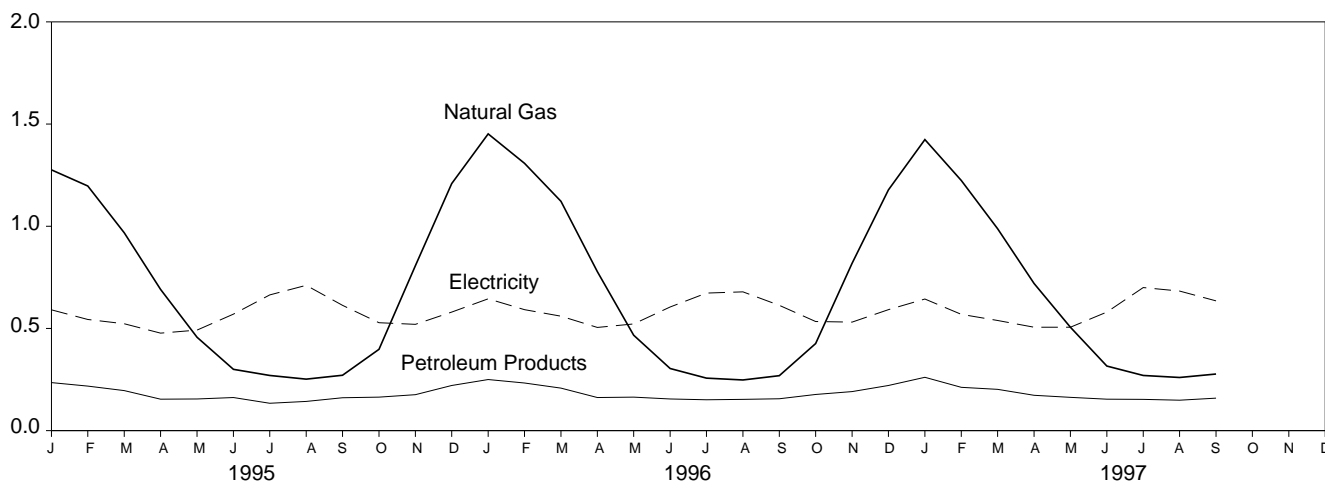
Figure 2.2 Residential and Commercial Energy Consumption

(Quadrillion Btu)

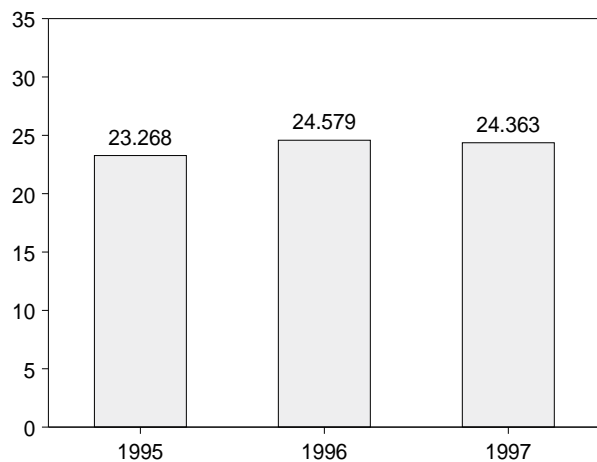
By Major Sources, 1973-1996



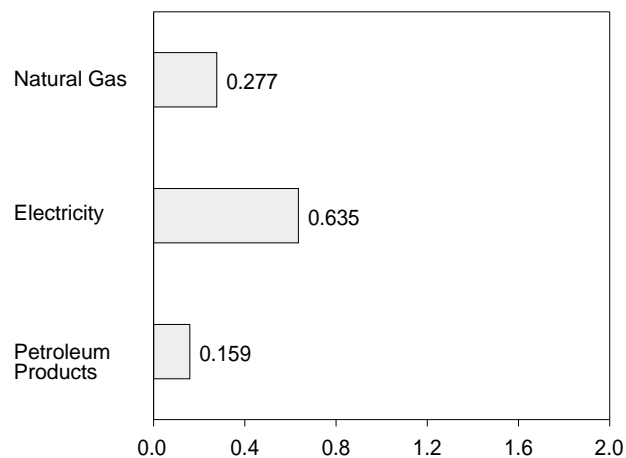
By Major Sources, Monthly



Total, January-September



By Major Sources, September 1997



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	28.925
1989 Total .....	.146	7.731	2.525	10.402	5.859	16.261	13.143	29.404
1990 Total .....	.156	7.224	2.173	9.553	6.015	15.568	13.218	28.786
1991 Total .....	.141	7.510	2.154	9.805	6.180	15.985	13.439	29.424
1992 Total .....	.142	7.725	2.126	9.993	6.096	16.089	13.010	29.099
1993 Total .....	.143	8.037	2.140	10.320	6.416	16.736	13.497	30.233
1994 Total .....	.139	7.967	2.094	10.200	6.560	16.760	13.673	30.433
1995 January .....	.015	1.276	.235	1.526	.591	2.117	1.217	3.334
February .....	.013	1.197	.218	1.428	.544	1.973	1.049	3.022
March .....	.010	.968	.196	1.174	.523	1.697	1.073	2.770
April .....	.010	.691	.154	.855	.477	1.332	.966	2.298
May .....	.007	.457	.155	.618	.492	1.110	1.070	2.180
June .....	.007	.300	.162	.469	.570	1.039	1.205	2.244
July .....	.009	.270	.134	.414	.664	1.077	1.481	2.559
August .....	.009	.252	.143	.404	.711	1.115	1.546	2.661
September .....	.006	.271	.161	.438	.613	1.051	1.150	2.201
October .....	.008	.398	.164	.570	.528	1.098	1.068	2.166
November .....	.017	.807	.176	.999	.520	1.519	1.076	2.595
December .....	.024	1.209	.221	1.454	.580	2.034	1.246	3.280
Total .....	.135	8.094	2.120	10.349	6.813	17.162	14.148	31.310
1996 January .....	.016	1.452	.250	1.718	.645	2.363	1.332	3.695
February .....	.013	1.308	.233	1.555	.592	2.146	1.166	3.313
March .....	.012	1.122	.208	1.342	.560	1.902	1.162	3.064
April .....	.011	.778	.162	.951	.505	1.456	1.028	2.484
May .....	.009	.467	.164	.639	.522	1.161	1.177	2.338
June .....	.007	.304	.155	.466	.605	1.071	1.299	2.370
July .....	.010	.257	.151	.417	.673	1.090	1.464	2.554
August .....	.010	.248	.153	.410	.679	1.089	1.448	2.537
September .....	.007	.269	.156	.433	.613	1.045	1.178	2.223
October .....	.008	.426	.177	.611	.534	1.145	1.092	2.236
November .....	.015	.819	.191	1.025	.531	1.556	1.124	2.680
December .....	.018	1.178	.221	1.417	.592	2.008	1.255	3.263
Total .....	.135	8.626	2.221	10.982	7.050	18.032	14.727	32.759
1997 January .....	.019	1.424	.261	1.704	.644	2.348	1.349	3.697
February .....	.014	1.224	.212	1.451	.569	2.020	1.083	3.103
March .....	.012	.988	.202	1.202	.539	1.741	1.146	2.887
April .....	.013	.720	.173	.907	.506	1.413	1.034	2.447
May .....	.009	.506	.163	.678	.506	1.183	1.110	2.293
June .....	.008	.316	.154	.478	.580	1.058	1.271	2.329
July	E .009	R .270	.153	R .432	.700	R 1.131	1.565	R 2.696
August	E .009	R .260	.149	R .418	.683	R 1.101	1.471	R 2.572
September	E .008	F .277	.159	.444	.635	1.079	1.259	2.338
9-Month Total	E .100	E 5.985	1.628	7.713	5.362	13.076	11.287	24.363
1996 9-Month Total .....	.094	6.204	1.632	7.930	5.393	13.323	11.256	24.579
1995 9-Month Total .....	.086	5.680	1.560	7.326	5.184	12.510	10.758	23.268

^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 data. 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.

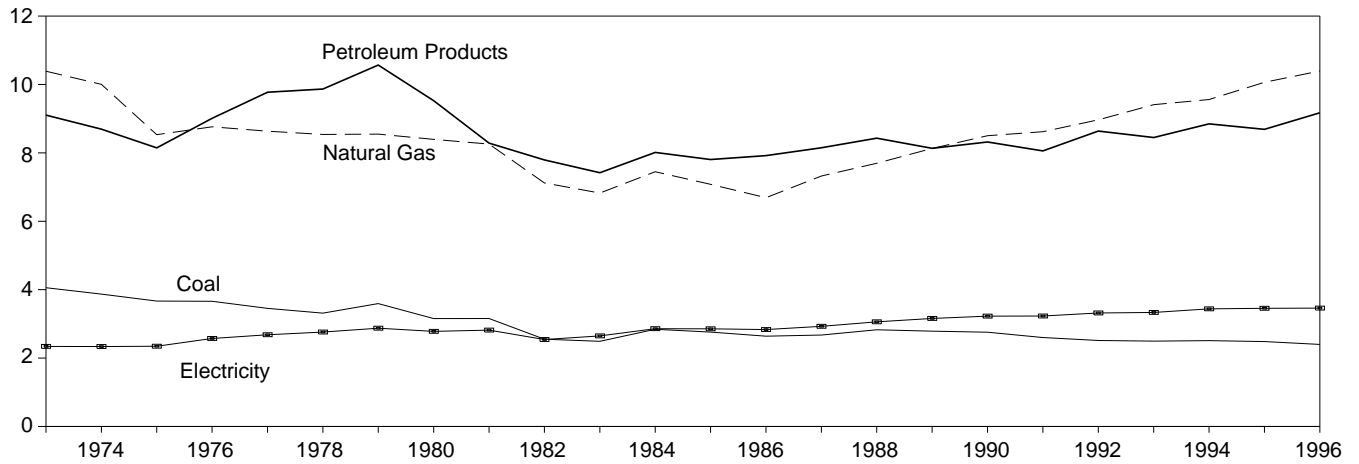
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1996, for example, an estimated 0.7 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.

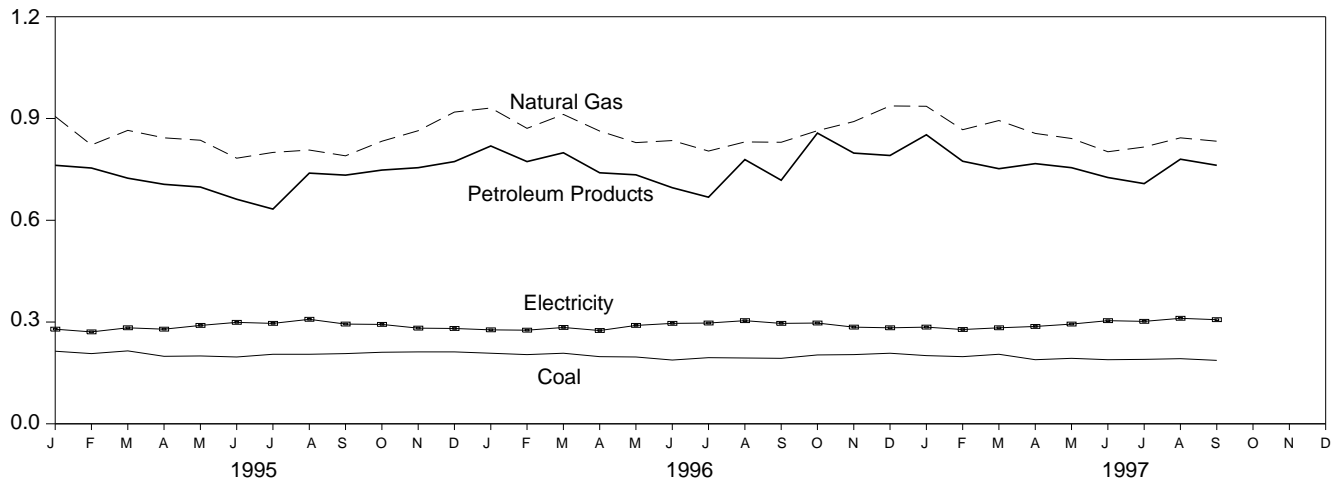
Figure 2.3 Industrial Energy Consumption

(Quadrillion Btu)

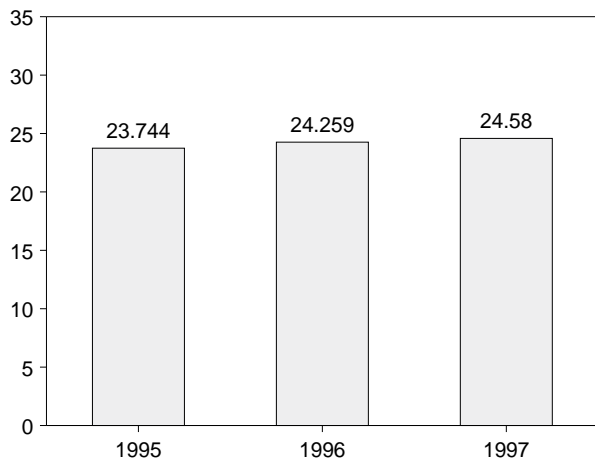
By Major Sources, 1973-1996



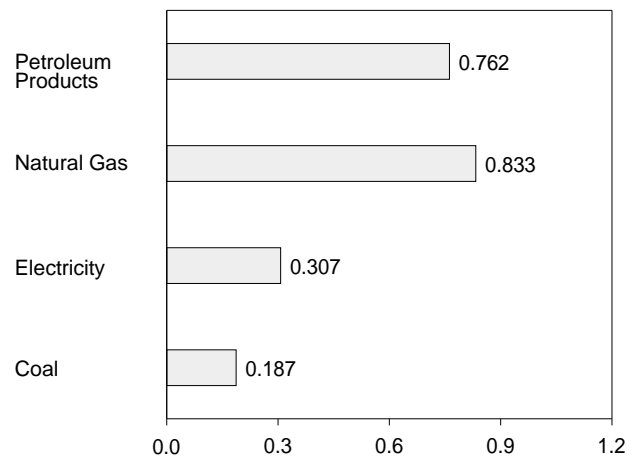
By Major Sources, Monthly



Total, January-September



By Major Sources, September 1997



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	8.150	.033	.009	18.188	2.928	21.116	6.710	27.826
1988 Total	2.828	7.696	8.430	.033	.040	19.026	3.059	22.085	6.901	28.986
1989 Total	2.787	8.131	8.133	.033	.030	19.113	3.158	22.272	7.082	29.353
1990 Total	2.756	8.502	8.319	.033	.005	19.615	3.226	22.841	7.095	29.936
1991 Total	2.601	8.619	8.057	.033	.009	19.319	3.230	22.549	7.021	29.570
1992 Total	2.515	8.967	8.638	.033	.027	20.180	3.319	23.498	7.079	30.577
1993 Total	2.496	9.410	8.449	.032	.017	20.405	3.334	23.739	7.010	30.749
1994 Total	2.510	9.560	8.849	.032	.024	20.975	3.439	24.414	7.167	31.581
1995 January .....	.214	.906	.762	.003	.004	1.889	.279	2.168	.575	2.743
February .....	.207	.822	.754	.003	.002	1.788	.271	2.059	.522	2.580
March .....	.215	.865	.724	.003	.003	1.809	.283	2.092	.581	2.673
April .....	.199	.843	.706	.003	.001	1.752	.279	2.031	.566	2.597
May .....	.200	.836	.698	.003	.004	1.743	.290	2.033	.631	2.665
June .....	.197	.783	.662	.003	.001	1.645	.299	1.944	.632	2.576
July .....	.205	.800	.633	.003	.002	1.642	.296	1.938	.660	2.598
August .....	.205	.807	.739	.002	.001	1.755	.308	2.063	.670	2.734
September .....	.207	.790	.733	.002	.002	1.734	.294	2.027	.551	2.578
October .....	.211	.833	.748	.002	.003	1.796	.293	2.089	.593	2.682
November .....	.212	.864	.755	.002	.002	1.835	.282	2.117	.583	2.701
December .....	.212	.919	.773	.002	.002	1.908	.281	2.189	.604	2.794
Total	2.483	10.064	8.688	.033	.026	21.294	3.455	24.749	7.168	31.918
1996 January .....	.208	.931	.819	.003	.001	1.963	.277	2.240	.573	2.813
February .....	.204	.871	.773	.003	.003	1.853	.276	2.129	.544	2.673
March .....	.208	.912	.799	.003	.003	1.925	.284	2.210	.590	2.800
April .....	.198	.863	.740	.003	-.001	1.802	.275	2.077	.560	2.637
May .....	.197	.829	.734	.003	-.001	1.763	.290	2.053	.655	2.707
June .....	.188	.835	.696	.003	-.002	1.719	.296	2.016	.637	2.652
July .....	.195	.804	.668	.003	(s)	1.669	.297	1.966	.645	2.611
August .....	.194	.831	.779	.002	-.003	1.804	.304	2.108	.649	2.756
September .....	.193	.830	.718	.002	(s)	1.744	.296	2.040	.569	2.609
October .....	.203	.864	.857	.002	(s)	1.926	.297	2.223	.607	2.830
November .....	.204	.891	.798	.002	(s)	1.895	.285	2.180	.604	2.784
December .....	.208	.937	.791	.002	-.001	1.937	.283	2.220	.600	2.820
Total	2.399	10.394	9.172	.033	(s)	21.997	3.461	25.458	7.232	32.690
1997 January .....	.201	.936	.852	.003	.002	1.994	.285	2.279	.597	2.876
February .....	.198	.867	.774	.003	.002	1.843	.278	2.120	.528	2.648
March .....	.205	.894	.752	.003	.002	1.856	.283	2.139	.602	2.741
April .....	.189	.856	.767	.003	(s)	1.815	.287	2.102	.586	2.689
May .....	.193	.841	.755	.003	.002	1.794	.294	2.088	.646	2.735
June .....	.189	^R .802	.726	.003	.001	^R 1.722	.304	^R 2.026	.667	2.692
July	^E .190	^R .816	.708	.003	.002	^R 1.719	.302	^R 2.021	.675	^R 2.696
August	^E .192	^R .843	.780	.002	.007	^R 1.824	.311	^R 2.136	.670	^R 2.806
September	^E .187	^F .833	.762	.002	-.003	1.781	.307	2.088	.609	2.697
9-Month Total	^E 1.743	^E 7.688	6.876	.026	.014	16.347	2.652	18.999	5.581	24.580
1996 9-Month Total	1.785	7.705	6.726	.026	.001	16.241	2.596	18.838	5.421	24.259
1995 9-Month Total	1.848	7.451	6.413	.026	.020	15.758	2.599	18.356	5.388	23.744

^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 data. 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.

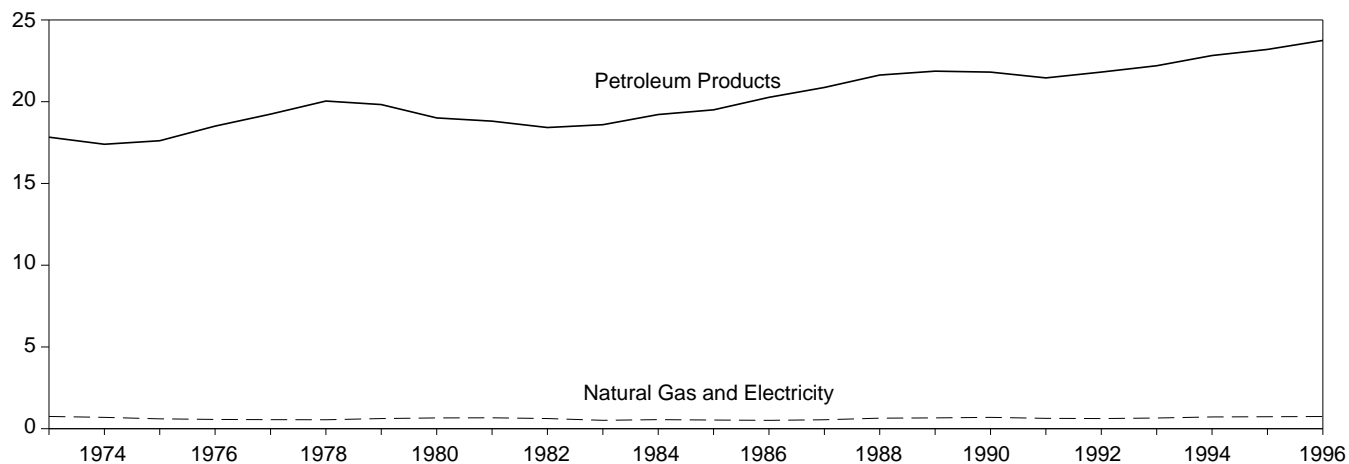
Additional Notes and Sources: See end of section.

Please Read: Due to a lack of consistent monthly historical data, some renewable energy sources are not included in this table. In 1996, for example, an estimated 2.7 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.

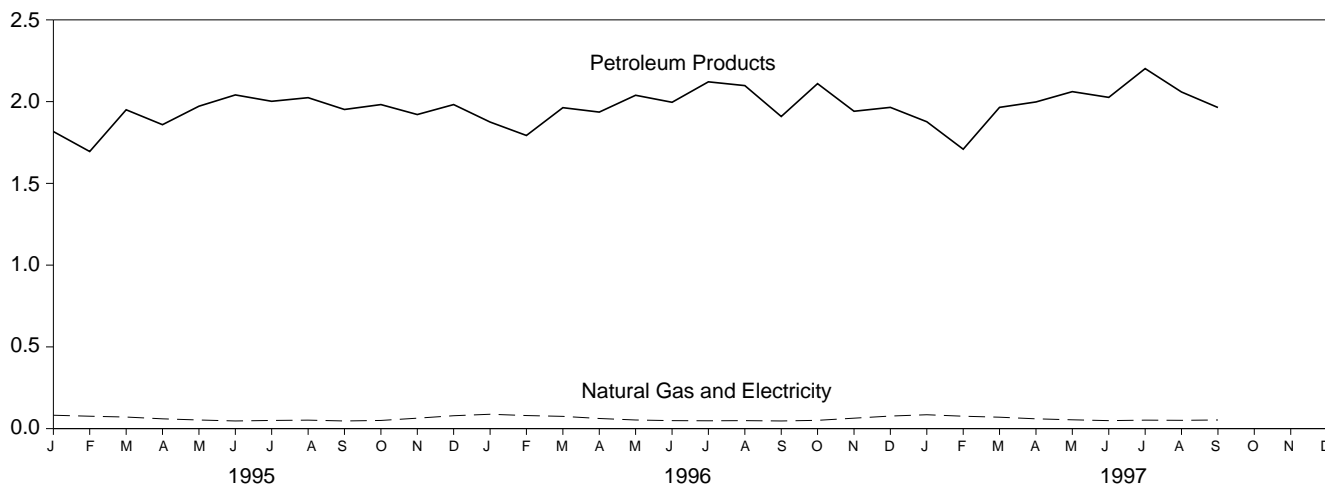
Figure 2.4 Transportation Energy Consumption

(Quadrillion Btu)

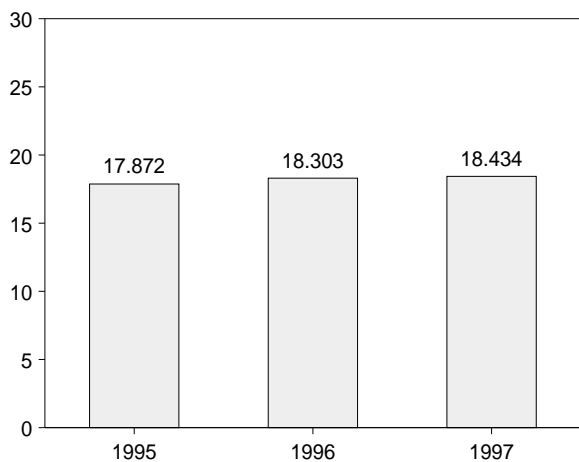
By Major Sources, 1973-1996



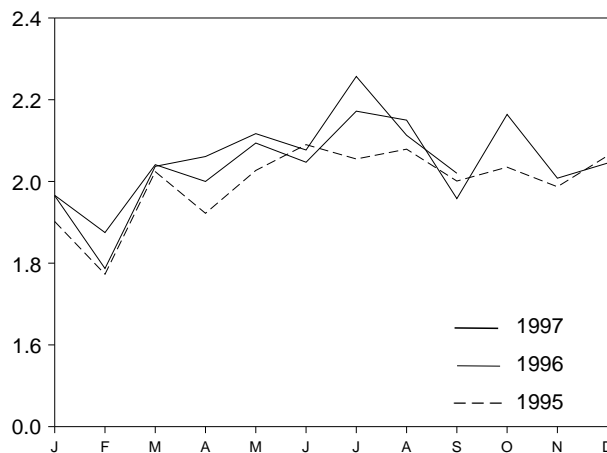
By Major Sources, Monthly



Total, January-September



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	20.024	.013	20.036	.030	20.067
1986 Total	(d)	.499	20.269	20.768	.013	20.781	.031	20.812
1987 Total	(d)	.535	20.871	21.406	.013	21.419	.029	21.448
1988 Total	(d)	.632	21.629	22.260	.014	22.274	.031	22.305
1989 Total	(d)	.649	21.868	22.517	.014	22.530	.031	22.561
1990 Total	(d)	.680	21.810	22.490	.014	22.504	.031	22.535
1991 Total	(d)	.620	21.456	22.077	.014	22.091	.030	22.121
1992 Total	(d)	.606	21.812	22.419	.014	22.432	.029	22.462
1993 Total	(d)	.643	22.201	22.843	.013	22.857	.028	22.884
1994 Total	(d)	.707	22.824	23.531	.014	23.544	.028	23.573
1995 January	(d)	.081	1.817	1.898	.001	1.899	.002	1.902
February	(d)	.075	1.695	1.770	.001	1.771	.002	1.773
March	(d)	.070	1.950	2.021	.001	2.022	.002	2.024
April	(d)	.059	1.859	1.919	.001	1.920	.002	1.922
May	(d)	.052	1.972	2.024	.001	2.025	.002	2.027
June	(d)	.046	2.041	2.087	.001	2.088	.002	2.090
July	(d)	.049	2.002	2.051	.001	2.052	.003	2.055
August	(d)	.051	2.024	2.075	.001	2.076	.003	2.079
September	(d)	.046	1.952	1.998	.001	1.999	.002	2.001
October	(d)	.049	1.982	2.031	.001	2.032	.002	2.035
November	(d)	.063	1.921	1.984	.001	1.985	.002	1.987
December	(d)	.078	1.982	2.060	.001	2.061	.002	2.063
Total	(d)	.722	23.197	23.919	.013	23.933	.027	23.960
1996 January	(d)	.087	1.875	1.962	.001	1.963	.002	1.966
February	(d)	.079	1.793	1.872	.001	1.873	.002	1.875
March	(d)	.074	1.963	2.037	.001	2.039	.002	2.041
April	(d)	.061	1.936	1.997	.001	1.998	.002	2.000
May	(d)	.052	2.039	2.091	.001	2.092	.003	2.094
June	(d)	.048	1.996	2.044	.001	2.045	.002	2.047
July	(d)	.047	2.121	2.168	.001	2.169	.003	2.172
August	(d)	.048	2.098	2.146	.001	2.147	.003	2.150
September	(d)	.046	1.909	1.954	.001	1.956	.002	1.958
October	(d)	.050	2.110	2.160	.001	2.161	.002	2.164
November	(d)	.063	1.941	2.004	.001	2.005	.002	2.008
December	(d)	.076	1.965	2.042	.001	2.043	.002	2.045
Total	(d)	.734	23.746	24.480	.014	24.494	.029	24.523
1997 January	(d)	.084	1.877	1.961	.001	1.962	.002	1.965
February	(d)	.075	1.709	1.784	.001	1.785	.002	1.787
March	(d)	.069	1.965	2.034	.001	2.035	.002	2.037
April	(d)	.059	1.998	2.058	.001	2.059	.002	2.061
May	(d)	.053	2.061	2.114	.001	2.115	.002	2.117
June	(d)	.048	2.026	2.074	.001	2.075	.002	2.077
July	(d)	.051	2.202	2.253	.001	2.254	.003	2.257
August	(d)	^R .050	2.059	^R 2.109	.001	^R 2.111	.003	^R 2.113
September	(d)	^F .052	1.964	2.016	.001	2.018	.002	2.020
9-Month Total	(d)	^E .542	17.861	18.403	.010	18.413	.021	18.434
1996 9-Month Total	(d)	.541	17.730	18.271	.010	18.281	.022	18.303
1995 9-Month Total	(d)	.529	17.312	17.842	.010	17.852	.020	17.872

^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.

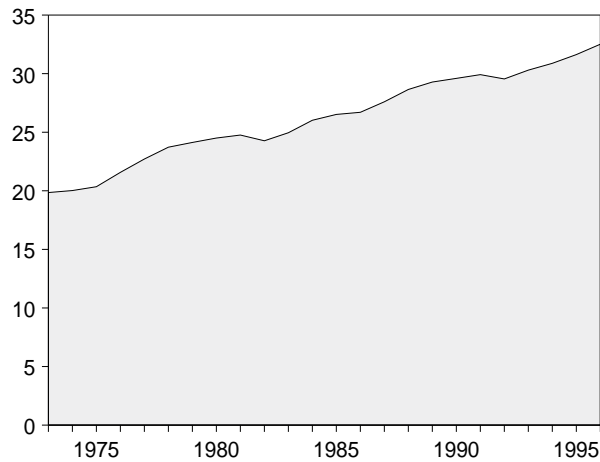
R=Revised data. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu.

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

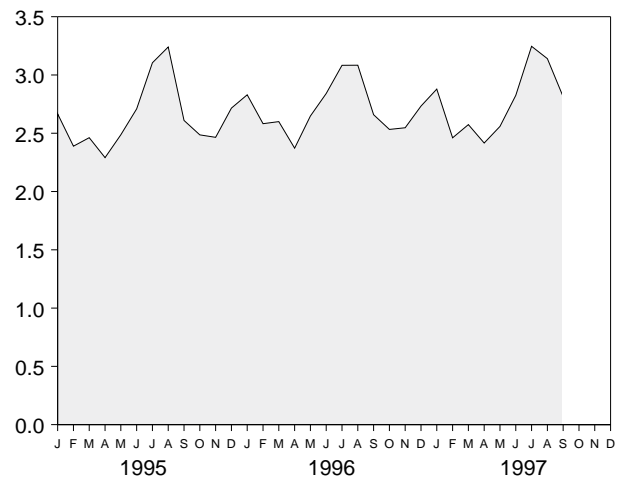
Additional Notes and Sources: See end of section.

Figure 2.5 Energy Input at Electric Utilities
(Quadrillion Btu)

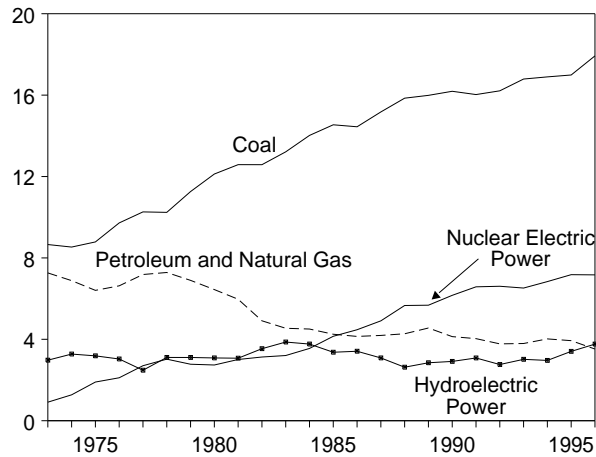
Total, 1973-1996



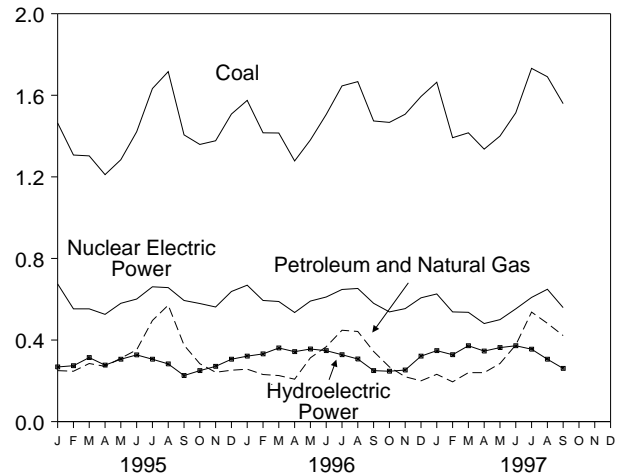
Total, Monthly



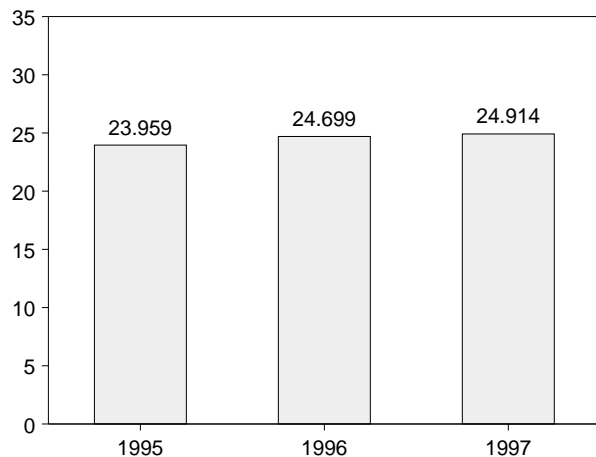
By Major Sources, 1973-1996



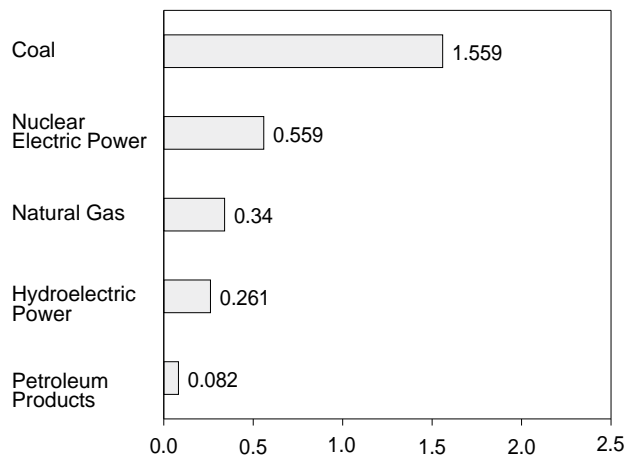
By Major Sources, Monthly



Total, January-September



By Major Sources, September 1997



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	2.848	.197	.020	29.286
1990 Total	16.189	2.882	1.250	6.161	2.914	.181	.021	29.599
1991 Total	16.028	2.856	1.178	6.579	3.083	.170	.021	29.915
1992 Total	16.211	2.826	.951	6.607	2.760	.169	.022	29.547
1993 Total	16.790	2.741	1.052	6.519	3.017	.158	.021	30.299
1994 Total	16.895	3.053	.968	6.837	2.962	.145	.020	30.881
1995 January	1.464	.204	.046	.675	.268	.009	.001	2.666
February	1.307	.172	.075	.553	.274	.006	.001	2.389
March	1.303	.251	.034	.553	.314	.007	.001	2.462
April	1.211	.235	.036	.526	.277	.006	.002	2.291
May	1.284	.264	.047	.580	.306	.005	.001	2.487
June	1.421	.304	.048	.601	.327	.006	.001	2.709
July	1.633	.417	.079	.661	.306	.006	.002	3.105
August	1.716	.480	.091	.657	.283	.011	.002	3.240
September	1.406	.324	.051	.594	.226	.008	.002	2.610
October	1.359	.246	.038	.579	.250	.013	.002	2.486
November	1.377	.203	.039	.562	.271	.012	.002	2.465
December	1.508	.177	.075	.638	.306	.011	.001	2.716
Total	16.990	3.276	.658	7.177	3.407	.099	.017	31.625
1996 January	1.575	.172	.085	.669	.321	.007	.002	2.830
February	1.416	.140	.091	.594	.332	.008	.001	2.582
March	1.415	.160	.066	.589	.361	.007	.002	2.600
April	1.278	.174	.034	.535	.343	.008	.001	2.372
May	1.381	.271	.042	.591	.356	.005	.001	2.648
June	1.506	.307	.060	.611	.348	.008	.002	2.841
July	1.646	.366	.082	.648	.328	.012	.002	3.083
August	1.667	.376	.066	.653	.307	.012	.002	3.084
September	1.474	.292	.052	.580	.250	.010	.002	2.659
October	1.467	.232	.036	.538	.247	.011	.002	2.533
November	1.507	.174	.046	.554	.253	.011	.002	2.547
December	1.594	.136	.064	.607	.321	.010	.002	2.733
Total	17.927	2.798	.725	7.168	3.765	.110	.020	32.512
1997 January	1.664	.143	.089	.626	.348	.009	.002	2.879
February	1.392	.147	.048	.538	.328	.006	.002	2.461
March	1.416	.194	.046	.536	.372	.009	.002	2.574
April	1.336	.197	.043	.481	.346	.010	.002	2.416
May	1.400	.236	.049	.500	.363	.010	.002	2.559
June	1.514	.302	.074	.553	.372	.008	.002	2.825
July	1.732	.437	.100	.609	.355	.011	.002	3.246
August	1.691	.400	.082	.649	.306	.011	.002	3.140
September	1.559	.340	.082	.559	.261	.010	.002	2.813
9-Month Total	13.703	2.397	.613	5.051	3.052	.084	.015	24.914
1996 9-Month Total	13.359	2.256	.578	5.469	2.944	.078	.015	24.699
1995 9-Month Total	12.746	2.651	.506	5.399	2.580	.064	.012	23.959

^a Includes supplemental gaseous fuels.

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

^c Includes net imports of electricity.

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

R=Revised data.

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 1995, Volume II*, the "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-October 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*.
- 1980-1995: EIA, *Natural Gas Annual*.
- 1996 and 1997: 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.”
- 1981-1996: EIA, *Petroleum Supply Annual*.
- 1997: 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 1994.

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 1994.

- 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 1983-1992, 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, 1995-1997.

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 1994.

- **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 1979-1994. Sales for 1994 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 1979-1994. Sales for 1994 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 1979-1994. Sales for 1994 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 37 percent in 1987 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 ma-

terials 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.

The 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.

- 1984-1994: 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.

- 1995-1997: The 1994 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 1994.

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 1994.

- 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 1983-1992, 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, 1995-1997.

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 1994.

- **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."
- 1989-1993: DOE, Assistant Secretary for Fossil Energy, Form FE-781-R, "Annual Report of International Electrical Export/Import Data."
- 1994 forward: EIA estimates based on preliminary data from the National Energy Board of Canada and DOE, Assistant Secretary for Fossil Energy.

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 0.03 quadrillion Btu in 1996) included on Table 2.6 are used at pumped storage facilities and are not considered renewable. Small quantities of ethanol (about 0.07 quadrillion Btu in 1996) 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:

Year	Residential and Commercial			Industrial					
	Biofuels	Solar Energy	Total	Biofuels	Geothermal Energy	Conventional Hydroelectric Power	Solar Energy	Wind Energy	Total
1990	0.581	0.060	0.641	1.948	0.153	0.084	0.007	0.023	2.215
1991	0.613	0.060	0.673	1.943	0.168	0.085	0.008	0.027	2.231
1992	0.645	0.060	0.705	2.042	0.179	0.097	0.008	0.030	2.357
1993	0.592	0.060	0.652	2.084	0.204	0.118	0.009	0.031	2.446
1994	0.582	0.060	0.642	2.138	0.212	0.136	0.008	0.036	2.530
1995	0.641	0.064	0.705	2.184	0.207	0.152	0.008	0.033	2.584
1996 ^E	0.644	0.065	0.709	2.279	0.231	0.172	0.009	0.036	2.727

E=Estimate.

Source: Energy Information Administration, *Annual Energy Review 1996* (July 1997), Table 10.2.

Note: More information about renewable energy is available in EIA's *Renewable Energy Annual 1996*, which was released in March 1997. 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 "Alternative/Renewables" under "Fuel Groups."

Section 3. Petroleum

Total petroleum imports¹ averaged 9.8 million barrels per day in November 1997, 6 percent lower than the previous month's rate but 6 percent higher than the November 1996 rate.

In November 1997, 18.9 million barrels per day of petroleum products were supplied for domestic use, 2 percent higher than the November 1996 rate. Motor gasoline accounted for 42 percent of the total; distillate fuel oil, 19 percent; and kerosene-type jet fuel, 9 percent.

Motor gasoline supplied during November 1997 averaged 7.9 million barrels per day, 3 percent lower than the previous month's rate and slightly lower than the November 1996 rate. Total motor gasoline stocks were 199 million barrels at the end of November 1997, 1 million barrels below the stock level in the previous month but 11 million barrels above the level 1 year earlier.

Distillate fuel oil supplied during November 1997 averaged 3.5 million barrels per day, 4 percent lower than the previous month's rate but 2 percent higher than the November 1996 rate. Distillate fuel oil ending stocks for November 1997 were 134 million barrels, 2 million barrels below the stock level in the previous month but 12 million barrels above the level 1 year earlier.

Kerosene-type jet fuel supplied in November 1997 averaged 1.7 million barrels per day, 6 percent higher than the previous month's rate and 5 percent higher than the November 1996 rate. Kerosene-type jet fuel stocks measured 45 million barrels at the end of November 1997, 1 million barrels below the stock level in the previous month but 5 million barrels higher than the stock level 1 year earlier.

Estimates (except of crude production) for the most current month are based on Energy Information Administration (EIA) weekly data and will be revised to conform with data from the EIA Petroleum Reporting System as available. For the most recent month, crude production is an EIA estimate based on historical and provisional data through August 1997.

¹Total 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		Petroleum Products Supplied	Ending Stocks ^b
	Total Domestic ^c	Crude Oil	Natural Gas Plant Liquids	Crude Oil ^d	Petroleum Products		Crude Oil ^d and Petroleum Products
							Million Barrels
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	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 January	8,764	6,682	1,787	-219	-84	17,219	1,643
February	8,935	6,794	1,780	-49	-1,225	18,279	1,608
March	8,619	6,600	1,776	336	-552	17,484	1,601
April	8,720	6,604	1,794	-101	114	17,142	1,601
May	8,729	6,629	1,790	-132	464	17,293	1,612
June	8,607	6,579	1,740	-148	57	18,131	1,609
July	8,500	6,449	1,751	-397	897	17,147	1,624
August	8,498	6,447	1,730	-253	-73	18,044	1,614
September	8,467	6,416	1,757	-64	243	18,026	1,620
October	8,501	6,421	1,757	168	-589	17,651	1,607
November	8,662	6,585	1,797	263	-352	17,979	1,604
December	8,533	6,530	1,691	-505	-822	18,366	1,563
Average	8,626	6,560	1,762	-93	-153	17,725	1,563
1996 January	8,564	6,495	1,716	-8	-592	18,261	1,544
February	8,558	6,577	1,680	-63	-1,454	18,620	1,500
March	8,718	6,571	1,814	-132	-464	18,301	1,482
April	8,597	6,444	1,845	29	633	17,885	1,502
May	8,502	6,394	1,806	2	576	17,957	1,520
June	8,550	6,458	1,833	305	593	18,107	1,546
July	8,486	6,338	1,829	-244	358	18,211	1,550
August	8,535	6,360	1,858	-19	-130	18,658	1,545
September	8,623	6,482	1,872	-499	701	17,655	1,551
October	8,685	6,481	1,912	186	-630	19,171	1,538
November	8,730	6,476	1,915	-414	-117	18,535	1,522
December	8,738	6,506	1,876	-627	165	18,334	1,507
Average	8,607	6,465	1,830	-124	-28	18,309	1,507
1997 January	^E 8,487	^E 6,387	1,815	497	-717	18,560	1,503
February	^E 8,739	^E 6,514	1,900	-167	-569	18,308	1,482
March	^E 8,690	^E 6,470	1,907	529	447	17,869	1,512
April	^E 8,672	^E 6,483	1,849	208	10	18,572	1,519
May	^E 8,559	^E 6,401	1,832	212	1,172	18,244	1,562
June	^E 8,546	^E 6,341	1,842	-172	676	18,563	1,577
July	^E 8,553	^E 6,316	1,850	-399	-191	19,065	1,559
August	^E 8,480	^E 6,282	1,850	-278	634	18,506	1,570
September	^E 8,617	^E 6,388	1,871	78	720	18,480	1,594
October	^{RE} 8,621	^{RE} 6,435	^R 1,840	^R 412	^R -279	^R 19,121	^R 1,598
November	^E 8,607	^{PE} 6,406	^E 1,851	^E 294	^E -484	^E 18,902	^E 1,584
11-Month Average	^E 8,596	^{PE} 6,401	^E 1,855	^E 113	^E 134	^E 18,564	^E 1,584
1996 11-Month Average	8,595	6,461	1,826	-77	-46	18,307	1,522
1995 11-Month Average	8,634	6,562	1,769	-55	-91	17,665	1,604

^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 data. 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*, December 1997, Table S1.

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

	Imports			Exports			Net Imports ^b
	Total	Crude Oil ^a	Petroleum Products	Total	Crude Oil	Petroleum Products	
Thousand Barrels per Day							
1973 Average	6,256	3,244	3,012	231	2	229	6,025
1974 Average	6,112	3,477	2,635	221	3	218	5,892
1975 Average	6,056	4,105	1,951	209	6	204	5,846
1976 Average	7,313	5,287	2,026	223	8	215	7,090
1977 Average	8,807	6,615	2,193	243	50	193	8,565
1978 Average	8,363	6,356	2,008	362	158	204	8,002
1979 Average	8,456	6,519	1,937	471	235	236	7,985
1980 Average	6,909	5,263	1,646	544	287	258	6,365
1981 Average	5,996	4,396	1,599	595	228	367	5,401
1982 Average	5,113	3,488	1,625	815	236	579	4,298
1983 Average	5,051	3,329	1,722	739	164	575	4,312
1984 Average	5,437	3,426	2,011	722	181	541	4,715
1985 Average	5,067	3,201	1,866	781	204	577	4,286
1986 Average	6,224	4,178	2,045	785	154	631	5,439
1987 Average	6,678	4,674	2,004	764	151	613	5,914
1988 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 January	8,015	6,505	1,509	978	113	865	7,037
February	8,345	6,546	1,799	1,062	95	967	7,283
March	9,006	7,391	1,615	948	68	880	8,059
April	8,465	7,038	1,427	998	155	842	7,467
May	8,709	7,325	1,384	876	73	803	7,832
June	9,558	7,927	1,631	919	101	818	8,639
July	8,863	7,265	1,598	895	103	792	7,969
August	9,061	7,437	1,624	821	61	759	8,240
September	9,736	8,007	1,729	805	74	731	8,930
October	8,577	7,075	1,502	962	50	912	7,615
November	9,074	7,302	1,772	1,002	118	884	8,072
December	8,612	6,916	1,696	1,135	127	1,008	7,477
Average	8,835	7,230	1,605	949	95	855	7,886
1996 January	9,364	7,303	2,061	1,070	89	981	8,294
February	8,390	6,612	1,778	1,048	92	956	7,342
March	9,092	7,215	1,877	867	94	773	8,225
April	9,429	7,371	2,058	976	148	828	8,453
May	10,007	8,029	1,977	891	37	854	9,116
June	9,938	7,958	1,980	895	130	766	9,043
July	9,820	7,800	2,020	945	139	806	8,876
August	9,986	8,041	1,944	896	44	852	9,090
September	9,142	7,353	1,789	1,104	147	957	8,038
October	9,837	7,701	2,136	1,045	134	911	8,792
November	9,244	7,344	1,900	1,024	172	852	8,220
December	9,417	7,307	2,110	1,013	96	917	8,404
Average	9,478	7,508	1,971	981	110	871	8,498
1997 January	9,633	7,393	2,240	1,038	141	897	8,595
February	9,475	7,384	2,091	1,015	228	787	8,460
March	9,712	7,665	2,047	932	136	796	8,780
April	9,934	7,810	2,124	937	92	845	8,997
May	10,442	8,279	2,163	876	26	851	9,565
June	10,357	8,403	1,954	955	57	898	9,402
July	9,703	7,938	1,764	1,012	70	942	8,691
August	10,155	8,333	1,822	1,074	110	964	9,081
September	10,201	8,537	1,664	997	122	875	9,204
October	^R 10,414	^R 8,543	^R 1,870	^R 1,066	^R 152	^R 914	^R 9,347
November	^E 9,792	^E 8,250	^E 1,542	^E 966	^E 101	^E 865	^E 8,826
11-Month Average	^E 9,987	^E 8,052	^E 1,935	^E 988	^E 112	^E 877	^E 8,999
1996 11-Month Average	9,484	7,526	1,958	978	111	866	8,507
1995 11-Month Average	8,856	7,259	1,597	932	92	840	7,924

^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 data. E=Estimate.

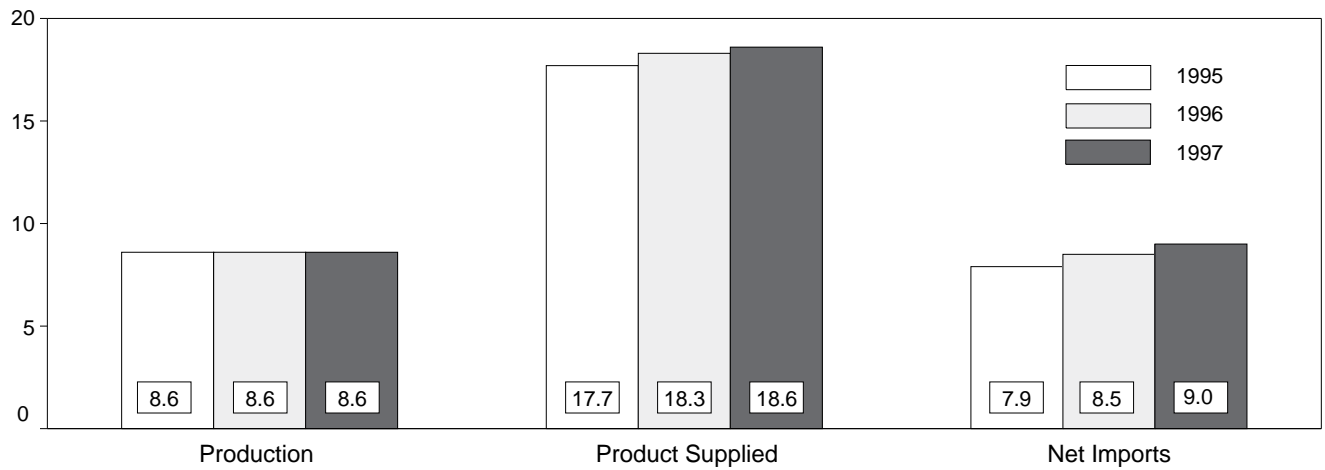
Notes: • Crude oil includes lease condensate. • Totals may not equal sum

of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

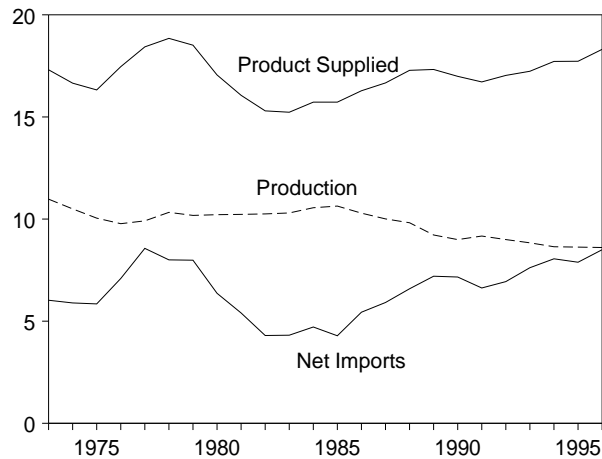
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S1. • **1981 forward:** EIA, *Petroleum Supply Monthly*, December 1997, Table S1.

Figure 3.1 Petroleum Overview
(Million Barrels per Day)

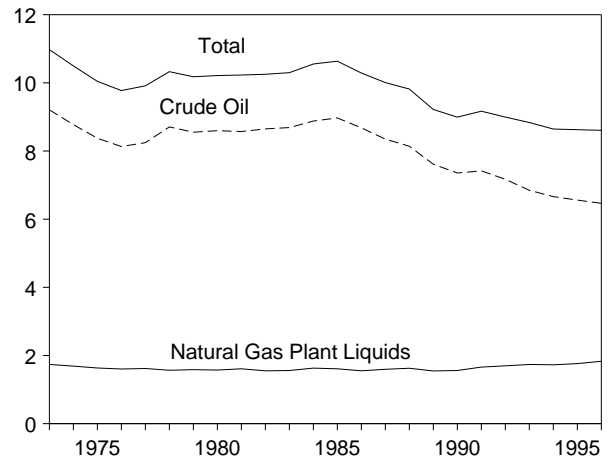
Overview, January-November



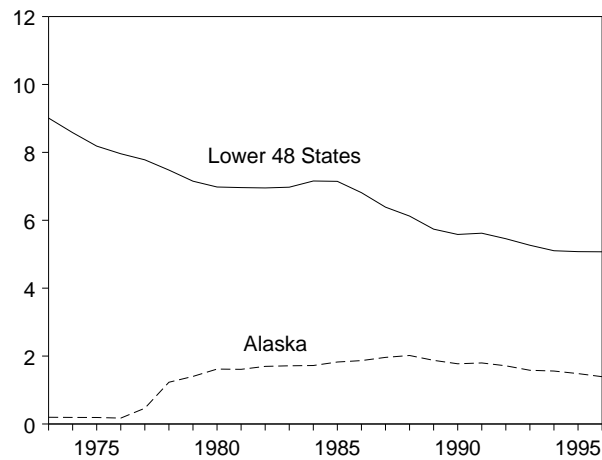
Overview, 1973-1996



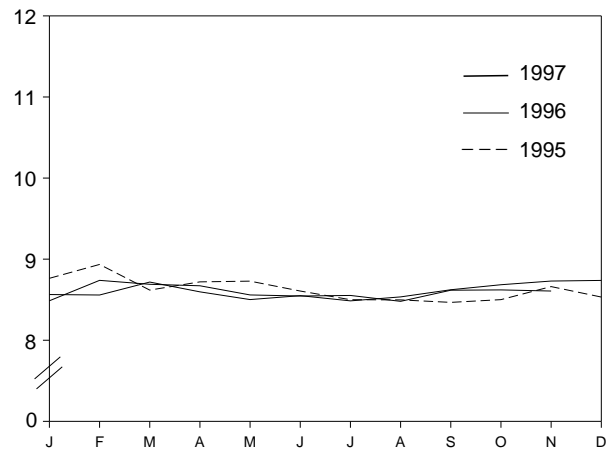
Production, 1973-1996



Crude Oil Production, 1973-1996



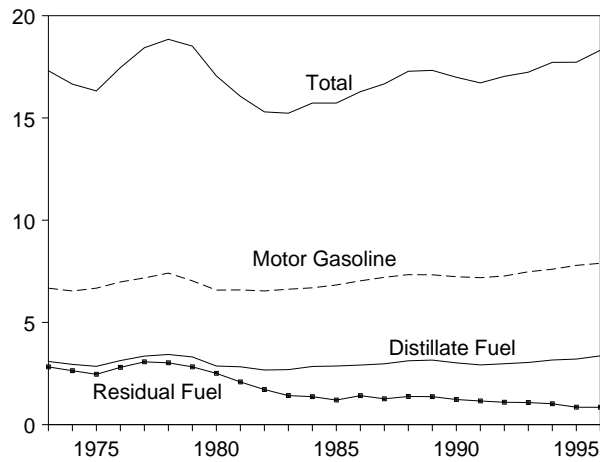
Total Production, Monthly



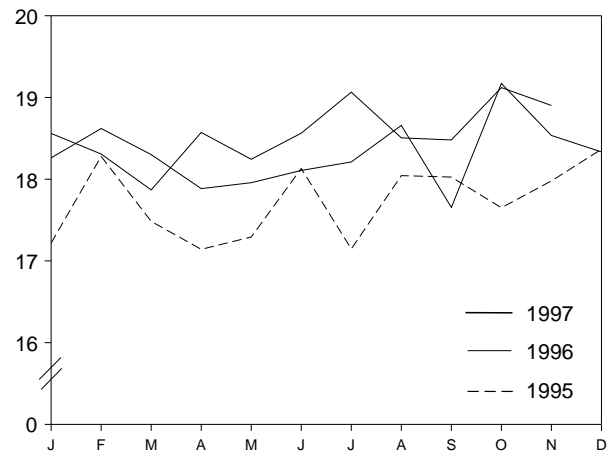
Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 3.1a, 3.1b, and 3.2a.

Figure 3.1 Petroleum Overview (Continued)
(Million Barrels per Day, Except as Noted)

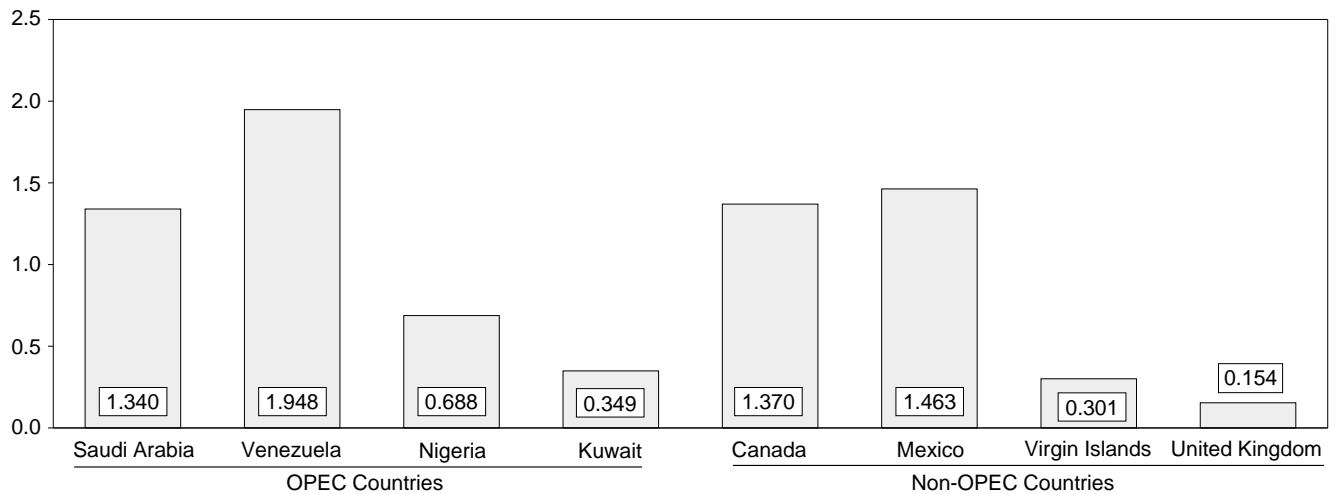
Product Supplied, 1973-1996



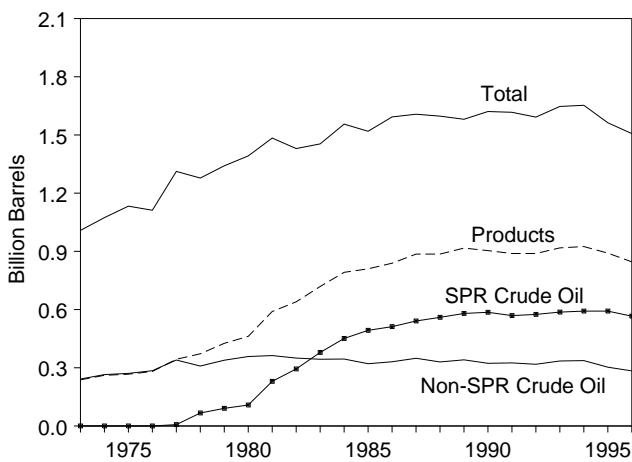
Product Supplied, Monthly



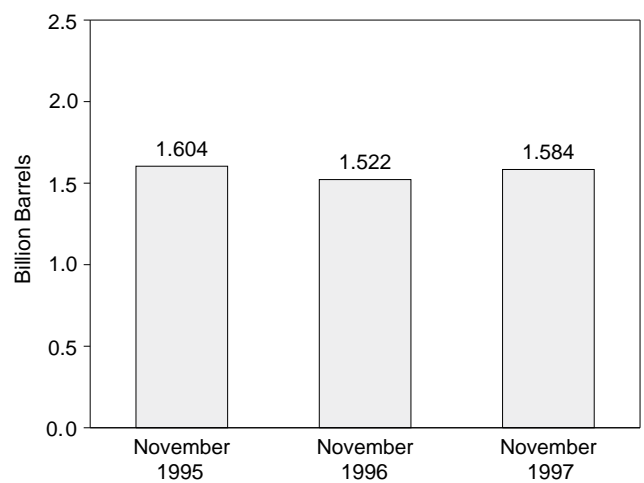
Imports from Selected Countries, October 1997



Stocks, End of Year, 1973-1996



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						Unaccounted-for Crude Oil ^b	Crude Oil Used Directly ^c
	Field Production		Imports					
	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 January	6,682	1,575	6,505	0	6,505	318	—	
February	6,794	1,578	6,546	0	6,546	78	—	
March	6,600	1,525	7,391	0	7,391	-101	—	
April	6,604	1,511	7,038	0	7,038	237	—	
May	6,629	1,518	7,325	0	7,325	296	—	
June	6,579	1,484	7,927	0	7,927	6	—	
July	6,449	1,401	7,265	0	7,265	402	—	
August	6,447	1,432	7,437	0	7,437	207	—	
September	6,416	1,377	8,007	0	8,007	-5	—	
October	6,421	1,475	7,075	0	7,075	328	—	
November	6,585	1,472	7,302	0	7,302	334	—	
December	6,530	1,466	6,916	0	6,916	193	—	
Average	6,560	1,484	7,230	0	7,230	193	—	
1996 January	6,495	1,444	7,303	0	7,303	20	—	
February	6,577	1,482	6,612	0	6,612	413	—	
March	6,571	1,454	7,215	0	7,215	-25	—	
April	6,444	1,367	7,371	0	7,371	665	—	
May	6,394	1,341	8,029	0	8,029	61	—	
June	6,458	1,419	7,958	0	7,958	594	—	
July	6,338	1,317	7,800	0	7,800	121	—	
August	6,360	1,327	8,041	0	8,041	54	—	
September	6,482	1,401	7,353	0	7,353	303	—	
October	6,481	1,379	7,701	0	7,701	420	—	
November	6,476	1,403	7,344	0	7,344	148	—	
December	6,506	1,392	7,307	0	7,307	-153	—	
Average	6,465	1,393	7,508	0	7,508	215	—	
1997 January	E 6,387	E 1,380	7,393	0	7,393	496	—	
February	E 6,514	E 1,384	7,384	0	7,384	-407	—	
March	E 6,470	E 1,331	7,665	0	7,665	582	—	
April	E 6,483	E 1,330	7,810	0	7,810	293	—	
May	E 6,401	E 1,303	8,279	0	8,279	646	—	
June	E 6,341	E 1,260	8,403	0	8,403	282	—	
July	E 6,316	E 1,238	7,938	0	7,938	377	—	
August	E 6,282	E 1,200	8,333	0	8,333	434	—	
September	E 6,388	E 1,276	8,537	0	8,537	572	—	
October	RE 6,435	RE 1,286	R 8,543	0	R 8,543	R 376	—	
November	PE 6,406	PE 1,269	E 8,250	E 0	E 8,250	E 422	—	
11-Month Average	PE 6,401	PE 1,295	E 8,052	E 0	E 8,052	E 377	—	
1996 11-Month Average	6,461	1,394	7,526	0	7,526	249	—	
1995 11-Month Average	6,562	1,486	7,259	0	7,259	193	—	

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 data. —=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*, December 1997, Table S2.

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

	Disposition						Ending Stocks ^a		
	Crude Losses	Stock Change ^b		Refinery Inputs	Exports	Product Supplied ^d	Total	SPR ^c	Other Primary
		SPR ^c	Other						
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 January	(s)	(s)	-219	13,604	113	7	922	592	330
February	0	(s)	-49	13,365	95	8	921	592	329
March	(s)	(s)	336	13,480	68	7	931	592	339
April	0	(s)	-101	13,817	155	7	928	592	336
May	0	(s)	-132	14,303	73	7	924	592	332
June	0	(s)	-148	14,553	101	5	920	592	328
July	0	(s)	-397	14,403	103	7	907	592	316
August	(s)	(s)	-253	14,276	61	6	899	592	308
September	0	(s)	-63	14,402	74	6	898	592	306
October	(s)	(s)	169	13,598	50	8	903	592	311
November	0	-1	264	13,833	118	7	911	592	319
December	0	(s)	-505	14,011	127	6	895	592	303
Average	(s)	(s)	-93	13,973	95	7	895	592	303
1996 January	0	(s)	-8	13,728	89	11	895	592	303
February	0	(s)	-62	13,564	92	8	893	592	301
March	0	-80	-52	13,793	94	7	889	589	300
April	(s)	-88	117	14,295	148	6	890	586	303
May	0	-22	24	14,439	37	7	890	586	304
June	0	-45	350	14,569	130	6	899	584	314
July	(s)	-50	-194	14,359	139	5	891	583	308
August	0	-172	153	14,424	44	6	891	578	313
September	0	-130	-368	14,484	147	6	876	574	302
October	0	-1	187	14,277	134	5	882	574	308
November	0	-127	-288	14,204	172	5	869	570	299
December	0	-129	-498	14,185	96	6	850	566	284
Average	(s)	-71	-53	14,195	110	6	850	566	284
1997 January	0	-75	572	13,632	141	5	866	563	302
February	0	(s)	-167	13,425	228	6	861	563	298
March	0	(s)	529	14,047	136	5	878	563	314
April	0	(s)	208	14,283	92	3	884	563	320
May	0	(s)	212	15,083	26	4	890	563	327
June	0	(s)	-171	15,139	57	2	885	563	322
July	0	(s)	-399	14,958	70	2	873	563	309
August	0	(s)	-278	15,217	110	(s)	864	563	301
September	0	(s)	78	15,297	122	(s)	867	563	303
October	0	(s)	^R 412	^R 14,790	^R 152	^R 0	^R 879	563	^R 316
November	^E 0	^E (s)	^E 294	^E 14,685	^E 101	^E 0	^E 884	^E 563	^E 320
11-Month Average	^E 0	^E -7	^E 120	^E 14,603	^E 112	^E 2	^E 884	^E 563	^E 320
1996 11-Month Average	(s)	-65	-12	14,196	111	7	869	570	299
1995 11-Month Average	(s)	(s)	-55	13,970	92	7	911	592	319

^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.
^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 data. - =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*, December 1997, 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								
January	0	0	0	0	0	0	130	120
February	11	0	0	0	0	0	346	324
March	0	0	0	0	0	0	252	252
April	0	0	0	0	0	0	171	164
May	0	0	0	0	0	0	208	204
June	0	0	0	0	0	0	260	259
July	0	0	0	0	0	0	195	195
August	0	0	0	0	0	0	180	175
September	0	0	0	0	0	0	187	182
October	0	0	0	0	0	0	250	244
November	0	0	0	0	0	0	238	238
December	0	0	0	0	0	0	215	215
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	69	69	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
10-Month Average	0	0	0	0	59	59	262	262
1996 10-Month Average	2	0	0	0	0	0	234	233
1995 10-Month Average	1	0	0	0	0	0	217	211

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

^b 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*, December 1997, 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 January	0	0	1,309	1,251	20	20	1,459	1,391
February	0	0	1,181	1,134	13	13	1,550	1,471
March	0	0	1,535	1,410	0	0	1,788	1,662
April	0	0	1,375	1,321	0	0	1,547	1,485
May	0	0	1,281	1,237	0	0	1,490	1,441
June	0	0	1,287	1,221	12	1	1,558	1,481
July	0	0	1,265	1,165	0	0	1,460	1,360
August	0	0	1,340	1,245	20	20	1,541	1,440
September	0	0	1,474	1,357	29	0	1,691	1,539
October	0	0	1,260	1,181	14	0	1,524	1,426
November	0	0	1,429	1,326	10	10	1,677	1,574
December	0	0	1,378	1,263	0	0	1,593	1,478
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	1,862	1,682
May	0	0	1,475	1,333	0	0	1,706	1,564
June	0	0	1,303	1,180	6	0	1,785	1,656
July	0	0	1,285	1,188	14	0	1,719	1,607
August	0	0	1,621	1,501	0	0	1,850	1,730
September	0	0	1,551	1,463	0	0	1,873	1,785
October	16	0	1,340	1,245	0	0	1,882	1,771
10-Month Average	3	0	1,415	1,298	2	0	1,741	1,620
1996 10-Month Average	0	0	1,365	1,254	3	3	1,604	1,491
1995 10-Month Average	0	0	1,332	1,253	11	5	1,560	1,469

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

^b 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*, December 1997, 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 January	153	0	(b)	(b)	(c)	(c)	38	38	0	0
February	358	64	(b)	(b)	(c)	(c)	129	87	0	0
March	196	19	(b)	(b)	(c)	(c)	51	29	0	0
April	251	31	(b)	(b)	(c)	(c)	95	87	0	0
May	163	36	(b)	(b)	(c)	(c)	65	36	0	0
June	277	39	(b)	(b)	(c)	(c)	96	51	0	0
July	257	11	(b)	(b)	(c)	(c)	104	96	0	0
August	298	65	(b)	(b)	(c)	(c)	122	95	0	0
September	250	20	(b)	(b)	(c)	(c)	94	66	0	0
October	229	39	(b)	(b)	(c)	(c)	87	68	0	0
November	241	0	(b)	(b)	(c)	(c)	107	73	0	0
December	152	0	(b)	(b)	(c)	(c)	72	41	0	0
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)	73	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)	14	11	0	0
September	259	6	(b)	(b)	(c)	(c)	82	75	0	0
October	272	3	(b)	(b)	(c)	(c)	42	42	0	0
10-Month Average	295	4	(b)	(b)	(c)	(c)	54	45	0	0
1996 10-Month Average	265	9	(b)	(b)	(c)	(c)	59	49	0	0
1995 10-Month Average	242	32	(b)	(b)	(c)	(c)	88	65	0	0

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

^b 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*, December 1997, 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 January	625	617	1,442	1,061	2,258	1,717	3,718	3,108
February	463	463	1,439	1,083	2,389	1,697	3,929	3,168
March	687	676	1,499	1,208	2,432	1,933	4,220	3,595
April	467	458	1,365	1,083	2,177	1,659	3,724	3,144
May	603	592	1,480	1,176	2,311	1,840	3,801	3,281
June	696	696	1,479	1,209	2,548	1,995	4,106	3,476
July	696	696	1,536	1,162	2,592	1,965	4,052	3,325
August	482	463	1,449	1,162	2,352	1,784	3,892	3,225
September	851	841	1,655	1,288	2,851	2,214	4,541	3,753
October	649	649	1,453	1,159	2,418	1,914	3,942	3,340
November	646	637	1,507	1,140	2,501	1,851	4,178	3,424
December	652	652	1,459	1,074	2,334	1,767	3,927	3,245
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	531	505	1,637	1,212	2,523	1,755	4,077	3,217
February	625	620	1,595	1,255	2,591	1,913	4,123	3,335
March	558	557	1,753	1,324	2,638	1,895	4,279	3,402
April	705	696	1,640	1,254	2,706	2,005	4,567	3,687
May	961	944	1,872	1,384	3,209	2,414	4,915	3,977
June	768	768	1,852	1,475	3,026	2,293	4,811	3,949
July	580	571	1,628	1,312	2,573	1,949	4,291	3,556
August	882	866	1,703	1,310	2,860	2,191	4,710	3,921
September	765	765	1,771	1,443	2,878	2,289	4,750	4,074
October	688	675	1,948	1,562	2,950	2,283	4,833	4,054
10-Month Average	707	697	1,741	1,354	2,797	2,100	4,538	3,719
1996 10-Month Average	663	640	1,674	1,300	2,661	1,998	4,264	3,489
1995 10-Month Average	623	616	1,480	1,160	2,432	1,873	3,992	3,342

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

^b 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*, December 1997, 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 January	273	262	21	21	6	0	1	0	1,345	1,011	64	62
February	348	335	22	22	8	0	0	0	1,311	965	21	21
March	427	416	0	0	7	0	0	0	1,208	891	54	54
April	412	402	33	33	0	0	0	0	1,243	999	65	65
May	419	407	21	21	0	0	0	0	1,406	1,167	35	35
June	371	358	10	10	0	0	0	0	1,420	1,169	26	26
July	295	287	42	42	0	0	8	0	1,279	1,028	80	80
August	367	355	0	0	0	0	9	0	1,345	1,058	40	40
September	444	444	0	0	8	0	43	0	1,252	959	73	73
October	366	366	15	15	0	0	9	0	1,300	1,057	40	40
November	318	318	(s)	0	0	0	12	0	1,403	1,069	66	66
December	366	366	23	23	0	0	12	0	1,471	1,099	73	73
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	1,508	1,137	84	84
February	422	422	0	0	13	0	0	0	1,548	1,127	50	50
March	467	461	37	37	0	0	4	0	1,412	1,103	120	120
April	435	422	22	22	0	0	0	0	1,448	1,071	46	46
May	312	307	61	44	0	0	0	0	1,423	1,068	21	21
June	418	418	23	23	0	0	20	0	1,406	1,057	44	44
July	416	416	77	48	0	0	21	0	1,403	1,085	0	0
August	270	270	91	60	0	0	4	0	1,499	1,158	42	42
September	399	399	53	12	0	0	3	0	1,503	1,185	26	20
October	475	457	92	53	0	0	6	0	1,370	1,059	48	47
10-Month Average ...	410	405	48	32	1	0	6	0	1,451	1,105	48	48
1996 10-Month Average ...	344	337	30	25	1	0	11	0	1,389	1,052	51	51
1995 10-Month Average ...	372	363	16	16	3	0	7	0	1,311	1,031	50	50

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

(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*, December 1997, 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 January	223	214	130	130	193	193	4	0	21	21	925	892
February	139	129	107	107	186	186	1	0	0	0	922	890
March	239	221	104	104	159	159	8	0	0	0	1,006	961
April	175	175	146	146	163	163	13	0	7	0	993	963
May	171	153	116	116	206	206	0	0	0	0	1,118	1,063
June	225	202	137	137	357	357	13	0	7	0	1,138	1,076
July	223	223	87	87	311	311	4	0	0	0	1,188	1,166
August	330	311	116	104	246	246	0	0	0	0	1,201	1,172
September	252	236	61	61	216	216	0	0	14	14	1,311	1,238
October	199	190	12	12	270	270	11	0	13	5	894	854
November	240	229	102	102	271	271	4	0	16	16	1,114	1,060
December	200	190	51	51	171	171	3	0	17	11	996	978
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	1,307	1,264
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	236	236	73	73	203	203	26	0	33	0	1,448	1,416
May	288	282	109	104	178	178	9	0	9	0	1,429	1,408
June	228	228	121	121	226	226	0	0	32	24	1,401	1,382
July	251	241	122	122	264	264	0	0	28	0	1,366	1,347
August	303	303	128	128	203	203	2	0	14	6	1,425	1,421
September	271	271	143	143	271	271	0	0	37	29	1,386	1,371
October	286	286	143	143	235	235	8	0	19	19	1,463	1,437
10-Month Average	260	258	121	120	211	211	8	0	25	8	1,382	1,354
1996 10-Month Average	230	223	105	97	178	178	8	0	13	7	1,242	1,207
1995 10-Month Average	219	206	101	100	231	231	5	0	6	4	1,070	1,028

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

^b 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*, December 1997, 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 January	0	0	60	0	195	158	6	0	0	0	7	0
February	17	0	58	0	194	164	7	0	0	0	9	0
March	21	0	68	0	241	209	13	0	0	0	16	0
April	3	0	0	0	315	291	9	0	0	0	16	7
May	24	0	86	0	292	292	19	0	12	0	25	0
June	37	0	50	0	370	370	16	0	15	0	27	0
July	9	0	65	0	263	256	17	0	41	32	10	0
August	21	0	62	0	279	264	26	0	136	98	21	0
September	0	0	33	0	364	359	12	0	50	32	27	0
October	31	0	48	0	163	163	15	0	0	0	6	0
November	20	0	69	0	255	255	27	0	28	0	16	0
December	0	0	24	0	348	316	15	0	15	0	12	5
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	31	0	62	0	204	179	16	0	19	0	36	0
March	39	0	103	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	351	329	21	0	0	0	23	0
June	37	0	66	0	356	345	13	0	8	0	45	0
July	5	0	106	45	386	360	24	0	9	0	6	0
August	15	0	65	0	321	320	20	0	32	19	41	0
September	52	0	71	0	282	261	14	0	0	0	21	0
October	13	0	46	0	336	302	19	0	13	6	12	0
10-Month Average	26	0	85	5	309	290	17	0	13	2	23	0
1996 10-Month Average	20	0	59	0	332	313	21	0	28	21	30	1
1995 10-Month Average	16	0	53	0	268	253	14	0	26	16	16	1

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

^b 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*, December 1997, 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 ^{b,c}			
	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	^a 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 January	91	91	240	213	283	0	209	131	4,297	3,397	8,015	6,505
February	58	58	382	359	322	0	304	143	4,416	3,378	8,345	6,546
March	70	70	663	621	298	0	183	91	4,787	3,797	9,006	7,391
April	55	55	491	450	284	0	317	143	4,741	3,894	8,465	7,038
May	61	53	405	366	203	0	286	165	4,907	4,044	8,709	7,325
June	78	74	520	418	268	0	368	253	5,453	4,451	9,558	7,927
July	73	54	137	97	240	0	441	277	4,812	3,940	8,863	7,265
August	74	53	288	249	264	0	343	261	5,168	4,212	9,061	7,437
September	73	55	427	386	223	0	312	180	5,194	4,254	9,736	8,007
October	86	70	528	479	299	0	331	214	4,635	3,735	8,577	7,075
November	61	53	284	284	317	0	273	155	4,896	3,878	9,074	7,302
December	53	53	238	177	334	0	262	156	4,684	3,671	8,612	6,916
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	62	55	400	333	335	0	464	173	5,557	4,176	9,633	7,393
February	69	61	239	172	331	0	380	170	5,352	4,049	9,475	7,384
March	56	55	236	161	254	0	411	180	5,433	4,263	9,712	7,665
April	69	62	124	35	321	0	401	242	5,366	4,123	9,934	7,810
May	70	66	261	181	300	0	531	314	5,527	4,301	10,442	8,279
June	55	55	372	311	300	0	375	220	5,546	4,453	10,357	8,403
July	62	54	198	165	310	0	357	237	5,411	4,382	9,703	7,938
August	41	37	268	220	319	0	343	225	5,445	4,411	10,155	8,333
September	66	58	167	110	248	0	439	334	5,451	4,463	10,201	8,537
October	58	55	154	119	301	0	484	271	5,581	4,490	10,414	8,543
10-Month Average	61	56	242	181	302	0	419	237	5,468	4,313	10,006	8,033
1996 10-Month Average	75	57	324	226	321	0	433	261	5,244	4,055	9,508	7,544
1995 10-Month Average	72	64	408	363	268	0	309	186	4,842	3,912	8,834	7,254

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

^b 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.

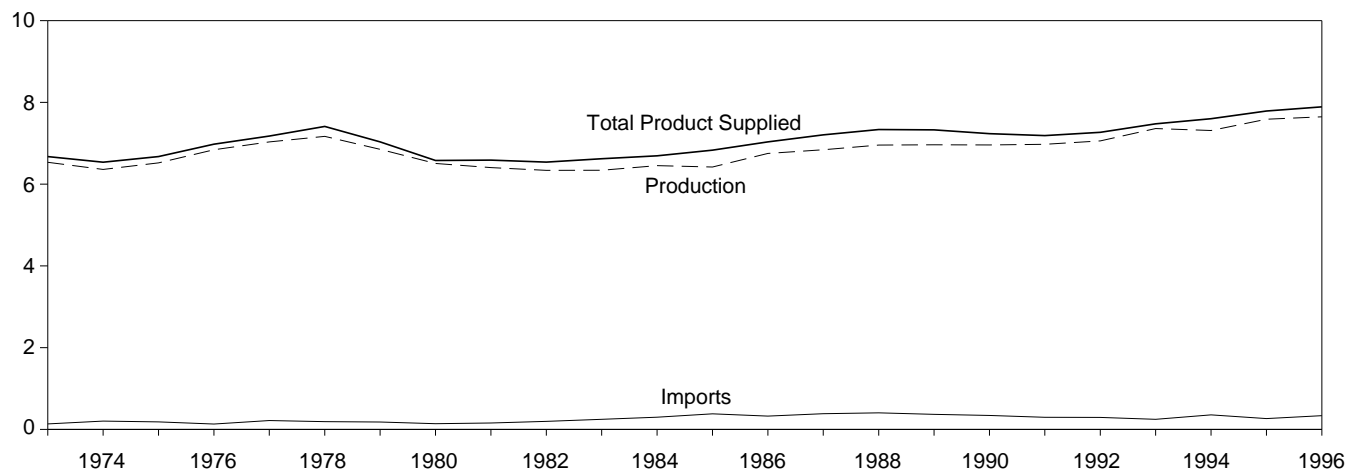
(s)=Less than 500 barrels per day.

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.

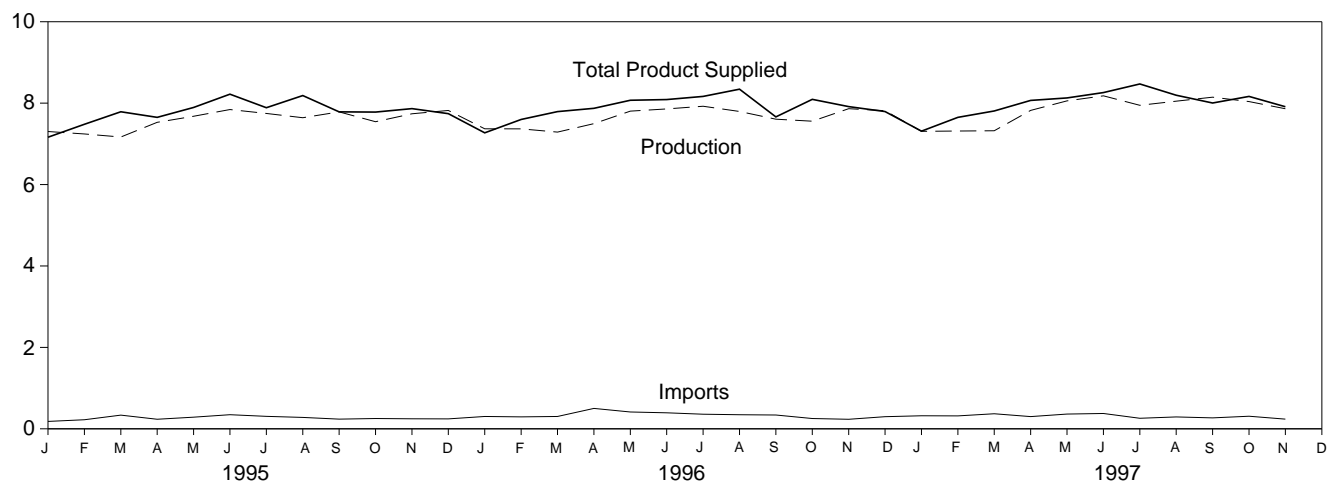
Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S3. • 1981 forward: EIA, *Petroleum Supply Monthly*, December 1997, Table S3.

Figure 3.2 Finished Motor Gasoline
(Million Barrels per Day, Except as Noted)

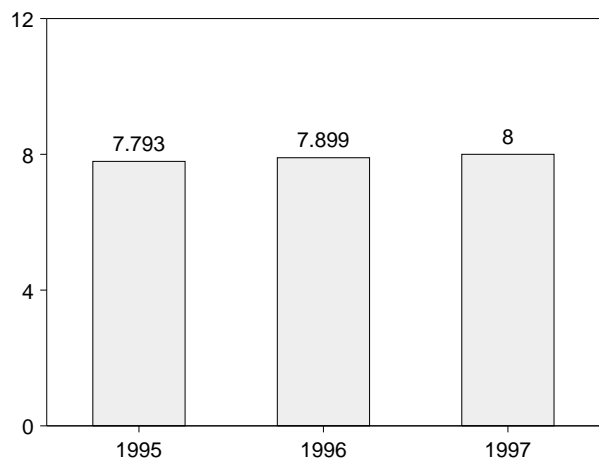
Overview, 1973-1996



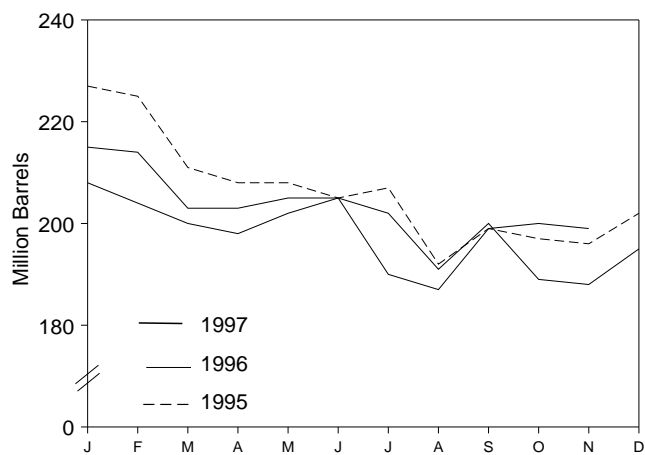
Overview, Monthly



Product Supplied, January-November



Stocks, End of Month



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

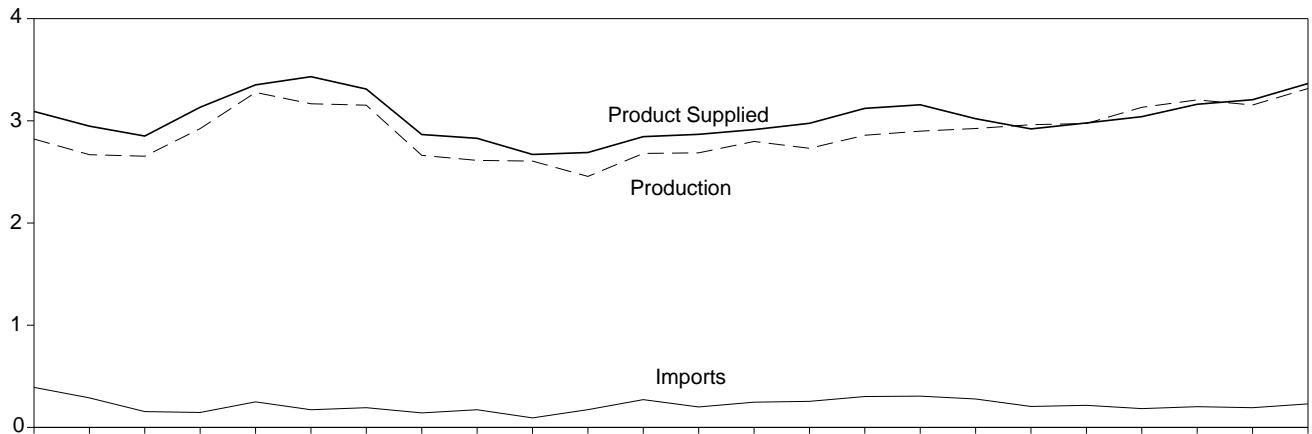
Table 3.4 Finished Motor Gasoline Supply and Disposition

	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								
January	7,303	182	221	100	7,163	227	183	16
February	7,243	223	-99	84	7,481	225	180	16
March	7,168	336	-391	107	7,788	211	168	15
April	7,529	235	-26	139	7,651	208	167	15
May	7,678	286	3	67	7,894	208	167	15
June	7,843	347	-122	91	8,220	205	163	14
July	7,747	306	80	86	7,888	207	166	15
August	7,642	280	-367	103	8,187	192	155	16
September	7,785	238	143	94	7,786	199	159	15
October	7,544	253	-106	121	7,781	197	156	14
November	7,739	246	1	118	7,866	196	156	11
December	7,821	244	182	141	7,742	202	161	12
Average	7,588	265	-40	104	7,789	202	161	12
1996								
January	7,370	303	240	163	7,271	215	169	12
February	7,369	293	-10	72	7,599	214	168	12
March	7,289	303	-327	128	7,792	203	158	13
April	7,497	501	49	77	7,873	203	160	13
May	7,804	414	66	81	8,071	205	162	12
June	7,858	393	68	95	8,088	205	164	11
July	7,924	359	-5	123	8,165	202	164	11
August	7,796	346	-284	82	8,343	191	155	12
September	7,606	339	215	68	7,662	200	161	11
October	7,557	253	-396	113	8,093	189	149	11
November	7,864	234	55	128	7,915	188	151	12
December	7,815	298	202	117	7,794	195	157	13
Average	7,647	336	-12	104	7,891	195	157	13
1997								
January	7,308	320	240	75	7,312	208	165	13
February	7,315	317	-130	111	7,651	204	161	13
March	7,322	370	-240	123	7,808	200	154	13
April	7,822	300	-62	117	8,067	198	152	13
May	8,056	362	189	101	8,128	202	158	13
June	8,180	377	202	96	8,260	205	164	12
July	7,947	259	-429	164	8,471	190	151	13
August	8,048	292	-30	175	8,195	187	150	13
September	8,147	269	282	130	8,004	199	158	13
October	^R 8,039	^R 309	^R -4	^R 186	^R 8,166	^R 200	^R 158	12
November	^E 7,862	^E 238	^E 70	^E 118	^E 7,912	^E 199	^E 158	NA
11-Month Average	^E 7,825	^E 310	^E 8	^E 127	^E 8,000	^E 199	^E 158	NA
1996 11-Month Average	7,631	340	-32	103	7,899	188	151	12
1995 11-Month Average	7,567	267	-61	101	7,793	196	156	11

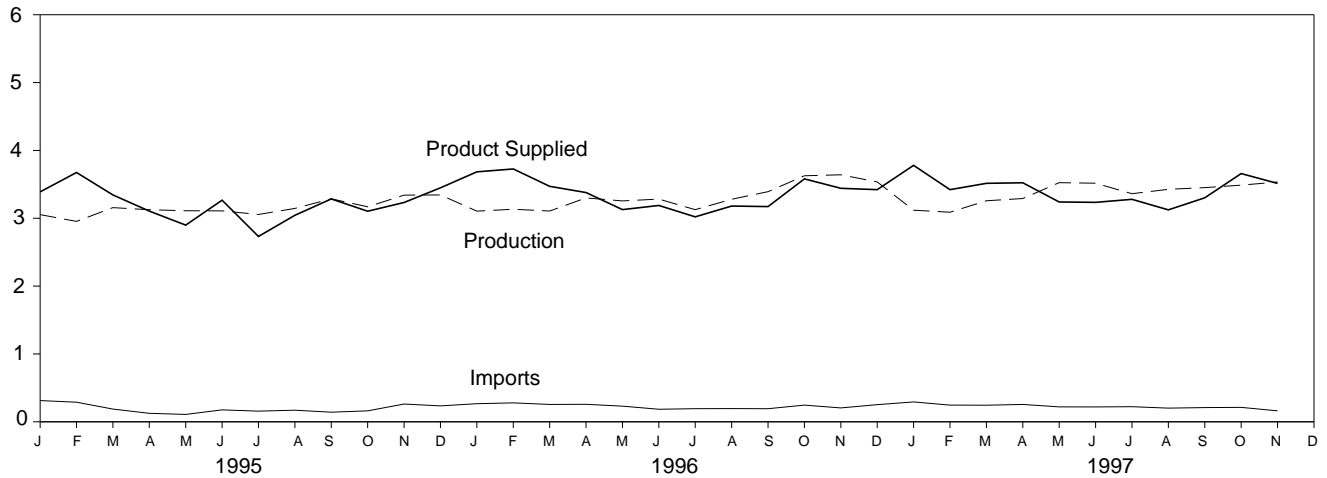
^a Stocks are totals as of end of period.
^b From 1981 forward, blending components are excluded.
^c A negative number indicates a decrease in stocks and a positive number indicates an increase.
^d Includes motor gasoline blending components and gasohol, but excludes oxygenates, which are reported separately.
^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 data. 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*, December 1997, Table S4.

Figure 3.3 Distillate Fuel
(Million Barrels per Day, Except as Noted)

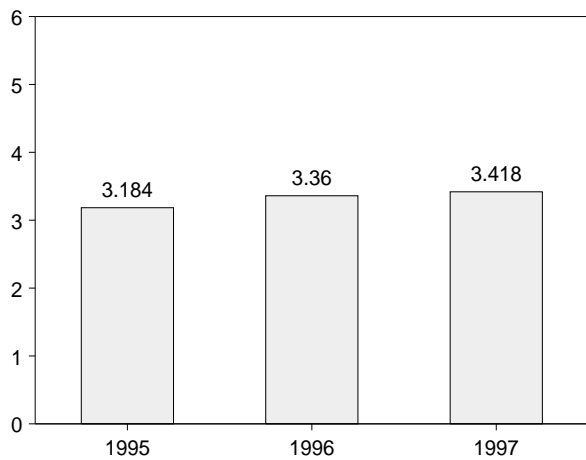
Overview, 1973-1996



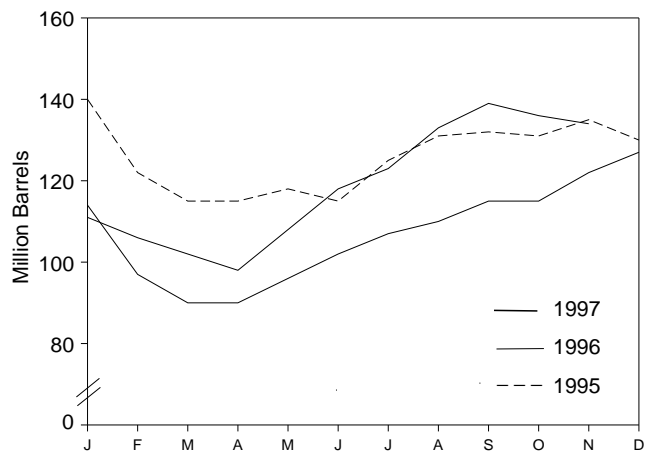
Overview, Monthly



Product Supplied, January-November



Stocks, End of Month



Source: Table 3.5.

Table 3.5 Distillate Fuel Oil Supply and Disposition

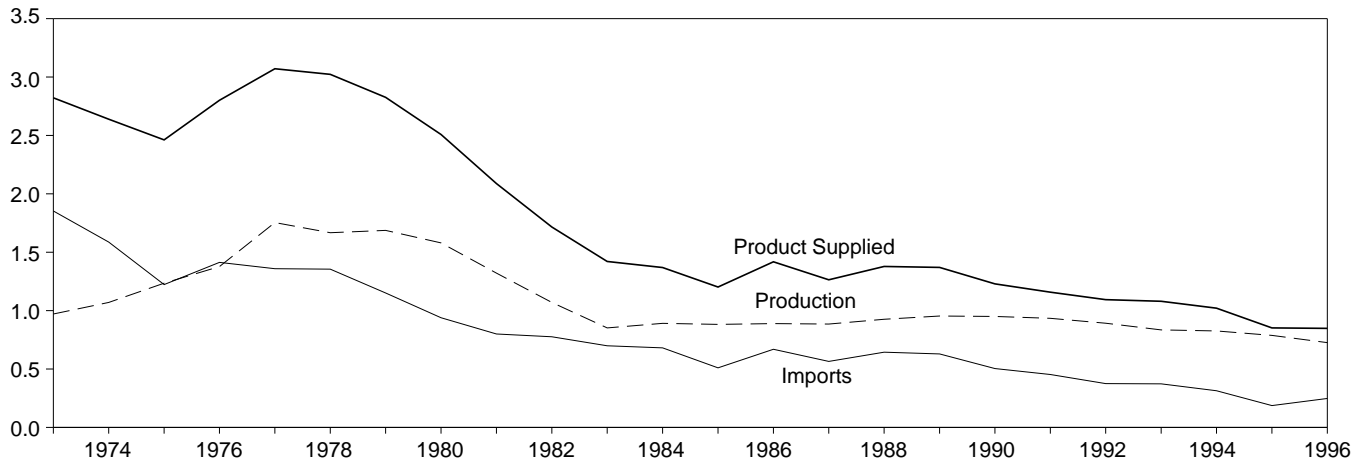
	Supply			Disposition			Ending Stocks ^a		
	Total Production	Imports	Crude Oil Used Directly ^b	Stock Change ^c	Exports	Product Supplied ^b	Total	Sulfur Content	
								0.05 Percent or Less ^d	Greater Than 0.05 Percent ^d
Thousand Barrels per Day							Million Barrels		
1973 Average	2,822	392	2	115	9	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	⁹⁶ 64	⁹⁷ 73
1994 Average	3,205	203	-	12	234	3,162	145	73	73
1995 January	3,054	313	-	-163	141	3,389	140	70	70
February	2,954	289	-	-645	212	3,675	122	63	59
March	3,157	188	-	-216	216	3,344	115	59	56
April	3,126	125	-	-27	172	3,106	115	62	53
May	3,111	109	-	119	202	2,899	118	62	56
June	3,109	176	-	-119	137	3,267	115	60	55
July	3,056	157	-	333	148	2,732	125	62	63
August	3,145	171	-	189	84	3,044	131	62	69
September	3,287	142	-	28	116	3,285	132	64	68
October	3,169	162	-	-11	238	3,104	131	61	70
November	3,341	262	-	135	236	3,233	135	65	70
December	3,344	235	-	-168	298	3,449	130	67	63
Average	3,155	193	-	-41	183	3,207	130	67	63
1996 January	3,105	267	-	-528	216	3,684	114	58	55
February	3,133	279	-	-570	256	3,727	97	53	44
March	3,107	256	-	-247	139	3,471	90	49	40
April	3,300	258	-	13	166	3,379	90	52	38
May	3,256	231	-	182	176	3,128	96	57	39
June	3,283	185	-	198	81	3,189	102	60	41
July	3,127	194	-	166	134	3,021	107	62	45
August	3,280	195	-	112	182	3,180	110	62	49
September	3,392	193	-	157	256	3,172	115	64	51
October	3,627	246	-	-8	300	3,581	115	60	54
November	3,641	205	-	234	171	3,442	122	65	57
December	3,536	253	-	160	206	3,422	127	68	58
Average	3,316	230	-	-10	190	3,365	127	68	58
1997 January	3,119	293	-	-502	133	3,780	111	60	51
February	3,089	246	-	-193	107	3,422	106	57	49
March	3,258	245	-	-133	120	3,515	102	59	43
April	3,291	256	-	-142	166	3,523	98	59	39
May	3,525	220	-	352	153	3,240	108	63	45
June	3,517	219	-	327	174	3,235	118	65	53
July	3,362	223	-	154	151	3,279	123	65	58
August	3,427	202	-	320	185	3,124	133	69	64
September	3,452	210	-	201	160	3,302	139	70	69
October	^R 3,488	^R 213	-	^R -90	^R 133	^R 3,659	^R 136	64	^R 73
November	^E 3,535	^E 162	-	^E -9	^E 191	^E 3,514	^E 134	^E 64	^E 70
11-Month Average	^E 3,371	^E 226	-	^E 27	^E 152	^E 3,418	^E 134	^E 64	^E 70
1996 11-Month Average	3,295	228	-	-25	189	3,360	122	65	57
1995 11-Month Average	3,138	190	-	-29	173	3,184	135	65	70

^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.

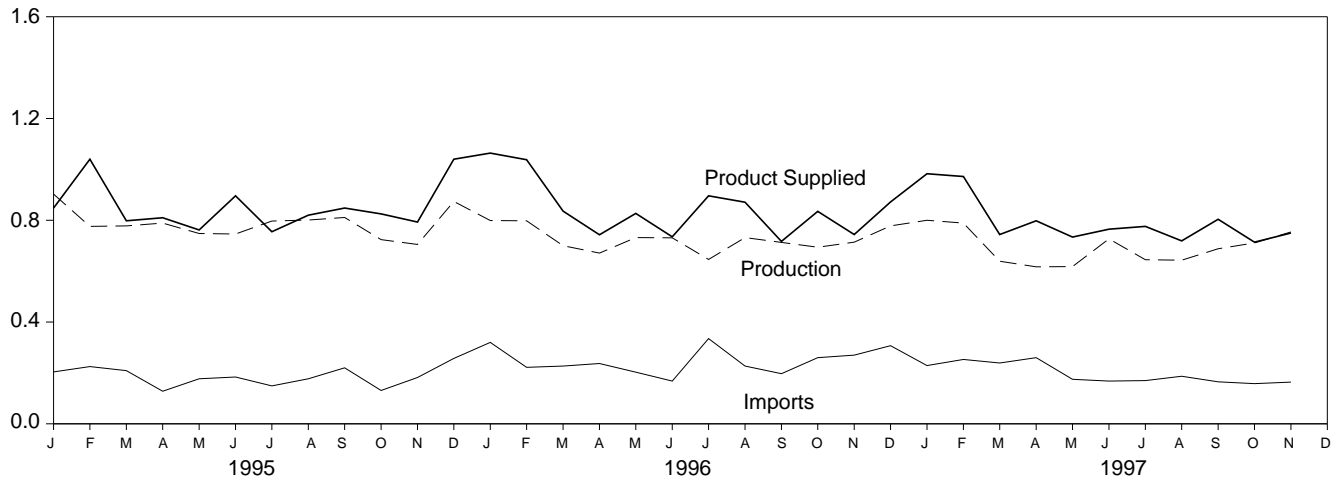
^g See Note 3 at end of section.
R=Revised data. NA=Not available. --=Not applicable. E=Estimate.
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S5. • **1981 forward:** EIA, *Petroleum Supply Monthly*, December 1997, Table S5.

Figure 3.4 Residual Fuel
(Million Barrels per Day, Except as Noted)

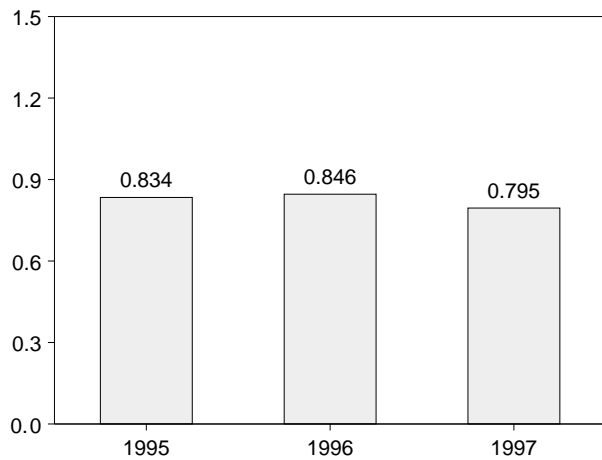
Overview, 1973-1996



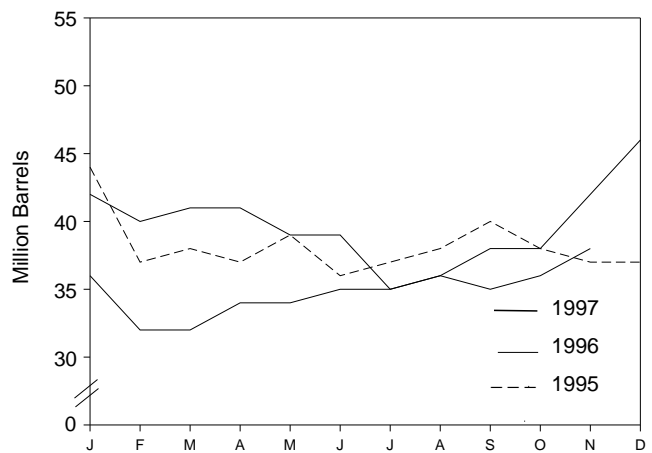
Overview, Monthly



Product Supplied, January-November



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			Ending Stocks ^c
	Total Production	Imports	Crude Oil Used Directly ^a	Stock Change ^b	Exports	Product Supplied ^a	
	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 January	903	204	-	56	203	848	44
February	776	225	-	-246	208	1,040	37
March	778	209	-	35	154	798	38
April	789	128	-	-22	129	810	37
May	748	177	-	48	115	762	39
June	746	184	-	-87	120	896	36
July	797	149	-	27	164	755	37
August	801	177	-	36	122	820	38
September	811	220	-	58	124	848	40
October	724	131	-	-55	84	825	38
November	705	182	-	-17	111	793	37
December	874	257	-	-8	98	1,040	37
Average	788	187	-	-13	136	852	37
1996 January	799	320	-	-54	108	1,064	36
February	798	222	-	-132	114	1,038	32
March	700	227	-	-4	95	836	32
April	671	237	-	69	96	743	34
May	732	203	-	18	89	827	34
June	731	168	-	21	144	735	35
July	646	335	-	-3	88	896	35
August	732	227	-	32	56	871	36
September	713	197	-	68	125	717	38
October	694	260	-	16	104	835	38
November	714	270	-	139	101	744	42
December	778	307	-	112	102	872	46
Average	726	248	-	24	102	848	46
1997 January	800	229	-	-124	171	983	42
February	789	253	-	-68	137	972	40
March	639	239	-	45	89	744	41
April	617	260	-	-27	105	798	41
May	618	175	-	-44	102	734	39
June	727	168	-	-1	130	765	39
July	645	170	-	-119	159	776	35
August	643	187	-	31	80	719	36
September	688	165	-	-42	91	804	35
October	^R 711	^R 158	-	^R 22	^R 133	^R 714	36
November	^E 754	^E 164	-	^E 61	^E 107	^E 750	^E 38
11-Month Average	^E 693	^E 197	-	^E -24	^E 119	^E 795	^E 38
1996 11-Month Average	721	243	-	16	101	846	42
1995 11-Month Average	780	180	-	-13	139	834	37

^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.

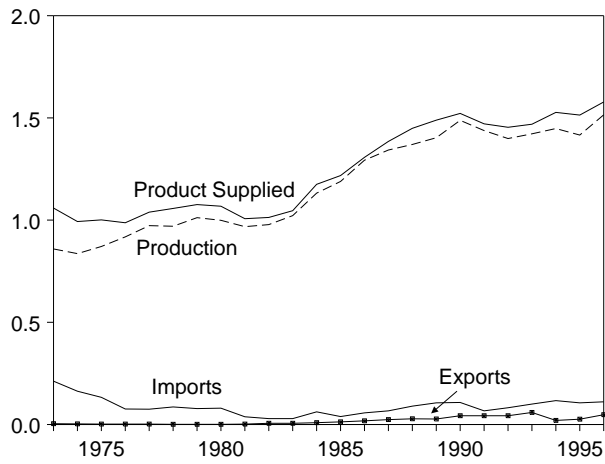
^e See Note 3 at end of section.

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

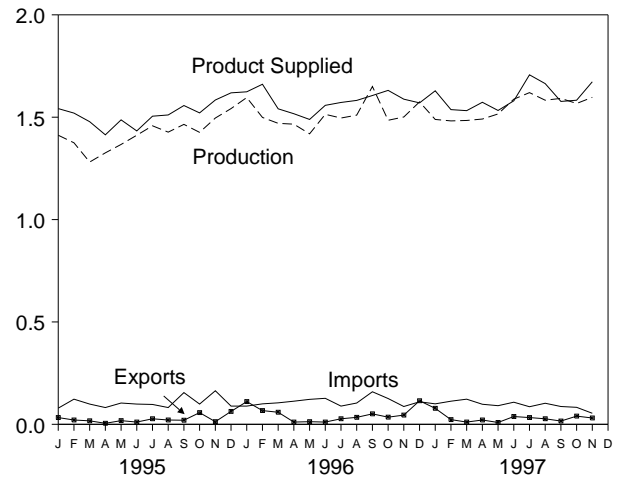
Note: Geographic coverage is the 50 States and the District of Columbia. Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S6. • **1981 forward:** EIA, *Petroleum Supply Monthly*, December 1997, Table S6.

Figure 3.5 Jet Fuel
(Million Barrels per Day, Except as Noted)

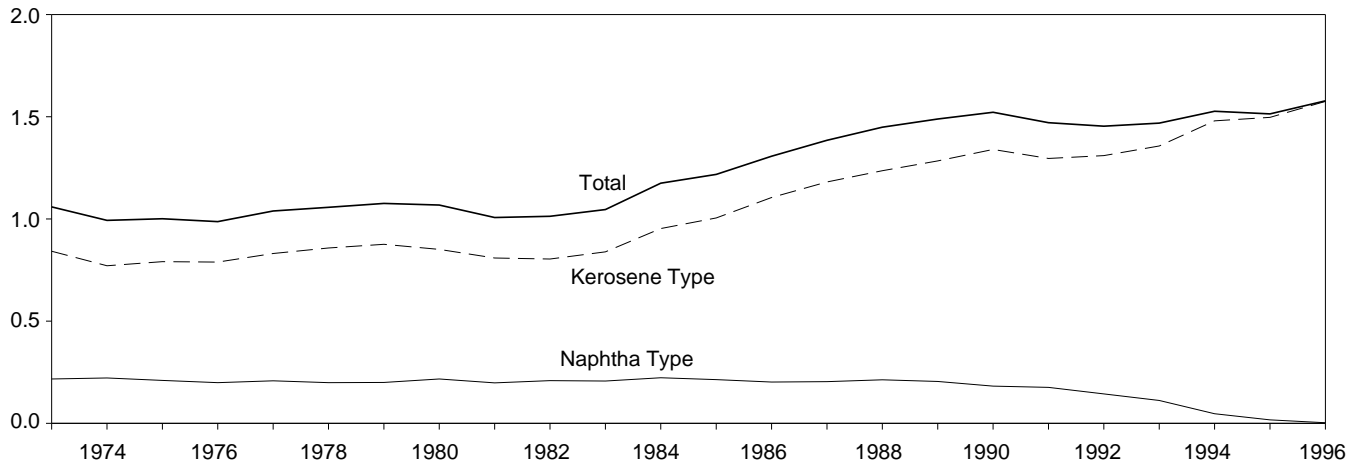
Overview, 1973-1996



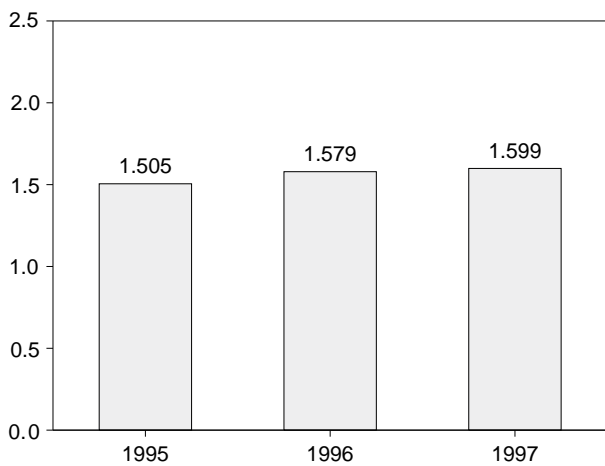
Overview, Monthly



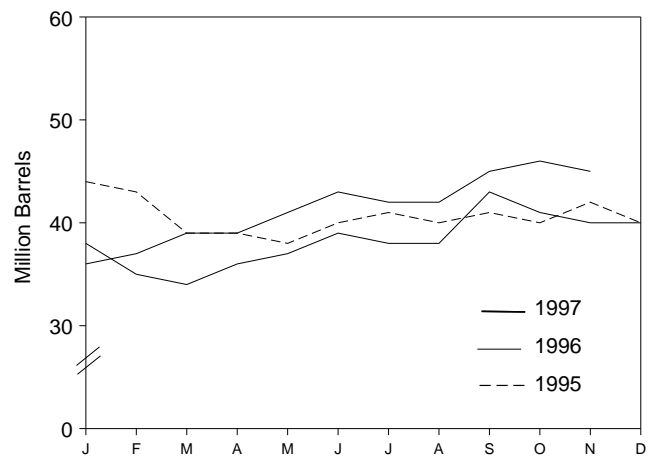
Product Supplied by Type, 1973-1996



Product Supplied, January-November



Stocks, End of Month



Source: Table 3.7.

Table 3.7 Jet Fuel Supply and Disposition

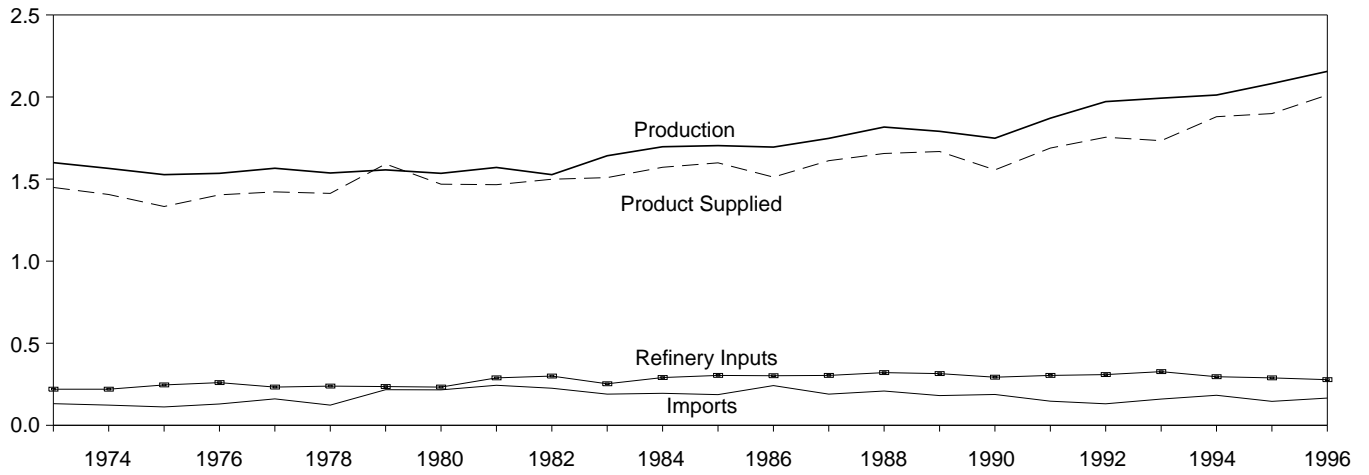
	Supply			Disposition				Ending Stocks ^a	
	Production		Imports	Stock Change ^b	Exports	Product Supplied			
	Total	Kerosene Type				Total	Kerosene Type	Total	Kerosene Type
	Thousand Barrels per Day							Million Barrels	
1973 Average	859	679	212	8	4	1,059	842	29	23
1974 Average	836	641	163	2	3	993	771	^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	44	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	47	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 January	1,412	1,402	79	-84	33	1,542	1,525	44	43
February	1,375	1,366	123	-43	21	1,520	1,514	43	42
March	1,281	1,272	99	-115	17	1,478	1,464	39	39
April	1,326	1,317	82	-12	5	1,414	1,402	39	38
May	1,367	1,354	104	-35	18	1,487	1,478	38	37
June	1,412	1,398	99	67	11	1,433	1,393	40	39
July	1,458	1,444	97	23	27	1,505	1,469	41	40
August	1,427	1,418	82	-23	21	1,511	1,505	40	39
September	1,465	1,459	155	44	20	1,557	1,500	41	41
October	1,426	1,422	99	-54	57	1,521	1,518	40	39
November	1,496	1,493	164	64	13	1,584	1,578	42	41
December	1,542	1,538	89	-51	63	1,619	1,618	40	39
Average	1,416	1,407	106	-19	26	1,514	1,497	40	39
1996 January	1,596	1,593	89	-49	111	1,624	1,607	38	38
February	1,499	1,495	100	-129	67	1,661	1,658	35	35
March	1,470	1,468	105	-24	59	1,541	1,547	34	34
April	1,466	1,464	113	51	11	1,517	1,515	36	35
May	1,419	1,418	122	39	13	1,489	1,467	37	37
June	1,514	1,512	127	71	11	1,558	1,556	39	39
July	1,496	1,493	89	-14	27	1,572	1,569	38	38
August	1,510	1,507	104	-2	34	1,582	1,580	38	38
September	1,650	1,647	159	152	51	1,606	1,604	43	43
October	1,485	1,484	126	-55	35	1,631	1,636	41	41
November	1,501	1,500	87	-45	45	1,588	1,588	40	40
December	1,575	1,574	110	(s)	115	1,570	1,573	40	40
Average	1,515	1,513	111	(s)	48	1,578	1,575	40	40
1997 January	1,489	1,488	100	-117	78	1,629	1,625	36	36
February	1,482	1,482	113	35	23	1,537	1,530	37	37
March	1,484	1,483	123	63	11	1,532	1,531	39	39
April	1,491	1,490	98	-5	21	1,573	1,572	39	39
May	1,516	1,515	91	65	9	1,533	1,533	41	41
June	1,588	1,588	108	78	38	1,580	1,579	43	43
July	1,620	1,619	86	-34	33	1,707	1,706	42	42
August	1,583	1,583	103	-5	27	1,664	1,663	42	42
September	1,592	1,591	87	85	16	1,577	1,576	45	45
October	^R 1,567	^R 1,566	^R 83	^R 26	^R 40	^R 1,583	^R 1,584	^R 46	^R 46
November	^E 1,597	^E 1,597	^E 54	^E -53	^E 31	^E 1,673	^E 1,672	^E 45	^E 45
11-Month Average	^E 1,547	^E 1,546	^E 95	^E 12	^E 30	^E 1,599	^E 1,598	^E 45	^E 45
1996 11-Month Average	1,509	1,507	111	(s)	42	1,579	1,575	40	40
1995 11-Month Average	1,404	1,395	107	-16	22	1,505	1,486	42	41

^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 data. ^E=Estimate. (s)=Less than +500 barrels per day and

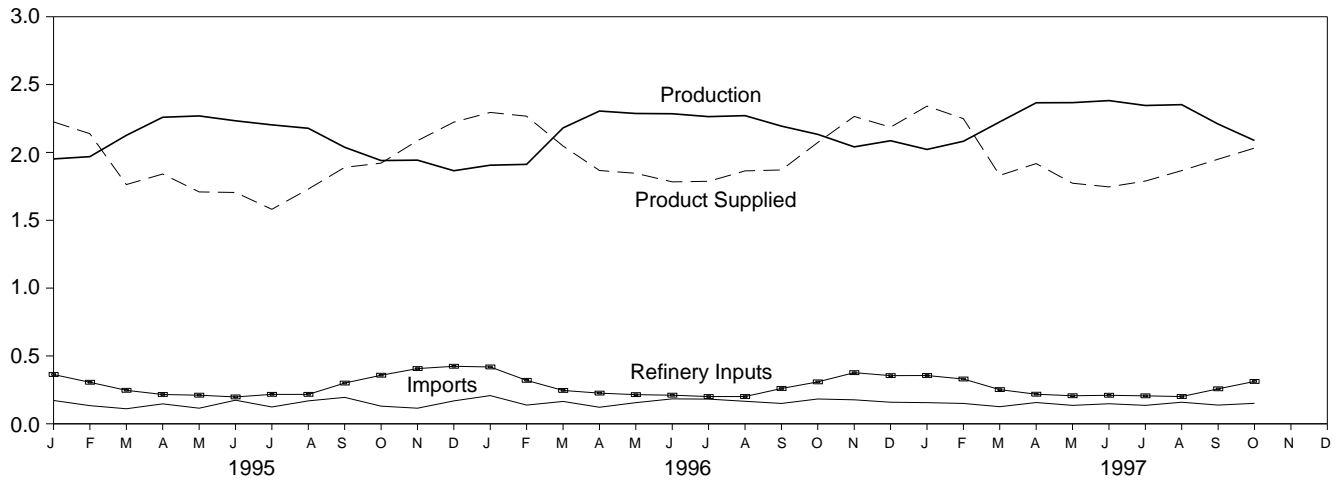
greater than -500 barrels per day.
 Note: Geographic coverage is the 50 States and the District of Columbia.
 Sources: • 1973-1980: Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S7. • 1981 forward: EIA, *Petroleum Supply Monthly*, December 1997, Table S7.

Figure 3.6 Liquefied Petroleum Gases
(Million Barrels per Day, Except as Noted)

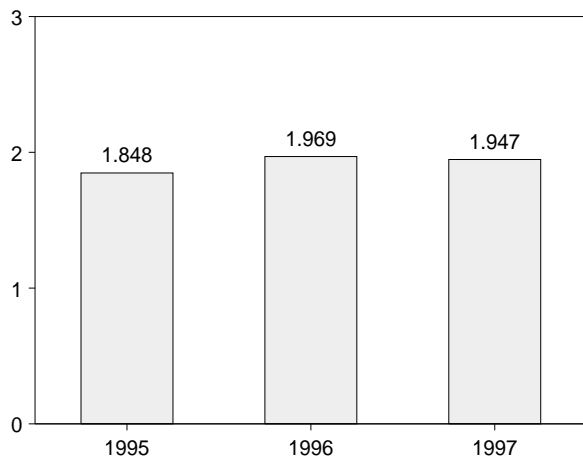
Overview, 1973-1996



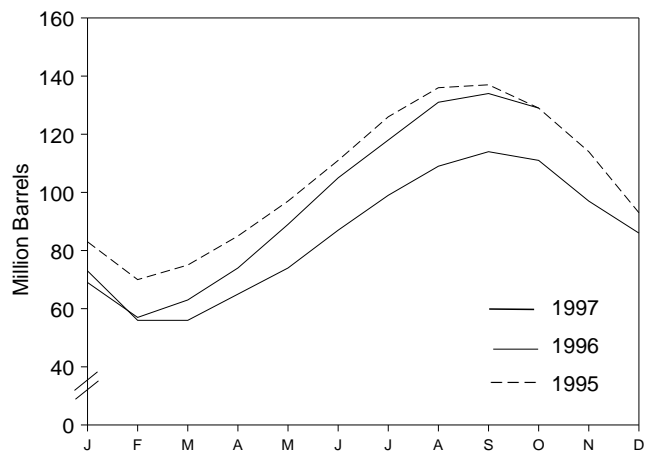
Overview, Monthly



Product Supplied, January-October



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				Ending Stocks ^b
	Total Production	Imports	Stock Change ^a	Refinery Inputs	Exports	Product Supplied	
	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 January	1,952	172	-527	363	64	2,225	83
February	1,969	134	-463	306	122	2,138	70
March	2,126	111	170	247	57	1,763	75
April	2,259	147	307	216	43	1,841	85
May	2,269	115	403	211	62	1,709	97
June	2,233	174	448	198	55	1,705	111
July	2,203	124	488	217	41	1,581	126
August	2,178	169	343	217	57	1,730	136
September	2,038	195	14	300	29	1,890	137
October	1,940	130	-245	358	35	1,921	129
November	1,943	115	-500	407	63	2,087	114
December	1,865	169	-680	424	67	2,223	93
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	2,022	156	-555	356	36	2,341	69
February	2,082	150	-424	330	78	2,249	57
March	2,225	126	206	252	62	1,831	63
April	2,366	157	345	218	41	1,918	74
May	2,367	136	485	207	40	1,773	89
June	2,382	148	531	210	43	1,746	105
July	2,346	136	430	206	56	1,789	118
August	2,352	159	407	201	37	1,866	131
September	2,209	138	110	258	29	1,950	134
October	2,088	151	-147	312	42	2,032	129
10-Month Average	2,245	146	142	255	46	1,947	129
1996 10-Month Average	2,175	166	59	261	51	1,969	111
1995 10-Month Average	2,118	147	98	263	56	1,848	129

^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.

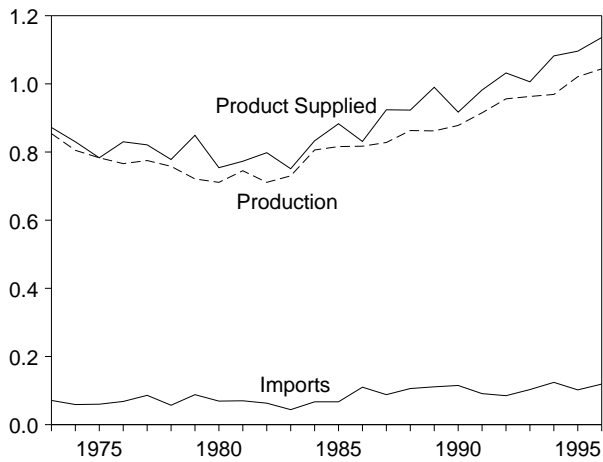
Notes: • Liquefied petroleum gases include ethane, ethylene, propane,

propylene, normal butane, butylene, isobutane and isobutylene.
• Geographic coverage is the 50 States and the District of Columbia.

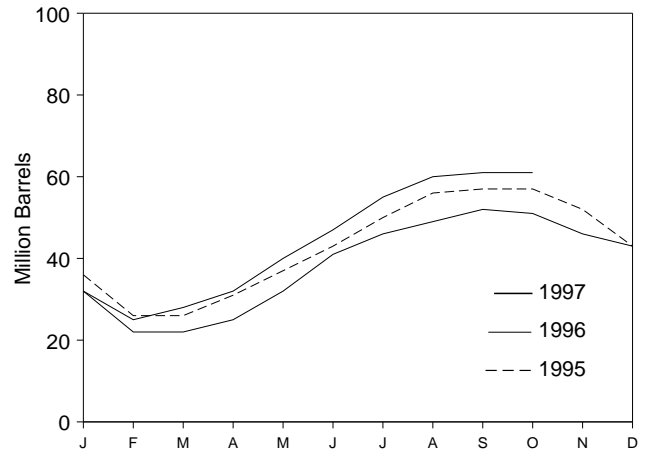
Sources: • **1973-1980:** Energy Information Administration (EIA), *Petroleum Supply Monthly*, February 1993, Table S8. • **1981 forward:** EIA, *Petroleum Supply Monthly*, December 1997, Table S9.

Figure 3.7 Propane and Propylene
(Million Barrels per Day, Except as Noted)

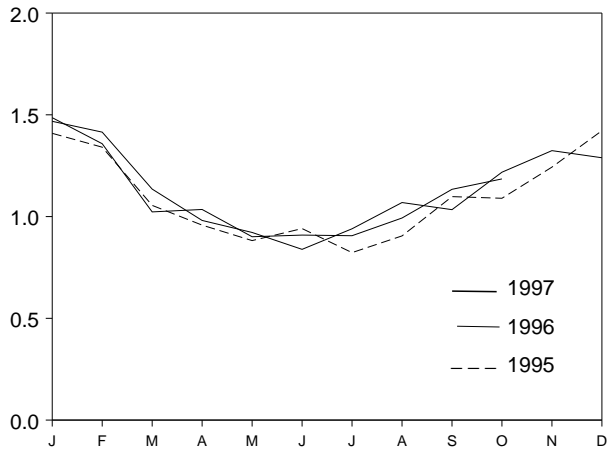
Overview, 1973-1996



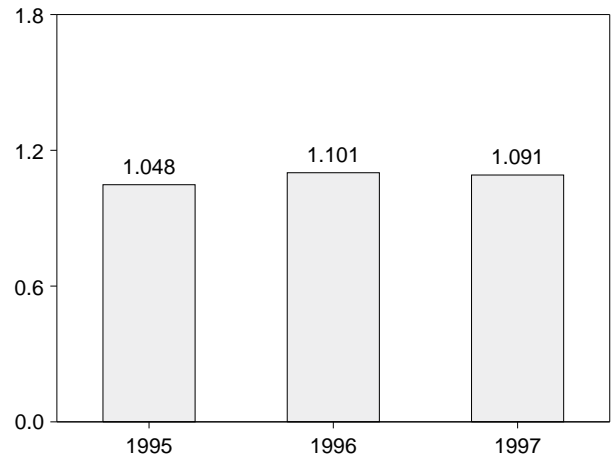
Stocks, End of Month



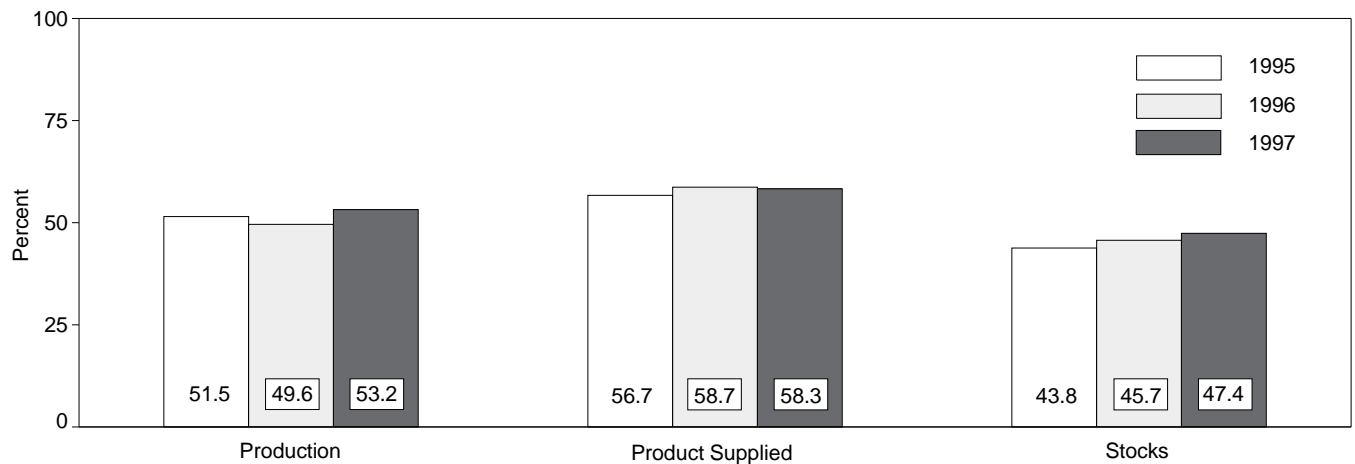
Product Supplied, Monthly



Product Supplied, January-October



Share of Liquefied Petroleum Gases, October



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				Ending Stocks ^b
	Total Production	Imports	Stock Change ^a	Refinery Inputs	Exports	Product Supplied	
	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 January	1,007	108	-349	0	55	1,409	36
February	985	94	-362	0	100	1,341	26
March	1,017	90	14	0	39	1,055	26
April	1,040	107	157	0	31	958	31
May	1,046	73	209	0	29	882	37
June	1,042	114	188	0	27	941	43
July	1,011	75	236	0	27	823	50
August	1,008	107	187	0	24	905	56
September	1,022	146	45	0	25	1,098	57
October	999	98	-22	0	30	1,090	57
November	1,045	76	-160	0	37	1,243	52
December	1,033	135	-285	0	31	1,422	43
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	1,042	121	-352	0	28	1,486	32
February	1,043	105	-252	0	42	1,358	25
March	1,065	84	86	0	40	1,023	28
April	1,114	99	146	0	32	1,035	32
May	1,113	69	258	0	23	901	40
June	1,111	79	250	0	31	909	47
July	1,085	76	231	0	24	906	55
August	1,092	97	172	0	24	993	60
September	1,111	78	39	0	16	1,134	61
October	1,111	111	7	0	29	1,185	61
10-Month Average	1,089	92	60	0	29	1,091	61
1996 10-Month Average	1,038	117	26	0	27	1,101	51
1995 10-Month Average	1,018	101	33	0	38	1,048	57

^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*, December 1997, Table S8.

Table 3.10 Other Petroleum Products Supply and Disposition

	Supply		Disposition				Ending Stocks ^b
	Total Production	Imports	Stock Change ^a	Refinery Inputs	Exports	Products Supplied	
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 January	2,879	559	413	657	324	2,044	227
February	2,960	806	271	758	320	2,417	235
March	2,842	672	-35	914	329	2,306	234
April	2,916	711	-106	1,064	355	2,313	231
May	3,009	593	-74	801	339	2,535	229
June	3,142	651	-130	917	403	2,604	225
July	3,312	765	-54	1,126	326	2,679	223
August	3,246	745	-250	1,123	372	2,746	215
September	3,256	779	-44	1,077	348	2,654	214
October	2,939	727	-120	919	376	2,491	210
November	2,918	803	-35	1,003	343	2,409	209
December	2,953	701	-97	1,125	341	2,286	206
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	2,963	1,142	341	850	403	2,511	214
February	2,990	1,012	213	988	332	2,470	219
March	3,103	945	505	718	391	2,434	235
April	3,172	1,053	-99	1,240	395	2,689	232
May	3,343	1,178	125	1,119	446	2,831	236
June	3,391	934	-461	1,395	417	2,976	222
July	3,451	892	-193	1,114	380	3,041	216
August	3,446	880	-89	1,017	460	2,937	213
September	3,434	796	83	853	450	2,843	216
October	3,235	957	-86	930	381	2,966	213
10-Month Average	3,255	979	34	1,021	406	2,772	213
1996 10-Month Average	3,111	864	-14	983	382	2,624	202
1995 10-Month Average	3,050	700	-15	937	349	2,479	210

^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*, December 1997, 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 November 1997 was forecast as 1.6 trillion cubic feet, 3 percent higher than production during the previous November. Dry natural gas production during January through November of 1997 was an estimated 17.3 trillion cubic feet, slightly higher than production during January through November of 1996.

Consumption of natural and supplemental gas in November 1997 was forecast as 1.9 trillion cubic feet, 1 percent below the level in November 1996. Consumption of natural gas and supplemental gas during the first 11 months of 1997 was an estimated 19.6 trillion cubic feet, slightly lower than consumption during the first 11 months of 1996.

Deliveries to residential consumers in November 1997 were forecast as 457 billion cubic feet, 9 percent below the previous November's deliveries. During the first 11 months of 1997, deliveries to residential consumers were an estimated 4.2 trillion cubic feet, 6 percent lower than

residential deliveries 1 year earlier. Total deliveries to industrial consumers during November 1997 were forecast as 775 billion cubic feet, 1 percent higher than the previous November's level. During the first 11 months of 1997, deliveries to industrial consumers were an estimated 8.1 trillion cubic feet, slightly higher than industrial deliveries during the first 11 months of 1996.

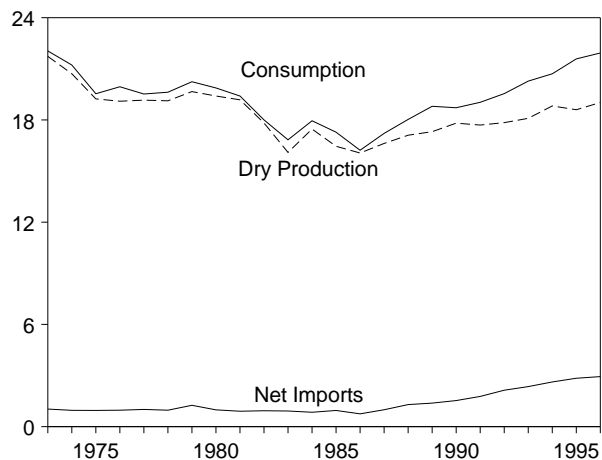
Net imports of natural gas in November 1997 were estimated as 241 billion cubic feet, 1 percent higher than net imports in the previous November.

Stocks of working gas¹ in underground natural gas storage reservoirs at the end of November 1997 were forecast as 2.7 trillion cubic feet, 4 percent above the level of stocks available 1 year earlier. Net injections to storage during November 1997 were forecast as 210 billion cubic feet, 20 percent lower than the amount of net injections during the previous November.

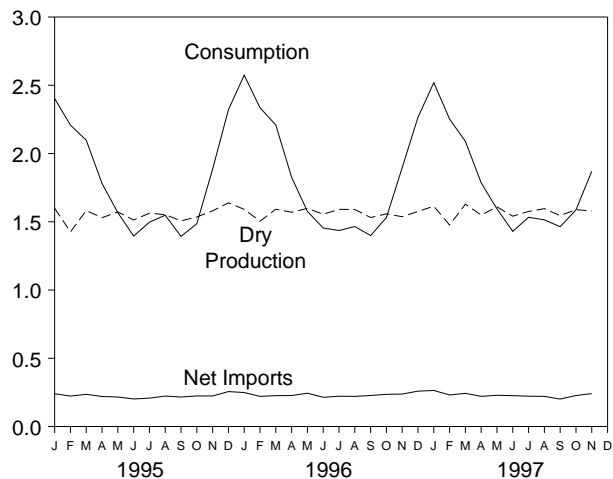
¹Gas available for withdrawal.

Figure 4.1 Natural Gas
(Trillion Cubic Feet)

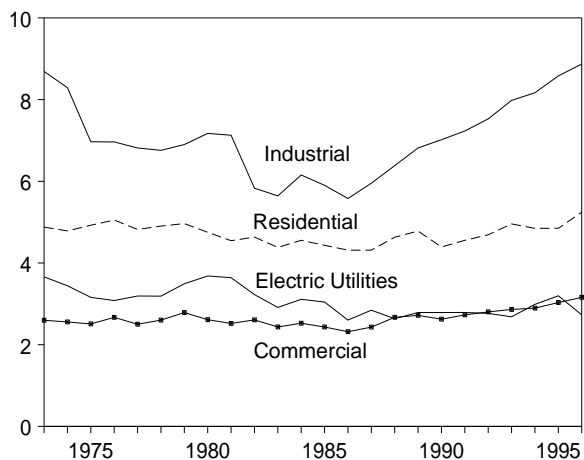
Overview, 1973-1996



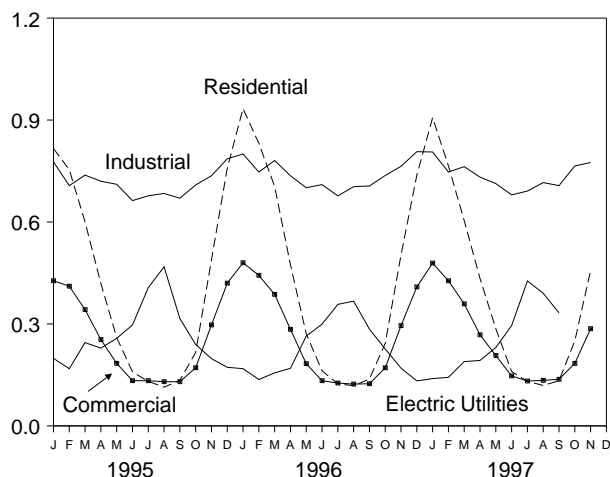
Overview, Monthly



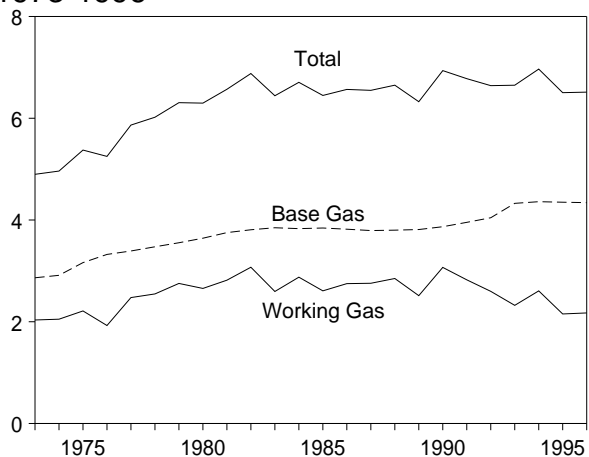
Consumption by Sector, 1973-1996



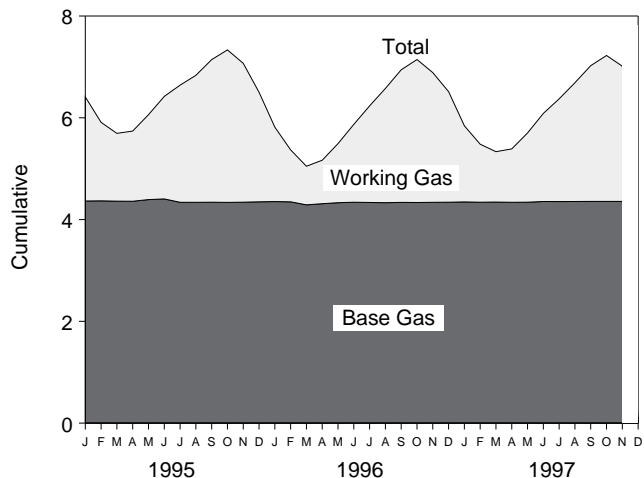
Consumption by Sector, Monthly



Underground Storage, End of Year, 1973-1996



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	921,731	NA	956	-442	-196	22,049
1974 Total	920,713	NA	882	-84	-289	21,223
1975 Total	919,236	NA	880	-344	-235	19,538
1976 Total	919,098	NA	899	165	-216	19,946
1977 Total	919,163	NA	955	-557	-41	19,521
1978 Total	919,122	NA	913	-120	-287	19,627
1979 Total	919,663	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	⁹ -537	18,001
1983 Total	16,094	132	864	447	⁹ -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	-149	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 January	1,599	12	240	613	-60	2,403
February	1,426	10	223	531	17	2,207
March	1,582	10	236	228	42	2,098
April	1,530	7	220	-51	74	1,780
May	1,572	8	216	-343	115	1,567
June	1,513	8	202	-380	52	1,395
July	1,563	8	208	-313	30	1,497
August	1,552	8	223	-212	-24	1,548
September	1,507	7	216	-321	-17	1,393
October	1,535	9	224	-210	-72	1,486
November	1,580	10	224	278	-206	1,886
December	1,639	12	256	595	-181	2,321
Total	18,599	110	2,687	415	-230	21,581
1996 January	1,591	12	249	723	-2	2,574
February	1,504	11	221	462	138	2,335
March	1,592	11	226	333	46	2,209
April	1,570	9	227	-119	139	1,826
May	1,598	6	244	-339	67	1,576
June	1,555	8	214	-388	65	1,454
July	1,591	8	222	-382	-3	1,436
August	1,590	8	221	-358	4	1,465
September	1,531	8	227	-379	12	1,399
October	1,558	9	236	-210	-62	1,531
November	1,537	10	238	272	-161	1,896
December	1,576	10	259	387	34	2,266
Total	18,793	109	2,784	2	279	21,967
1997 January	1,614	12	^E 264	683	-55	2,519
February	1,476	11	^E 231	358	176	2,252
March	1,629	10	^E 243	156	51	2,089
April	1,549	9	^E 221	-59	65	1,786
May	1,609	9	^E 229	-322	67	1,594
June	^R 1,541	7	^E 226	-366	^R 22	^R 1,430
July	^R 1,576	8	^{RE} 222	-274	^R 1	^R 1,533
August	^{RE} 1,596	^E 9	^{RE} 221	-323	11	^R 1,514
September	^E 1,545	^{RE} 7	^{RE} 201	^R -330	^{RE} 41	^E 1,464
October	^F 1,589	^{RF} 5	^{RF} 227	^{RF} -200	^{RF} -34	^{RF} 1,587
November	^F 1,578	^F 11	^F 241	^F 210	^F -170	^F 1,870
11-Month Total	^E 17,301	^E 100	^E 2,527	^E -466	^E 176	^E 19,638
1996 11-Month Total	17,217	99	2,525	-385	244	19,701
1995 11-Month Total	16,960	98	2,431	-180	-49	19,259

^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.

⁹ May include unknown quantities of nonhydrocarbon gases.

R=Revised data. 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: • 1973-1990: Energy Information Administration (EIA), *Natural Gas Annual 1996*, Table 100. • 1991 forward: EIA, *Natural Gas Monthly*, November 1997, 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 (Wet) ^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 January	2,043	311	34	21	1,677	78	1,599
February	1,822	276	30	20	1,495	70	1,426
March	2,026	314	32	20	1,660	77	1,582
April	1,945	287	32	21	1,604	75	1,530
May	1,997	291	33	24	1,649	77	1,572
June	1,910	264	31	28	1,587	74	1,513
July	1,960	264	31	26	1,639	76	1,563
August	1,965	284	30	22	1,628	76	1,552
September	1,914	276	33	25	1,581	74	1,507
October	1,988	319	34	25	1,610	75	1,535
November	2,045	331	33	24	1,657	77	1,580
December	2,128	348	35	26	1,719	80	1,639
Total	23,744	3,565	388	284	19,506	908	18,599
1996 January	2,052	310	44	26	1,673	81	1,591
February	1,941	294	41	24	1,580	77	1,504
March	2,054	313	45	23	1,674	81	1,592
April	2,003	289	42	22	1,650	80	1,570
May	2,025	281	42	23	1,679	81	1,598
June	1,962	276	36	16	1,634	79	1,555
July	2,008	271	42	24	1,672	81	1,591
August	2,021	281	45	24	1,671	81	1,590
September	1,958	283	44	22	1,609	78	1,531
October	2,011	306	44	23	1,638	79	1,558
November	1,984	299	47	23	1,615	78	1,537
December	2,032	307	46	23	1,656	80	1,576
Total	24,052	3,510	518	272	19,751	958	18,793
1997 January	^E 2,082	^E 327	41	^E 21	^E 1,693	79	1,614
February	^E 1,905	^E 301	38	^E 19	^E 1,548	72	1,476
March	^E 2,086	^E 321	34	^E 22	^E 1,708	80	1,629
April	^E 1,974	^E 296	33	^E 21	^E 1,625	76	1,549
May	^E 2,055	^E 313	^E 33	^E 21	^E 1,688	79	1,609
June	^{RE} 1,962	^E 294	31	^E 20	^{RE} 1,616	75	^R 1,541
July	^{RE} 2,002	^{RE} 295	^R 34	^E 21	^{RE} 1,653	^R 77	^R 1,576
August	^{RE} 2,033	^{RE} 305	^E 33	^E 21	^{RE} 1,674	^E 78	^{RE} 1,596
September	^E 1,965	^E 293	^E 32	^E 21	^E 1,620	^E 75	^E 1,545
October	NA	NA	NA	NA	^F 1,666	^F 77	^F 1,589
November	NA	NA	NA	NA	^F 1,658	^F 80	^F 1,578
11-Month Total	NA	NA	NA	NA	^E 18,149	^E 848	^E 17,301
1996 11-Month Total	22,019	3,203	472	249	18,095	878	17,217
1995 11-Month Total	21,616	3,217	354	257	17,787	828	16,960

^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 data. 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: • 1973-1990: Energy Information Administration (EIA), *Natural Gas Annual 1996*, Table 99. • 1991 forward: EIA, *Natural Gas Monthly*, November 1997, 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			
	Canada ^a	Algeria ^b	Mexico ^a	United Arab Emirates ^b	Total	Canada ^a	Mexico ^a	Japan ^b	Total
1973 Total	1,028	3	2	0	1,033	15	14	48	77
1974 Total	959	0	(s)	0	959	13	13	50	77
1975 Total	948	5	0	0	953	10	9	53	73
1976 Total	954	10	0	0	964	8	7	50	65
1977 Total	997	11	2	0	1,011	(s)	4	52	56
1978 Total	881	84	0	0	966	(s)	4	48	53
1979 Total	1,001	253	0	0	1,253	(s)	4	51	56
1980 Total	797	86	102	0	985	(s)	4	45	49
1981 Total	762	37	105	0	904	(s)	3	56	59
1982 Total	783	55	95	0	933	(s)	2	50	52
1983 Total	712	131	75	0	918	(s)	2	53	55
1984 Total	755	36	52	0	843	(s)	2	53	55
1985 Total	926	24	0	0	950	(s)	2	53	55
1986 Total	749	0	0	0	^c 750	9	2	50	61
1987 Total	993	0	0	0	993	3	2	49	54
1988 Total	1,276	17	0	0	1,294	20	2	52	74
1989 Total	1,339	42	0	0	1,382	38	17	51	107
1990 Total	1,448	84	0	0	1,532	17	16	53	86
1991 Total	1,710	64	0	0	1,773	15	60	54	129
1992 Total	2,094	43	0	0	2,138	68	96	53	216
1993 Total	2,267	82	2	0	2,350	45	40	56	140
1994 Total	2,566	51	7	0	2,624	53	47	63	162
1995 January	251	3	(s)	0	253	3	6	6	14
February	233	3	0	0	236	2	6	6	13
March	248	3	(s)	0	250	2	7	6	15
April	232	0	0	0	232	2	6	4	12
May	226	3	0	0	228	2	7	4	12
June	217	0	0	0	217	2	8	6	16
July	223	0	0	0	223	2	7	6	15
August	233	3	1	0	237	3	3	8	14
September	224	0	4	0	228	3	2	6	11
October	234	0	2	0	236	3	6	4	12
November	234	2	0	0	236	2	4	8	13
December	262	3	0	0	264	1	1	6	8
Total	2,816	18	7	0	2,841	28	61	65	154
1996 January	260	2	1	0	264	7	2	6	14
February	231	3	1	0	234	5	2	6	13
March	238	3	1	0	242	7	3	6	15
April	231	5	1	0	237	2	2	6	10
May	246	3	4	0	252	3	2	4	8
June	226	0	1	0	227	3	3	6	12
July	233	3	1	0	237	4	3	8	14
August	235	3	(s)	0	238	2	9	6	17
September	234	0	1	3	238	3	2	6	11
October	241	5	1	0	248	4	2	6	12
November	246	5	1	0	252	7	2	6	14
December	264	5	(s)	2	271	5	2	6	13
Total	2,883	35	14	5	2,937	52	34	68	153
1997 January	265	8	1	2	276	4	2	6	12
February	234	8	2	0	243	5	2	6	12
March	254	3	3	0	260	9	1	6	16
April	232	3	(s)	0	235	5	3	6	14
May	232	3	2	0	^d 239	4	2	4	10
June	229	5	2	0	235	3	3	4	10
July	^{RE} 226	5	^{RE} 1	0	^E 231	^{RE} 3	^E 3	4	^{RE} 9
August	^{RE} 229	8	^{RE} 0	0	^R 237	^{RE} 3	^{RE} 6	8	^{RE} 16
September	^E 206	5	^E (s)	0	^d 213	^E 3	^E 5	4	^E 12
9-Month Total	^E 2,106	46	^E 11	2	^E 2,171	^E 38	^E 27	45	^E 111
1996 9-Month Total	2,133	20	12	3	2,167	36	28	51	115
1995 9-Month Total	2,086	13	5	0	2,104	22	51	48	121

^a 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.

^b As liquefied natural gas.

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

^d Includes 2 billion cubic feet of liquefied natural gas from Australia.

R=Revised data. 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: • 1973-1990: Energy Information Administration (EIA), Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas."
• 1991 forward: EIA, *Natural Gas Monthly*, November 1997, 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	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 January	105	79	816	427	777	NA	199	2,218	2,403
February	94	73	754	411	707	NA	168	2,040	2,207
March	104	69	600	342	738	NA	245	1,926	2,098
April	100	58	419	254	720	NA	229	1,622	1,780
May	103	50	260	184	711	NA	258	1,414	1,567
June	99	45	159	133	663	NA	297	1,252	1,395
July	101	48	131	133	677	NA	407	1,347	1,497
August	101	50	114	130	684	NA	468	1,397	1,548
September	99	45	134	130	670	NA	316	1,250	1,393
October	102	48	216	171	709	NA	240	1,336	1,486
November	105	61	489	297	736	NA	198	1,720	1,886
December	109	76	758	420	786	NA	172	2,136	2,321
Total	1,220	700	4,850	3,031	8,580	3	3,197	19,660	21,581
1996 January	106	85	934	480	800	NA	168	2,382	2,574
February	101	77	831	443	747	NA	137	2,157	2,335
March	106	72	705	387	781	NA	156	2,030	2,209
April	104	59	474	284	736	NA	170	1,663	1,826
May	106	50	271	183	701	NA	264	1,420	1,576
June	102	46	162	133	710	NA	299	1,305	1,454
July	105	46	124	126	677	NA	358	1,285	1,436
August	105	47	118	123	704	NA	367	1,312	1,465
September	102	45	138	124	706	NA	285	1,253	1,399
October	104	49	243	171	737	NA	226	1,378	1,531
November	103	62	503	295	764	NA	170	1,732	1,896
December	105	74	738	409	807	NA	132	2,086	2,266
Total	1,250	711	5,241	3,158	8,870	3	2,732	20,005	21,967
1997 January	106	82	907	479	806	NA	139	2,331	2,519
February	97	73	765	427	747	NA	143	2,082	2,252
March	107	68	604	359	763	NA	189	1,915	2,089
April	102	58	434	268	732	NA	193	1,626	1,786
May	106	52	286	207	713	NA	231	1,436	1,594
June	101	46	160	147	680	NA	295	1,283	1,430
July	^R 103	50	131	^R 132	^R 691	NA	427	^R 1,380	^R 1,533
August	^R 105	^R 49	^R 119	^R 134	^R 716	NA	390	^R 1,360	^R 1,514
September	^F 104	^F 51	^F 133	^F 137	^F 707	NA	^R 332	^R 1,309	^F 1,464
October	^F 104	^F 53	^{RF} 250	^F 184	^F 765	NA	NA	^{RF} 1,430	^{RF} 1,587
November	^F 103	^F 63	^F 457	^F 286	^F 775	NA	NA	^F 1,704	^F 1,870
11-Month Total	^E 1,138	^E 644	^E 4,245	^E 2,759	^E 8,095	NA	NA	^E 17,856	^E 19,638
1996 11-Month Total	1,145	637	4,504	2,749	8,064	NA	2,600	17,916	19,701
1995 11-Month Total	1,111	624	4,092	2,611	7,793	NA	3,024	17,521	19,259

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

R=Revised data. 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: • 1973-1990: Energy Information Administration (EIA), *Natural Gas Annual 1996*, Table 101. • 1991 forward: EIA, *Natural Gas Monthly*, November 1997, 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 January	4,365	2,045	6,410	466	29.5	644	45	599
February	4,368	1,542	5,910	451	41.4	564	44	519
March	4,362	1,332	5,694	374	39.0	327	104	223
April	4,360	1,379	5,740	207	17.7	127	177	-49
May	4,393	1,668	6,061	114	7.3	34	369	-335
June	4,406	2,014	6,420	118	6.2	40	410	-371
July	4,340	2,301	6,641	28	1.2	54	359	-306
August	4,339	2,495	6,834	-112	-4.3	86	293	-207
September	4,341	2,802	7,143	-110	-3.8	29	343	-313
October	4,338	2,996	7,334	-79	-2.6	68	274	-205
November	4,342	2,728	7,070	-249	-8.4	367	96	272
December	4,349	2,153	6,503	-453	-17.4	635	53	582
Total	4,349	2,153	6,503	-453	-17.4	2,974	2,566	408
1996 January	4,354	1,462	5,817	-583	-28.5	749	49	700
February	4,349	1,021	5,369	-521	-33.8	544	97	447
March	4,290	758	5,048	-574	-43.1	403	80	323
April	4,312	854	5,166	-525	-38.1	112	227	-115
May	4,332	1,161	5,493	-507	-30.4	45	373	-328
June	4,341	1,529	5,870	-485	-24.1	35	410	-375
July	4,336	1,898	6,234	-404	-17.5	49	418	-370
August	4,332	2,245	6,577	-250	-10.0	54	400	-346
September	4,338	2,605	6,943	-197	-7.0	32	398	-366
October	4,335	2,810	7,145	-186	-6.2	73	276	-203
November	4,339	2,549	6,889	-179	-6.6	354	90	264
December	4,341	2,173	6,513	19	.9	461	86	374
Total	4,341	2,173	6,513	19	.9	2,911	2,906	6
1997 January	4,347	1,496	5,843	34	2.3	749	66	683
February	4,341	1,140	5,481	119	11.7	411	53	358
March	4,344	990	5,334	232	30.6	281	126	156
April	4,340	1,049	5,390	195	22.9	143	202	-59
May	4,342	1,360	5,701	199	17.1	38	360	-322
June	4,355	1,731	6,087	202	13.2	39	405	-366
July	4,354	2,018	6,372	120	6.3	81	355	-274
August	4,355	2,334	6,689	90	4.0	52	376	-323
September	^R 4,357	^R 2,667	^R 7,024	^R 62	^R 2.4	43	373	^R -330
October	^{RF} 4,357	^{RF} 2,867	^{RF} 7,224	^{RF} 57	^{RF} 2.0	NA	NA	^{RF} -200
November	^F 4,357	^F 2,657	^F 7,014	^F 108	^F 4.2	NA	NA	^F 210

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

Current capacity is 7,980 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.*

1980-1990: EIA, *Historical Natural Gas Annual 1930 Through 1995, Table 11.*

1991 forward: EIA, *Natural Gas Monthly*, November 1997, 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."

1979-1990: EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report."

1991 forward: EIA, *Natural Gas Monthly*, November 1997, Table 9. Forecast values are derived from EIA's Short-Term Integrated Forecasting System. See Note 9 on this page.



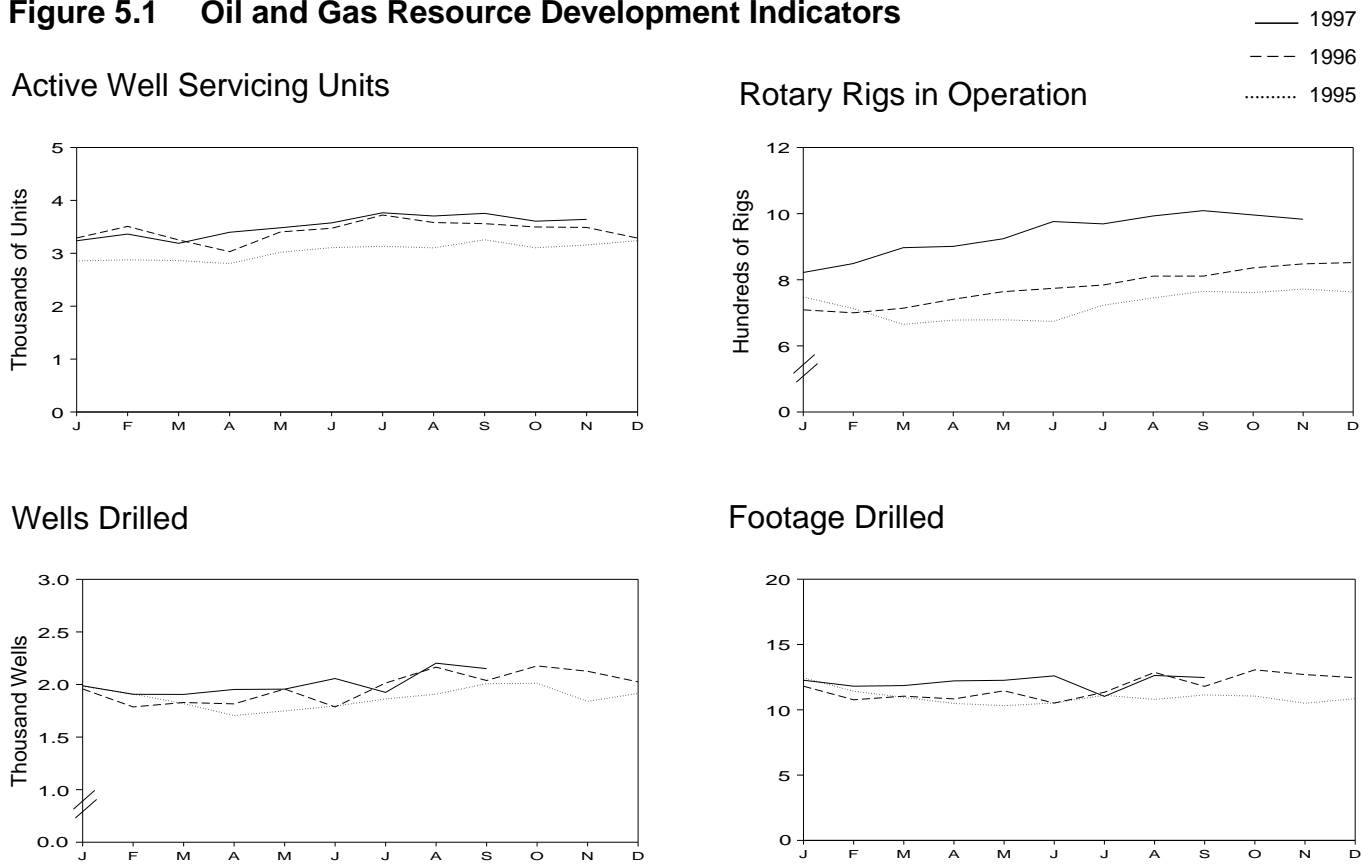
Section 5. Oil and Gas Resource Development

The November 1997 rotary rig count of 983 was 1 percent lower than the count in October but 16 percent higher than the count in November 1996. Of the total number of rigs in operation in November 1997, 857 were onshore and 126 were offshore. For November 1997, the number of onshore rigs was up 16 percent and the number of offshore rigs rose 18 percent from their November 1996 values.

Total footage drilled and the estimated number of exploratory and development oil and gas wells drilled during November were not available in time for inclusion this month.

There were 3.6 thousand well servicing units active in November 1997, 4 percent higher than in November 1996.

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 Thousand Feet	Active Well Servicing Units ^d Number
	Offshore	Onshore	Total	By Site		By Type		Total ^b		
				Offshore	Onshore	Oil	Gas			
	Monthly Average			Weekly Average						
1973 Average	23	227	250	84	1,110	NA	NA	1,194	139,427	NA
1974 Average	31	274	305	94	1,378	NA	NA	1,472	153,791	NA
1975 Average	30	254	284	106	1,554	NA	NA	1,660	181,046	NA
1976 Average	25	237	262	129	1,529	NA	NA	1,658	187,291	2,601
1977 Average	27	281	308	167	1,834	NA	NA	2,001	215,696	2,828
1978 Average	25	327	352	185	2,074	NA	NA	2,259	238,388	2,988
1979 Average	30	370	400	207	1,970	NA	NA	2,177	243,686	3,399
1980 Average	37	493	530	231	2,678	NA	NA	2,909	312,303	4,089
1981 Average	44	637	681	256	3,714	NA	NA	3,970	408,842	4,850
1982 Average	57	531	588	243	2,862	NA	NA	3,105	378,437	4,248
1983 Average	47	426	473	199	2,033	NA	NA	2,232	318,585	3,732
1984 Average	49	445	494	213	2,215	NA	NA	2,428	370,730	4,663
1985 Average	45	333	378	206	1,774	NA	NA	1,980	312,569	4,716
1986 Average	24	176	200	99	865	NA	NA	964	177,486	3,036
1987 Average	24	153	177	95	841	NA	NA	936	161,226	3,060
1988 Average	29	153	182	123	813	554	354	936	153,340	3,341
1989 Average	23	109	132	105	764	453	401	869	133,383	3,391
1990 Average	23	102	125	108	902	532	464	1,010	154,632	3,658
1991 Average	19	85	104	81	779	482	351	860	146,383	3,331
1992 Average	12	64	76	52	669	373	331	721	124,879	2,732
1993 Average	16	63	79	82	672	373	364	754	140,330	3,158
1994 Average	NA	NA	NA	102	673	335	427	775	127,934	2,961
1995 January	NA	NA	NA	106	642	325	411	748	12,457	2,855
February	NA	NA	NA	100	613	326	375	713	11,423	2,877
March	NA	NA	NA	90	575	322	331	665	10,956	2,862
April	NA	NA	NA	91	587	328	336	678	10,487	2,806
May	NA	NA	NA	100	579	325	335	679	10,319	3,020
June	NA	NA	NA	96	578	301	352	674	10,525	3,107
July	NA	NA	NA	104	619	301	399	723	11,115	3,133
August	NA	NA	NA	103	642	327	399	745	10,798	3,103
September	NA	NA	NA	103	662	333	413	765	11,138	3,255
October	NA	NA	NA	105	656	332	414	761	11,054	3,105
November	NA	NA	NA	104	668	330	430	772	10,503	3,157
December	NA	NA	NA	109	654	325	427	763	10,854	3,239
Average	NA	NA	NA	101	622	323	385	723	131,629	3,043
1996 January	NA	NA	NA	111	598	295	406	709	11,807	3,290
February	NA	NA	NA	102	598	283	411	700	10,768	3,509
March	NA	NA	NA	96	618	286	421	714	11,045	3,253
April	NA	NA	NA	113	628	286	446	741	10,835	3,031
May	NA	NA	NA	116	648	288	467	764	11,456	3,405
June	NA	NA	NA	112	662	298	471	774	10,518	3,473
July	NA	NA	NA	107	677	290	488	784	11,344	3,723
August	NA	NA	NA	108	703	297	488	811	12,867	3,582
September	NA	NA	NA	109	702	301	505	811	11,797	3,560
October	NA	NA	NA	108	728	328	499	836	13,062	3,498
November	NA	NA	NA	107	741	363	482	848	12,697	3,489
December	NA	NA	NA	116	736	361	489	852	12,460	3,287
Average	NA	NA	NA	108	671	306	464	779	140,656	3,425
1997 January	NA	NA	NA	110	712	342	478	822	12,268	3,237
February	NA	NA	NA	107	742	356	492	849	11,809	3,364
March	NA	NA	NA	127	770	377	518	897	11,855	3,189
April	NA	NA	NA	126	775	373	526	901	12,215	3,398
May	NA	NA	NA	120	804	379	541	924	12,260	3,483
June	NA	NA	NA	121	855	396	577	976	12,600	3,575
July	NA	NA	NA	125	844	382	584	969	11,026	3,766
August	NA	NA	NA	125	868	409	581	993	12,630	3,705
September	NA	NA	NA	128	881	392	614	1,009	12,473	3,755
October	NA	NA	NA	121	875	390	602	996	NA	3,607
November	NA	NA	NA	126	857	354	625	983	NA	E 3,642
11-Month Average	NA	NA	NA	121	816	377	558	938	NA	E 3,519
1996 11-Month Average	NA	NA	NA	107	665	302	462	773	128,196	3,438
1995 11-Month Average	NA	NA	NA	100	619	322	380	719	120,775	3,025

^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, which is not shown.

^c Values shown are totals.

^d See Glossary.

NA=Not available. E=Estimate.

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	654	1,079	6,038	7,771	9,597	5,896	4,428	19,921	10,251	6,975	10,466	27,692
1974 Total	870	1,205	6,894	8,969	12,794	5,965	5,311	24,070	13,664	7,170	12,205	33,039
1975 Total	991	1,263	7,207	9,461	15,988	6,907	6,529	29,424	16,979	8,170	13,736	38,885
1976 Total	1,100	1,362	6,854	9,316	16,597	8,076	6,951	31,624	17,697	9,438	13,805	40,940
1977 Total	1,183	1,562	7,402	10,147	17,517	10,557	7,634	35,708	18,700	12,119	15,036	45,855
1978 Total	1,191	1,792	8,054	11,037	17,874	12,613	8,537	39,024	19,065	14,405	16,591	50,061
1979 Total	1,335	1,920	7,478	10,733	19,368	13,250	8,560	41,178	20,703	15,170	16,038	51,911
1980 Total	1,781	2,094	9,035	12,910	30,497	15,129	11,302	56,928	32,278	17,223	20,337	69,838
1981 Total	2,667	2,533	12,297	17,497	40,176	17,374	14,987	72,537	42,843	19,907	27,284	90,034
1982 Total	2,470	2,168	11,346	15,984	36,672	16,776	15,036	68,484	39,142	18,944	26,382	84,468
1983 Total	2,113	1,660	10,271	14,044	35,086	12,896	14,065	62,047	37,199	14,556	24,336	76,091
1984 Total	2,335	1,599	11,482	15,416	40,250	15,413	14,315	69,978	42,585	17,012	25,797	85,394
1985 Total	1,879	1,282	9,099	12,260	33,142	12,970	11,763	57,875	35,021	14,252	20,862	70,135
1986 Total	988	733	5,511	7,232	17,713	7,402	7,255	32,370	18,701	8,135	12,766	39,602
1987 Total	859	673	5,179	6,711	15,327	7,084	6,302	28,713	16,186	7,757	11,481	35,424
1988 Total	792	663	4,766	6,221	12,530	7,575	5,476	25,581	13,322	8,238	10,242	31,802
1989 Total	580	654	4,001	5,235	9,759	8,571	4,490	22,820	10,339	9,225	8,491	28,055
1990 Total	628	641	3,855	5,124	11,522	10,064	4,757	26,343	12,150	10,705	8,612	31,467
1991 Total	573	542	3,393	4,508	11,335	8,910	4,521	24,766	11,908	9,452	7,914	29,274
1992 Total	506	423	2,656	3,586	8,517	7,668	3,995	20,179	9,023	8,091	6,651	23,765
1993 Total	R 487	R 515	2,514	R 3,516	R 8,242	R 9,349	4,214	R 21,805	8,729	9,864	6,728	25,321
1994 Total	R 615	R 816	2,203	R 3,634	R 6,165	R 8,241	R 3,081	R 17,487	6,780	R 9,057	R 5,284	R 21,121
1995 January	R 91	R 112	R 228	R 431	R 561	R 762	R 229	R 1,552	R 652	R 874	R 457	R 1,983
February	R 76	R 100	R 185	R 361	R 560	R 716	R 272	R 1,548	R 636	R 816	R 457	R 1,909
March	R 61	R 81	R 171	R 313	R 605	R 688	R 212	R 1,505	R 666	R 769	R 383	R 1,818
April	R 78	R 61	R 179	R 318	R 576	R 571	R 240	R 1,387	R 654	R 632	R 419	R 1,705
May	R 71	R 65	R 174	R 310	R 656	R 544	R 239	R 1,439	R 727	R 609	R 413	R 1,749
June	R 81	R 68	R 181	R 330	R 657	R 540	R 268	R 1,465	R 738	R 608	R 449	R 1,795
July	R 84	R 69	R 208	R 361	R 648	R 568	R 286	R 1,502	R 732	R 637	R 494	R 1,863
August	R 73	R 64	R 194	R 331	R 703	R 597	R 277	R 1,577	R 776	R 661	R 471	R 1,908
September	R 77	R 99	R 227	R 403	R 628	R 738	R 239	R 1,605	R 705	R 837	R 466	R 2,008
October	R 81	R 89	R 233	R 403	R 652	R 710	R 247	R 1,609	R 733	R 799	R 480	R 2,012
November	R 85	R 97	R 211	R 393	R 589	R 606	R 252	R 1,447	R 674	R 703	R 463	R 1,840
December	R 84	R 84	R 195	R 363	R 610	R 663	R 279	R 1,552	R 694	R 747	R 474	R 1,915
Total	R 942	R 989	R 2,386	R 4,317	R 7,445	R 7,703	R 3,040	R 18,188	R 8,387	R 8,692	R 5,426	R 22,505
1996 January	R 81	116	175	R 372	R 610	653	323	R 1,586	R 691	769	498	R 1,958
February	R 62	69	R 144	R 275	R 609	R 679	R 224	R 1,512	R 671	R 748	368	R 1,787
March	R 68	R 68	R 182	R 318	R 621	R 650	R 240	R 1,511	689	R 718	R 422	R 1,829
April	R 81	R 75	R 169	R 325	R 625	R 609	R 257	R 1,491	R 706	R 684	426	R 1,816
May	R 56	R 108	R 192	R 356	R 680	R 659	R 262	R 1,601	R 736	R 767	R 454	R 1,957
June	R 67	R 83	R 183	R 333	R 600	R 601	R 253	R 1,454	R 667	R 684	R 436	R 1,787
July	R 76	94	R 202	R 372	R 650	R 726	R 266	R 1,642	R 726	R 820	R 468	R 2,014
August	90	93	218	401	711	775	R 278	R 1,764	801	868	R 496	R 2,165
September	61	59	190	310	685	R 784	259	R 1,728	746	R 843	449	R 2,038
October	86	83	224	393	545	912	327	1,784	631	995	551	2,177
November	87	78	176	341	668	825	292	1,785	755	903	468	2,126
December	69	85	173	327	680	764	254	1,698	749	849	427	2,025
Total	R 884	R 1,011	R 2,228	R 4,123	R 7,684	R 8,637	R 3,235	R 19,556	R 8,568	R 9,648	R 5,463	R 23,679
1997 January	64	71	164	299	593	817	279	1,689	657	888	443	1,988
February	74	54	172	300	623	747	237	1,607	697	801	409	1,907
March	50	84	R 163	R 297	R 619	R 740	R 250	R 1,609	R 669	R 824	R 413	R 1,906
April	71	70	R 150	R 291	588	701	R 373	R 1,662	659	771	523	1,953
May	83	62	154	299	611	805	241	1,657	694	867	395	1,956
June	80	71	205	356	R 740	669	292	R 1,701	R 820	740	497	R 2,057
July	73	78	189	340	574	718	293	1,585	647	796	482	1,925
August	82	74	189	345	678	872	308	1,858	760	946	497	2,203
September	79	68	160	307	679	907	258	1,844	758	975	418	2,151
9-Month Total	656	632	1,546	2,834	5,705	6,976	2,531	15,212	6,361	7,608	4,077	18,046
1996 9-Month Total	642	765	1,655	3,062	5,791	6,136	2,362	14,289	6,433	6,901	4,017	17,351
1995 9-Month Total	692	719	1,747	3,158	5,594	5,724	2,262	13,580	6,286	6,443	4,009	16,738

R=Revised data.

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.

An update to Table 5.2 was not available in time for inclusion this month.

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-generated (EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API.

Estimates for a given month are first published in the *MER* for that month. Revisions of the "oil," "gas,"

and "dry" components are made in the 6th, 12th, and 24th subsequent months, as newly reported data allow refinement of the estimates. Unscheduled revisions may also occur when the latest estimate differs by more than 15 percent during the first 5 months, more than 10 percent during the next 6 months, or more than 2 percent thereafter through 5 years. After 5 years, the reported API data are published in lieu of EIA-generated estimates. A comprehensive, one-time reestimation of Total Footage Drilled (Table 5.1) and Oil and Gas Wells Drilled (Table 5.2) from 1990 through March 1995 was published in the June 1995 *MER*.

Since 1985 when EIA began to produce estimates from the partial data, changes in the industry and in data collection systems have introduced greater uncertainty into the estimation results. Consequently, EIA has a project underway to enhance the estimation system, and an adjustment to the system is anticipated at the end of 1997. Meanwhile, readers should be aware that estimates published for the most recent months may not be as reliable as comparable estimates in the past.

Additional information about the EIA estimation methodology may be found in "Estimating Well Completions," the feature article published in the March 1985 *MER*.

A significant input data shortfall has been corrected involving data in 1995 and 1996.

Section 6. Coal

Coal production in November 1997 totaled 85 million short tons, 2 percent lower than the 87 million short tons produced in November 1996.

Electric utility coal consumption in September 1997 totaled 76 million short tons, 6 percent higher than the consumption level in September 1996.

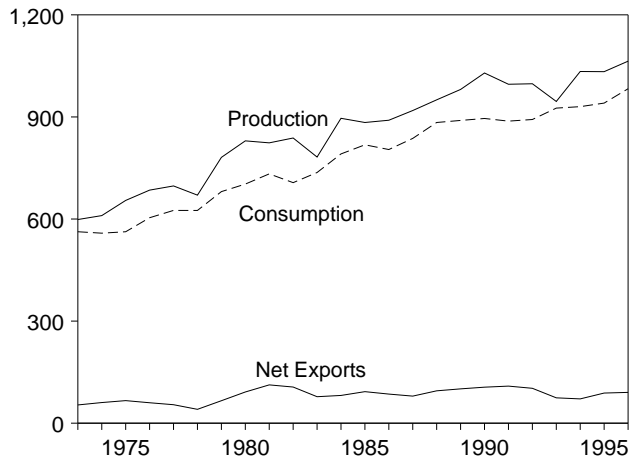
Electric utility coal stocks were 103 million short tons at the end of September 1997, 14 percent below the 119 million short tons at the end of September 1996.

Coal exports in September 1997 totaled 7 million short tons, 15 percent lower than exports in September 1996.

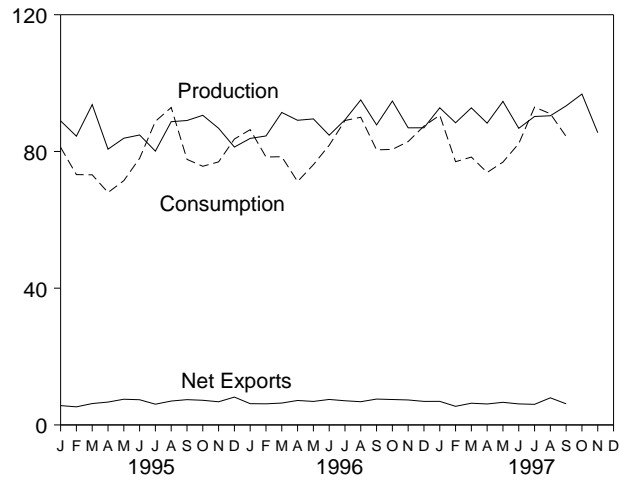
Coal imports in September 1997 totaled 820 thousand short tons, 26 percent higher than imports in September 1996.

Figure 6.1 Coal
(Million Short Tons)

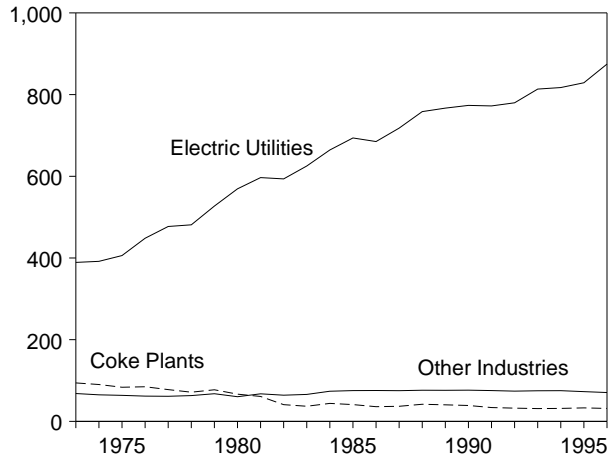
Overview, 1973-1996



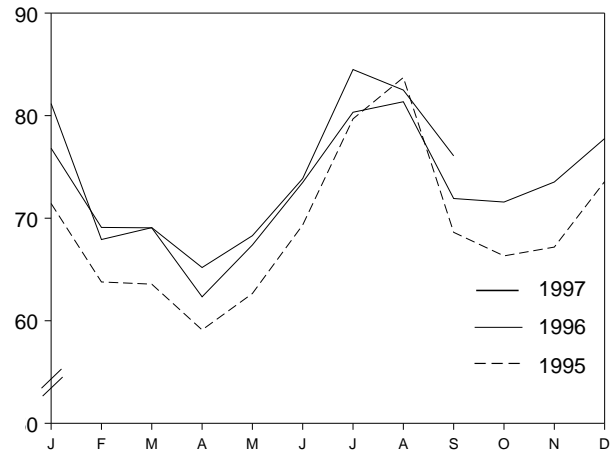
Overview, Monthly



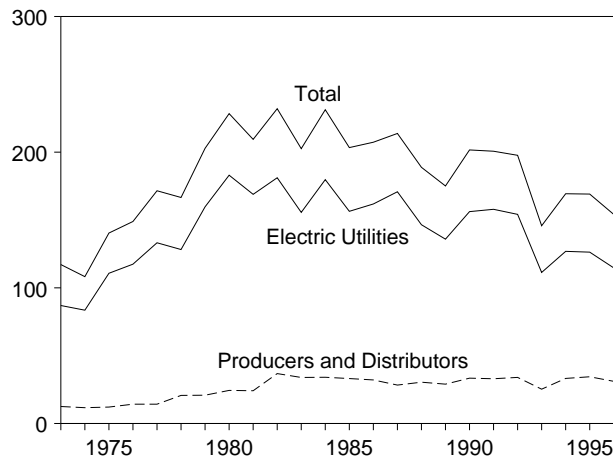
Consumption by Sector, 1973-1996



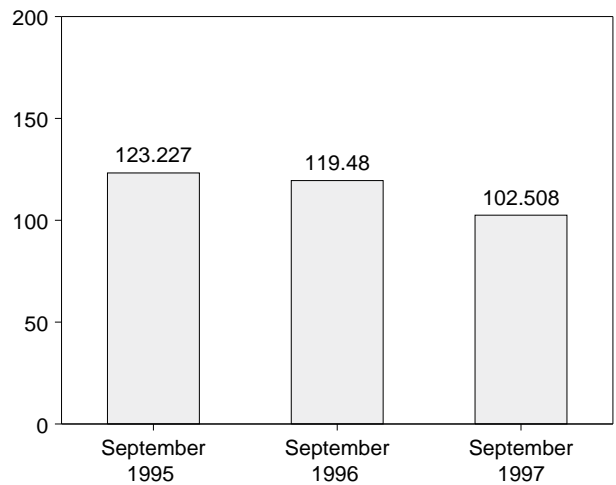
Consumption by Electric Utilities, Monthly



Stocks, End of Year, 1973-1996



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 January	88,953	81,201	530	6,184	171,339
February	84,472	73,236	486	5,774	177,689
March	93,696	73,167	780	7,029	186,463
April	80,660	67,990	525	7,212	192,948
May	83,874	71,456	517	8,036	198,349
June	84,818	77,993	567	7,935	193,761
July	80,093	88,801	566	6,632	178,797
August	88,712	92,860	547	7,530	167,780
September	89,052	77,692	613	8,012	167,932
October	90,573	75,664	613	7,823	170,876
November	86,779	76,947	721	7,494	173,096
December	81,292	83,632	738	8,883	169,083
Total	1,032,974	940,638	7,201	88,547	169,083
1996 January	83,814	86,376	524	6,743	159,779
February	84,533	78,384	715	6,892	159,203
March	91,409	78,461	474	6,880	161,611
April	89,124	71,198	172	7,330	170,131
May	89,525	76,124	790	7,663	175,001
June	84,748	81,819	591	8,046	171,611
July	89,262	89,055	802	7,877	163,929
August	95,083	90,004	620	7,412	160,657
September	87,773	80,469	649	8,214	161,374
October	94,752	80,604	642	8,077	163,876
November	86,905	82,893	668	7,976	160,811
December	86,928	87,419	479	7,361	154,089
Total	1,063,856	982,805	7,126	90,473	154,089
1997 January	92,776	90,598	409	7,298	146,225
February	88,394	77,008	338	5,778	150,543
March	92,757	78,361	585	6,936	157,390
April	88,283	73,854	528	6,657	164,402
May	94,647	76,893	580	7,195	171,500
June	86,772	82,300	599	6,751	170,616
July	90,230	^E 92,973	781	6,807	^E 153,298
August	90,439	^E 91,029	620	8,551	^E 145,884
September	93,334	^E 84,382	820	6,997	^E 143,156
October	96,794	NA	NA	NA	NA
November	85,491	NA	NA	NA	NA
11-Month Total	999,917	NA	NA	NA	NA
1996 11-Month Total	976,928	895,387	6,646	83,111	160,811
1995 11-Month Total	951,682	857,006	6,463	79,664	173,096

^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 1995 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 January	638	2,758	6,374	71,431	81,201
February	572	2,549	6,333	63,782	73,236
March	428	2,833	6,337	63,569	73,167
April	449	2,769	5,663	59,110	67,990
May	291	2,820	5,690	62,655	71,456
June	292	2,702	5,656	69,342	77,993
July	396	2,739	5,978	79,688	88,801
August	399	2,787	5,954	83,720	92,860
September	268	2,804	5,995	68,624	77,692
October	340	2,715	6,283	66,326	75,664
November	720	2,770	6,272	67,185	76,947
December	1,031	2,766	6,261	73,574	83,632
Total	5,824	33,011	72,796	829,007	940,638
1996 January	676	2,687	6,189	76,824	86,376
February	561	2,547	6,174	69,103	78,384
March	510	2,724	6,166	69,061	78,461
April	481	2,811	5,572	62,334	71,198
May	369	2,758	5,607	67,390	76,124
June	314	2,397	5,621	73,487	81,819
July	429	2,696	5,599	80,330	89,055
August	411	2,683	5,553	81,357	90,004
September	324	2,636	5,586	71,922	80,469
October	331	2,542	6,156	71,575	80,604
November	643	2,564	6,155	73,531	82,893
December	772	2,661	6,217	77,769	87,419
Total	5,824	31,706	70,594	874,681	982,805
1997 January	834	2,515	6,073	81,175	90,598
February	607	2,394	6,088	67,920	77,008
March	514	2,681	6,085	69,081	78,361
April	580	2,412	5,670	65,192	73,854
May	382	2,533	5,685	68,292	76,893
June	341	2,422	5,672	73,866	82,300
July	^E 371	^E 2,486	^E 5,621	84,495	^E 92,973
August	^E 371	^E 2,555	^E 5,608	82,495	^E 91,029
September	^E 348	^E 2,498	^E 5,458	76,078	^E 84,382
9-Month Total	^E 4,348	^E 22,496	^E 51,960	668,593	^E 747,397
1996 9-Month Total	4,077	23,939	52,067	651,806	731,889
1995 9-Month Total	3,733	24,761	53,980	621,922	704,395

E=Estimate.

Notes: • For sector-specific reporting and estimating information, see Note 2 at end of section. • Data through 1994 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 January	2,678	6,226	126,136	135,040	36,299	171,339
February	2,698	5,866	129,745	138,310	39,379	177,689
March	2,719	5,507	135,778	144,004	42,460	186,463
April	2,687	5,554	142,365	150,606	42,341	192,948
May	2,656	5,601	147,869	156,126	42,223	198,349
June	2,624	5,649	143,385	151,657	42,104	193,761
July	2,575	5,778	130,311	138,663	40,134	178,797
August	2,525	5,907	121,185	129,617	38,163	167,780
September	2,476	6,036	123,227	131,739	36,193	167,932
October	2,528	5,925	126,814	135,266	35,610	170,876
November	2,580	5,813	129,676	138,069	35,027	173,096
December	2,632	5,702	126,304	134,639	34,444	169,083
1996 January	2,616	5,279	116,638	124,533	35,247	159,779
February	2,600	4,856	115,699	123,154	36,049	159,203
March	2,583	4,431	117,746	124,760	36,851	161,611
April	2,589	4,477	126,049	133,116	37,015	170,131
May	2,595	4,522	130,704	137,821	37,179	175,001
June	2,601	4,565	127,101	134,267	37,344	171,611
July	2,672	4,812	120,289	127,773	36,156	163,929
August	2,743	5,057	117,889	125,689	34,968	160,657
September	2,814	5,301	119,480	127,595	33,780	161,374
October	2,765	5,431	122,805	131,001	32,875	163,876
November	2,716	5,560	120,565	128,841	31,970	160,811
December	2,667	5,688	114,669	123,024	31,065	154,089
1997 January	2,569	5,316	105,116	113,000	33,225	146,225
February	2,470	4,943	107,745	115,158	35,384	150,543
March	2,372	4,570	112,904	119,847	37,544	157,390
April	2,265	4,630	118,302	125,197	39,205	164,402
May	2,158	4,689	123,786	130,633	40,867	171,500
June	2,050	4,749	121,289	128,087	42,529	170,616
July	^E 2,330	^E 4,955	110,013	^E 117,298	^E 36,000	^E 153,298
August	^E 2,429	^E 5,142	104,313	^E 111,884	^E 34,000	^E 145,884
September	^E 2,410	^E 5,238	102,508	^E 110,156	^E 33,000	^E 143,156

^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 1994 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, November, and November. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

- Residential and Commercial—Prior to 1980, monthly consumption estimates for the residential and commercial sector were derived by using reported data to modify baseline figures developed by the Bureau of Mines. From 1980-1987, monthly estimates were derived by proportioning reported quarterly data by using the ratios of

monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-2. During 1981 and 1982, the estimates were also modified to reflect air temperature degree-days. Quarterly consumption data were taken directly from reported data and were defined as distribution to the residential and commercial sector as reported by coal producers and distributors on Form EIA-6. Beginning in January 1988, monthly residential and commercial consumption estimates are derived from reported quarterly data by using monthly national average population weighted heating/cooling degree-days obtained from the National Oceanic and Atmospheric Administration. The monthly ratios are the monthly national sum of heating and cooling degree-days as a proportion of the quarterly national sum. Quarterly consumption data are taken directly from reported data.

- Coke Plants—Prior to 1980, monthly coke plant consumption data were taken directly from reported data. From 1980-1987, coke plant consumption estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in January 1988, monthly coke plant consumption estimates are derived from the reported quarterly data by using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.
- Other Industrial—Prior to 1978, monthly consumption data for the other industrial sector (all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. From 1980-1987, monthly figures were estimated by proportioning quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-3. Quarterly consumption data were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts were the greater of either reported receipts from manufacturing plants (Form EIA-3) or reported shipments to the other industrial sector (Form EIA-6), thereby ensuring that agriculture, forestry, fishing, mining, and construction consumption data were included where appropriate. Starting in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by using ratios derived from industrial production indices published by the Board of Governors of the Federal Reserve System. Indices for six major industry groups are used as the basis

for calculating the ratios: foods, Standard Industrial Classification (SIC) 20; paper and products, SIC 26; chemicals and products, SIC 28; petroleum products, SIC 29; clay, glass, and stone products, SIC 32; and primary metals, SIC 33. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights

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

3. Stocks: Coal stocks data are reported by major end-use sector. Estimated data for the most recent months (designated by an “E”) are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled “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 EI-A759 (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 1996, 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 September 1997, electric utilities generated 267 billion kilowatthours of electricity, 7 percent more than in September 1996. Coal-fired generation totaled 151 billion kilowatthours, 6 percent higher than the September 1996 level. Nuclear generation totaled 53 billion kilowatthours, 4 percent lower than the level 1 year earlier. Natural gas-fired generation was 32 billion kilowatthours, 18 percent higher than the September 1996 level. Hydroelectric generation

totaled 22 billion kilowatthours, 7 percent more than the September 1996 level. Petroleum-fired generation totaled 8 billion kilowatthours, 62 percent above the level 1 year earlier.

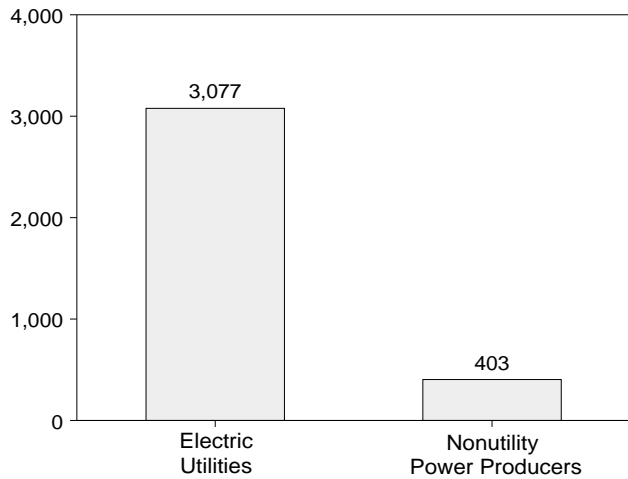
Electric Utility Sales. Electric utility sales of electricity to all ultimate consumers in the United States in September 1997 were 276 billion kilowatthours, 4 percent higher than sales during September 1996. Sales to residential consumers during September 1997 were 94 billion kilowatthours, 3 percent above the level of sales during the previous year. Industrial sales totaled 90 billion kilowatthours in September 1997, 4 percent above the level 1 year earlier. Commercial sales totaled 83 billion kilowatthours, 4 percent higher than the level of sales during the previous year. In September 1997, other sales totaled 9 billion kilowatthours, 2 percent lower than the September 1996 level.

Electric Utility Consumption of Fossil Fuels. Electric utility consumption of coal during September 1997 was 76 million short tons, 6 percent higher than consumption in September 1996. Petroleum consumption (excluding petroleum coke) during September 1997 was 12 million barrels, 54 percent above the level of consumption in September 1996. During September 1997, electric utilities consumed 332 billion cubic feet of natural gas, 17 percent above the September 1996 consumption level.

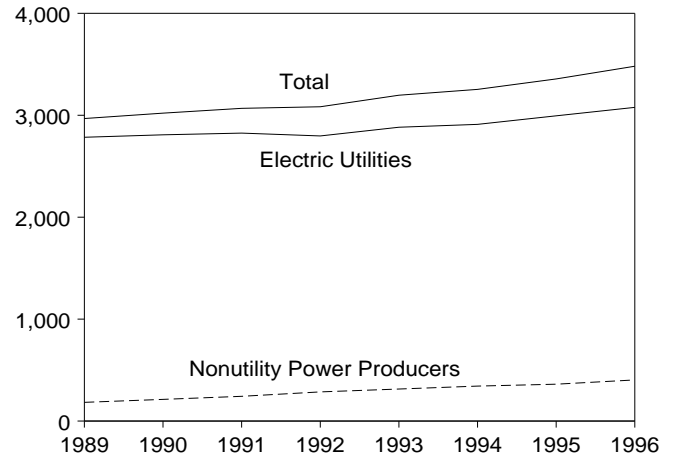
Electric Utility Stocks of Coal and Petroleum. On September 30, 1997, electric utility stocks of all types of coal totaled 103 million short tons, 14 percent lower than the level on September 30, 1996. Stocks of petroleum (excluding petroleum coke) on September 30, 1997, totaled 44 million barrels, 3 percent below the level on September 30, 1996.

Figure 7.1 Electric Power Industry Net Generation
(Billion Kilowatthours)

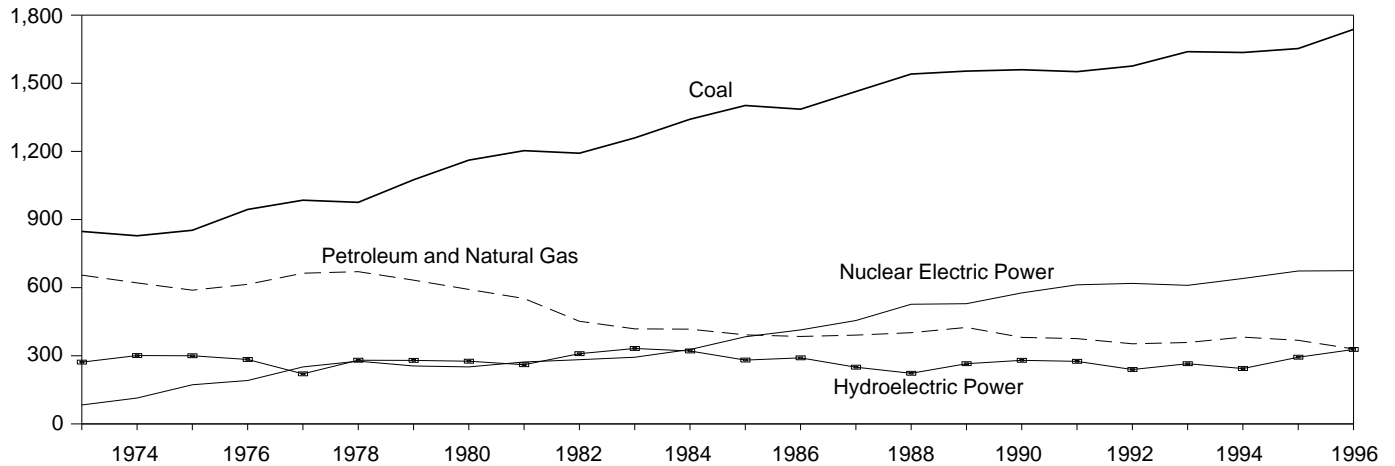
Electric Power Industry, 1996



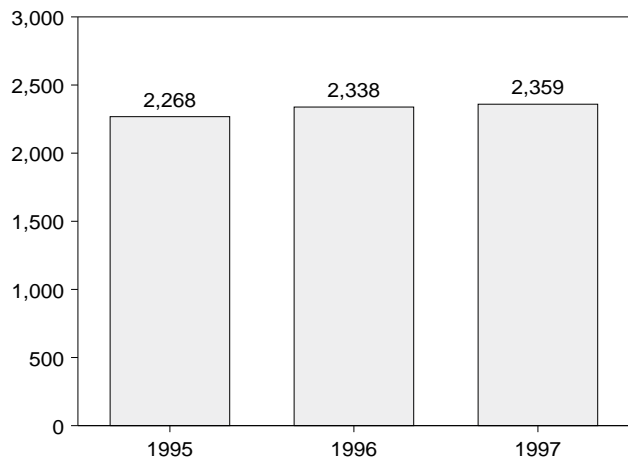
Electric Power Industry, 1989-1996



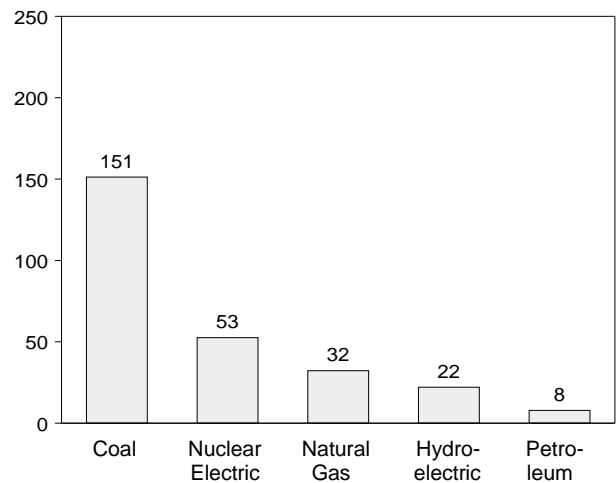
Electric Utilities by Source, 1973-1996



Electric Utilities Total, January-September



Electric Utilities Total, September 1997



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									Nonutility Power Producers	Total Electric Power Industry
	Coal	Natural Gas ^a	Petroleum ^b	Nuclear Electric Power	Hydro-electric Power	Geo-thermal Energy	Wood and Waste	Other ^c	Total		
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	183,728	2,968,032
1990 Total	1,559,606	264,089	117,017	576,862	279,926	8,581	2,067	3	2,808,151	212,779	3,020,930
1991 Total	1,551,167	264,172	111,463	612,565	275,519	8,087	2,046	4	2,825,023	243,006	3,068,029
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 January	142,412	19,339	4,159	63,342	23,291	408	126	(s)	253,077	NA	NA
February	128,447	16,422	7,042	51,858	23,956	296	105	(s)	228,127	NA	NA
March	126,970	23,844	3,080	51,880	27,458	326	116	(s)	233,675	NA	NA
April	118,786	22,062	3,315	49,321	23,464	282	150	(s)	217,381	NA	NA
May	126,013	24,662	4,390	54,387	26,570	255	102	2	236,381	NA	NA
June	138,089	28,394	4,422	56,381	28,387	281	127	2	256,083	NA	NA
July	158,378	38,756	7,252	62,037	25,942	305	154	3	292,827	NA	NA
August	166,700	44,402	8,257	61,661	22,999	524	162	2	304,709	NA	NA
September	135,241	30,479	4,850	55,690	18,798	367	147	2	245,574	NA	NA
October	131,318	23,076	3,500	54,293	21,440	619	162	1	234,409	NA	NA
November	133,899	19,261	3,521	52,708	24,019	554	154	1	234,117	NA	NA
December	146,662	16,609	7,056	59,844	27,329	528	143	(s)	258,170	NA	NA
Total	1,652,914	307,306	60,844	673,402	293,653	4,745	1,649	15	2,994,529	361,889	3,356,418
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	403,490	3,480,932
1997 January	161,276	13,927	8,392	58,914	31,090	414	162	(s)	274,177	NA	NA
February	135,218	13,455	4,644	50,658	29,882	310	147	(s)	234,315	NA	NA
March	137,554	18,170	4,525	50,414	33,313	438	155	1	244,569	NA	NA
April	131,720	18,783	4,094	45,313	30,483	484	169	1	231,045	NA	NA
May	136,185	22,098	4,489	47,032	32,753	471	177	1	243,206	NA	NA
June	146,072	28,265	6,789	52,095	32,801	385	158	1	266,565	NA	NA
July	166,893	40,143	9,204	57,352	30,070	512	168	1	304,344	NA	NA
August	162,363	37,186	7,580	61,084	25,494	505	173	1	294,386	NA	NA
September	151,238	32,245	7,865	52,586	22,121	482	153	1	266,690	NA	NA
9-Month Total	1,328,519	224,273	57,580	475,447	268,007	4,001	1,461	8	2,359,296	NA	NA
1996 9-Month Total	1,296,638	211,979	53,759	514,826	256,051	3,709	1,400	11	2,338,374	NA	NA
1995 9-Month Total	1,241,036	248,360	46,767	506,556	220,865	3,044	1,190	13	2,267,832	NA	NA

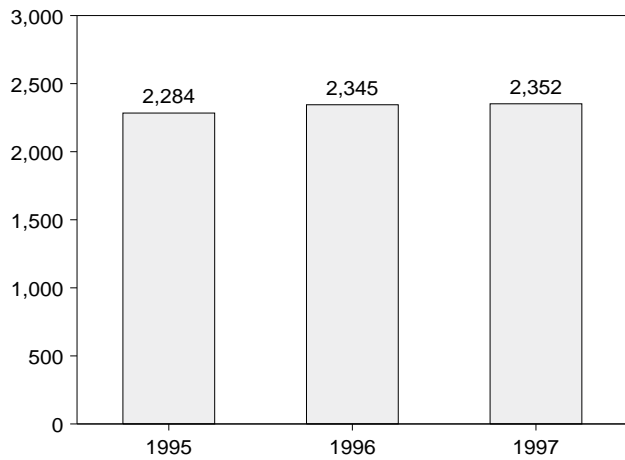
^a Includes supplemental gaseous fuel.
^b Includes fuel oil nos. 1, 2, 4, 5, and 6, crude oil, kerosene, and petroleum coke.
^c "Other" is electricity produced from wind, photovoltaic, and solar thermal energy sources connected to electric utility distribution systems.

NA=Not available. (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.

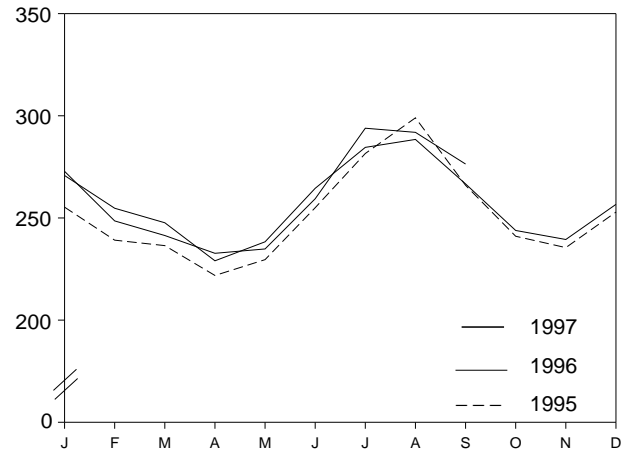
See Table 7.5 for nonutility power producers' annual net generation of electricity by source.

Figure 7.2 Electric Utility Retail Sales of Electricity
(Billion Kilowatthours)

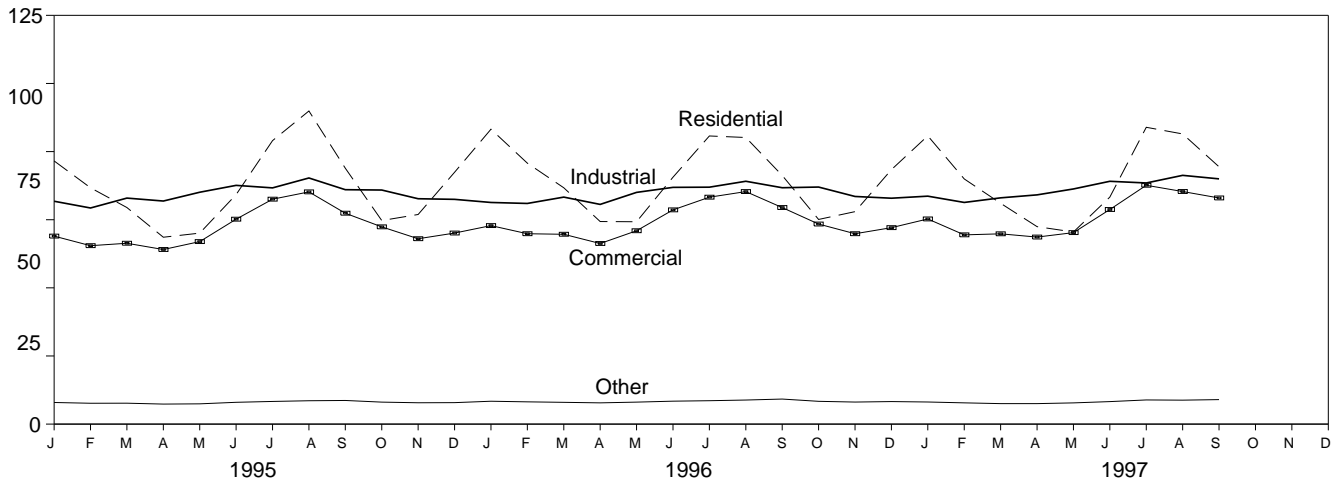
Total, January-September



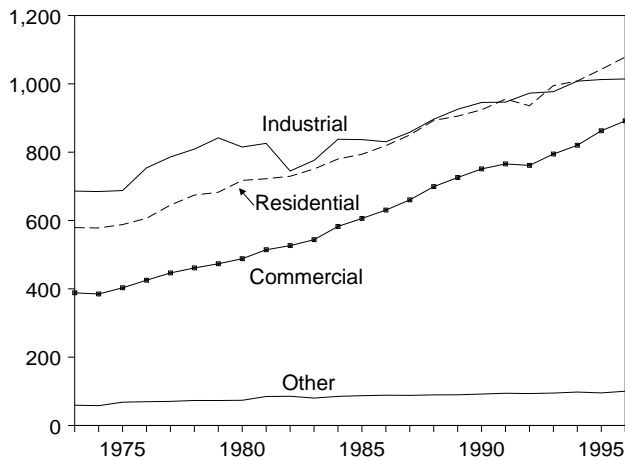
Total, Monthly



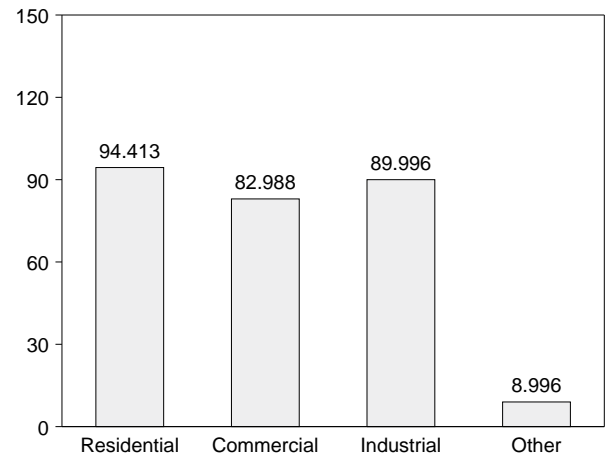
By Sector, Monthly



By Sector, 1973-1996



By Sector, September 1997



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

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 January	96,573	68,986	81,785	7,936	255,281
February	86,711	65,468	79,305	7,655	239,139
March	79,475	66,368	82,942	7,680	236,465
April	68,574	64,069	81,866	7,350	221,859
May	70,082	66,973	85,087	7,447	229,589
June	84,218	75,189	87,603	8,000	255,010
July	104,021	82,537	86,676	8,312	281,546
August	114,903	85,203	90,320	8,574	299,000
September	93,900	77,380	86,026	8,680	265,986
October	74,704	72,376	85,901	8,071	241,053
November	76,927	68,025	82,701	7,826	235,479
December	92,414	70,110	82,482	7,876	252,882
Total	1,042,501	862,685	1,012,693	95,407	3,013,287
1996 January	108,219	72,839	81,327	8,397	270,783
February	95,763	69,851	80,967	8,174	254,755
March	86,718	69,653	83,295	7,990	247,656
April	74,339	66,270	80,629	7,798	229,037
May	74,263	70,950	85,034	8,070	238,317
June	90,611	78,611	86,874	8,420	264,516
July	105,734	83,271	86,945	8,596	284,546
August	105,168	85,326	89,106	8,833	288,432
September	91,247	79,464	86,744	9,200	266,656
October	75,100	73,418	86,985	8,363	243,867
November	77,966	69,852	83,543	8,096	239,456
December	93,385	72,083	82,896	8,279	256,643
Total	1,078,512	891,588	1,014,347	100,217	3,084,664
1997 January	105,774	75,282	83,643	8,106	272,805
February	89,970	69,439	81,339	7,803	248,552
March	81,030	69,823	83,029	7,523	241,405
April	72,451	68,635	84,115	7,511	232,711
May	70,492	70,258	86,298	7,781	234,828
June	83,291	78,745	89,102	8,260	259,398
July	108,916	87,645	88,487	8,877	293,925
August	106,476	85,349	91,283	8,792	291,900
September	94,413	82,988	89,996	8,996	276,393
9-Month Total	812,813	688,164	777,292	73,648	2,351,917
1996 9-Month Total	832,061	676,235	760,922	75,479	2,344,697
1995 9-Month Total	798,456	652,174	761,610	71,633	2,283,873

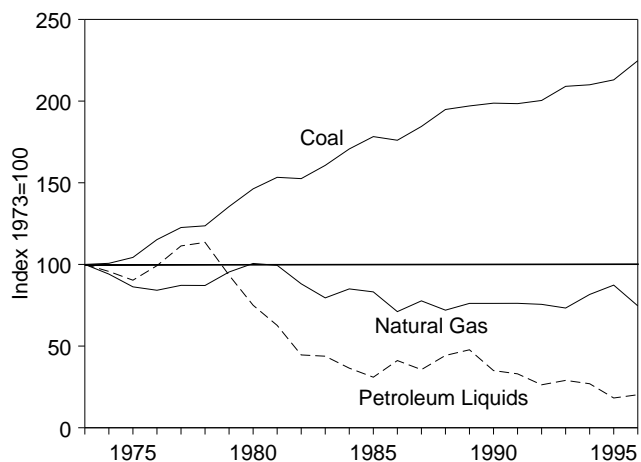
^a "Other" is public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales.
Notes: • Totals may not equal sum of components due to independent

rounding. • Geographic coverage is the 50 States and the District of Columbia.
Sources: See end of section.

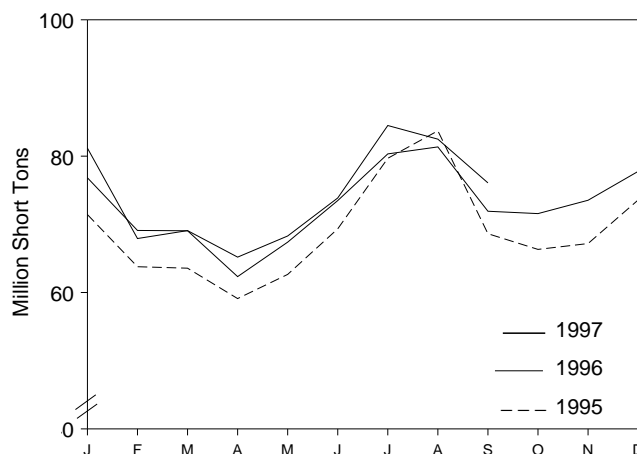
Please Read: This table reports electric utility retail sales of electricity. Retail sales include electricity that the utilities purchased from nonutility power producers (NUPP) for resale to the end-use sectors. It does not include NUPP-produced electricity for their own use (141,480 million kilowatthours in 1996) or delivered directly to end-users (17,919 million kilowatthours in 1996). See EIA's *Electric Power Annual 1995, Volume II*, the "Nonutility Power Producers" chapter for additional information.

Figure 7.3 Electric Utility Consumption and Stocks of Fossil Fuels

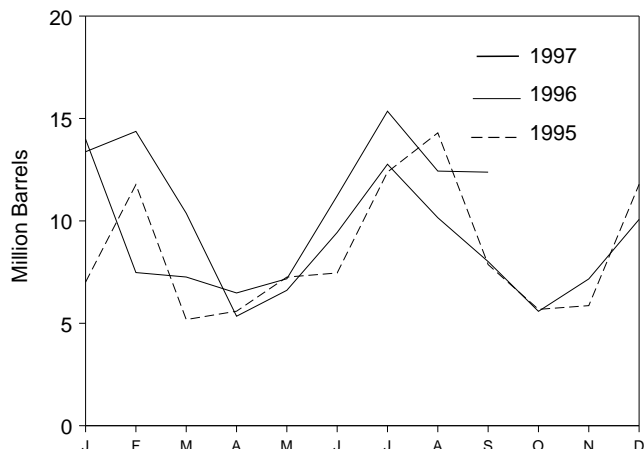
Fuels Consumed, 1973-1996



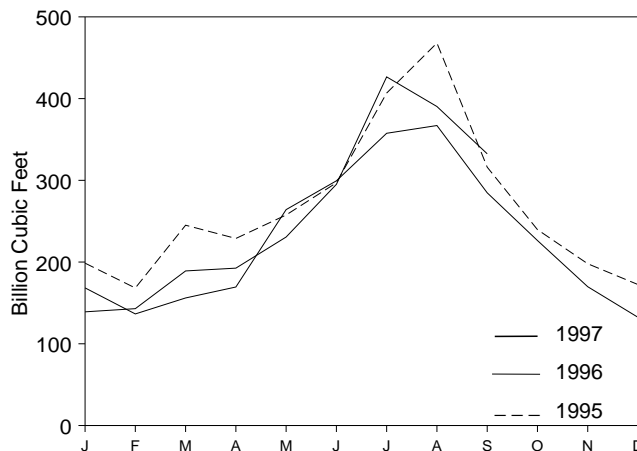
Coal Consumed, Monthly



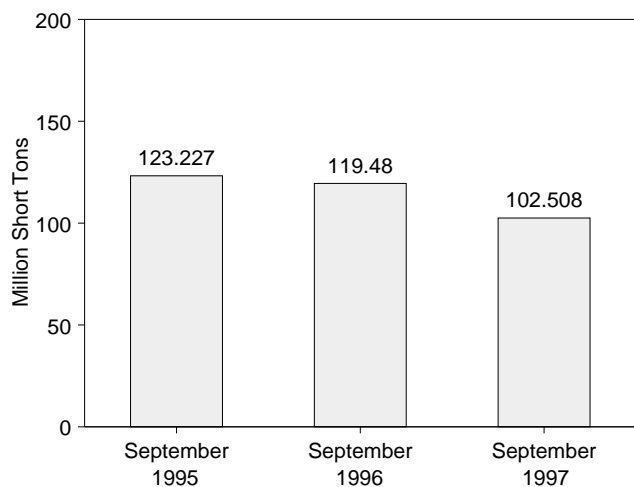
Petroleum Liquids Consumed, Monthly



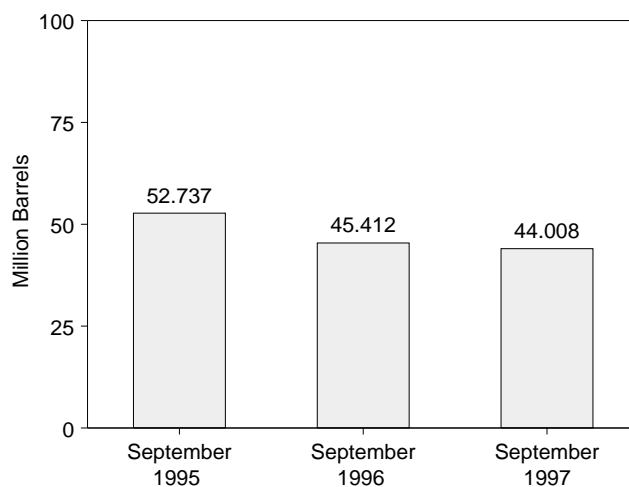
Natural Gas Consumed, Monthly



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					Petroleum Coke	Natural Gas ^d
	Anthra- cite	Bituminous Coal	Lignite	Total	By Type of Petroleum		By Prime Mover Type		Total Liquids		
					Heavy Oil ^a	Light Oil ^b	Steam Plants	GT/IC ^c			
	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	199,818	8,560	199,378	348	2,844,451
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 January	75	64,253	7,103	71,431	5,955	1,057	6,380	632	7,012	64	198,669
February	82	57,970	5,729	63,782	10,457	1,316	10,883	890	11,773	61	168,274
March	83	57,795	5,692	63,569	4,276	907	4,730	452	5,183	52	245,111
April	77	53,889	5,144	59,110	4,673	918	5,111	480	5,591	36	228,889
May	86	57,067	5,502	62,655	6,121	1,133	6,648	607	7,255	59	257,620
June	72	62,422	6,849	69,342	6,262	1,195	6,828	629	7,457	68	297,007
July	67	72,082	7,539	79,688	10,507	1,879	10,949	1,436	12,385	57	406,758
August	79	76,043	7,599	83,720	11,446	2,853	11,934	2,365	14,299	80	468,021
September	87	61,631	6,906	68,624	6,964	903	7,355	512	7,867	66	316,096
October	86	59,747	6,492	66,326	4,747	932	5,192	487	5,680	74	239,680
November	93	60,843	6,249	67,185	4,812	1,051	5,290	573	5,863	83	197,926
December	93	66,206	7,275	73,574	10,364	1,421	10,830	956	11,785	62	172,457
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	73,996	7,083	81,175	11,935	2,052	NA	NA	13,987	56	139,104
February	86	61,630	6,204	67,920	6,283	1,195	NA	NA	7,477	55	142,984
March	89	63,266	5,726	69,081	6,065	1,195	NA	NA	7,260	35	189,131
April	93	60,288	4,811	65,192	5,120	1,362	NA	NA	6,482	103	192,593
May	72	62,091	6,129	68,292	6,123	1,051	NA	NA	7,174	135	230,637
June	75	66,939	6,852	73,866	9,706	1,519	NA	NA	11,225	144	295,112
July	91	77,282	7,122	84,495	12,500	2,855	NA	NA	15,355	144	426,594
August	82	75,266	7,146	82,495	10,806	1,626	NA	NA	12,432	160	390,347
September	85	69,456	6,537	76,078	11,002	1,376	NA	NA	12,379	161	332,464
9-Month Total ...	770	610,212	57,611	668,593	79,539	14,231	NA	NA	93,770	993	2,338,967
1996 9-Month Total ...	788	592,407	58,611	651,806	77,298	13,150	NA	NA	90,448	517	2,203,530
1995 9-Month Total ...	706	563,153	58,062	621,922	66,661	12,161	70,819	8,003	78,822	542	2,586,445

^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					
	Anthracite	Bituminous Coal	Lignite	Total	By Type of Petroleum		By Prime Mover Type		Total Liquids	Petroleum Coke
					Heavy Oil ^a	Light Oil ^b	Steam Plants	GT/IC ^c		
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 January	4,849	114,978	6,309	126,136	45,036	16,298	51,366	9,968	61,334	75
February	4,791	118,668	6,286	129,745	39,922	16,016	46,112	9,826	55,937	95
March	4,748	124,915	6,115	135,778	41,032	15,608	47,073	9,568	56,641	128
April	4,711	131,439	6,215	142,365	38,859	15,447	44,832	9,474	54,306	162
May	4,656	136,845	6,369	147,869	38,280	15,574	44,284	9,570	53,854	173
June	4,634	132,567	6,184	143,385	39,810	15,793	45,749	9,854	55,603	144
July	4,608	119,991	5,712	130,311	37,561	15,589	43,827	9,324	53,151	117
August	4,591	111,183	5,412	121,185	35,135	15,454	41,454	9,135	50,589	98
September	4,551	113,604	5,073	123,227	37,397	15,340	43,538	9,199	52,737	90
October	4,514	117,156	5,145	126,814	37,861	15,569	43,955	9,475	53,429	71
November	4,396	120,042	5,238	129,676	38,916	15,466	44,850	9,532	54,383	42
December	4,325	116,749	5,231	126,304	35,102	15,392	40,992	9,503	50,495	65
1996 January	4,243	107,062	5,334	116,638	35,287	14,583	NA	NA	49,869	61
February	4,090	105,963	5,646	115,699	30,715	14,028	NA	NA	44,743	57
March	4,128	108,039	5,579	117,746	29,032	13,278	NA	NA	42,310	53
April	4,080	115,990	5,980	126,049	31,683	13,059	NA	NA	44,742	47
May	4,026	120,878	5,800	130,704	32,427	13,057	NA	NA	45,484	38
June	3,969	117,645	5,487	127,101	32,113	13,778	NA	NA	45,891	64
July	3,911	110,933	5,445	120,289	31,874	14,087	NA	NA	45,962	47
August	3,853	108,628	5,408	117,889	32,713	14,196	NA	NA	46,909	35
September	3,792	110,383	5,305	119,480	31,487	13,924	NA	NA	45,412	27
October	3,765	113,713	5,327	122,805	33,266	14,230	NA	NA	47,495	45
November	3,762	111,419	5,384	120,565	33,105	14,348	NA	NA	47,453	62
December	3,687	105,853	5,129	114,669	32,469	14,747	NA	NA	47,217	91
1997 January	3,609	96,538	4,969	105,116	29,727	14,862	NA	NA	44,590	136
February	3,544	98,810	5,391	107,745	31,282	14,876	NA	NA	46,157	159
March	3,479	103,827	5,599	112,904	31,462	14,836	NA	NA	46,298	177
April	3,417	109,162	5,723	118,302	32,554	14,476	NA	NA	47,030	221
May	3,374	114,519	5,893	123,786	33,173	14,612	NA	NA	47,785	253
June	3,323	112,209	5,757	121,289	32,148	14,716	NA	NA	46,864	229
July	3,275	100,948	5,790	110,013	31,009	14,698	NA	NA	45,707	308
August	3,228	95,402	5,683	104,313	30,891	14,726	NA	NA	45,617	293
September	3,166	93,795	5,547	102,508	29,082	14,926	NA	NA	44,008	308

^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 1995, Volume II*, the "Nonutility Power Producers" chapter for additional information.

Table 7.5 Nonutility Power Net Generation of Electricity
(Million Kilowatthours)

	Coal ^a	Natural Gas ^b	Petroleum ^c	Nuclear Electric Power ^d	Hydro-electric Power ^e	Geo-thermal Energy	Wood ^f and Waste ^g	Other ^h	Total
1992 Total	45,189	154,429	10,508	65	9,352	8,318	51,264	7,023	286,148
1993 Total	50,859	169,502	12,814	76	11,396	9,454	53,318	6,981	314,399
1994 Total	56,197	174,813	14,464	52	13,095	9,816	54,898	19,752	343,087
1995 Total	54,772	191,069	16,294	0	14,626	9,614	54,445	21,069	361,889
1996 Total	60,794	214,237	19,605	0	16,545	10,684	59,333	22,292	403,490

^a Coal, anthracite culm, and coal waste.
^b Butane, ethane, propane, waste heat, and waste gases are included in "Natural Gas" for 1992 and 1993 but in "Other" for 1994-1996.
^c Petroleum, petroleum coke, diesel, kerosene, and petroleum sludge and tar.
^d 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.
^e Conventional hydropower only; there are no pumped storage projects among the nonutility power producers.
^f Wood, wood waste, peat, wood liquors, railroad ties, pitch, and wood

sludge.
^g Municipal solid waste, agricultural waste, straw, tires, landfill gases, and other waste.
^h Wind, photovoltaic, and solar thermal energy; hydrogen, sulfur, batteries, chemicals, fish oil, and spent liquor; and, since 1994, butane, ethane, propane, waste heat, and waste gases.
 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 To Generate Electricity

	Coal			Petroleum			Natural Gas and Other Gas ^a		
	Electric Utilities	Nonutility Power Producers ^b	Total	Electric Utilities ^c	Nonutility Power Producers ^d	Total	Electric Utility ^e	Nonutility Power Producers	Total
	Thousand Short Tons			Thousand Barrels			Million Cubic Feet		
1992 Total	779,860	44,607	824,467	152,329	31,539	183,868	2,765,608	3,429,324	6,194,932
1993 Total	813,508	48,343	861,851	168,556	36,768	205,324	2,682,440	3,691,954	6,374,394
1994 Total	817,270	52,261	869,531	155,377	40,460	195,837	2,987,146	3,735,431	6,722,577
1995 Total	829,007	47,849	876,856	105,956	39,075	145,031	3,196,507	3,915,614	7,112,121
1996 Total	874,681	^E 49,130	923,811	116,680	^E 42,096	158,776	2,732,107	^E 4,104,490	6,836,597

^a "Other Gas" is butane, ethane, propane, and other gases.
^b Coal, anthracite culm, and coal waste.
^c Includes petroleum coke (converted at 5 barrels per short ton).
^d Petroleum, petroleum coke (converted at 5 barrels per short ton), diesel, kerosene, petroleum sludge, and tar.
^e Natural gas only.
 E=Estimate.

Note: Totals may not equal sum of components due to independent rounding.
 Sources: • **Electric Utilities:** Energy Information Administration (EIA), *Electric Power Monthly*, December 1997, Table 14. • **Nonutility Power Producers:** EIA, estimated from Form EIA-867, "Annual Nonutility Power Producer Report" data.

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.”

1983-1992—EIA, *Electric Power Monthly*, March 1994, Table 4, and (for geothermal energy and other) EIA, Form EIA-759, “Monthly Power Plant Report.”

1993 and 1994—EIA, *Electric Power Monthly*, May 1995, Tables 4 and 5.

1995 forward—EIA, Form EIA-759, “Monthly Power Plant Report.”

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.”

1984-1986—EIA, Form EIA-861, “Annual Electric Utility Report.”

1987 forward—EIA, *Electric Power Monthly*, December 1997, 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.”

1980-1986—EIA, *Electric Power Monthly*, March issues.

1987-1995—EIA, *Electric Power Monthly*, December 1997, Table 14.

1996 forward—EIA, Form EIA-759, “Monthly Power Plant Report.”

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.”

1980-1982—EIA, *Electric Power Monthly*, March issues.

1983 and 1993 monthly data—EIA, *Electric Power Monthly*, March 1994, Table 29.

1984-1986—EIA, *Electric Power Monthly*, March issues.

1987-1995 (except 1993 monthly data)—EIA, *Electric Power Monthly*, December 1997, Table 21.

1996 forward—EIA, Form EIA-759, “Monthly Power Plant Report.”

Section 8. Nuclear Energy

In September 1997, U.S. nuclear generating units produced a total of 53 net terawatt-hours (billion kilowatt-hours) of electricity, 4 percent lower than in September 1996. Nuclear units generated at an average capacity factor of 70.8 percent, 4.5 percentage points lower than in September 1996. Nuclear power supplied 19.7 percent of the total electric utility-generated electricity in September 1997, compared with 21.8 percent in September 1996.

No low-power or full-power licenses for nuclear power plants were issued by the Nuclear Regulatory Commission during September 1997.

On September 30, 1997, there were 109 operable nuclear generating units in the United States, with a collective net summer capability of 99.8 million kilowatts of electricity. This is one less than reported for August 1997, due to the permanent closing of the Big Rock unit. In May 1997, operators of the Maine Yankee unit (870 net megawatts electric capacity) announced that it will be shut down for one year. Because the unit is not expected

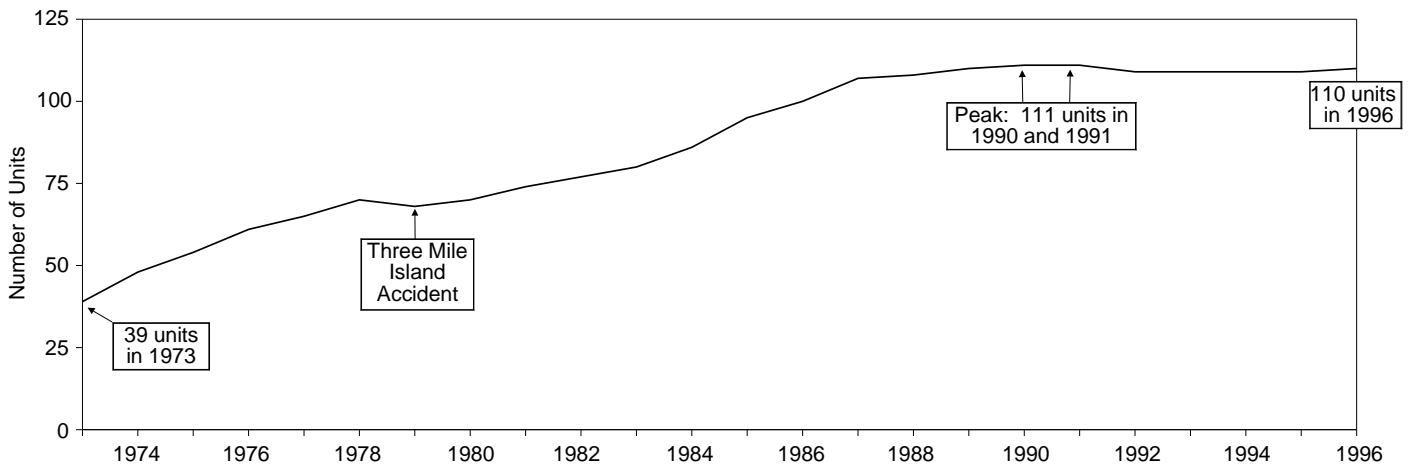
to be permanently shut down, it is included in the total of 109 operating units.

Of the 109 operable units, 16 units generated at less than 25 percent of capacity because of maintenance, refueling, or repair outage, and 12 of the 16 units generated no electricity during the month. The aggregate net design capacity of the 109 operable units was 99.8 million kilowatts.

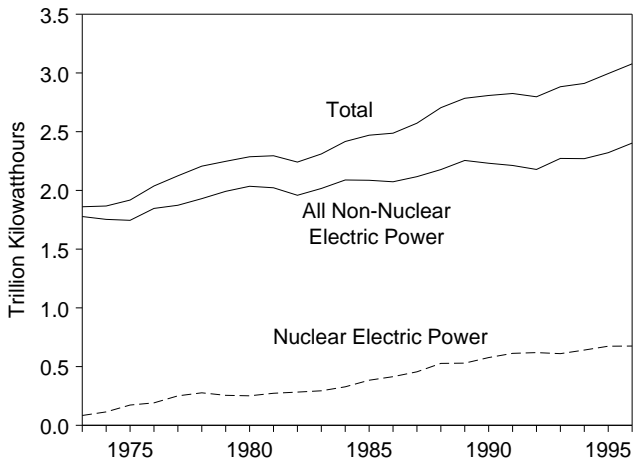
In addition, there were 3 other units with construction permits, although construction for all 3 units was canceled or halted. The design capacity of the 3 units with construction permits was 3.6 million kilowatts. The net design capacity of those units, when added to that of the 109 operable nuclear generating units, is 99.8 million kilowatts. Previous issues of this report have referred to 6 units as indefinitely deferred, instead of 3. However, work was canceled on Perry 2 in 1994 and on WNP units 1 and 3 in 1995 and their construction permits were rescinded upon cancellation.

Figure 8.1 Nuclear Power Plant Operations

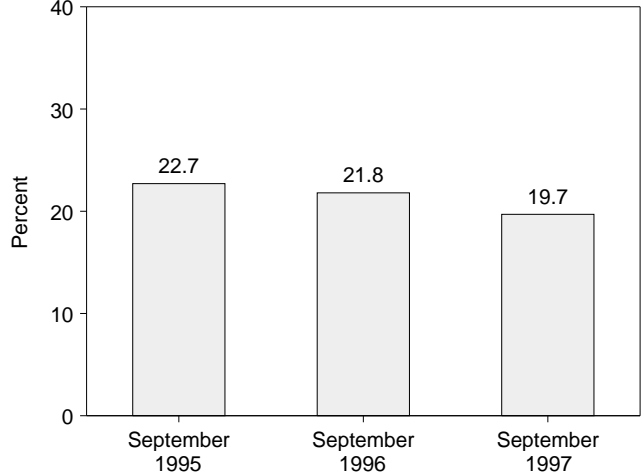
Operable Units, End of Year, 1973-1996



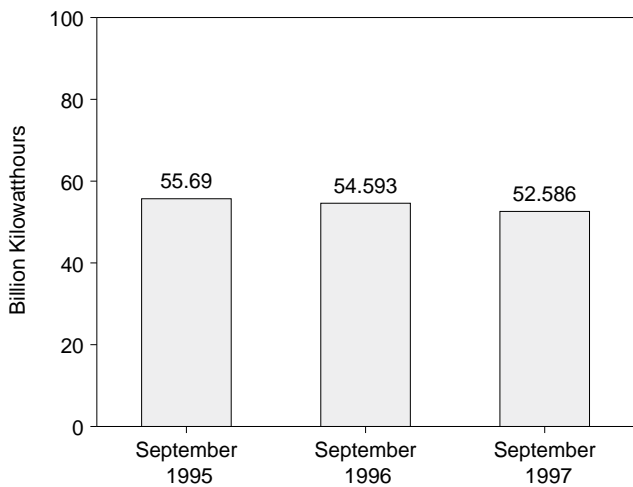
Net Generation of Electricity, 1973-1996



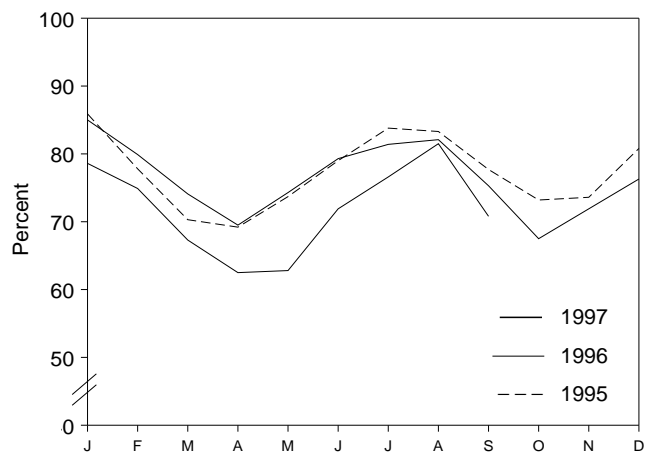
Nuclear Portion of Domestic Electricity Net Generation



Nuclear Electricity Net Generation



Capacity Factor, Monthly



Note: Because vertical scales differ, graphs should not be compared.
Sources: Tables 7.1 and 8.1.

Table 8.1 Nuclear Power Plant Operations

	Operable Units ^{a,b}	Nuclear Electricity Net Generation	Nuclear Portion of Domestic Electricity Net Generation	Net Summer Capability of Operable Units ^{a,c}	Capacity Factor ^d
	Number	Million Kilowatthours	Percent	Million Kilowatts	Percent
1973 Year	39	83,479	4.5	22.683	53.5
1974 Year	48	113,976	6.1	31.867	47.8
1975 Year	54	172,505	9.0	37.267	55.9
1976 Year	61	191,104	9.4	43.822	54.7
1977 Year	65	250,883	11.8	46.303	63.3
1978 Year	70	276,403	12.5	50.824	64.5
1979 Year	68	255,155	11.4	49.747	58.4
1980 Year	70	251,116	11.0	51.810	56.3
1981 Year	74	272,674	11.9	56.042	58.2
1982 Year	77	282,773	12.6	60.035	56.6
1983 Year	80	293,677	12.7	63.009	54.4
1984 Year	86	327,634	13.6	69.652	56.3
1985 Year	95	383,691	15.5	79.397	58.0
1986 Year	100	414,038	16.6	85.241	56.9
1987 Year	107	455,270	17.7	93.583	57.4
1988 Year	108	526,973	19.5	94.695	63.5
1989 Year	110	529,355	19.0	98.161	62.2
1990 Year	111	576,862	20.5	99.624	66.0
1991 Year	111	612,565	21.7	99.589	70.2
1992 Year	109	618,776	22.1	98.985	70.9
1993 Year	109	610,291	21.2	99.041	70.5
1994 Year	109	640,440	22.0	99.148	73.8
1995 January	109	63,342	25.0	99.148	85.9
February	109	51,858	22.7	99.148	77.8
March	109	51,880	22.2	99.148	70.3
April	109	49,321	22.7	99.148	69.2
May	109	54,387	23.0	99.148	73.7
June	109	56,381	22.0	99.148	79.0
July	109	62,037	21.2	99.515	83.8
August	109	61,661	20.2	99.515	83.3
September	109	55,690	22.7	99.515	77.7
October	109	54,293	23.2	99.515	73.2
November	109	52,708	22.5	99.515	73.6
December	109	59,844	23.2	99.515	80.8
Year	109	673,402	22.5	99.515	77.4
1996 January	109	62,942	23.4	99.515	85.0
February	110	55,928	22.8	100.685	79.9
March	110	55,474	22.4	100.685	74.1
April	110	50,325	22.2	100.685	69.5
May	110	55,637	22.1	100.685	74.3
June	110	57,498	21.4	100.685	79.3
July	110	60,953	21.1	100.685	81.4
August	110	61,477	21.2	100.685	82.1
September	110	54,593	21.8	100.685	75.3
October	110	50,612	21.1	100.685	67.5
November	110	52,132	21.6	100.685	71.9
December	110	57,159	22.2	100.685	76.3
Year	110	674,729	21.9	100.685	76.4
1997 January	110	58,914	21.5	100.685	78.6
February	110	50,658	21.6	100.685	74.9
March	110	50,414	20.6	100.685	67.3
April	110	45,313	19.6	100.685	62.5
May	110	47,032	19.3	100.685	62.8
June	110	52,095	19.5	100.685	71.9
July	110	57,352	18.8	100.685	76.6
August	110	61,084	20.7	100.685	81.5
September	109	52,586	19.7	99.815	70.8
9-Month Total	109	475,447	20.2	99.815	71.9
1996 9-Month Total	110	514,826	22.0	100.685	77.9
1995 9-Month Total	109	506,556	22.3	99.515	77.9

^a At end of period.
^b See Note 1 at end of section.
^c For the definition of "Net Summer Capability," see Note 3 at end of section.
^d For an explanation of the method of calculating the capacity factor, see

Note 4 at end of section.
Notes: • 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, End of Period

	Licensed for Operation		Construction Permits		On Order	Announced	Total	Total Design Capacity ^c
	Operable ^a	In Startup ^b	Granted	Pending				
	Number of Units								Million Kilowatts
1973 Year	39	2	57	52	49	9	208	198
1974 Year	48	5	62	75	30	6	226	223
1975 Year	54	2	69	69	14	5	213	212
1976 Year	61	1	71	63	16	2	214	211
1977 Year	65	2	78	49	13	2	209	203
1978 Year	70	0	88	32	5	0	195	191
1979 Year	68	0	90	24	3	0	185	180
1980 Year	70	1	82	12	3	0	168	162
1981 Year	74	0	76	11	2	0	163	157
1982 Year	77	2	60	3	2	0	144	134
1983 Year	80	3	53	0	2	0	138	129
1984 Year	86	6	38	0	2	0	132	123
1985 Year	95	3	30	0	2	0	130	121
1986 Year	100	7	19	0	2	0	128	119
1987 Year	107	4	14	0	2	0	127	119
1988 Year	108	3	12	0	0	0	123	115
1989 Year	110	1	10	0	0	0	121	113
1990 Year	111	0	8	0	0	0	119	111
1991 Year	111	0	8	0	0	0	119	111
1992 Year	109	0	8	0	0	0	117	111
1993 Year	109	0	7	0	0	0	116	110
1994 Year	109	0	7	0	0	0	116	110
1995 January	109	0	6	0	0	0	115	107
February	109	0	6	0	0	0	115	107
March	109	0	6	0	0	0	115	107
April	109	0	6	0	0	0	115	107
May	109	0	6	0	0	0	115	107
June	109	0	6	0	0	0	115	107
July	109	0	6	0	0	0	115	107
August	109	0	6	0	0	0	115	107
September	109	0	6	0	0	0	115	107
October	109	0	6	0	0	0	115	107
November	109	1	5	0	0	0	115	107
December	109	1	3	0	0	0	113	104
Year	109	1	3	0	0	0	113	104
1996 January	109	1	3	0	0	0	113	104
February	110	0	3	0	0	0	113	104
March	110	0	3	0	0	0	113	104
April	110	0	3	0	0	0	113	104
May	110	0	3	0	0	0	113	104
June	110	0	3	0	0	0	113	104
July	110	0	3	0	0	0	113	104
August	110	0	3	0	0	0	113	104
September	110	0	3	0	0	0	113	104
October	110	0	3	0	0	0	113	104
November	110	0	3	0	0	0	113	104
December	110	0	3	0	0	0	113	104
Year	110	0	3	0	0	0	113	104
1997 January	110	0	3	0	0	0	113	104
February	110	0	3	0	0	0	113	104
March	110	0	3	0	0	0	113	104
April	110	0	3	0	0	0	113	104
May	110	0	3	0	0	0	113	104
June	110	0	3	0	0	0	113	104
July	110	0	3	0	0	0	113	104
August	110	0	3	0	0	0	113	104
September	109	0	3	0	0	0	112	100

^a See Note 1 at end of section.
^b See Note 2 at end of section.
^c Net design electrical rating (DER) is used because many of the units were canceled prior to being assigned a net summer capability. See Note 3

at end of section.
 Note: Geographic coverage is the 50 States and the District of Columbia.
 Sources: See end of section.

Nuclear Energy Notes

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

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

In addition, nine units have been retired and therefore removed from the operable category. Those units are: Peach Bottom 1 (40 MW) and Indian Point 1 (265 MW), both retired in 1974; Humboldt Bay (65 MW), officially retired in 1976; Dresden 1 (200 MW), retired in October 1979; LaCrosse (51 MW), retired in May 1987; Fort Saint Vrain (217 MW), retired in October 1989; Yankee Rowe 1 (185 MW), retired in February 1992; San Onofre 1 (436 MW), retired in December 1992; and Trojan (1,104 MW), retired in February 1993.

2. In Startup: The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its full-power license. During that period, the unit is undergoing low-power testing and the maximum level of operation is 5 percent of the unit's design thermal rating.

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

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

(b) Net Design Capacity or Net Design Electrical Rating (DER)—The nominal net electrical output of

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

4. Monthly Capacity Factors: The monthly capacity factors are computed as the actual monthly generation divided by the maximum possible generation for that month. The maximum possible generation is the number of hours in the month multiplied by the 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

Operable Units

1973-1982: U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones."

1983-January 1996: Nuclear Regulatory Commission (NRC), "Licensed Operating Reactors" (NUREG-0020).

February 1996 forward: EIA estimates.

Nuclear Electricity Net Generation

Table 7.1.

Nuclear Portion of Domestic Electricity Net Generation

Calculated from data in 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

Licensed for Operation

1973-1982: U.S. Department of Energy (DOE), Office of Nuclear Programs, "U.S. Central Station

Nuclear Electric Generating Units: Significant Milestones.”

1983 forward: Nuclear Regulatory Commission (NRC), “Licensed Operating Reactors” (NUREG-0020).

Construction Permits, On Order, and Announced

1973-1982: Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, “U.S. Central Station Nuclear Electric Generating Units: Significant Milestones”; Energy Information Administration (EIA), Office of Coal, Nuclear, Electric and Alternate Fuels (CNEAF), “Nuclear Steam-Electric Units That Have Been in Operation as of 1957-1989”; EIA, CNEAF, “Nuclear Plant Cancellations: Causes, Costs, and Consequences”; and Utility Data Institute, Inc., “U.S. Nuclear Plant Statistics, 1987.”

1983 forward: NRC, “Summary Information Report”

(NUREG-0871); NRC, “Licensed Operating Reactors” (NUREG-0020); and various journals.

Total Design Capacity

1973-1982: Compiled from various sources, primarily DOE, Office of Nuclear Reactor Programs, “U.S. Central Station Nuclear Electric Generating Units: Significant Milestones”; EIA, CNEAF, “Nuclear Steam-Electric Units That Have Been in Operation as of 1957-1987”; EIA, CNEAF, “Monthly Report for Electric Utilities-Power Generation”; EIA, CNEAF, “Nuclear Plant Cancellations: Causes, Costs, and Consequences”; and Utility Data Institute, Inc., “U.S. Nuclear Plant Statistics, 1987.”

1983 forward: NRC, “Summary Information Report” (NUREG-0871); NRC, “Licensed Operating Reactors” (NUREG-0020); and EIA, Form EIA-860, “Annual Electric Generator Report.”

Section 9. Energy Prices

Crude Oil. The average price of domestic crude oil purchased at the wellhead was \$16.44 per barrel in September 1997, 18 percent lower than the level in September 1996. The refiner acquisition cost of imported crude oil in September 1997 was \$17.96 per barrel, 19 percent lower than the September 1996 level. The average cost of domestic crude oil in September 1997 was \$18.59, 15 percent lower than the September 1996 average.

Motor Gasoline. The national city average retail price of unleaded regular gasoline at all types of stations was \$1.24 per gallon in October 1997, 1 percent higher than the price in October 1996. The price of unleaded premium gasoline averaged \$1.43 per gallon in October 1997, 1 percent higher than the price in October 1996.

Residual Fuel Oil. The average price, excluding taxes, of residual fuel oil sold to end users in September 1997 was 42 cents per gallon, 2 percent higher than the previous month's price but 8 percent lower than the September 1996 average. The average resale price, excluding taxes, of residual fuel oil in September 1997 was 39 cents per gallon, 1 percent higher than the previous month's average but 7 percent lower than the price 1 year earlier.

Aviation Fuel. The average price, excluding taxes, of aviation gasoline sold to end users in September 1997 was \$1.16 per gallon, 1 percent higher than both the previous month's price and the September 1996 price. The average price, excluding taxes, of kerosene-type jet fuel sold to end users in September 1997 was 58 cents per gallon, 2 percent lower than the previous month's price and 19 percent lower than the September 1996 average price.

No. 2 Distillate Fuel Oil. The September 1997 national average price, excluding taxes, of heating oil sold to residential customers was 89 cents per gallon, 2 percent higher than the previous month's price but 6 percent lower than the price 1 year earlier. The average price of No. 2 fuel oil sold to all end users was 58 cents per gallon in September 1997, 2 percent lower than the previous month's price and 20 percent lower than the September 1996 price.

Electricity. The average price of electricity sold to all ultimate consumers in the United States in September 1997 was 7.14 cents per kilowatthour, slightly lower than the September 1996 mean price. The price of electricity sold to residential consumers in September 1997 averaged 8.78 cents per kilowatthour, slightly lower than the September 1996 price. The price of electricity sold to commercial consumers averaged 7.91 cents per kilowatthour in September 1997, 1 percent lower than the September 1996 price. The price of electricity sold to other consumers was 6.93 cents per kilowatthour, 4 percent higher than the price 1 year earlier. The price of electricity sold to industrial users in September 1997 averaged 4.75 cents per kilowatthour, 1 percent lower than the September 1996 price.

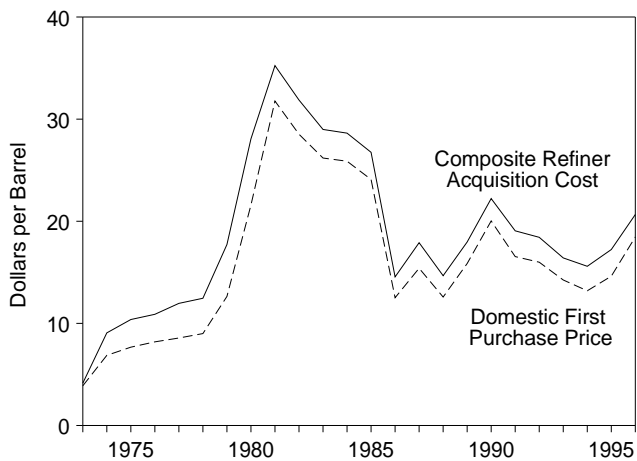
Beginning with January 1986, new series of national average price estimates were based on a statistically derived sample of both publicly and privately owned electric utilities. Previously, average price estimates were derived from selected privately owned electric utilities and were not national averages.

Natural Gas. The estimated average wellhead price of natural gas for August 1997 was \$2.21 per thousand cubic feet, 5 percent higher than the August 1996 price.

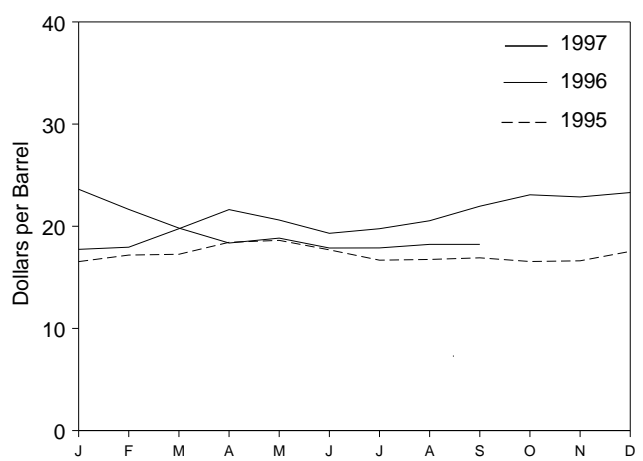
The average price of natural gas delivered to electric utility plants was \$2.44 per thousand cubic feet in July 1997 (latest date for which data are available) 9 percent below the July 1996 price. The average price of natural gas used by residential consumers in August 1997 was \$8.66 per thousand cubic feet, 1 percent lower than the August 1996 price. The average price of natural gas used by commercial consumers in August 1997 was \$5.48 per thousand cubic feet, 1 percent less than the August 1996 price. The average price of natural gas used by industrial consumers in August 1997 was \$2.96 per thousand cubic feet, 3 percent below the August 1996 price.

Figure 9.1 Petroleum Prices

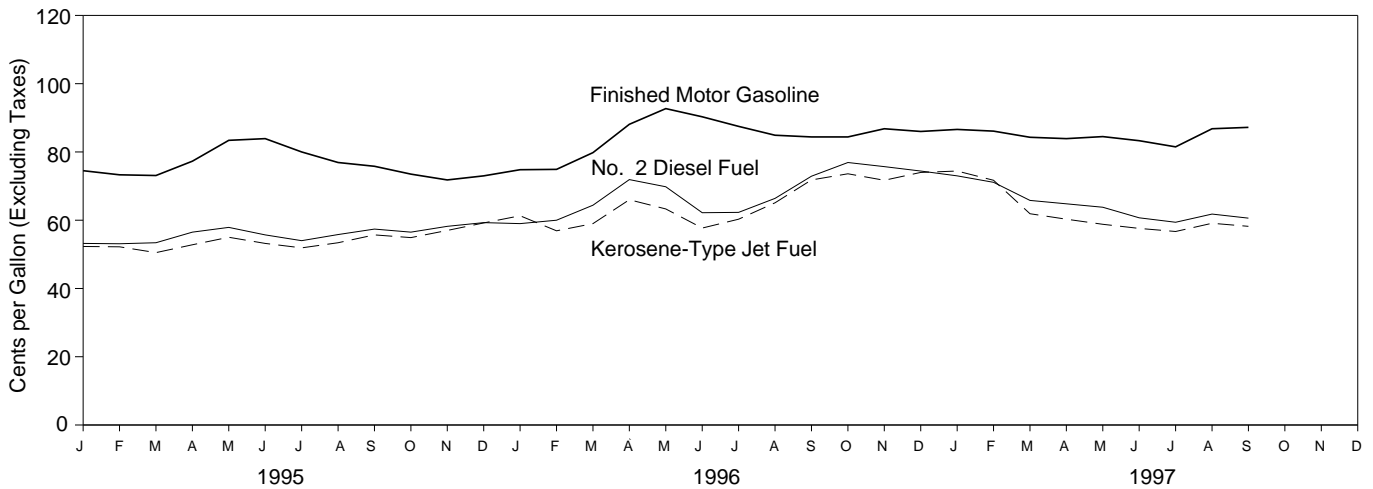
Crude Oil Prices, 1973-1996



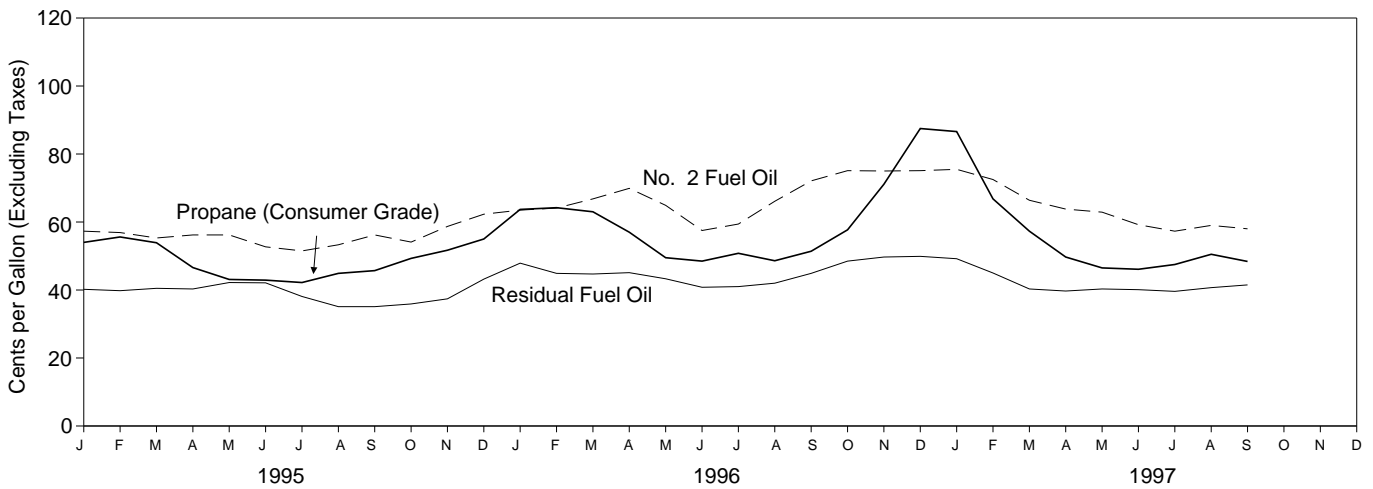
Composite Refiner Acquisition Cost, Monthly



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 ^d	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 January	14.00	15.08	16.23	16.52	16.56	16.54
February	14.71	15.65	16.74	17.16	17.21	17.18
March	14.68	15.88	17.04	17.31	17.21	17.26
April	15.84	17.28	18.26	18.20	18.70	18.43
May	15.85	17.30	18.18	18.68	18.56	18.62
June	15.02	15.91	17.07	17.94	17.43	17.69
July	14.01	14.82	15.96	16.85	16.50	16.68
August	14.13	15.05	16.10	16.96	16.54	16.75
September	14.49	15.24	16.38	17.12	16.71	16.91
October	13.68	14.68	15.87	16.82	16.29	16.55
November	14.03	15.30	16.30	16.73	16.52	16.62
December	15.02	16.06	17.05	17.55	17.53	17.54
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	^R 17.28	18.35	17.48	17.88
August	^R 16.21	^R 16.60	^R 17.65	18.59	17.96	18.23
September	16.44	16.57	17.66	18.59	17.96	18.23

^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 data. 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 January	15.63	15.87	14.98	17.13	W	W	12.61	W	14.79	15.37
February	16.70	W	15.79	17.43	W	16.84	13.02	15.96	15.14	16.17
March	16.68	16.77	15.74	17.19	W	W	14.23	W	15.47	16.28
April	17.38	18.12	17.16	18.96	W	W	15.97	W	17.20	17.37
May	18.25	18.27	17.20	18.66	W	18.42	15.76	W	16.98	17.69
June	16.92	16.33	16.07	17.66	W	W	13.80	W	15.48	16.37
July	15.63	15.85	14.77	15.97	W	W	13.33	W	14.45	15.15
August	15.37	16.44	14.54	16.48	W	16.23	13.73	W	14.89	15.20
September	16.44	16.79	15.24	16.91	W	16.47	13.30	W	14.79	15.67
October	15.68	16.11	15.02	16.54	W	16.41	12.40	W	14.26	15.15
November	16.39	16.65	15.32	17.28	W	W	13.38	W	15.05	15.50
December	17.24	17.38	16.41	18.37	W	W	14.70	W	15.74	16.37
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	(^d)	15.50	W	16.49	17.68
April	17.05	17.87	15.94	17.97	15.82	W	14.81	15.95	15.92	16.44
May	18.25	17.92	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	^R 17.96	18.45	16.30	^R 19.00	W	^R 18.17	^R 15.20	W	^R 16.13	^R 16.99
September	17.84	18.58	16.00	19.49	16.69	W	15.17	16.76	16.44	16.67

^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 data. 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 January	16.87	16.09	16.67	15.52	17.64	16.66	17.35	13.66	16.67	16.15	16.33
February	17.67	16.74	17.61	16.23	18.24	17.15	17.70	14.01	17.08	16.53	16.99
March	18.03	16.88	17.49	16.34	18.13	17.41	18.00	15.29	17.34	16.86	17.24
April	18.64	18.27	18.91	17.56	19.82	18.45	18.53	16.95	18.42	18.33	18.19
May	19.09	18.44	18.88	17.69	19.45	17.71	19.16	16.68	17.69	17.93	18.50
June	18.33	17.28	17.08	16.58	18.74	16.39	18.71	14.85	16.41	16.64	17.52
July	17.01	16.33	16.52	15.28	17.29	15.85	17.44	14.21	15.82	15.73	16.18
August	16.47	16.35	17.16	15.12	17.39	16.15	17.28	14.68	16.11	16.02	16.17
September	17.27	16.37	17.48	15.74	17.86	16.35	17.44	14.28	16.31	16.22	16.57
October	16.80	15.37	17.13	15.61	17.49	16.03	17.32	13.33	15.95	15.60	16.16
November	17.22	15.37	17.30	15.90	17.98	17.00	17.28	14.20	16.87	16.30	16.25
December	18.09	16.07	17.97	17.08	19.10	16.73	18.74	15.48	16.62	16.91	17.19
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	^R 17.07	18.59	15.96	^R 16.86	^R 17.14	17.40
August	^R 19.12	17.16	19.06	16.85	^R 20.01	^R 17.54	^R 19.33	^R 16.10	^R 17.35	^R 17.49	^R 17.78
September	19.20	17.09	19.39	16.64	20.34	18.13	19.01	16.05	17.67	17.67	17.65

^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 data. 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*, December 1997, 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 January	NA	112.9	132.4	119.0
February	NA	112.0	131.6	118.1
March	NA	111.5	130.6	117.3
April	NA	114.0	132.5	119.7
May	NA	120.0	138.3	125.6
June	NA	122.6	141.1	128.1
July	NA	119.5	138.4	125.2
August	NA	116.4	135.2	122.2
September	NA	114.8	133.2	120.6
October	NA	112.7	131.5	118.5
November	NA	110.1	129.2	116.1
December	NA	110.1	129.0	116.0
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

^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 January	39.1	46.0	33.3	37.9	36.6	40.2
February	37.1	43.7	33.3	38.2	35.4	39.8
March	38.3	43.4	35.2	39.6	37.0	40.5
April	36.8	42.6	36.1	39.6	36.5	40.3
May	40.4	43.6	37.3	41.7	38.8	42.2
June	39.9	45.1	36.9	41.3	38.7	42.1
July	36.8	42.9	32.5	36.4	35.3	38.1
August	35.5	39.1	29.8	33.7	33.1	35.1
September	36.4	39.0	30.4	34.0	33.8	35.1
October	35.3	41.7	32.4	34.5	34.1	35.9
November	36.6	43.4	31.8	35.5	34.4	37.4
December	44.7	49.2	36.0	40.5	40.6	43.2
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	^R 37.6	39.5	38.3	40.7
September	39.8	46.1	37.6	40.2	38.5	41.5

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to 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*, December 1997, 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 January	60.0	92.9	52.2	56.6	49.4	50.1	35.6
February	60.3	93.2	52.0	55.2	49.2	50.6	34.5
March	60.0	93.1	50.1	52.8	48.1	51.2	34.3
April	66.5	96.6	52.6	56.0	50.5	54.7	33.0
May	71.8	102.2	54.7	57.7	52.4	55.9	33.1
June	68.2	101.6	53.1	53.2	49.4	52.6	32.6
July	62.9	100.1	51.3	52.3	48.1	51.4	32.1
August	62.0	98.9	53.1	54.9	51.0	54.2	33.2
September	62.3	98.7	55.2	58.0	52.0	55.7	33.8
October	58.8	96.3	54.1	57.0	50.5	54.6	34.4
November	58.0	94.2	56.3	60.5	53.4	56.3	34.7
December	59.9	95.3	58.6	64.0	57.3	57.6	37.9
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	^R 75.0	108.9	^R 59.4	^R 60.5	55.3	58.9	37.5
September	72.3	108.9	58.8	60.0	54.3	57.8	39.5

^a See Note 5 at end of section.

R=Revised data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are 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*, December 1997, 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 January	74.5	99.6	52.3	67.4	57.3	53.2	54.0
February	73.3	99.8	52.2	62.8	56.9	53.1	55.6
March	73.1	99.0	50.5	59.4	55.3	53.4	53.9
April	77.3	101.3	52.8	56.1	56.2	56.5	46.6
May	83.4	105.8	55.0	51.7	56.2	57.9	43.1
June	83.9	106.4	53.2	54.9	52.7	55.7	42.9
July	80.0	101.8	51.9	51.3	51.5	54.0	42.2
August	76.9	99.2	53.4	53.3	53.3	55.8	44.9
September	75.8	101.3	55.7	57.3	56.2	57.4	45.7
October	73.5	96.8	54.9	56.5	54.1	56.5	49.3
November	71.8	95.4	57.0	62.8	58.7	58.2	51.7
December	73.0	96.0	59.2	70.0	62.3	59.3	55.0
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	^R 86.8	^R 114.6	59.1	^R 64.9	59.0	61.8	50.5
September	87.2	115.6	58.2	63.4	58.0	60.6	48.4

^a See Note 5 at end of section.

R=Revised data. 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*, December 1997, 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 January	77.8	78.4	85.7	84.8	87.3	86.7	95.2	87.6	83.1
February	77.4	78.5	85.9	84.9	87.3	87.8	96.3	89.0	83.4
March	76.3	77.7	85.6	82.5	87.0	87.0	95.9	89.0	82.3
April	76.7	76.6	84.8	81.9	86.5	85.2	94.1	87.1	80.7
May	78.7	75.8	84.5	84.7	86.1	86.5	95.9	88.2	81.1
June	78.1	74.5	83.9	82.5	83.2	84.2	95.0	87.7	79.5
July	76.9	72.9	81.7	80.6	81.7	79.4	92.3	85.4	75.8
August	76.7	73.0	81.7	80.9	85.3	77.4	89.8	82.2	75.6
September	76.2	73.8	82.5	81.7	84.9	79.2	90.5	83.9	77.2
October	75.8	73.9	82.5	82.3	85.7	83.1	92.7	85.2	79.6
November	79.1	77.3	84.5	83.8	87.4	85.7	94.3	88.1	81.9
December	87.0	83.8	88.0	88.9	91.8	90.5	99.4	94.3	87.1
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	^R 85.7	^R 85.3	92.7	84.7	91.0	^R 84.5	^R 92.9	^R 89.6	80.7
September	87.2	86.4	91.7	86.9	91.2	85.5	94.5	90.6	82.8

R=Revised 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*, December 1997, 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 January	88.4	102.4	94.3	85.0	83.1	81.2	86.1	81.6	82.1	81.1	80.1
February	88.5	103.4	95.1	84.6	82.1	81.0	85.5	80.1	80.8	80.4	79.0
March	87.6	103.3	94.2	84.0	81.4	80.1	85.7	82.3	76.7	80.5	80.4
April	87.0	100.0	91.3	84.0	80.3	81.9	86.2	82.3	78.7	81.1	80.4
May	85.2	93.2	89.6	83.0	76.5	80.8	86.1	83.6	81.6	81.5	80.5
June	83.0	NA	86.8	82.3	77.7	78.0	83.6	83.5	77.0	81.3	77.3
July	80.0	85.1	83.3	81.2	75.8	76.6	82.0	81.9	76.6	81.0	76.6
August	82.1	W	82.6	80.9	74.1	72.7	82.1	79.4	72.9	78.5	77.3
September	82.4	86.1	85.5	81.6	76.1	77.5	84.5	80.9	75.6	80.7	79.5
October	84.0	NA	89.5	82.5	77.4	79.1	83.9	81.8	74.6	80.5	80.1
November	84.5	100.2	93.2	83.8	81.4	81.8	86.9	79.2	79.0	81.6	80.5
December	89.5	103.8	98.5	88.2	89.4	84.0	88.8	83.6	82.9	82.9	81.8
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	^R 87.8	W	93.8	^R 85.2	^R 85.0	^R 81.7	^R 87.4	^R 83.6	^R 81.2	^R 86.5	^R 86.0
September	96.1	96.6	94.5	85.2	87.5	84.3	88.3	80.2	77.3	87.4	84.7

R=Revised data. 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*, December 1997, 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 January	80.4	95.4	88.4	83.7	86.9
February	80.0	94.5	86.9	84.0	87.4
March	80.6	94.5	88.7	83.7	86.6
April	80.7	96.7	90.7	82.6	85.4
May	82.7	NA	91.6	81.9	86.4
June	82.8	95.2	90.1	82.7	84.6
July	82.6	94.0	NA	81.7	82.0
August	83.5	91.2	86.3	81.9	80.7
September	86.4	95.5	87.1	83.2	82.3
October	88.8	97.8	90.5	83.4	84.0
November	88.6	99.2	92.2	84.6	86.3
December	89.2	100.7	90.5	84.2	91.1
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	^R 90.5	^R 108.8	99.2	96.4	86.9
September	91.3	111.5	101.7	96.7	88.6

R=Revised data. 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.

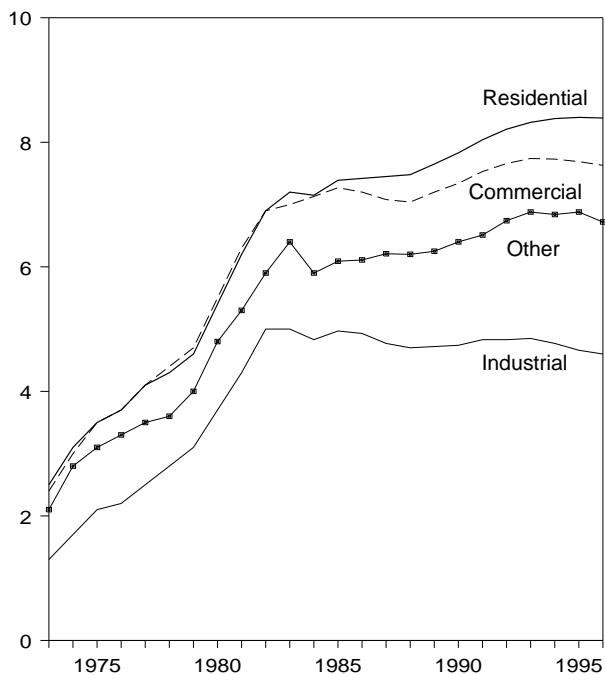
• Prices prior to 1983 are Energy Information Administration (EIA) estimates. See Note 6 at end of section.

Source: EIA, *Petroleum Marketing Monthly*, December 1997, Table 18.

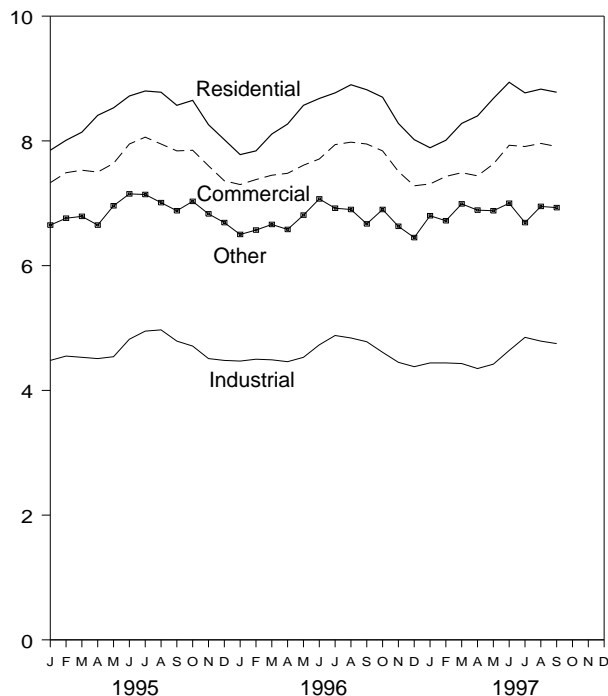
Figure 9.2 Retail Prices of Electricity Sold by Electric Utilities

(Cents per Kilowatthour)

By Sector, 1973-1996



By Sector, Monthly

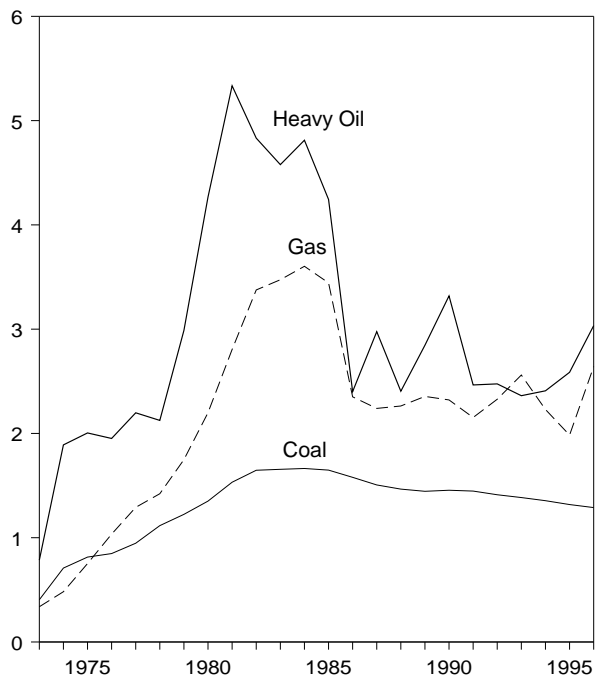


Source: Table 9.9, Monthly Series.

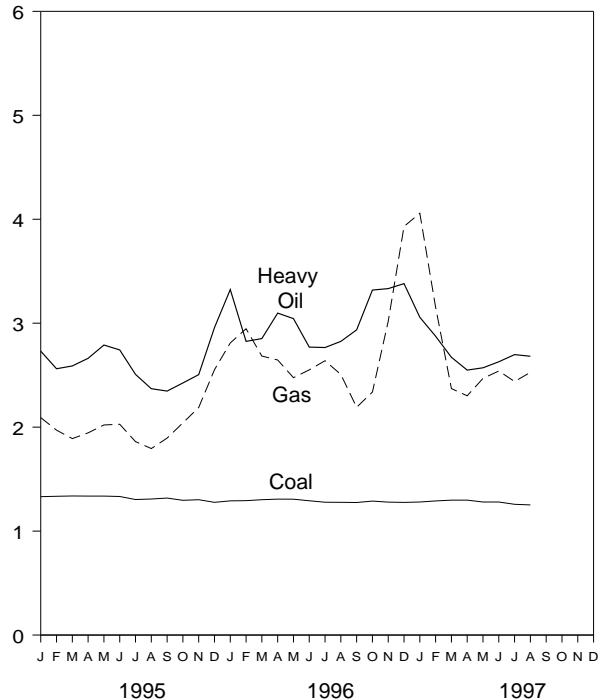
Figure 9.3 Cost of Fossil-Fuel Receipts at Steam-Electric Plants

(Dollars per Million Btu)

Costs, 1973-1996



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 January	7.85	7.33	4.48	6.65	6.60
February	8.01	7.49	4.55	6.76	6.68
March	8.14	7.53	4.53	6.79	6.66
April	8.41	7.50	4.51	6.65	6.65
May	8.53	7.64	4.54	6.96	6.74
June	8.72	7.95	4.82	7.15	7.10
July	8.80	8.06	4.95	7.14	7.35
August	8.78	7.95	4.97	7.01	7.34
September	8.57	7.84	4.79	6.88	7.08
October	8.65	7.85	4.71	7.03	6.95
November	8.26	7.60	4.51	6.83	6.70
December	8.02	7.36	4.48	6.69	6.64
Average	8.40	7.69	4.66	6.88	6.89
1996 January	7.78	7.30	4.47	6.50	6.62
February	7.84	7.38	4.50	6.57	6.61
March	8.11	7.45	4.49	6.66	6.66
April	8.27	7.48	4.46	6.58	6.64
May	8.57	7.61	4.53	6.81	6.78
June	8.68	7.71	4.73	7.07	7.04
July	8.77	7.94	4.88	6.92	7.28
August	8.90	7.98	4.84	6.90	7.31
September	8.82	7.95	4.78	6.67	7.17
October	8.70	7.84	4.61	6.90	6.92
November	8.28	7.51	4.45	6.63	6.66
December	8.02	7.28	4.38	6.45	6.59
Average	8.39	7.63	4.60	6.72	6.87
1997 January	7.89	7.31	4.44	6.80	6.64
February	8.01	7.43	4.44	6.72	6.64
March	8.28	7.49	4.43	6.99	6.69
April	8.40	7.44	4.35	6.89	6.61
May	8.68	7.63	4.42	6.88	6.74
June	8.94	7.93	4.64	7.00	7.10
July	8.77	7.91	4.85	6.69	7.27
August	8.83	7.96	4.79	6.95	7.26
September	8.78	7.91	4.75	6.93	7.14
9-Month Average	8.51	7.69	4.57	6.87	6.92
1996 9-Month Average	8.41	7.66	4.64	6.74	6.92
1995 9-Month Average	8.44	7.72	4.69	6.89	6.94

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
	Quantity (thousand short tons)	Cost (cents per million Btu)	Heavy Oil ^b		Total ^{b,c}		Quantity (million cubic feet)	Cost (cents per million Btu)	Cost (cents per million Btu)
			Quantity (thousand barrels)	Cost (cents per million Btu)	Quantity (thousand barrels)	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 January	70,206	133.1	5,565	273.1	6,113	282.7	188,545	209.2	145.4
February	65,789	133.5	6,150	256.2	6,535	263.1	163,665	197.1	143.7
March	69,059	133.8	5,040	258.9	5,448	267.4	233,533	189.0	144.3
April	66,167	133.7	2,849	266.2	3,221	280.3	222,256	194.5	144.1
May	68,564	133.7	5,864	279.0	6,213	285.8	245,676	202.1	147.3
June	64,543	133.3	8,476	274.3	9,083	282.0	281,987	202.8	150.4
July	67,734	130.4	8,367	250.8	8,838	257.2	376,158	186.1	146.1
August	73,242	130.9	9,284	237.0	10,029	247.7	424,284	179.4	145.1
September	70,938	131.8	9,036	234.7	9,432	241.3	302,928	189.5	145.1
October	70,140	129.6	5,553	242.5	6,060	253.8	228,644	204.1	142.6
November	70,196	130.2	4,773	250.5	5,414	268.8	189,641	218.9	143.3
December	70,281	127.7	7,259	295.8	7,905	305.7	166,010	255.3	146.1
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	71,900	128.0	8,811	305.7	9,652	321.0	133,193	405.8	157.5
February	69,089	129.0	8,958	287.5	9,346	295.3	134,946	315.5	150.9
March	72,678	129.8	6,796	267.2	7,164	276.3	185,304	237.1	145.4
April	69,695	129.8	6,379	254.9	6,730	264.8	184,936	230.2	144.5
May	74,909	128.0	6,476	257.1	6,967	270.5	225,899	246.9	146.6
June	70,623	128.0	9,253	262.9	10,039	274.4	278,021	254.0	153.2
July	74,065	125.8	10,800	269.8	11,670	280.4	373,638	243.9	154.6
August	76,342	125.2	10,994	268.2	11,563	275.4	359,977	252.7	154.1
8 Months	579,300	127.9	68,466	272.7	73,131	283.2	1,875,914	261.9	150.9
1996 8 Months	570,315	129.3	73,233	295.5	78,176	305.1	1,826,431	261.9	153.0
1995 8 Months	545,305	132.8	51,595	260.1	55,481	268.6	2,136,104	192.9	145.8

^a Includes supplemental gaseous fuels.

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

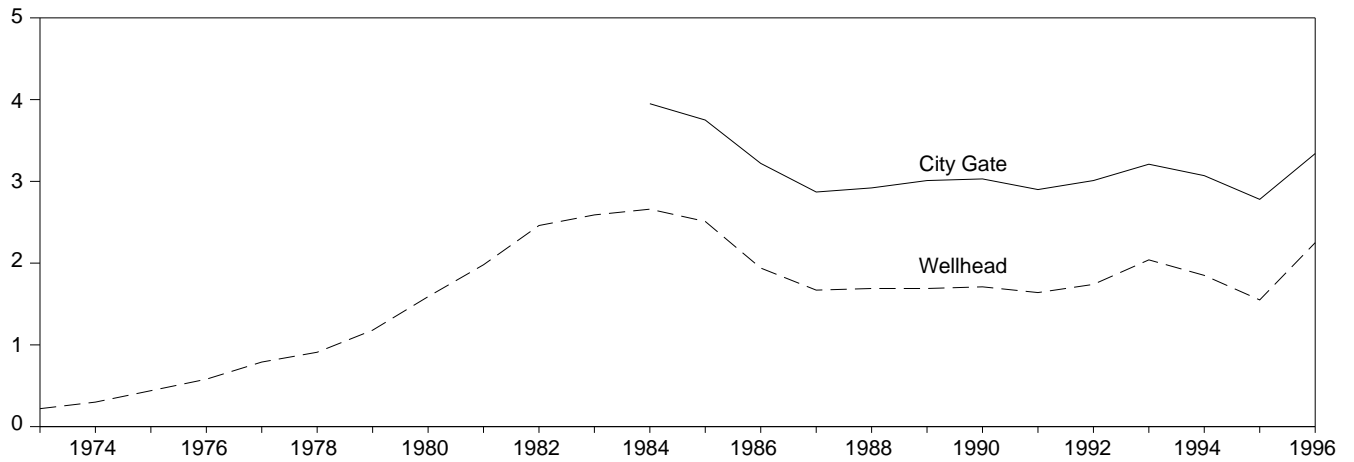
^c Data for 1973-1982 do not include small quantities of re-refined motor oil, bunker oil, and liquefied petroleum gas.

Notes: • See Note 8 at end of section. • Geographic coverage is the 50 States and the District of Columbia.

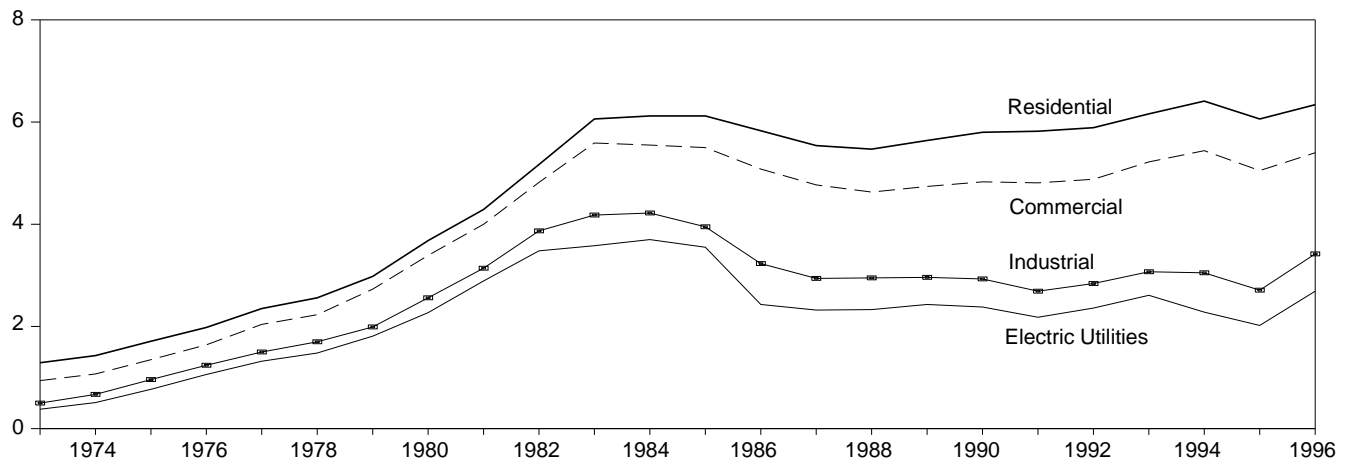
Sources: See end of section.

Figure 9.4 Natural Gas Prices
(Dollars per Thousand Cubic Feet)

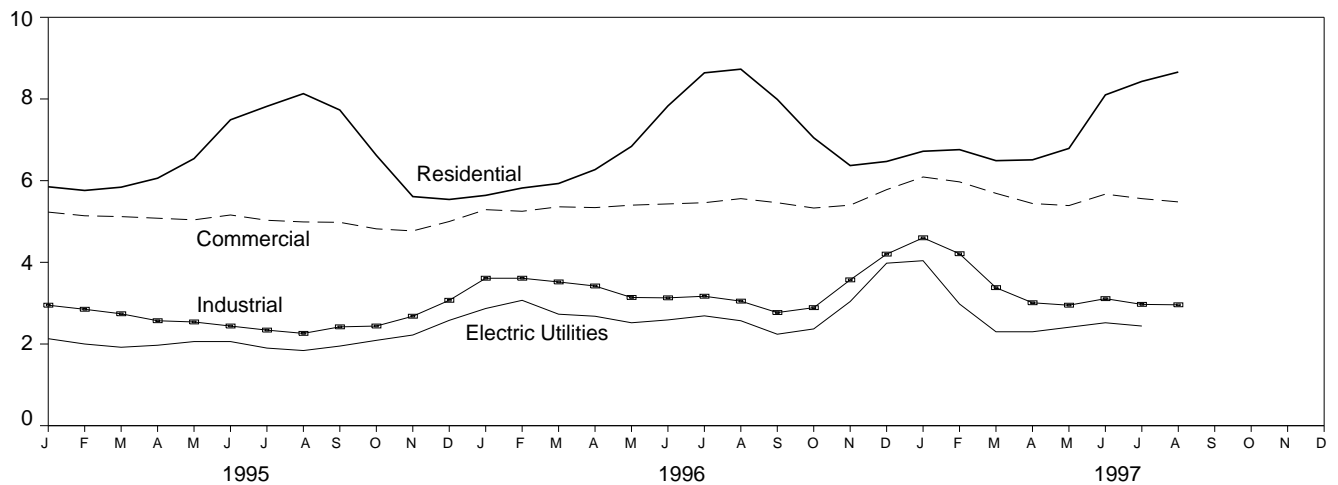
Selected Prices, 1973-1996



Delivered to Consumers, 1973-1996



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}					Electric Utilities ^c
			Residential	Commercial		Industrial		
				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 January	1.62	2.79	5.85	5.23	81.6	2.95	27.3	2.13
February	1.48	2.71	5.76	5.14	81.7	2.85	27.4	2.00
March	1.47	2.74	5.84	5.12	81.2	2.74	26.5	1.92
April	1.52	2.72	6.06	5.08	77.2	2.57	25.4	1.97
May	1.55	2.80	6.54	5.04	71.8	2.54	23.6	2.06
June	1.58	2.89	7.49	5.16	71.4	2.44	24.5	2.06
July	1.43	2.89	7.82	5.03	67.3	2.34	22.2	1.90
August	1.43	2.87	8.13	4.99	66.6	2.26	21.8	1.84
September	1.52	2.89	7.73	4.98	67.9	2.42	22.0	1.95
October	1.54	2.83	6.62	4.82	69.7	2.44	22.5	2.09
November	1.61	2.67	5.61	4.77	75.6	2.68	24.7	2.22
December	1.84	2.83	5.54	5.00	79.2	3.07	25.0	2.58
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	83.4	3.61	23.1	2.87
February	1.89	3.16	5.82	5.25	83.8	3.61	23.6	3.07
March	1.95	3.17	5.93	5.36	81.7	3.52	23.3	2.73
April	2.08	3.22	6.27	5.34	79.3	3.42	21.4	2.68
May	2.01	3.18	6.84	5.40	73.9	3.14	19.6	2.52
June	2.08	3.41	7.83	5.43	69.3	3.13	17.6	2.59
July	2.25	3.49	8.64	5.46	67.3	3.17	19.1	2.69
August	2.10	3.46	8.73	5.56	65.9	3.05	18.1	2.57
September	1.85	3.05	7.99	5.46	66.9	2.77	17.6	2.24
October	1.94	2.94	7.05	5.33	68.8	2.89	18.1	2.37
November	2.50	3.46	6.37	5.40	76.1	3.57	19.0	3.04
December	3.26	4.18	6.47	5.78	78.4	4.20	20.7	3.98
Average	2.17	3.34	6.34	5.40	77.6	3.42	20.2	2.69
1997 January	^E 3.66	4.27	6.72	6.09	72.6	4.60	18.5	4.04
February	^E 2.60	3.78	6.76	5.97	72.2	4.21	16.7	2.98
March	^E 1.72	3.06	6.49	5.69	68.7	3.38	16.3	2.30
April	^E 1.82	2.90	6.51	5.44	66.4	3.01	16.0	2.30
May	^E 2.04	3.16	6.79	5.39	59.7	2.95	15.6	2.41
June	^E 2.18	3.43	8.10	5.67	57.2	3.11	15.2	2.52
July	^{RE} 2.01	^R 3.58	^R 8.43	5.56	^R 55.6	^R 2.97	13.5	2.44
August	^E 2.21	3.24	8.66	5.48	53.8	2.96	13.0	NA
8-Month Average	^E 2.28	3.54	6.86	5.77	66.5	3.48	15.7	NA
1996 8-Month Average	2.05	3.23	6.21	5.34	79.1	3.36	20.0	2.67
1995 8-Month Average	1.51	2.78	6.15	5.13	77.5	2.61	24.5	1.96

^a Includes supplemental gaseous fuels.

^b See Note 9 at end of section.

^c See Note 8 at end of section.

R=Revised data. 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 Pe-

troleum Reserve (SPR). Crude oil costs and volumes reported on Federal Energy Administration (FEA) Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report," included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

5. Several different series of motor gasoline prices are published in this section. U.S. City average retail prices of motor gasoline are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all Federal, State, and local taxes paid at the time of sale. From 1974-1977, prices were collected in 56 urban areas. From 1978 forward, prices were collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

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

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

to sales among resellers. However, sales to bulk consumers, such as utility, industrial, and commercial accounts previously included in the wholesale category are now counted as made to end users. The end-user category continues to include retail sales through company owned and operated outlets but also includes sales to the bulk consumers such as agriculture, industry, and electric utilities. Additional information may be found in "Estimated Historic Time Series for the EIA-782," a feature article reprinted from the December 1983 [3] *Petroleum Marketing Monthly*, published by EIA.

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

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

9. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all Federal, State, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on more than 3,000 consumers' bills are sometimes excluded by the reporting utilities. Delivered-to-consumers prices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, and electric utility consumers. They do not include the price of natural gas delivered to industrial and commercial consumers on behalf of third parties. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.4. Additional information is available in the EIA *Natural Gas Monthly*, Appendix C.

Sources for Table 9.1

Domestic First Purchase Price

1973-1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter.

1977: Federal Energy Administration (FEA), based on Form FEA-P124, "Domestic Crude Oil Purchaser's Monthly Report."

1978 forward: Energy Information Administration (EIA), *Petroleum Marketing Monthly*, December 1997, Table 1.

F.O.B. and Landed Cost of Imports

November 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*, December 1997, 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*, December 1997, 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*, December 1997, 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."

1984-1986: EIA, Form EIA-861, "Annual Electric Utility Report."

1987 forward: EIA, *Electric Power Monthly*, December 1997, Table 26.

Sources for Table 9.10

1973-1979: Annual data for quantity are simple sums of unrounded monthly values and for cost are averages of monthly values, weighted by quantities of Btu, from the following:

1973-May 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."

1980-1986: EIA, *Electric Power Monthly*, April issues.

1987 forward: EIA, *Electric Power Monthly*, December 1997, 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 1996*, Table 102.

Prices, 1991 forward

EIA, *Natural Gas Monthly*, November 1997, 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-Present	-	Table 24

Section 10. International Energy

Crude Oil Production. World crude oil production during September 1997 was 67 million barrels per day, up 0.4 million barrels per day from the level in the previous month. World crude oil production in the first 3 quarters of 1997 averaged 66 million barrels per day, up 4 percent, compared with production in the first 3 quarters of 1996.

Organization of Petroleum Exporting Countries (OPEC) production during September 1997 averaged 29 million barrels per day, down slightly from the level during the previous month. OPEC production during the first 3 quarters of 1997 averaged 28 million barrels per day, a 6-percent increase from the levels of the first 3 quarters of 1996. During September 1997, production increased in Iraq by 220 thousand barrels per day, Venezuela by 40 thousand barrels per day, and both Saudi Arabia and Kuwait by 5 thousand barrels per day. Production decreased in Iran by 200 thousand barrels per day, Nigeria by 50 thousand barrels per day, and Indonesia by 40 thousand barrels per day. Production remained unchanged in the United Arab Emirates, Libya, Algeria, and Qatar.

Among the non-OPEC nations, production during September 1997 increased in the United States by 106 thousand barrels per day, the United Kingdom by 76 thousand barrels per day, and Norway by 37 thousand barrels per day. Production also increased in Canada by 35 thousand barrels per day, Mexico by 20 thousand barrels per day, and Russia by 13 thousand barrels per day. Production remained the same in China and Egypt.

Petroleum Consumption. In July 1997, consumption in all Organization for Economic Cooperation and Development (OECD) countries was 42.3 million barrels per day, 4 percent higher than the July 1996 rate. The consumption rate was higher than it was 1 year ago in Canada (+8 percent), France, the United States, and Germany (all +5 percent). Consumption rates were lower in Italy (-6 percent), and the United Kingdom and Japan (both -1 percent), compared with the rate 1 year earlier.

Petroleum Stocks. For all OECD countries, petroleum stocks at the end of July 1997 totaled 3.6 billion barrels, 1 percent higher than the ending stock level in July 1996. Stocks were higher in Japan (+5 percent), Germany (+2 percent), and the United Kingdom and the United States (both +1 percent). Stock levels were lower in France (-6 percent), Canada (-4 percent), and Italy (-3 percent), compared with levels 1 year earlier.

Nuclear Electricity Generation. Based on *Nuclear Week*² information for September 1997, all reporting countries with nuclear capacity generated 190 gross terawatt-hours (one terawatt-hour equals 1 billion kilowatt-hours) of nuclear-generated electricity.

As of September 30, 1997, there were 436 operable nuclear generating units in the world.

¹ Percentage changes are based on unrounded data.

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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 January	1,185	1,500	3,585	560	2,070	1,390	1,965	455	8,120	2,285	2,600	25,715
February	1,185	1,480	3,685	560	2,070	1,390	1,946	475	8,220	2,285	2,600	25,896
March	1,185	1,490	3,485	560	2,060	1,390	1,857	485	8,110	2,285	2,600	25,507
April	1,185	1,490	3,635	560	2,070	1,390	2,015	485	8,220	2,285	2,670	26,005
May	1,185	1,490	3,835	560	2,050	1,390	2,044	485	8,400	2,285	2,790	26,514
June	1,185	1,490	3,585	560	2,050	1,390	1,926	485	8,100	2,285	2,790	25,846
July	1,215	1,490	3,535	560	2,060	1,390	1,946	485	8,410	2,285	2,790	26,166
August	1,215	1,490	3,685	560	2,075	1,390	2,000	485	8,425	2,285	2,790	26,400
September ...	1,215	1,490	3,635	560	2,035	1,390	2,005	485	8,315	2,285	2,790	26,205
October	1,215	1,540	3,735	560	2,065	1,390	2,024	485	8,315	2,285	2,840	26,454
November	1,225	1,540	3,635	560	2,070	1,390	2,074	495	8,020	2,285	2,840	26,133
December	1,225	1,540	3,685	560	2,015	1,390	2,108	495	8,110	2,220	2,890	26,237
Average	1,202	1,503	3,643	560	2,057	1,390	1,993	483	8,231	2,279	2,750	26,092
1996 January	1,220	1,540	3,735	555	2,038	1,400	2,160	500	8,118	2,290	2,940	26,495
February	1,220	1,540	3,685	555	2,057	1,400	2,180	500	8,248	2,265	2,940	26,590
March	1,210	1,540	3,715	555	2,057	1,400	2,190	500	8,248	2,285	2,990	26,690
April	1,230	1,530	3,685	555	2,067	1,400	2,160	505	8,088	2,250	2,990	26,460
May	1,245	1,530	3,635	555	2,055	1,400	2,200	505	8,135	2,275	2,990	26,525
June	1,250	1,550	3,685	555	2,065	1,400	2,200	505	8,195	2,270	2,990	26,665
July	1,250	1,520	3,685	555	2,065	1,400	2,170	505	8,295	2,260	3,040	26,745
August	1,250	1,540	3,715	555	2,040	1,400	2,190	505	8,220	2,260	3,090	26,765
September ...	1,250	1,560	3,735	555	2,070	1,400	2,150	525	8,200	2,310	3,090	26,845
October	1,250	1,580	3,635	555	2,075	1,400	2,210	525	8,255	2,310	3,140	26,945
November	1,260	1,570	3,685	555	2,075	1,400	2,220	505	8,255	2,250	3,190	26,965
December	1,260	1,570	3,635	895	2,077	1,410	2,225	545	8,358	2,305	3,240	27,520
Average	1,242	1,547	3,686	584	2,062	1,401	2,188	510	8,218	2,278	3,053	26,769
1997 January	1,260	1,570	3,685	1,085	2,085	1,430	2,250	585	8,265	2,300	3,190	27,705
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	2,330	690	8,540	2,325	3,260	27,775
July	1,280	1,530	3,685	605	2,070	1,450	2,400	685	8,560	2,325	3,270	27,860
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
9-Mo. Avg. ..	1,275	1,553	3,663	1,160	2,074	1,445	2,307	633	8,526	2,317	3,266	28,218
1996 9-Mo. Avg. ..	1,236	1,539	3,697	555	2,057	1,400	2,178	506	8,194	2,274	3,007	26,642
1995 9-Mo. Avg. ..	1,195	1,490	3,629	560	2,060	1,390	1,967	481	8,259	2,285	2,714	26,030

^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 September 1997, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 530 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	35,818	60,216
1993 Average	16,715	1,679	2,890	890	2,673	2,350	—	6,730	1,915	6,847	35,129	60,247
1994 Average	16,964	1,746	2,939	896	2,685	2,521	—	6,135	2,375	6,662	35,493	61,003
1995 January	17,116	1,780	2,925	920	2,680	2,660	—	5,899	2,520	6,682	36,130	61,845
February	17,336	1,763	2,975	920	2,645	2,605	—	6,091	2,610	6,794	36,470	62,366
March	17,026	1,728	2,975	920	2,670	2,680	—	5,899	2,565	6,600	36,115	61,622
April	17,296	1,799	2,975	920	2,670	2,735	—	5,995	2,570	6,604	36,418	62,422
May	17,656	1,742	2,955	920	2,680	2,750	—	6,091	2,305	6,629	35,913	62,427
June	17,106	1,835	2,955	920	2,700	2,480	—	6,086	1,857	6,579	35,718	61,564
July	17,376	1,831	2,955	920	2,705	2,765	—	6,004	2,350	6,449	36,357	62,523
August	17,556	1,793	2,990	920	2,710	2,560	—	6,050	2,405	6,447	36,241	62,641
September	17,356	1,878	3,044	920	2,740	2,775	—	6,017	2,655	6,416	36,836	63,041
October	17,486	1,828	3,044	920	1,900	3,030	—	6,027	2,739	6,421	36,251	62,705
November	17,106	1,828	3,044	920	2,555	3,060	—	5,885	2,685	6,585	36,771	62,904
December	17,126	1,858	3,044	920	2,765	3,095	—	5,908	2,615	6,530	37,055	63,293
Average	17,295	1,805	2,990	920	2,618	2,768	—	5,995	2,489	6,560	36,354	62,446
1996 January	17,270	1,775	3,115	920	2,795	3,085	—	5,763	2,600	6,495	R 36,880	R 63,375
February	17,345	1,705	3,100	920	2,800	3,165	—	5,867	2,625	6,577	R 37,186	R 63,776
March	17,395	1,800	3,050	920	2,870	2,990	—	5,755	2,570	6,571	R 36,935	R 63,625
April	17,185	1,840	3,020	920	2,860	3,160	—	5,763	2,467	6,444	R 37,020	R 63,480
May	17,195	1,755	3,195	920	2,875	2,980	—	5,789	2,512	6,394	R 36,953	R 63,478
June	17,310	1,815	3,205	920	2,880	3,150	—	5,763	2,457	6,458	R 37,140	R 63,805
July	17,400	1,795	3,150	920	2,870	3,201	—	5,737	2,537	6,338	R 37,151	R 63,896
August	17,330	1,858	3,130	920	2,830	3,022	—	5,780	2,385	6,360	R 36,801	R 63,566
September	17,430	1,840	3,140	920	2,860	3,095	—	5,750	2,517	6,482	R 37,178	R 64,023
October	17,390	1,922	3,165	920	2,860	3,005	—	5,737	2,642	6,481	R 37,434	R 64,379
November	17,360	1,875	3,190	930	2,860	3,210	—	5,832	2,743	6,476	R 37,872	R 64,837
December	17,850	1,891	3,115	930	2,900	3,198	—	5,755	2,760	6,506	R 37,896	R 65,416
Average	17,372	1,823	3,131	922	2,855	3,104	—	5,774	2,568	6,465	R 37,203	R 63,972
1997 January	18,040	1,874	3,210	885	2,940	3,268	—	E 5,789	2,693	E 6,387	R 37,917	R 65,622
February	18,245	1,920	3,240	885	2,970	3,263	—	E 5,729	2,660	E 6,514	R 38,031	R 66,031
March	18,460	1,900	3,215	890	2,970	3,063	—	E 5,772	2,638	E 6,470	R 37,842	R 66,027
April	18,615	1,823	3,230	890	2,945	3,388	—	E 5,893	2,515	E 6,483	R 38,203	R 66,603
May	18,385	1,737	3,275	880	2,990	3,194	—	E 5,902	2,315	E 6,401	R 37,655	R 65,825
June	17,980	1,835	3,220	870	3,005	3,025	—	E 5,902	2,135	E 6,341	R 37,233	R 65,008
July	17,965	1,889	3,190	R 880	3,035	3,194	—	E 5,923	2,447	E 6,316	R 37,683	R 65,543
August	18,975	1,895	3,190	870	3,080	2,890	—	E 5,945	2,407	E 6,282	R 37,474	R 66,414
September	19,005	1,930	3,190	870	3,100	2,927	—	E 5,958	2,483	E 6,388	37,858	66,778
9-Mo. Avg.	18,408	1,866	3,218	880	3,004	3,133	—	E 5,869	2,476	E 6,397	37,764	65,981
1996 9-Mo. Avg.	17,318	1,798	3,123	920	2,849	3,093	—	5,774	2,519	6,457	37,025	63,667
1995 9-Mo. Avg.	17,314	1,794	2,972	920	2,689	2,669	—	6,013	2,425	6,576	36,241	62,271

^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 data. NA=Not available. —=Not applicable. E=Estimate.

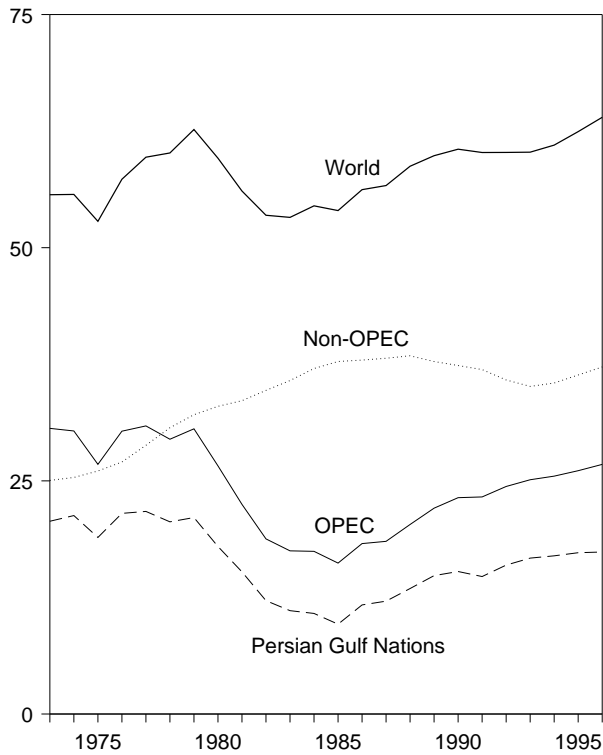
Notes: • Crude oil includes lease condensate but excludes natural gas plant liquids. • Monthly data are often preliminary figures and may not

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.

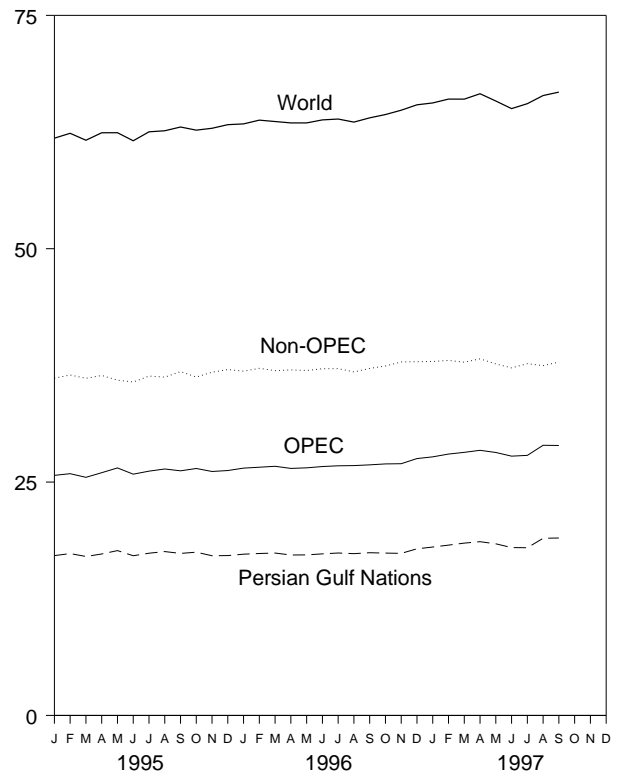
Sources: See end of section.

Figure 10.1 Crude Oil Production
(Million Barrels per Day)

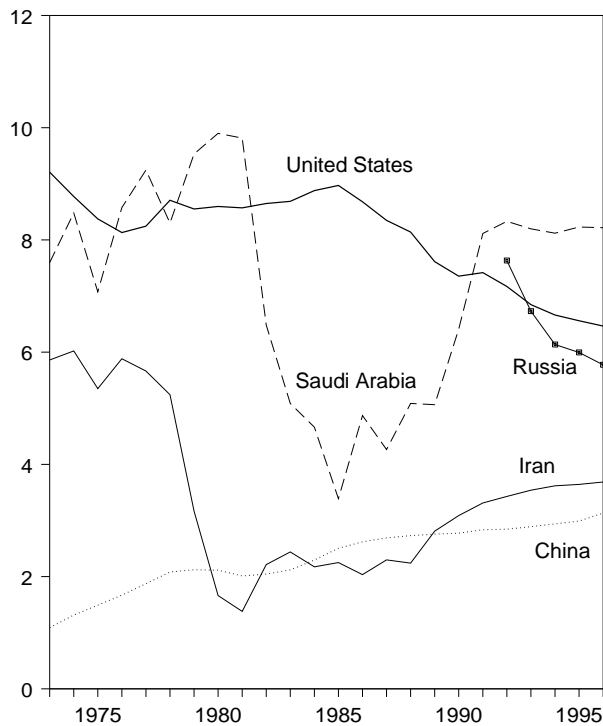
World Production, 1973-1996



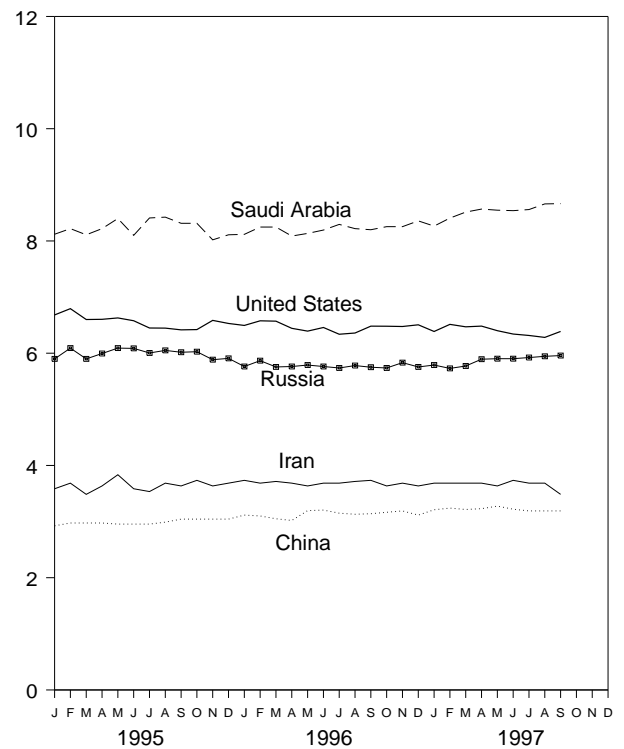
World Production, Monthly



Selected Producers, 1973-1996

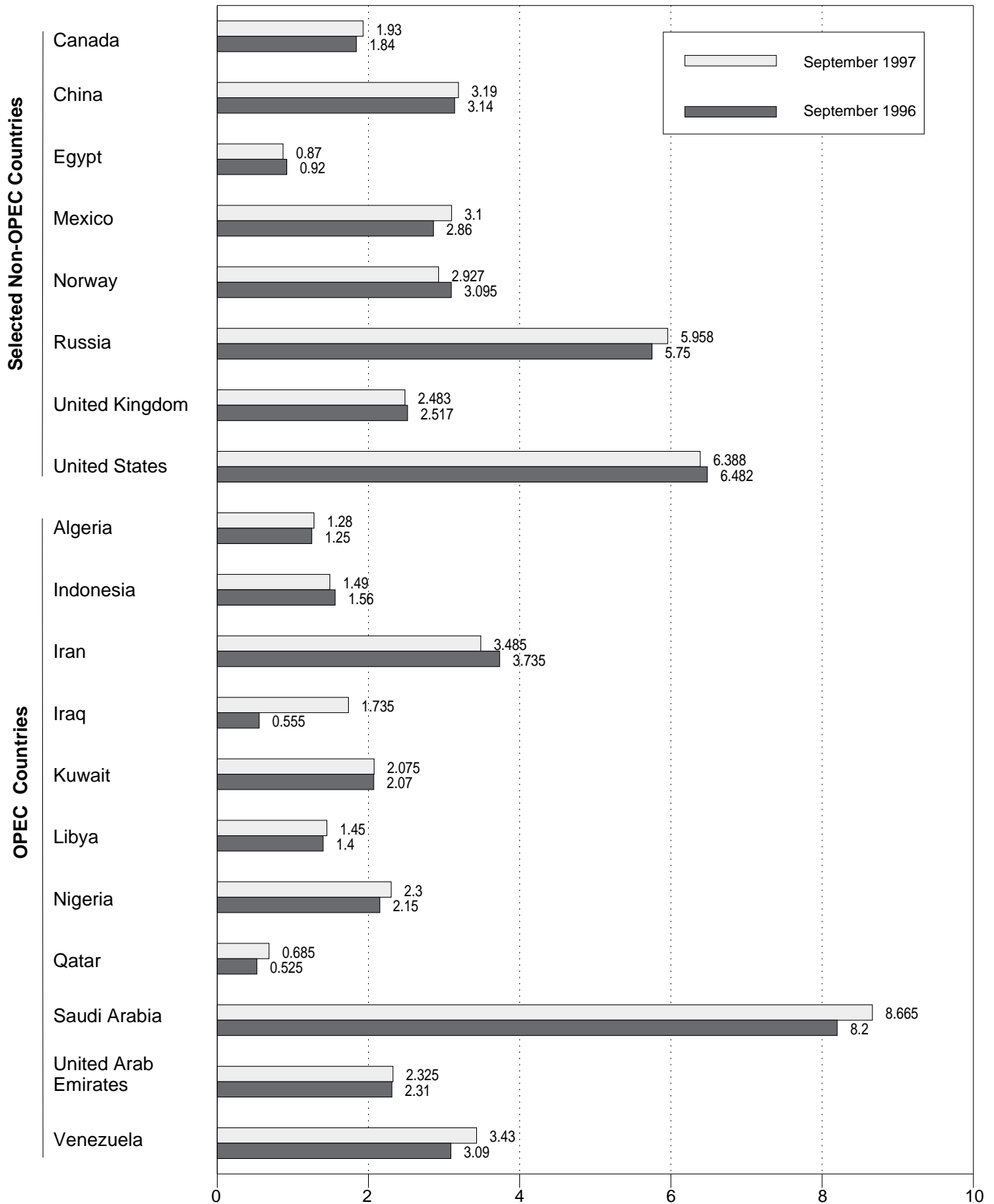


Selected Producers, Monthly



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)

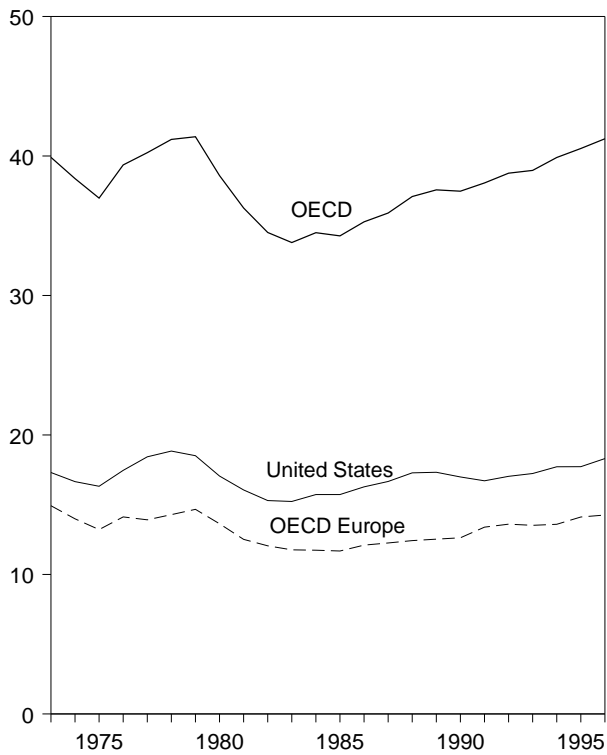


Note: OPEC is the Organization of Petroleum Exporting Countries.
Sources: Tables 10.1a and 10.1b.

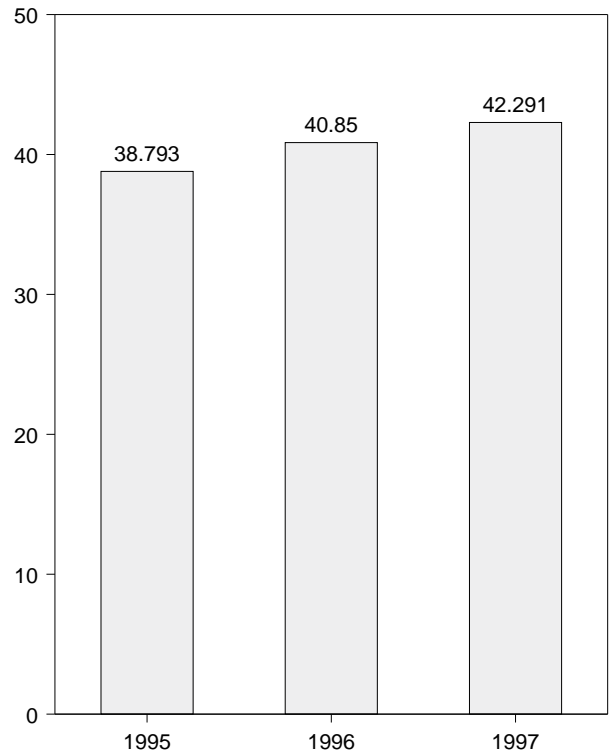
Figure 10.3 Petroleum Consumption in OECD Countries

(Million Barrels per Day)

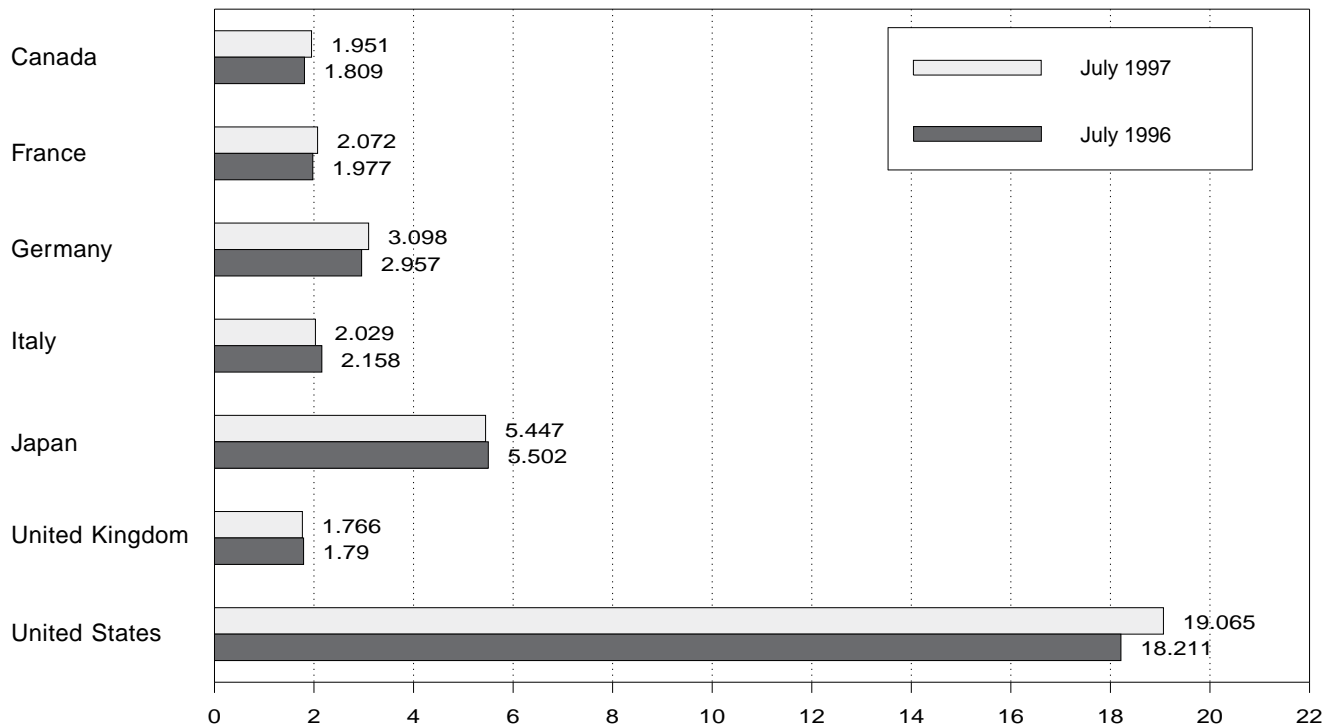
Overview, 1973-1996



OECD Total, July



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 January	1,673	1,949	2,711	2,031	6,031	1,766	17,219	13,767	1,156	39,845
February	1,856	1,895	2,789	2,225	6,773	1,965	18,279	14,136	1,211	42,255
March	1,697	2,002	3,186	2,081	6,331	1,983	17,484	14,805	1,274	41,591
April	1,533	1,834	2,874	1,928	5,554	1,800	17,142	13,829	1,204	39,262
May	1,706	1,763	2,942	1,917	5,027	1,789	17,293	13,586	1,295	38,908
June	1,744	1,846	2,878	1,975	4,971	1,820	18,131	13,916	1,253	40,014
July	1,719	1,933	2,833	1,949	5,087	1,748	17,147	13,645	1,195	38,793
August	1,847	1,787	2,925	1,810	5,567	1,806	18,044	13,795	1,255	40,507
September	1,821	1,888	2,952	2,052	5,378	1,829	18,026	14,184	1,259	40,667
October	1,801	1,870	2,761	2,141	5,125	1,852	17,651	14,215	1,184	39,976
November	1,814	1,957	2,913	2,286	5,884	2,021	17,979	15,010	1,198	41,885
December	1,859	2,032	2,737	2,205	6,871	1,772	18,366	14,566	1,238	42,899
Average	1,755	1,896	2,875	2,048	5,711	1,845	17,725	14,120	1,227	40,537
1996 January	R 1,805	1,879	R 2,901	R 2,113	R 6,328	1,762	18,261	R 14,036	R 1,165	R 41,595
February	R 1,874	2,183	R 3,030	R 2,259	R 6,886	1,919	18,620	R 15,138	R 1,172	R 43,690
March	R 1,744	1,979	R 2,860	R 2,189	R 6,437	1,859	18,301	R 14,275	R 1,151	R 41,907
April	R 1,667	1,919	R 2,743	R 1,961	R 5,748	1,853	17,885	R 13,676	R 1,154	R 40,130
May	R 1,715	R 1,810	R 2,864	R 1,880	R 5,147	R 1,846	17,957	R 13,778	R 1,113	R 39,709
June	R 1,796	R 1,819	R 2,830	R 1,908	R 5,114	R 1,738	18,107	R 13,597	R 1,128	R 39,742
July	R 1,809	R 1,977	R 2,957	R 2,158	R 5,502	R 1,790	18,211	R 14,245	R 1,084	R 40,850
August	R 1,887	R 1,841	R 3,035	R 1,786	R 5,567	R 1,795	18,658	R 13,873	R 1,113	R 41,097
September	R 1,771	R 1,929	R 3,095	R 2,074	R 5,361	R 1,877	17,655	R 14,775	R 1,024	R 40,585
October	R 1,809	1,989	R 2,860	R 2,201	R 5,580	R 1,910	19,171	R 14,723	R 1,133	R 42,415
November	R 1,941	R 1,880	R 2,975	R 2,083	R 6,114	R 1,966	18,535	R 14,700	R 1,064	R 42,354
December	R 1,771	2,021	R 2,796	R 2,088	R 6,648	1,836	18,334	R 14,458	R 1,192	R 42,403
Average	R 1,799	R 1,935	R 2,911	R 2,058	R 5,867	1,845	18,309	R 14,269	R 1,124	R 41,368
1997 January	R 1,862	R 2,165	R 2,901	R 2,037	R 6,291	1,828	18,560	R 14,630	R 1,138	R 42,480
February	R 1,862	R 2,137	R 2,673	R 2,126	6,751	R 1,907	18,308	R 14,577	R 1,140	R 42,638
March	R 1,780	R 1,796	R 2,685	R 1,928	6,146	R 1,776	17,869	R 13,576	R 1,141	R 40,512
April	R 1,745	R 1,910	R 3,225	R 1,999	R 5,303	1,823	18,572	R 14,660	R 1,174	R 41,453
May	R 1,823	R 1,707	R 2,787	R 1,898	5,076	R 1,711	18,244	R 13,508	R 1,065	R 39,717
June	R 1,913	R 1,882	R 3,136	R 1,948	R 5,131	R 1,791	18,563	R 14,288	R 1,090	R 40,986
July	1,951	2,072	3,098	2,029	5,447	1,766	19,065	14,685	1,142	42,291
7-Mo. Avg.	1,848	1,951	2,930	1,993	5,725	1,799	18,455	14,269	1,127	41,424
1996 7-Mo. Avg.	1,772	1,936	2,883	2,066	5,875	1,823	18,189	14,101	1,138	41,076
1995 7-Mo. Avg.	1,703	1,889	2,889	2,013	5,670	1,837	17,516	13,953	1,227	40,069

^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 data.

Notes: • Data through 1993 are final. Subsequent data are preliminary.

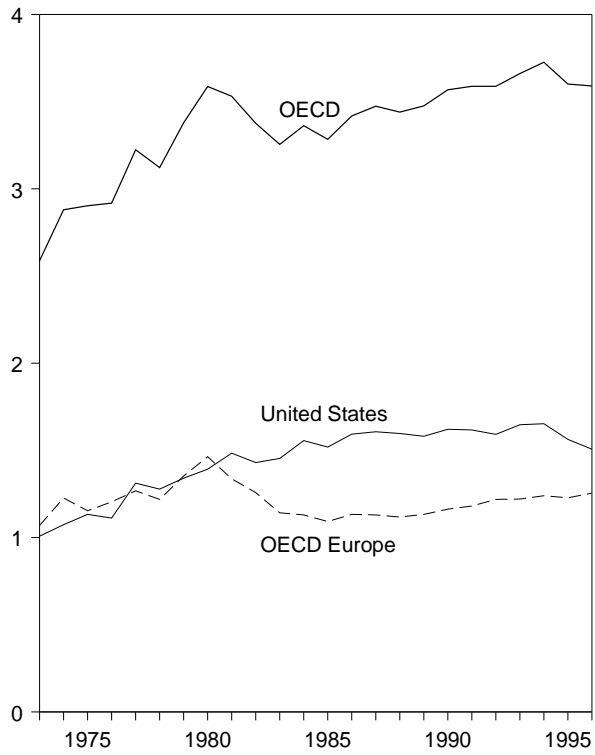
• Totals may not equal sum of components due to independent rounding.

• U.S. geographic coverage is the 50 States and the District of Columbia.

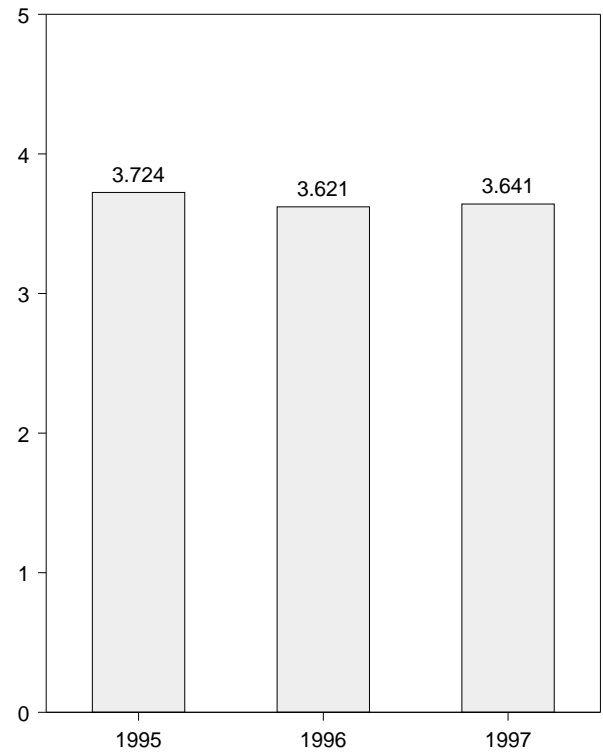
Sources: • **United States:** Table 3.1a. • **All Other Data:** 1973-1979—International Energy Agency (IEA), *Annual Oil and Gas Statistics of OECD Countries*. 1980 forward—IEA, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances*.

Figure 10.4 Petroleum Stocks in OECD Countries
(Billion Barrels)

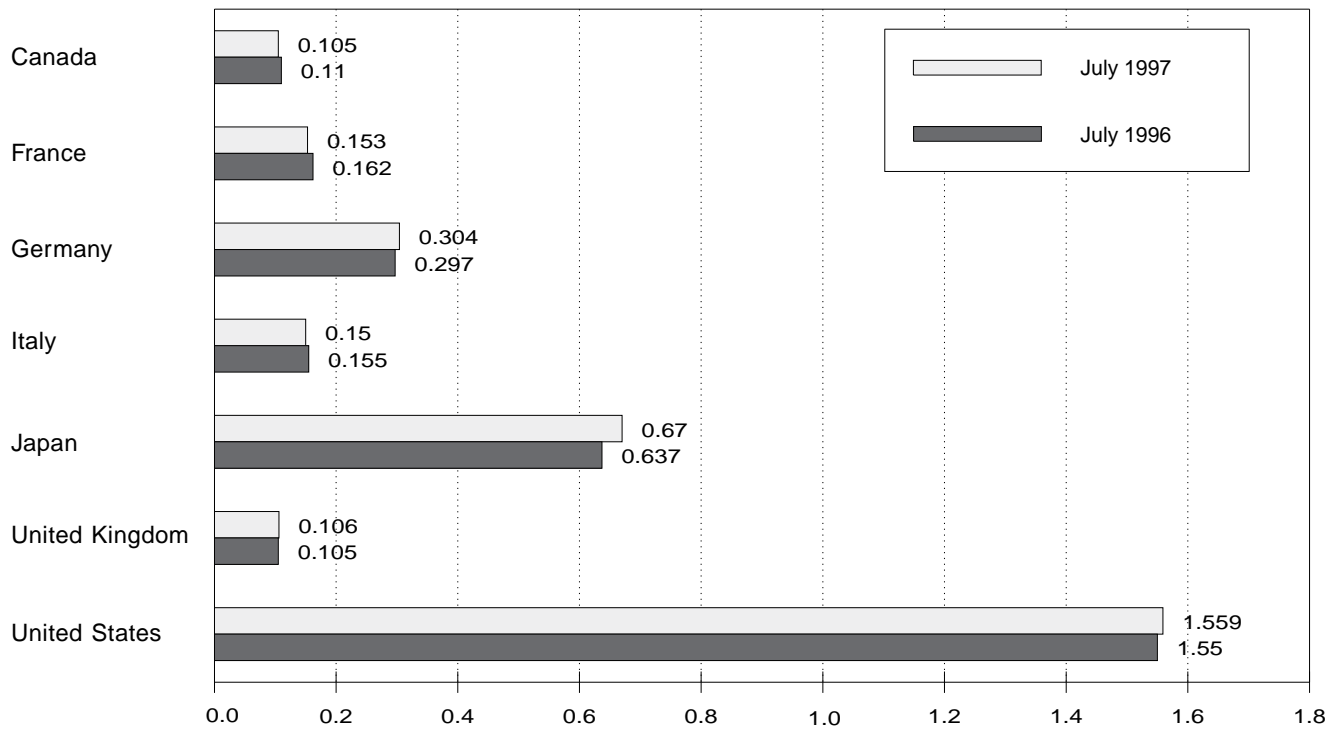
Overview, End of Year, 1973-1996



OECD Stocks, End of Month, July



By Selected Country, End of Month



Note: OECD is the Organization for Economic Cooperation and Development.
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 January	121	160	314	167	631	113	1,643	1,250	69	3,714
February	121	164	316	163	613	114	1,608	1,250	64	3,655
March	124	152	304	159	619	105	1,601	1,189	68	3,601
April	122	156	306	159	626	107	1,601	1,194	71	3,614
May	119	153	304	161	635	112	1,612	1,204	72	3,641
June	128	166	301	168	640	102	1,609	1,208	73	3,658
July	130	160	304	171	651	110	1,624	1,242	77	3,724
August	119	160	303	174	654	109	1,614	1,241	72	3,699
September	120	162	301	163	658	110	1,620	1,232	77	3,707
October	123	162	304	165	664	111	1,607	1,242	72	3,706
November	123	160	297	159	663	110	1,604	1,225	72	3,685
December	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	R 107	163	295	157	641	105	1,520	R 1,233	R 75	R 3,575
June	R 107	160	296	158	640	104	1,546	1,229	73	R 3,597
July	R 110	162	297	155	637	105	1,550	R 1,242	83	R 3,621
August	R 110	160	295	159	658	101	1,545	R 1,237	79	R 3,629
September	R 111	152	295	162	664	105	1,551	1,229	83	R 3,640
October	R 111	R 156	296	155	673	104	1,538	R 1,237	82	R 3,640
November	R 105	160	R 297	152	665	106	1,522	1,243	81	R 3,616
December	R 103	158	300	152	651	108	1,507	R 1,256	74	R 3,591
1997 January	R 104	156	304	158	650	107	1,503	R 1,279	80	R 3,616
February	R 101	159	307	156	642	105	1,482	R 1,269	75	R 3,570
March	R 105	160	R 311	160	650	109	1,512	R 1,272	R 76	R 3,616
April	R 108	159	R 300	151	665	108	1,519	R 1,247	R 80	R 3,619
May	R 104	163	309	150	664	108	1,562	R 1,246	R 81	R 3,657
June	R 103	153	298	151	662	R 111	1,577	R 1,231	R 83	R 3,656
July	105	153	304	150	670	106	1,559	1,226	81	3,641

^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 data.

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

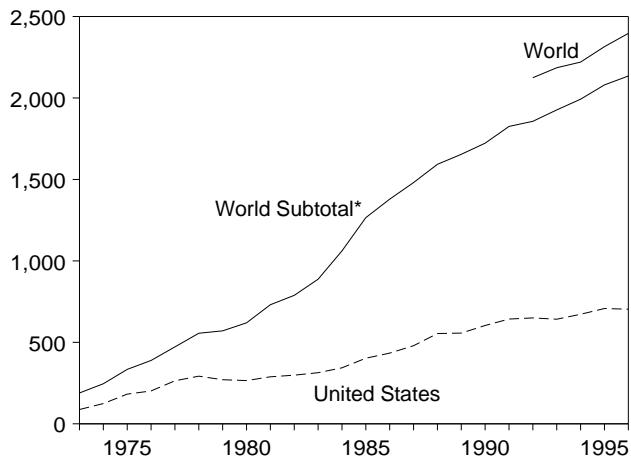
ownership, within each country in bulk terminals, refinery tanks, pipeline tankage, intercoastal tankers, tankers in port, and inland ship bunkers. Data exclude oil held in pipelines (except for those in the United States), rail and truck cars, sea-going ships' bunkers, service stations, retail stores, 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 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:** International Energy Agency, quarterly and monthly computer tapes supporting *Quarterly Oil Statistics and Energy Balances*.

Figure 10.5 Nuclear Electricity Gross Generation

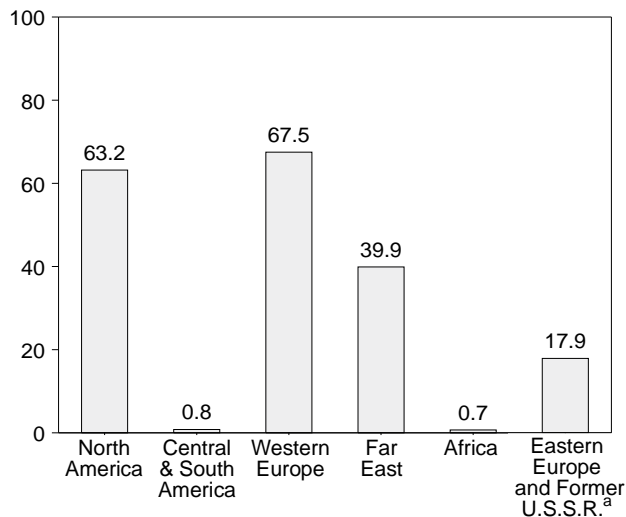
(Billion Kilowatthours)

U.S. and World, 1973-1996



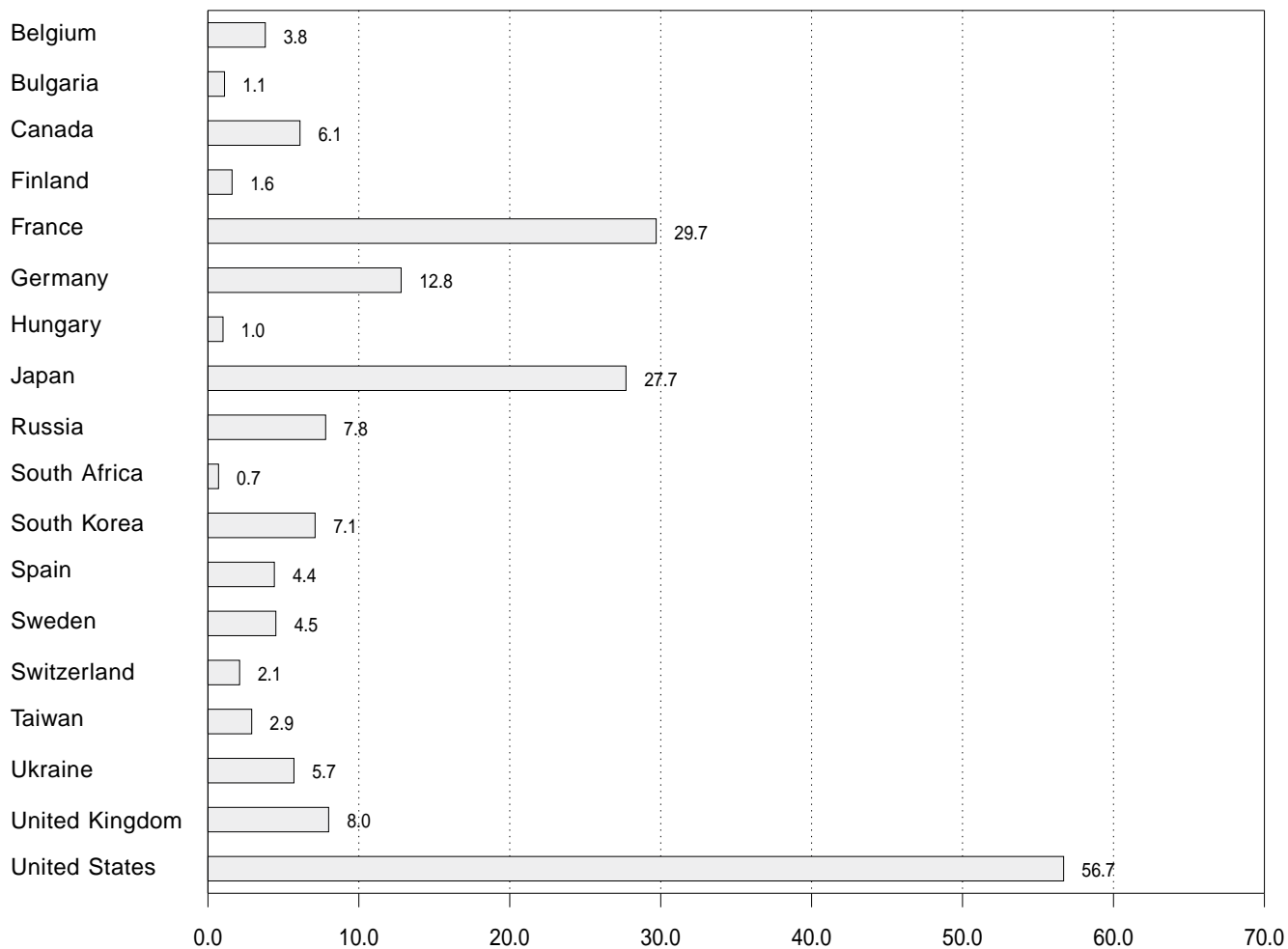
*World excluding Eastern Europe.

By Region, September 1997



^a Excludes several smaller generating countries. See Table 10.4e.

By Selected Country, September 1997



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 January	75.7	1.1	81.9	^C 31.2	1.0	190.9	^b 22.8	^b 213.7
February	63.1	1.0	70.2	^C 29.3	.7	164.3	^b 19.6	^b 183.9
March	64.5	1.0	74.4	^C 32.1	.7	172.6	^b 20.4	^b 193.0
April	59.8	.9	69.6	^C 30.8	.7	161.8	^b 17.6	^b 179.3
May	64.2	.9	62.9	^C 31.5	.8	160.3	^b 15.1	^b 175.4
June	67.3	.9	61.5	^C 30.2	1.1	161.0	^b 13.6	^b 174.6
July	75.1	1.0	^E 61.1	^C 36.5	1.1	174.8	^b 14.2	^b 189.0
August	^E 75.6	.6	^E 62.4	^C 39.3	1.2	179.0	^b 14.9	^b 193.9
September	^E 68.6	.9	^E 63.9	^C 32.4	1.3	167.2	^b 13.7	^b 180.8
October	^E 66.0	.4	^E 71.5	^C 32.5	1.2	171.6	^b 16.4	^b 187.9
November	^E 64.2	.5	^E 75.4	^C 32.6	1.1	173.7	^b 18.3	^b 192.0
December	^E 72.0	.5	^E 81.0	^C 35.6	1.0	190.1	^b 23.1	^b 213.2
Total	^E 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	^E 76.0	1.0	^E 83.4	^C 33.4	.7	194.5	^b 24.6	^b 219.1
February	^E 69.0	.8	^E 76.2	^C 30.5	.7	177.1	^b 23.3	^b 200.5
March	^E 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	^E 69.0	1.2	^E 84.3	^C 36.9	^E 1.1	^E 192.5	^b 23.3	^b 215.8
Total	^E 806.4	9.8	^E 879.5	^E 426.4	^E 12.5	^E 2,134.6	^E 261.6	^E 2,396.2
1997 January	^E 70.8	.9	83.3	^C 36.3	1.1	192.4	^b 25.6	^b 218.0
February	62.1	.9	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
9-Month Total	^E 571.9	8.7	^E 653.8	^E 337.4	9.6	1,581.3	^b 181.8	^b 1,763.2
1996 9-Month Total	^E 613.8	6.6	^E 643.3	^C 310.9	8.7	1,583.2	^b 174.6	^b 1,757.8
1995 9-Month Total	^E 613.9	8.3	^E 607.9	^C 293.3	8.6	1,531.9	^b 151.8	^b 1,683.7

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

^b Sum of available data only.

^c Total excluding China.

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

Notes: • Net figures are generally less than gross figures by about 5 percent, the difference being the energy consumed by the generating plants

themselves. • Monthly data may not sum to annual totals due to independent rounding and because precommercial generation is included in some annual totals but not in the monthly data. • Data for regions may not sum to totals due to independent rounding.

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

Table 10.4b Nuclear Electricity Gross Generation: North, Central, and South America
(Billion Kilowatthours)

	Canada	Mexico	United States	North America	Argentina	Brazil	Central and South America
1973 Total	15.3	—	87.8	103.1	—	—	—
1974 Total	15.4	—	124.3	139.7	1.0	—	1.0
1975 Total	13.2	—	182.3	195.5	2.5	—	2.5
1976 Total	18.0	—	201.8	219.8	2.6	—	2.6
1977 Total	26.6	—	264.2	290.8	1.6	—	1.6
1978 Total	33.0	—	292.4	325.4	2.9	—	2.9
1979 Total	38.4	—	270.6	309.0	2.7	—	2.7
1980 Total	40.4	—	265.4	305.8	2.3	—	2.3
1981 Total	43.3	—	288.5	331.8	2.8	—	2.8
1982 Total	42.6	—	298.6	341.2	1.9	0.1	1.9
1983 Total	53.0	—	313.6	366.6	3.4	.2	3.6
1984 Total	53.8	—	343.8	397.6	4.5	2.1	6.6
1985 Total	62.9	—	402.7	465.6	5.8	3.4	9.1
1986 Total	74.6	—	434.1	508.8	5.7	.1	5.8
1987 Total	80.6	—	479.5	560.1	5.2	1.0	6.2
1988 Total	85.6	—	554.1	639.7	5.1	.3	5.5
1989 Total	83.2	—	557.0	640.2	5.0	1.6	6.6
1990 Total	75.8	2.1	603.4	681.3	7.4	2.0	9.4
1991 Total	86.1	4.2	643.0	733.4	7.7	1.4	9.2
1992 Total	81.3	3.9	650.0	735.2	7.1	1.8	8.8
1993 Total	97.6	4.9	642.0	744.6	7.7	.4	8.1
1994 Total	110.7	4.2	672.4	787.3	8.2	.0	8.2
1995 January	9.0	.3	66.4	75.7	.7	.4	1.1
February	8.4	.4	54.3	63.1	.6	.3	1.0
March	9.5	.4	54.6	64.5	.7	.3	1.0
April	7.6	.6	51.7	59.8	.7	.2	.9
May	6.7	.5	57.1	64.2	.7	.2	.9
June	7.8	.5	59.0	67.3	.7	.2	.9
July	9.1	.9	65.1	75.1	.7	.2	1.0
August	9.5	.8	65.3	^E 75.6	.6	.1	.6
September	8.6	.8	59.3	^E 68.6	.7	.2	.9
October	8.1	.9	56.9	^E 66.0	.3	.1	.4
November	8.0	.8	55.4	^E 64.2	.2	.2	.5
December	8.4	.9	62.7	^E 72.0	.3	.2	.5
Total	^E 100.4	7.9	^E 707.7	^E 816.1	7.1	2.5	9.6
1996 January	9.3	1.0	^E 65.7	^E 76.0	.7	.3	1.0
February	9.3	.9	^E 58.8	^E 69.0	.6	.2	.8
March	10.2	.9	^E 57.8	^E 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	^E 59.8	^E 69.0	.7	.4	1.2
Total	^E 95.2	7.9	^E 703.3	^E 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
9-Month Total	64.7	7.7	^E 499.4	^E 571.9	5.8	2.9	8.7
1996 9-Month Total	71.3	6.2	^E 536.3	^E 613.8	5.5	1.1	6.6
1995 9-Month Total	76.0	5.3	^E 532.6	^E 613.9	6.3	2.0	8.3

—=Not applicable. E=Estimate.

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

some annual totals but not in the monthly data. • Data for countries may not sum to regional totals due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

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

Table 10.4c Nuclear Electricity Gross Generation: Western Europe
(Billion Kilowatthours)

	Belgium	Finland	France	Germany ^a	Italy ^b	Nether-lands	Slovenia	Spain	Sweden	Switzer-land	United Kingdom ^c	Western Europe
1973 Total	0.0	—	14.7	11.9	3.1	1.1	—	6.5	2.1	6.2	28.2	73.9
1974 Total	.1	—	14.7	12.0	3.4	3.3	—	7.2	2.3	7.0	33.8	83.9
1975 Total	6.8	—	18.3	21.7	3.8	3.3	—	7.5	12.0	7.7	30.5	111.7
1976 Total	10.0	—	15.8	24.5	3.8	3.9	—	7.6	16.0	7.9	36.8	126.2
1977 Total	11.9	2.7	17.9	36.0	3.4	3.7	—	6.5	19.9	8.1	38.1	148.1
1978 Total	12.5	3.3	30.6	35.7	4.5	4.1	—	7.6	23.8	8.3	36.6	166.9
1979 Total	11.4	6.7	39.9	42.2	2.6	3.5	—	6.7	21.0	11.8	38.5	184.3
1980 Total	12.5	7.0	61.2	43.7	2.2	4.2	—	5.2	26.7	14.3	37.2	214.2
1981 Total	12.8	14.5	105.2	53.4	2.7	3.7	—	9.4	37.7	15.2	38.9	293.4
1982 Total	15.6	16.5	108.9	63.4	6.8	3.9	—	8.8	38.8	15.0	44.1	321.8
1983 Total	24.1	17.4	144.2	65.8	5.8	3.6	NA	10.7	40.4	15.5	49.6	^d 377.2
1984 Total	27.7	18.5	191.2	92.6	6.9	3.8	NA	23.1	51.3	16.3	54.1	^d 485.4
1985 Total	34.5	18.8	224.0	125.8	7.0	3.9	NA	28.0	58.6	22.4	59.7	^d 582.8
1986 Total	38.6	18.8	254.3	118.9	8.7	4.2	NA	37.5	69.9	22.5	58.2	^d 631.5
1987 Total	41.9	19.4	265.5	130.2	.2	3.6	NA	41.2	67.2	23.0	56.2	^d 648.3
1988 Total	43.1	19.3	274.9	145.2	.0	3.7	NA	50.4	69.4	22.7	59.4	^d 688.1
1989 Total	41.2	18.8	302.5	149.6	.0	4.0	NA	56.1	65.6	22.8	71.6	^d 732.2
1990 Total	42.7	18.9	314.1	147.2	.0	3.4	NA	54.3	68.2	23.6	66.1	^d 738.6
1991 Total	42.9	19.2	331.4	147.3	.0	3.3	NA	55.6	76.8	22.9	70.4	^d 769.7
1992 Total	43.5	19.0	337.6	158.8	.0	3.8	^E 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 January	4.2	1.6	38.7	15.2	.0	.3	.5	5.4	7.2	2.4	6.4	81.9
February	3.7	1.5	31.7	13.1	.0	(s)	.4	4.6	6.2	2.2	6.8	70.2
March	3.6	1.8	34.4	12.4	.0	.1	.5	4.6	6.6	2.4	8.0	74.4
April	4.0	1.7	30.6	12.2	.0	.4	.3	4.3	6.5	2.0	7.5	69.6
May	3.4	1.3	28.3	10.2	.0	.4	.0	5.0	5.6	2.1	6.5	62.9
June	3.1	1.6	27.1	11.3	.0	.4	.4	4.7	3.5	1.6	7.9	61.5
July	2.5	1.7	28.2	11.2	.0	.4	.5	4.3	4.0	1.6	^E 6.8	^E 61.1
August	2.5	1.4	29.0	12.1	.0	.4	.4	4.3	4.5	1.3	^E 6.4	^E 62.4
September	2.7	1.6	27.9	12.5	.0	.4	.4	4.0	5.2	2.0	^E 7.2	^E 63.9
October	3.7	1.6	31.1	13.9	.0	.4	.5	4.1	6.6	2.4	^E 7.2	^E 71.5
November	3.8	1.4	34.4	14.8	.0	.4	.5	3.8	6.8	2.3	^E 7.2	^E 75.4
December	4.2	1.7	36.2	15.2	.0	.4	.5	5.4	7.3	2.4	^E 7.7	^E 81.0
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	^E 5.5	5.5	7.4	2.4	^E 10.4	^E 84.3
Total	43.3	19.5	397.0	161.7	.0	4.2	^E 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	83.3
February	4.0	1.7	32.4	14.2	.0	.1	.4	4.6	6.8	2.2	8.6	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	^E (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	^E 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
9-Month Total	34.3	15.1	^E 286.4	125.4	.0	^E 2.1	3.9	42.1	^E 51.5	18.4	^E 74.5	^E 653.8
1996 9-Month Total	32.3	14.2	291.9	116.9	.0	3.0	3.2	43.7	55.0	18.1	^E 64.9	^E 643.3
1995 9-Month Total	29.7	14.3	275.8	110.4	.0	2.8	3.4	41.2	49.2	17.7	^E 63.4	^E 607.9

^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.

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

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	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 January	^E .0	.7	23.1	(s)	4.8	2.5	^C 31.2	1.0
February	NA	.5	21.5	(s)	4.9	2.3	^C 29.3	.7
March	NA	.6	23.6	(s)	5.1	2.7	^C 32.1	.7
April	NA	.6	22.6	(s)	4.9	2.7	^C 30.8	.7
May	NA	.7	22.1	(s)	5.4	3.2	^C 31.5	.8
June	NA	.7	20.6	.1	5.5	3.4	^C 30.2	1.1
July	NA	.8	26.3	.1	6.1	3.3	^C 36.5	1.1
August	NA	.8	29.0	.1	5.9	3.4	^C 39.3	1.2
September	NA	.8	23.9	(s)	4.8	2.8	^C 32.4	1.3
October	NA	.5	23.8	.1	5.1	3.0	^C 32.5	1.2
November	NA	.5	23.5	(s)	5.5	3.0	^C 32.6	1.1
December	NA	.6	26.1	.1	5.9	2.9	^C 35.6	1.0
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	^E 1.1
Total	^E 14.3	8.3	293.2	.4	72.5	37.8	^E 426.4	^E 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
9-Month Total	NA	^E 8.4	235.6	.3	^E 59.1	^E 27.4	^E 337.4	9.6
1996 9-Month Total	NA	5.8	222.3	.3	54.3	28.1	^C 310.9	8.7
1995 9-Month Total	NA	6.3	212.8	.4	47.5	26.4	^C 293.3	8.6

^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.

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 January	—	2.2	NA	1.4	NA	NA	—	10.7	NA	8.5	^C 22.8
February	—	2.1	NA	1.1	NA	NA	—	8.9	NA	7.5	^C 19.6
March	—	1.9	NA	1.3	NA	.9	—	9.0	NA	7.3	^C 20.4
April	—	1.5	NA	1.1	NA	.7	—	7.8	NA	6.5	^C 17.6
May	—	1.3	NA	1.1	NA	.8	—	7.2	NA	4.8	^C 15.1
June	—	.9	NA	1.0	NA	.7	—	6.6	NA	4.4	^C 13.6
July	—	1.0	NA	1.1	NA	.8	—	7.4	NA	4.0	^C 14.2
August	—	.8	NA	1.0	NA	1.0	—	7.2	NA	4.8	^C 14.9
September	—	1.0	NA	1.1	NA	.9	—	6.5	NA	4.1	^C 13.7
October	—	1.2	NA	1.3	NA	1.0	—	7.8	NA	5.1	^C 16.4
November	NA	1.3	NA	1.2	NA	1.3	—	8.9	NA	5.7	^C 18.3
December	NA	1.9	NA	1.4	NA	1.7	—	10.5	NA	7.7	^C 23.1
Total	NA	17.2	^E 12.8	14.0	^E .4	^E 9.7	—	98.3	^E 12.0	70.4	^E 234.9
1996 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	—	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
9-Month Total	1.3	^E 11.3	NA	10.0	NA	9.0	2.6	77.4	NA	62.3	^C 181.8
1996 9-Month Total	NA	14.3	NA	10.3	NA	10.1	NA	80.7	NA	59.2	^C 174.6
1995 9-Month Total	—	12.8	NA	10.2	NA	5.7	—	71.3	NA	51.9	^C 151.8

^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.

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 a. • 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.

1980-1995: Office of Energy Markets and End Use, International Database, April 1997.

1996: Average of monthly data.

Other Countries: Monthly Data

1995-1997: *Petroleum Intelligence Weekly*, the *Oil and Gas Journal*, and other industry sources.

World: Annual Data

1973-1979: EIA, *International Energy Annual 1981*, Table 8.

1980-1995: Office of Energy Markets and End Use, International Database, April 1997.

1996: Average of monthly data.

World: Monthly Data

1995-1997: EIA, *International Petroleum Statistics Report*, sum of all countries' monthly data.

Appendix A. Thermal Conversion Factors

The thermal conversion factors presented in the following eight tables can be used to estimate the heat content in British thermal units (Btu) of a given amount of energy measured in physical units, such as barrels or cubic feet. For example, 10 barrels of asphalt have a heat content of approximately 66.36 million Btu (10 barrels x 6.636 million Btu/barrel = 66.36 million Btu).

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.

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." The source of each factor is described in the section entitled "Thermal Conversion Factor Source Documentation," which follows Table A8 in this appendix.

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 ^a	5.800	5.935	5.800	5.843	5.745	3.777
1997 ^a	5.800	5.935	5.800	5.843	5.745	3.777

^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					Imports	Exports	Liquefied Petroleum Gases Consumption
	Residential and Commercial	Industrial	Transportation	Electric Utilities	Total			
1973	5.387	5.568	5.395	6.245	5.515	5.983	5.752	3.746
1974	5.377	5.538	5.394	6.238	5.504	5.959	5.773	3.730
1975	5.358	5.528	5.392	6.250	5.494	5.935	5.747	3.715
1976	5.383	5.538	5.395	6.251	5.504	5.980	5.743	3.711
1977	5.389	5.555	5.400	6.249	5.518	5.908	5.796	3.677
1978	5.382	5.553	5.404	6.251	5.519	5.955	5.814	3.669
1979	5.471	5.418	5.428	6.258	5.494	5.811	5.864	3.680
1980	5.468	5.376	5.440	6.254	5.479	5.748	5.841	3.674
1981	5.409	5.313	5.432	6.258	5.448	5.659	5.837	3.643
1982	5.392	5.263	5.422	6.258	5.415	5.664	5.829	3.615
1983	5.286	5.273	5.415	6.255	5.406	5.677	5.800	3.614
1984	5.384	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	5.150	5.150	5.439	6.210	5.358	5.511	5.746	3.623
1996 ^a	5.135	5.130	5.441	6.206	5.352	5.495	5.738	3.613
1997 ^a	5.135	5.130	5.441	6.206	5.352	5.495	5.738	3.613

^a Preliminary.

Note: Weighted averages of the products included in each category are calculated by using heat content values shown in Table A1.

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

Table A4. Approximate Heat Content of Natural Gas
(Btu per Cubic Foot)

	Production		Consumption			Imports	Exports
	Dry	Marketed (Wet)	Sectors Other Than Electric Utilities	Electric Utilities	Total		
1973	1,021	1,093	1,020	1,024	1,021	1,026	1,023
1974	1,024	1,097	1,024	1,022	1,024	1,027	1,016
1975	1,021	1,095	1,020	1,026	1,021	1,026	1,014
1976	1,020	1,093	1,019	1,023	1,020	1,025	1,013
1977	1,021	1,093	1,019	1,029	1,021	1,026	1,013
1978	1,019	1,088	1,016	1,034	1,019	1,030	1,013
1979	1,021	1,092	1,018	1,035	1,021	1,037	1,013
1980	1,026	1,098	1,024	1,035	1,026	1,022	1,013
1981	1,027	1,103	1,025	1,035	1,027	1,014	1,011
1982	1,028	1,107	1,026	1,036	1,028	1,018	1,011
1983	1,031	1,115	1,031	1,030	1,031	1,024	1,010
1984	1,031	1,109	1,030	1,035	1,031	1,005	1,010
1985	1,032	1,112	1,031	1,038	1,032	1,002	1,011
1986	1,030	1,110	1,029	1,034	1,030	997	1,008
1987	1,031	1,112	1,031	1,032	1,031	999	1,011
1988	1,029	1,109	1,029	1,028	1,029	1,002	1,018
1989	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 ^a	1,027	1,109	1,027	1,024	1,027	1,022	1,011
1997 ^a	1,027	1,109	1,027	1,024	1,027	1,022	1,011

^a Preliminary.

R=Revised data.

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 ^c	21.277	23.118	26.800	21.950	20.495	20.845	25.000	26.180
1997 ^c	21.277	23.118	26.800	21.950	20.495	20.845	25.000	26.180

^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 ^b	21.271	22.767	26.800	21.931	20.502	20.845	25.000	26.187
1997 ^b	21.271	22.767	26.800	21.931	20.502	20.845	25.000	26.187

^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
	Production	Consumption			Imports and Exports	
		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 ^a	22.572	24.696	14.572	20.808	25.400	24.800
1997 ^a	22.572	24.696	14.572	20.808	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			Electricity Consumption
	Fossil-Fueled Steam-Electric Plants ^a	Nuclear Steam-Electric Plants	Geothermal Energy Plants	
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	10,317	10,724	21,096	3,412
1990	10,335	10,680	21,096	3,412
1991	10,352	10,740	20,997	3,412
1992	10,302	10,678	20,914	3,412
1993	10,280	10,682	20,914	3,412
1994	10,272	10,676	20,914	3,412
1995	10,301	10,658	20,914	3,412
1996 ^b	^E 10,301	10,623	20,960	3,412
1997 ^b	^E 10,301	10,623	20,960	3,412

^a This thermal conversion factor is used for hydroelectric power generation and for biomass fuels, wind, photovoltaic, and solar thermal energy consumed at electric utilities.

^b Preliminary.

^E=Estimated data.

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, Form EIA-412, 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	0.453 592 37 ^a	=	kilograms (kg)
	pounds uranium oxide (lb U ₃ O 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 (°F)	x	5/9 (after subtracting 32) ^{a,c}	=	degrees Celsius (°C)
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)

^aExact conversion.

^bCalculated by the Energy Information Administration.

^cTo convert degrees Celsius (°C) to degrees Fahrenheit (°F) exactly, multiply by 9/5, then add 32.

^dThe 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	<i>multiplied by</i>	Conversion Factor	<i>equals</i>	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	ords (cd)	x	1.25 ^b	=	short tons
	ords (cd)	x	128 ^a	=	cubic feet (ft ³)

^aExact conversion.

^bCalculated 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

The need for accurate estimates of carbon dioxide emissions produced during the combustion of coal has led the Energy Information Administration (EIA) to develop basic emission factors. Basic emission factors reflect the carbon-to-heat-content ratio of coal, a ratio which measures carbon dioxide emissions per unit of energy (pounds per million Btu), assuming complete combustion. These basic factors are derived from 5,426 sample analyses maintained in EIA's Coal Analysis File. Variations in the carbon-to-heat-content ratios of different coals were observed to follow coal rank and geographic origin, leading EIA to develop basic emission factors specific to the rank and the State of origin of the coal.

On the basis of these rank- and State-specific basic emission factors for coal, EIA has also developed emission factors by sector. These sectoral emission factors weight the coal consumed in a given sector by its rank and State of origin. Table C1 presents the U.S. average carbon dioxide emission factors for coal by sector. Emission factors differ among sectors and within a given sector over time for a number of reasons:

- 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).
- 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.
- 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.
- 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 Coal-Consuming Sector
(Pounds of Carbon Dioxide per Million Btu)

Year	Industrial			Electric Utilities	U.S. Average ^b
	Residential and Commercial	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

^aNo allowances have been made for carbon retained in non-energy coal chemical byproducts from the coal carbonization process.

^bWeighted 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
1997	
Energy Plug: <i>Annual Energy Outlook 1997</i>	January 1997
Energy Plug: <i>The Changing Structure of the Electric Power Industry: An Update</i>	January 1997
Energy Plug: <i>Performance Profiles of Major Energy Producers 1995</i>	January 1997
Energy Plug: <i>The Effects of Title IV of the Clean Air Act Amendments of 1990 on Electric Utilities: An Update</i>	March 1997
Energy Plug: <i>International Energy Outlook 1997</i>	April 1997
Energy Plug: <i>Restructuring Energy Industries: Lessons From Natural Gas</i>	May 1997
Energy Plug: <i>An Analysis of U.S. Propane Markets: Winter 1996-97</i>	June 1997
Energy Plug: <i>State Energy Price and Expenditure Report 1994</i>	June 1997
Energy Plug: <i>Annual Energy Review 1996</i>	July 1997
Energy Plug: <i>Motor Gasoline Assessment 1997</i>	July 1997
Energy Plug: <i>Commercial Buildings Characteristics 1995</i>	July 1997
Energy Plug: <i>Household Vehicles Energy Consumption 1994</i>	August 1997
Energy Plug: <i>Electricity Prices in a Competitive Environment</i>	August 1997
Energy Plug: <i>Petroleum 1996: Issues and Trends</i>	September 1997
Energy Plug: The Intricate Puzzle of Oil and Gas “Reserves Growth”	September 1997
Energy Plug: <i>Emissions of Greenhouse Gases in the United States 1996</i>	October 1997
Energy Plug: <i>Electricity Reform Abroad and U.S. Investment</i>	October 1997
Energy Plug: <i>Annual Energy Outlook 1998</i>	November 1997
1996	
Energy Plug: <i>Renewable Energy Annual 1995</i>	January 1996
Energy Plug: <i>State Energy Price and Expenditure Report 1993</i>	January 1996
Energy Plug: <i>Annual Energy Outlook 1996</i>	February 1996
Energy Plug: <i>Alternatives to Traditional Transportation Fuels 1994, Volume 1</i>	February 1996
Energy Snapshot: Describing Current and Potential Markets for Alternative-Fuel Vehicles	March 1996
Article: Energy Equipment Choices: Fuel Costs and Other Determinants	April 1996
Energy Plug: <i>International Energy Outlook 1996</i>	May 1996
Energy Plug: U.S. Electric Utility Demand-Side Management: Trends and Analysis	May 1996
Energy Plug: Country Analysis Brief: Iraq	June 1996
Energy Plug: <i>Annual Energy Review 1995</i>	July 1996
Energy Plug: <i>Voluntary Reporting of Greenhouse Gases 1995</i>	July 1996
Energy Plug: <i>Residential Lighting: Use and Potential Savings</i>	August 1996
Energy Plug: EIA Electronic Media Meet Customer Needs	August 1996
Energy Plug: <i>Alternatives to Traditional Transportation Fuels, Volume 2: Greenhouse Gas Emissions</i>	September 1996
Energy Plug: <i>State Energy Data Report 1994</i>	October 1996
Energy Plug: <i>Privatization and the Globalization of Energy Markets</i>	October 1996
Energy Plug: <i>Emissions of Greenhouse Gases in the United States 1995</i>	October 1996
Energy Plug: <i>Nuclear Power Generation and Fuel Cycle Report 1996</i>	November 1996
Energy Plug: Country Analysis Brief: Algeria	November 1996
Energy Plug: <i>Denver Clean-City Fleets Survey</i>	November 1996
Energy Plug: <i>Natural Gas 1996: Issues and Trends</i>	December 1996

Feature

Cover Date

1995

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

1994

Energy Preview: Commercial Buildings Energy Consumption Survey, Preliminary Estimates, 1992	January 1994
Highlights: <i>Household Vehicles Energy Consumption 1991</i>	February 1994
Highlights: <i>Energy Use and Carbon Emissions: Some International Comparisons</i>	April 1994
Highlights: <i>Commercial Buildings Characteristics 1992</i>	June 1994
Article: Demand, Supply, and Price Outlook for Reformulated Motor Gasoline 1995	July 1994
Article: Commercial Nuclear Electric Power in the United States: Problems and Prospects	August 1994
Highlights: <i>Reducing Home Heating and Cooling Costs</i>	August 1994
Energy Preview: Commercial Buildings Energy Consumption and Expenditures 1992, Preliminary Estimates	September 1994
Article: Carbon Dioxide Emission Factors for Coal: A Summary	September 1994
Article: The Impact of Flow Control and Tax Reform on Ownership and Growth in the U.S. Waste-to-Energy Industry	September 1994
EIA Data News: Data Collection on Alternative-Fuel Vehicles	October 1994
Highlights: <i>Energy End-Use Intensities in Commercial Buildings</i>	October 1994
Article: Change in Method for Estimating Fuel Economy for the Residential Transportation Energy Consumption Survey	October 1994
Article: Comparability of Supply- and Consumption-Derived Estimates of Manufacturing Energy Consumption	October 1994
Energy Preview: Housing Characteristics 1993, Selected Preliminary Estimates	November 1994
Energy Preview: Propane-Provider Fleet Survey 1993, Preliminary Estimates	November 1994
Energy Preview: Atlanta Private Fleet Survey 1994, Preliminary Estimates	December 1994

1993

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

1992

Energy Preview: Residential Energy Consumption and Expenditures Preliminary Estimates, 1990	April 1992
EIA Data News: Oxygenate Data Collection Begins	May 1992
Highlights: <i>Lighting in Commercial Buildings</i>	June 1992
Article: Demand, Supply, and Price Outlook for Oxygenated Gasoline, Winter 1992-1993	August 1992

Feature	Cover Date
1992 (Continued)	
EIA Data News: EIA Statistics on Electric Utility Demand-Side Management	September 1992
EIA Data News: EIA Statistics on Nonutility Power Producers	October 1992
Highlights: <i>Derived Annual Estimates of Manufacturing Energy Consumption, 1974-1988</i>	November 1992
Article: Energy Efficiency in the Manufacturing Sector	December 1992
1991	
Highlights: <i>U.S. Energy Industry Financial Developments, 1990 Fourth Quarter</i>	March 1991
Article: U.S. Wholesale Electricity Transactions	April 1991
1990	
Article: Refining Results Highlight Energy Companies' First-Half Profit Performance	June 1990
Highlights: <i>U.S. Oil and Gas Reserves by Year of Field Discovery</i>	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: <i>Commercial Buildings Consumption and Expenditures 1986</i>	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: <i>Potential Costs of Restricting Chlorofluorocarbon Use</i>	September 1989
Highlights: <i>Manufacturing Energy Consumption Survey: Changes in Energy Efficiency, 1980-1985</i>	October 1989
Highlights: <i>Household Energy Consumption and Expenditures 1987, Part 1: National Data</i>	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: <i>Characteristics of Commercial Buildings 1986</i>	June 1988
Article: State Energy Severance Taxes, 1972-1987	July 1988
Highlights: <i>Manufacturing Energy Consumption Survey: Consumption of Energy, 1985</i>	September 1988
Highlights: <i>Profiles of Foreign Direct Investment in U.S. Energy 1987</i>	October 1988
Highlights: <i>Manufacturing Energy Consumption Survey: Fuel Switching, 1985</i>	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: <i>Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data</i>	April 1987
Highlights: <i>Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data</i>	May 1987
Article: U.S. Energy Industry Financial Developments, 1987 Second Quarter	June 1987
Article: End-Use Consumption of Residential Energy	July 1987
Highlights: <i>Uranium Industry Annual 1986</i>	September 1987
Highlights: <i>Potential Oil Production from ANWR</i>	October 1987
Highlights: <i>Profiles of Foreign Direct Investment in U.S. Energy 1986</i>	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: <i>International Energy Annual 1985</i>	September 1986
Article: U.S. Energy Industry Financial Developments, 1986	December 1986
1985	
Highlights: <i>Annual Energy Review 1984</i>	January 1985
Highlights: <i>Performance Profiles of Major Energy Producers 1983</i>	February 1985
Article: Estimating Well Completions	March 1985
Highlights: <i>State Energy Price and Expenditure Report 1970-1982</i>	March 1985

Feature	Cover Date
1985 (Continued)	
Highlights: <i>State Energy Data Report, Consumption Estimates, 1960-1983</i>	April 1985
Highlights: <i>Annual Outlook for U.S. Electric Power 1985</i>	June 1985
Highlights: <i>Short-Term Energy Outlook, Volume 1, October 1985</i>	August 1985
Highlights: Analysis of Growth in Electricity Demand, 1980-1984	August 1985
Highlights: <i>Profiles of Foreign Direct Investment in U.S. Energy 1984</i>	November 1985
Highlights: <i>Performance Profiles of Major Energy Producers 1984</i>	December 1985
1984	
Highlights: <i>Annual Energy Review 1983</i>	February 1984
Highlights: <i>Annual Energy Outlook 1983</i>	March 1984
Highlights: <i>State Energy Data Report, Consumption Estimates, 1960-1982</i>	March 1984
Highlights: <i>State Energy Price and Expenditure Report, 1970-1981</i>	May 1984
Highlights: <i>Solar Collector Manufacturing Activity 1983</i>	June 1984
Highlights: <i>International Energy Annual 1983</i>	September 1984
Highlights: <i>Estimates of U.S. Wood Energy Consumption, 1980-1983</i>	September 1984
Highlights: <i>Energy Conservation Indicators 1983 Annual Report</i>	November 1984
Highlights: <i>Annual Energy Outlook 1984</i>	December 1984
1983	
Highlights: <i>Residential Energy Consumption Survey: Consumption and Expenditures</i>	January 1983
Highlights: <i>Residential Energy Consumption Survey: Housing Characteristics</i>	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: <i>Energy Price and Expenditure Data Report, 1970-1980</i>	July 1983
Highlights: <i>Railroad Deregulation: Impact on Coal</i>	August 1983
Highlights: <i>Port Deepening and User Fees: Impact on U.S. Coal Exports</i>	August 1983
Highlights: <i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1982 Annual Report</i>	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: <i>U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1981 Annual Report</i> ..	September 1982
Article: Impacts of Financial Constraints on the Electric Utility Industry	October 1982
Highlights: <i>Energy Company Development Patterns in the Postembargo Era</i>	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

Feature	Cover Date
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: A hard, black, lustrous coal containing a high percentage of fixed carbon and a low percentage of volatile matter. Often referred to as hard coal. It conforms to ASTM Specification D388-84 for anthracite, meta-anthracite, and semianthracite.

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 reformat). Excludes oxygenates (alcohols and ethers), butane, and pentanes plus.

Aviation Gasoline, Finished: All special grades of gasoline for use 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, with a moisture content usually less than 20 percent. Often referred to as soft coal. It is the most common coal and is used primarily for generating electricity, making coke, and space heating. It conforms to ASTM Specification D388-84 for bituminous coal. In this report, bituminous coal includes subbituminous coal.

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**.

Butane: A normally gaseous straight-chain or branched-chain hydrocarbon (C₄H₁₀). 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 (C₄H₈) 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.

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 black or brownish-black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, subbituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. Coal rank indicates the progressive alteration, or coalification, from lignite to anthracite. Lignite contains approximately 9 to 17 million Btu per ton. The heat contents of subbituminous and bituminous coal range from 16 to 24 million Btu per ton, and from 19 to 30 million Btu per ton, respectively. Anthracite contains approximately 22 to 28 million Btu per ton.

Coal Coke: A hard, porous product made from baking bituminous coal in ovens at temperatures as high as 2,000° F. It is used both as a fuel and as a reducing agent in smelting iron ore in a blast furnace.

Commercial Sector: The commercial sector, as 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.

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.

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 Lading and Quality Report) rather than pay 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 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.

Dry Natural Gas Production (as a decrement from gas reserves): The volume of natural gas withdrawn from reservoirs during the report year less (1) the volume returned to such reservoirs in cycling, repressuring of oil reservoirs, and conservation operations; (2) shrinkage resulting from the removal of lease condensate and plant liquids; and (3) nonhydrocarbon gases, where they occur in sufficient quantity to render the gas unmarketable. Volumes of gas withdrawn from gas storage reservoirs and native gas that has been transferred to the storage category are not considered production. This is not the same as marketed production, since the latter also excludes vented and flared gas but contains liquids.

Dry Natural Gas Production (as an increment to gas supply): Gross withdrawals from production reservoirs less gas used in reservoir repressuring, amounts vented and flared, nonhydrocarbons removed, and various natural gas constituents, such as ethane, propane, and butane, removed at natural gas processing plants. The parameters for measurement are 60° F and 14.73 pounds standard per square inch absolute.

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. Also the amount of electric energy produced or expressed in watt-hours (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 kilowatt-hours 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: The electric utility sector consists of privately and publicly owned establishments that generate, transmit, distribute, or sell electricity primarily for use by the public and that 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 kilowatt-hours, 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 (C₂H₆). 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.

Ethylene: An olefinic hydrocarbon (C₂H₄) 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.

f.a.s.: See **Free Alongside Ship**.

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

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 (C₂H₅OH) 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 (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) limited to 10 percent by volume of alcohol. Gasohol is included in finished leaded and unleaded motor 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.

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

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.

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. 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.

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.

Industrial Sector: The 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.

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.

Jet Fuel: The term includes kerosene-type jet fuel and naphtha-type jet fuel. Kerosene-type jet fuel is a kerosene-quality product used primarily for commercial turbojet and turboprop aircraft engines. Naphtha-type jet fuel is a fuel in the heavy naphthas range used primarily for military turbojet and turboprop aircraft engines.

Kerosene: A petroleum distillate that has 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.

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 natural gas liquid recovered from gas well gas (associated and non-associated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons.

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: A brownish-black coal of low rank with a high content of moisture and volatile matter. Often referred to as brown coal. It is used almost exclusively for electric power generation. It conforms to ASTM Specification D388-84 for lignite.

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.

Methanol: A light, volatile alcohol (CH_3OH) eligible for motor gasoline blending. See **Oxygenates**.

Miscellaneous Petroleum Products: All finished petroleum products not classified elsewhere—for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

Motor Gasoline Blending Components: Naphthas that will be used for blending or compounding into finished motor gasoline (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, and zylene). Excluded are oxygenates (alcohols and ethers), butane, and pentanes plus.

Motor Gasoline, Finished: A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that has been blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as given in ASTM Specification D439 or Federal Specification VV-G-1690B, includes a range in distillation temperatures from 122 to 158° F at the 10-percent recovery point and from 365 to 374° F at the 90-percent recovery point. Motor gasoline includes reformulated motor gasoline, oxygenated motor gasoline, and other finished motor gasoline. Blendstock is excluded until blending has been completed.

- *Reformulated Motor Gasoline:* Motor gasoline, formulated for use in motor vehicles, the composition and properties of which are certified as "reformulated motor gasoline" by the Environmental Protection Agency.
- *Oxygenated Motor Gasoline:* Motor gasoline, formulated for use in motor vehicles, that has an oxygen content of 1.8 percent or higher by weight.
- *Other Finished Motor Gasoline:* Motor gasoline that is not included in the reformulated or oxygenated categories.

Motor Gasoline, Finished Gasohol: A blend of finished motor gasoline (leaded or unleaded) and alcohol (generally ethanol, but sometimes methanol) in which 10 percent or more of the product is alcohol.

Motor Gasoline, Finished Leaded: Motor gasoline that contains more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes leaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

Motor Gasoline, Finished Leaded Premium: Motor gasoline having an antiknock index, calculated as $(R+M)/2$, greater than 90 and containing more than 0.05 gram of lead per gallon or more than 0.005 gram of phosphorus per gallon.

Motor Gasoline, Finished Leaded Regular: Motor gasoline having an antiknock index, calculated as $(R+M)/2$, greater than or equal to 87 and less than or equal to 90 and containing more than 0.05 gram of lead or 0.005 gram of phosphorus per gallon.

Motor Gasoline, Finished Unleaded: Motor gasoline containing not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating. Includes unleaded gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

Motor Gasoline, Finished Unleaded Midgrade: Motor gasoline having an antiknock index, calculated as $(R+M)/2$, greater than or equal to 88 and less than or equal to 90 and containing not more than 0.05 gram of phosphorus per gallon.

Motor Gasoline, Finished Unleaded Premium: Motor gasoline having an antiknock index, calculated as $(R+M)/2$, greater than 90 and containing not more than 0.05 gram of lead or 0.005 gram of phosphorus per gallon.

Motor Gasoline, Finished Unleaded Regular: Motor gasoline having an antiknock index, calculated as $(R+M)/2$, of 87 containing not more than 0.05 gram of lead per gallon and not more than 0.005 gram of phosphorus per gallon.

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: Includes finished leaded motor gasoline (premium and regular), finished unleaded motor gasoline (premium, midgrade, and regular), motor gasoline blending components, and gasohol.

MTBE (Methyl Tertiary Butyl Ether): An ether, $(CH_3)_3COCH_3$, intended for motor gasoline blending. See **Oxygenates**.

Naphtha: A generic term applied to a petroleum fraction with an approximate boiling range between 122 and 400° F.

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

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

Natural Gas Marketed Production: Gross withdrawals of natural gas from production reservoirs, less gas used for reservoir repressuring; nonhydrocarbon gases removed in treating and processing operations; and quantities vented and flared.

Natural Gas Plant Liquids (NGPL): Natural gas liquids recovered from natural gas in processing plants and, in some situations, from natural gas field facilities, as well as those extracted by fractionators. Natural gas plant liquids are defined according to the published specifications of the Gas Processors Association and the American Society for Testing and Materials as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

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

Natural Gas, Wet: Natural gas prior to the extraction of liquids and other miscellaneous products.

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

Nonhydrocarbon Gases: Typical nonhydrocarbon gases that may be present in reservoir natural gas are carbon dioxide, helium, hydrogen sulfide, and nitrogen.

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.

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 (Including Lease Condensate)**.

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 (nuclear): A U.S. nuclear generating unit is considered operable after it completes low-power testing and is issued a full-power operating license by the Nuclear Regulatory Commission. A foreign nuclear generating unit is considered operable once it has generated electricity to the grid.

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 Motor Gasoline: See **Motor Gasoline, Finished**.

Oxygenates: Any substance which, when added to motor gasoline, increases the amount of oxygen in that motor gasoline blend. Through a series of waivers and interpretive rules, the Environmental Protection Agency (EPA) has determined the allowable limits for oxygenates in unleaded gasoline. The "Substantially Similar" Interpretive Rules (56 FR [February 11, 1991]) allows blends of aliphatic alcohols other than methanol and aliphatic ethers, provided the oxygen content does not exceed 2.7 percent by weight. The "Substantially Similar" Interpretive Rules also provide for blends of methanol up to 0.3 percent by volume exclusive of other oxygenates, and butanol or alcohols of a higher molecular weight up to 2.75 percent by weight. Individual waivers pertaining to the use of oxygenates in unleaded motor gasoline have been issued by the EPA. They include:

- *Fuel Ethanol.* Blends of up to 10 percent by volume anhydrous ethanol (200 proof).
- *Methanol.* Blends of methanol and gasoline-grade tertiary butyl alcohol (GTBA) such that the total oxygen content does not exceed 3.5 percent by weight and the ratio of methanol to GTBA is less than or equal to 1.

It is also specified that this blended fuel must meet ASTM volatility specifications.

Blends of up to 5.0 percent by volume methanol with a minimum of 2.5 percent by volume co-solvent alcohols having carbon number of 4 or less (i.e., ethanol, propanol, butanol, and/or GTBA). The total oxygen must not exceed 3.7 percent by weight, and the blend must meet ASTM volatility specifications as well as phase separation and alcohol purity specifications.

- *MTBE (Methyl tertiary butyl ether).* Blends up to 15.0 percent by volume MTBE that must meet the ASTM D4814 specifications. Blenders must take precautions that the blends are not used as base gasolines for other oxygenated blends.

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: A residue that is the final product of the condensation process in cracking. The product is either marketable petroleum coke or catalyst petroleum coke.

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

Pipeline Fuel: Gas consumed in the operation of pipelines, primarily in compressors.

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

Propane: A normally gaseous straight-chain hydrocarbon (C₃H₈). 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 (C₃H₆) recovered from refinery or petrochemical processes.

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: The residential sector is considered to consist 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**.

Solar Energy: The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.

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-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.

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

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.

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

Transportation Sector: The 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.

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.

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

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

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

Working Gas: The gas in a reservoir that is in addition to the base (cushion) gas. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any given season.

Energy Plugs:

Winter Heating Fuels Assessments
West Siberian Basin Resources