

**May 2011**

# Monthly Energy Review



# Monthly Energy Review

The *Monthly Energy Review (MER)* is the U.S. Energy Information Administration's (EIA) primary report of recent and historical energy statistics. Included are statistics on total energy production, consumption, trade, and energy prices; overviews of petroleum, natural gas, coal, electricity, nuclear energy, renewable energy, and international petroleum; carbon dioxide emissions; and data unit conversions.

Release of the MER is in keeping with responsibilities given to EIA in Public Law 95-91 (Department of Energy Organization Act), which states, in part, in Section 205(a)(2):

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

The MER is intended for use by Members of Congress, Federal and State agencies, energy analysts, and the general public. EIA welcomes suggestions from readers regarding the content of the MER and other EIA publications.

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## Important Notes About the Data

***Data Displayed:*** For tables beginning in 1973, some annual data (usually 1974, 1976-1979, 1981-1984, 1986-1989, and 1991-1994) are not shown in the tables in Portable Document Format (PDF) files; however, all annual data are shown in the Excel and comma-separated values (CSV) files. Also, only two to three years of monthly data are displayed in the PDF files; however, for many series, monthly data beginning with January 1973 are available in the Excel and CSV files.

***Comprehensive Changes:*** Each month, most MER tables and figures carry a new month of data, which is usually preliminary (and sometimes estimated or even forecast) and likely to be revised in the succeeding month.

***Annual Data From 1949:*** The emphasis of the MER is on recent monthly and annual data trends. Analysts may wish to use the data in this report in conjunction with EIA's *Annual Energy Review (AER)* that offers annual data beginning in 1949 for many of the data series found in the MER. The AER is available at <http://www.eia.gov/totalenergy/data/annual>.

## Electronic Access

The MER is available on EIA's website in a variety of formats at <http://www.eia.gov/totalenergy/data/monthly>.

- Full report and sections: PDF files
- Report tables: PDF files
- Table data (unrounded): Excel and CSV files
- Graphs: PDF files

Note: PDF files display selected annual and monthly data; Excel and CSV files display all available annual and monthly data, often at a greater level of precision than the PDF files.

***Timing of Release:*** The MER is posted on the EIA website by the last work day of the month at <http://www.eia.gov/totalenergy/data/monthly>.

# Monthly Energy Review

## May 2011

**U.S. Energy Information Administration**  
Office of Energy Statistics  
U.S. Department of Energy  
Washington, DC 20585

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# 1

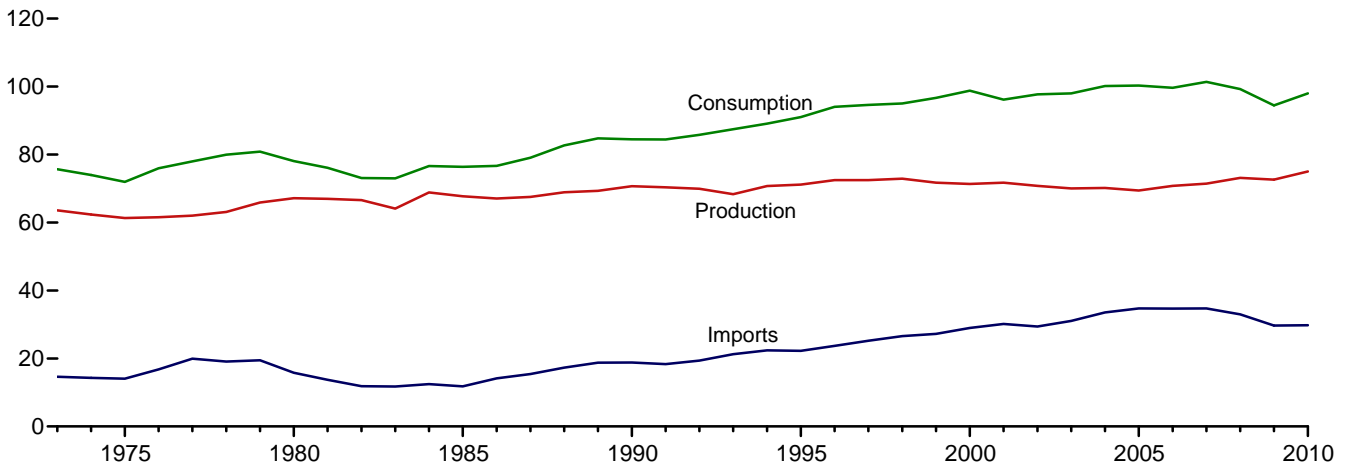
## Energy Overview



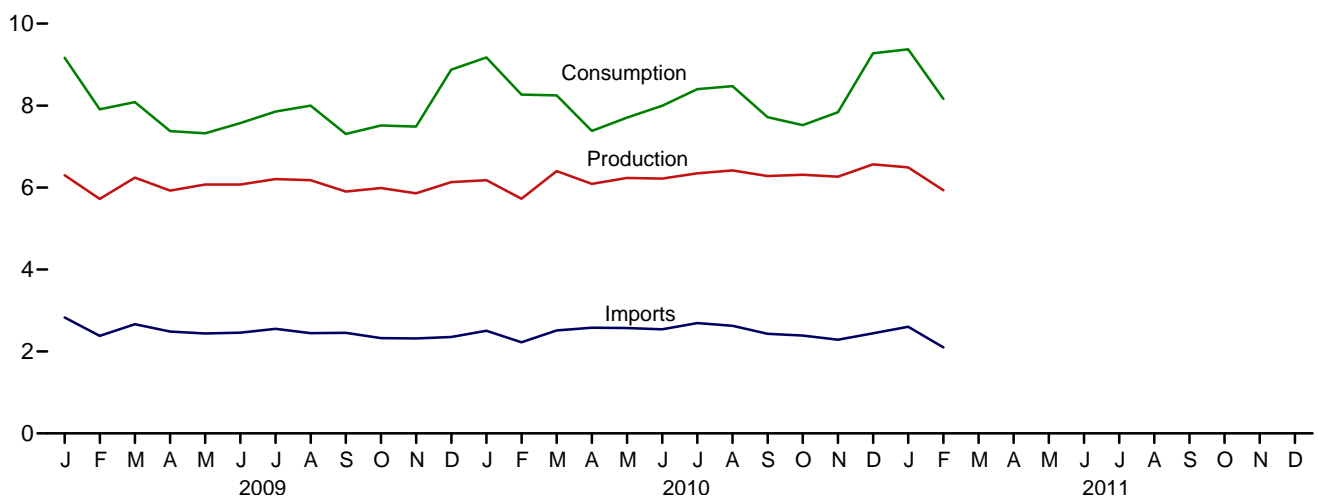
The continental United States at night from orbit. Source: National Oceanic and Atmospheric Administration satellite imagery; mosaic provided by U.S. Geological Survey.

**Figure 1.1 Primary Energy Overview**  
(Quadrillion Btu)

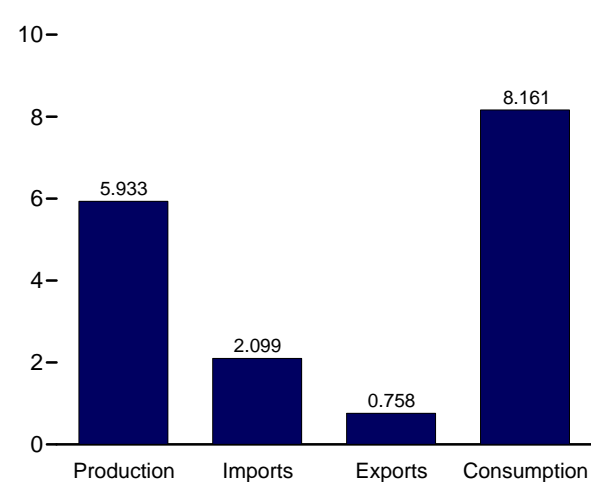
Consumption, Production, and Imports, 1973-2010



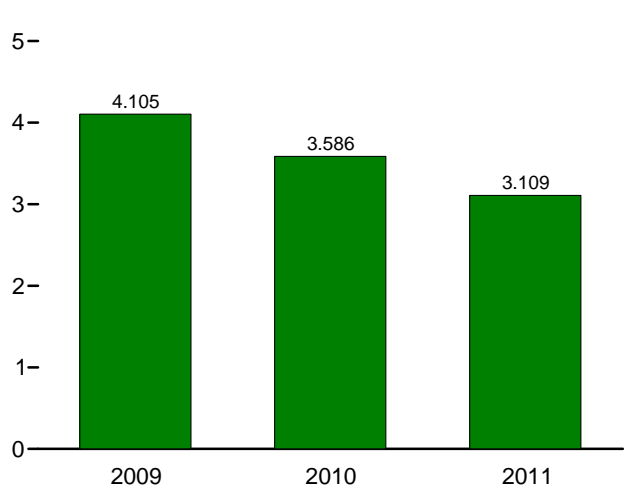
Consumption, Production, and Imports, Monthly



Overview, February 2011



Net Imports, January-February



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.  
Source: Table 1.1.

**Table 1.1 Primary Energy Overview**  
(Quadrillion Btu)

	Production				Trade			Stock Change and Other <sup>d</sup>	Consumption			
	Fossil Fuels <sup>a</sup>	Nuclear Electric Power	Renewable Energy <sup>b</sup>	Total	Imports	Exports	Net Imports <sup>c</sup>		Fossil Fuels <sup>e</sup>	Nuclear Electric Power	Renewable Energy <sup>b</sup>	Total <sup>f</sup>
1973 Total	58.241	0.910	4.411	63.563	14.613	2.033	12.580	-0.459	70.314	0.910	4.411	75.684
1975 Total	54.733	1.900	4.687	61.320	14.032	2.323	11.709	-1.065	65.357	1.900	4.687	71.965
1980 Total	59.008	2.739	5.428	67.175	15.796	3.695	12.101	-1.210	69.828	2.739	5.428	78.067
1985 Total	57.539	4.076	6.084	67.698	11.781	4.196	7.584	1.110	66.093	4.076	6.084	76.392
1990 Total	58.560	6.104	6.041	70.705	18.817	4.752	14.065	-.284	72.332	6.104	6.041	84.485
1995 Total	57.540	7.075	6.558	71.174	22.260	4.511	17.750	R 2.105	77.259	7.075	R 6.560	91.029
1996 Total	58.387	7.087	7.012	72.486	23.702	4.633	19.069	2.468	79.785	7.087	7.014	94.022
1997 Total	58.857	6.597	7.018	72.472	25.215	4.514	20.701	1.429	80.873	6.597	7.016	94.602
1998 Total	59.314	7.068	6.494	72.876	26.581	4.299	22.281	-.140	81.369	7.068	6.493	95.018
1999 Total	57.614	7.610	6.517	71.742	27.252	3.715	23.537	R 1.372	82.427	7.610	6.516	96.652
2000 Total	57.366	7.862	6.104	71.332	28.973	4.006	24.967	2.515	84.731	7.862	6.106	98.814
2001 Total	58.541	8.029	5.164	71.735	R 30.157	R 3.771	26.386	R -1.953	82.902	8.029	5.163	96.168
2002 Total	56.894	8.145	5.734	70.773	R 29.408	R 3.669	25.739	R 1.181	83.747	8.145	5.729	R 97.693
2003 Total	56.099	7.959	5.982	70.040	31.061	4.054	27.007	.931	84.014	7.959	5.983	97.978
2004 Total	55.895	8.222	6.070	70.188	R 33.544	R 4.434	29.110	.850	85.805	8.222	6.082	100.148
2005 Total	55.038	8.161	6.229	69.427	R 34.709	R 4.560	30.149	.701	85.790	8.161	6.242	100.277
2006 Total	55.968	8.215	6.608	70.792	R 34.679	R 4.872	R 29.806	R -.974	84.687	8.215	6.659	99.624
2007 Total	56.447	8.455	6.537	71.440	R 34.703	R 5.482	R 29.221	R .703	86.251	8.455	6.551	R 101.363
2008 Total	57.482	8.427	7.205	73.114	R 32.992	R 7.060	R 25.932	R .222	83.540	8.427	7.190	R 99.268
2009 January	4.898	.775	.627	6.300	R 2.829	R .598	R 2.231	R .633	7.760	.775	.622	9.165
February	4.506	.672	.545	5.722	R 2.379	R .505	R 1.874	R .312	6.691	.672	.537	7.908
March	4.913	.703	.624	6.240	R 2.666	R .558	R 2.107	R -.261	6.757	.703	.621	8.086
April	4.654	.621	.649	5.924	2.487	R .507	R 1.980	-.528	6.097	.621	.653	7.377
May	4.701	.684	.690	6.075	R 2.437	R .537	R 1.900	R -.651	5.936	.684	.694	7.324
June	4.663	.729	.683	6.075	R 2.458	R .566	R 1.892	R -.394	6.149	.729	.685	7.573
July	4.799	.763	.643	6.205	R 2.552	R .620	R 1.932	R -.283	6.433	.763	.643	7.853
August	4.807	.756	.615	6.178	R 2.447	R .596	R 1.851	R -.028	6.614	.756	R .615	8.001
September	4.647	.688	.568	5.903	R 2.455	R .600	R 1.855	-.450	6.043	.688	.567	7.308
October	4.756	.607	.627	5.990	R 2.327	R .648	R 1.679	R -.156	6.268	.607	.627	7.513
November	4.599	.618	.642	5.859	R 2.317	R .601	R 1.716	R -.087	6.224	.618	.637	7.488
December	4.701	.740	.692	6.133	R 2.353	R .629	R 1.724	R 1.023	7.443	.740	.686	8.879
Total	56.644	8.356	7.603	72.603	R 29.706	R 6.965	R 22.741	R -.869	R 78.415	8.356	7.587	94.475
2010 January	4.749	.759	.669	6.178	2.505	R .589	R 1.916	R 1.083	7.740	.759	.662	9.176
February	4.438	.682	.604	5.725	2.223	R .554	1.670	.873	6.974	.682	.600	8.268
March	5.050	.676	.677	6.404	2.513	R .649	R 1.864	R -.021	6.889	.676	.672	8.247
April	4.833	.603	.652	6.088	2.577	R .680	R 1.897	R -.604	6.118	.603	.652	7.381
May	4.820	.697	.716	6.233	2.572	R .701	R 1.872	R -.400	6.289	.697	.714	7.705
June	4.754	.714	.748	6.217	2.538	R .780	R 1.858	R -.079	6.521	.714	.752	7.996
July	4.898	.752	.696	6.346	2.692	R .711	R 1.981	R .072	6.939	.752	.699	8.399
August	5.012	.749	.656	6.416	2.624	R .692	R 1.932	R .128	7.065	.749	.657	8.476
September	4.940	.726	.616	6.282	2.430	R .669	1.762	R -.326	6.374	.726	.616	7.717
October	5.020	.656	.637	6.314	2.387	.708	1.679	R -.468	6.229	.656	.637	7.524
November	4.933	.655	.678	6.266	2.286	.753	R 1.533	.038	R 6.504	.655	.675	R 7.837
December	5.080	.771	.714	6.564	R 2.443	R .787	1.656	1.055	7.782	.771	.714	9.275
Total	58.527	8.441	8.064	75.031	R 29.792	R 8.173	R 21.619	R 1.352	R 81.424	8.441	8.049	R 98.002
2011 January	R 4.992	.761	.740	R 6.493	R 2.604	R .835	R 1.769	R 1.113	R 7.881	.761	.724	R 9.375
February	4.556	.678	.700	5.933	2.099	.758	1.341	.888	6.783	.678	.693	8.161
2-Month Total	9.548	1.439	1.440	12.426	4.702	1.593	3.109	2.001	14.663	1.439	1.418	17.536
2010 2-Month Total	9.187	1.442	1.274	11.903	4.728	1.143	3.586	1.956	14.715	1.442	1.263	17.444
2009 2-Month Total	9.404	1.447	1.172	12.023	5.208	1.103	4.105	.945	14.451	1.447	1.159	17.072

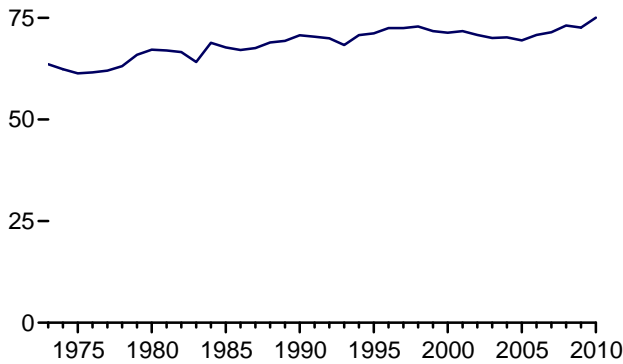
<sup>a</sup> Coal, natural gas (dry), crude oil, and natural gas plant liquids.  
<sup>b</sup> See Tables 10.1–10.2c for notes on series components and estimation; and see Note, "Renewable Energy Production and Consumption," at end of Section 10.  
<sup>c</sup> Net imports equal imports minus exports.  
<sup>d</sup> Includes petroleum stock change and adjustments; natural gas net storage withdrawals and balancing item; coal stock change, losses, and unaccounted for; fuel ethanol stock change; and biodiesel stock change and balancing item.  
<sup>e</sup> Coal, coal coke net imports, natural gas, and petroleum.  
<sup>f</sup> Also includes electricity net imports.  
R=Revised.

Notes: • See "Primary Energy," "Primary Energy Production," and "Primary Energy Consumption," in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1973.  
Sources: • **Production:** Table 1.2. • **Trade:** Tables 1.4a and 1.4b. • **Stock Change and Other:** Calculated as consumption minus production and net imports.  
• **Consumption:** Table 1.3.

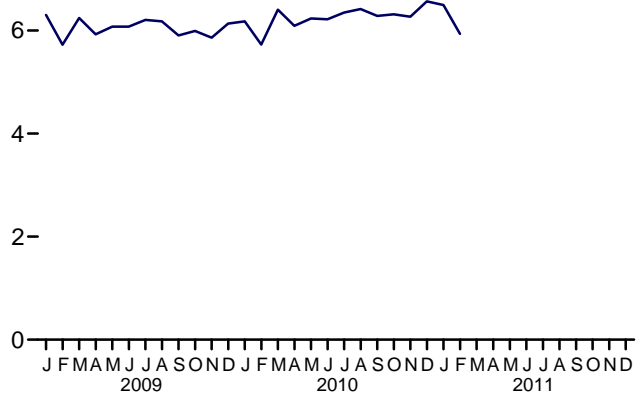
Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rate is used as the thermal conversion factor for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources—hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.** See Table A6.

**Figure 1.2 Primary Energy Production**  
(Quadrillion Btu)

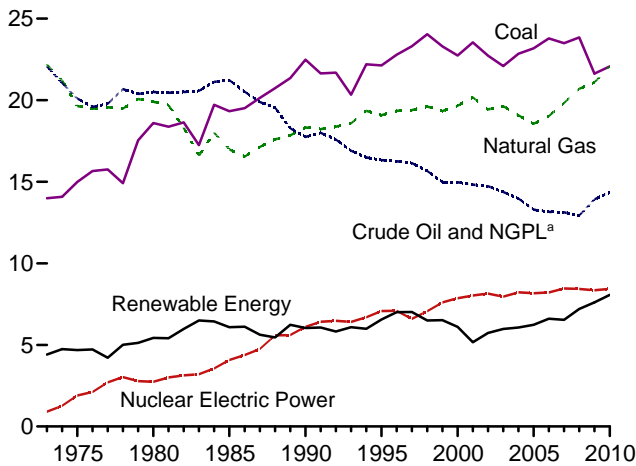
Total, 1973-2010  
100-



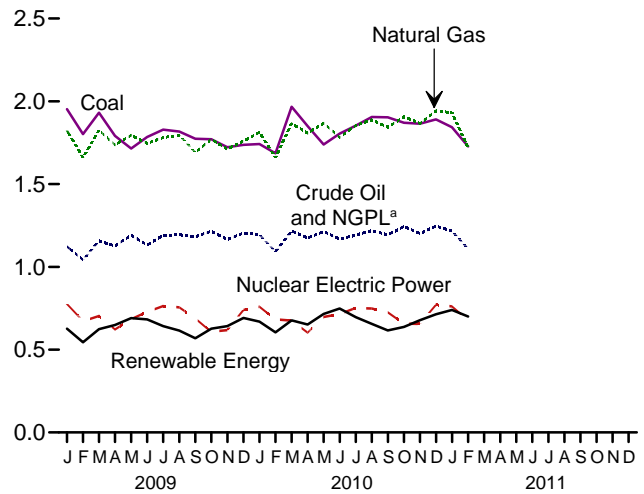
Total, Monthly  
8-



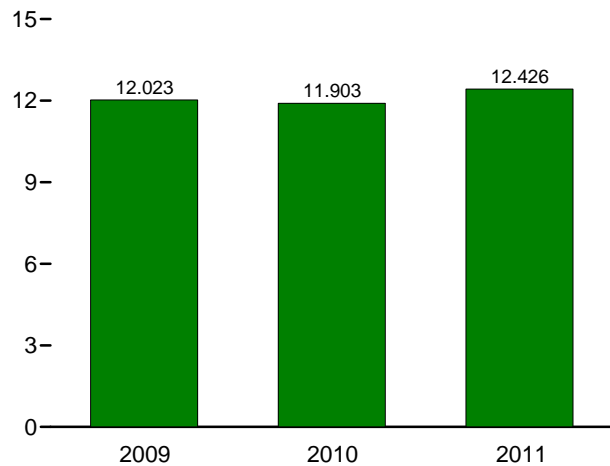
By Source, 1973-2010



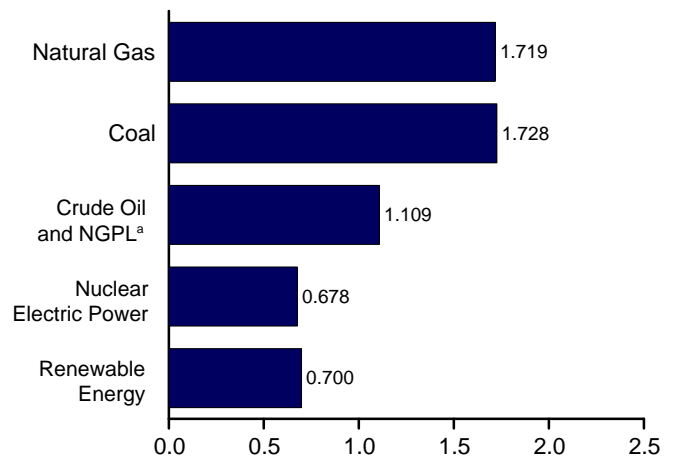
By Source, Monthly



Total, January-February



By Source, February 2011



<sup>a</sup> Natural gas plant liquids.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.2.

**Table 1.2 Primary Energy Production by Source**  
(Quadrillion Btu)

	Fossil Fuels					Nuclear Electric Power	Renewable Energy <sup>a</sup>						Total
	Coal <sup>b</sup>	Natural Gas (Dry)	Crude Oil <sup>c</sup>	NGPL <sup>d</sup>	Total		Hydroelectric Power <sup>e</sup>	Geothermal	Solar/PV	Wind	Bio-mass	Total	
1973 Total	13.992	22.187	19.493	2.569	58.241	0.910	2.861	0.020	NA	NA	1.529	4.411	63.563
1975 Total	14.989	19.640	17.729	2.374	54.733	1.900	3.155	.034	NA	NA	1.499	4.687	61.320
1980 Total	18.598	19.908	18.249	2.254	59.008	2.739	2.900	.053	NA	NA	2.475	5.428	67.175
1985 Total	19.325	16.980	18.992	2.241	57.539	4.076	2.970	.097	(s)	(s)	3.016	6.084	67.698
1990 Total	22.488	18.326	15.571	2.175	58.560	6.104	3.046	.171	.059	.029	2.735	6.041	70.705
1995 Total	22.130	19.082	13.887	2.442	57.540	7.075	3.205	.152	.069	.033	3.099	6.558	71.174
1996 Total	22.790	19.344	13.723	2.530	58.387	7.087	3.590	.163	.070	.033	3.155	7.012	72.486
1997 Total	23.310	19.394	13.658	2.495	58.857	6.597	3.640	.167	.070	.034	3.108	7.018	72.472
1998 Total	24.045	19.613	13.235	2.420	59.314	7.068	3.297	.168	.069	.031	2.929	6.494	72.876
1999 Total	23.295	19.341	12.451	2.528	57.614	7.610	3.268	.171	.068	.046	2.965	6.517	71.742
2000 Total	22.735	19.662	12.358	2.611	57.366	7.862	2.811	.164	.065	.057	3.006	6.104	71.332
2001 Total	23.547	20.166	12.282	2.547	58.541	8.029	2.242	.164	.064	.070	2.624	5.164	71.735
2002 Total	22.732	19.439	12.163	2.559	56.894	8.145	2.689	.171	.063	.105	2.705	5.734	70.773
2003 Total	22.094	19.633	12.026	2.346	56.099	7.959	2.825	.175	.062	.115	2.805	5.982	70.040
2004 Total	22.852	19.074	11.503	2.466	55.895	8.222	2.690	.178	.063	.142	2.998	6.070	70.188
2005 Total	23.185	18.556	10.963	2.334	55.038	8.161	2.703	.181	.063	.178	3.104	6.229	69.427
2006 Total	23.790	19.022	10.801	2.356	55.968	8.215	2.869	.181	.068	.264	3.226	6.608	70.792
2007 Total	23.493	19.825	10.721	2.409	56.447	8.455	2.446	.186	.076	.341	3.489	6.537	71.440
2008 Total	23.851	20.703	10.509	2.419	57.482	8.427	2.511	.192	.089	.546	3.867	7.205	73.114
2009 January	1.953	1.823	.927	.196	4.898	.775	.229	.017	.008	.058	.315	.627	6.300
February	1.802	1.661	.854	.189	4.506	.672	.174	.016	.007	.057	.291	.545	5.722
March	1.932	1.825	.940	.216	4.913	.703	.213	.017	.008	.069	.316	.624	6.240
April	1.791	1.737	.918	.209	4.654	.621	.252	.016	.008	.073	.300	.649	5.924
May	1.715	1.795	.967	.224	4.701	.684	.289	.017	.009	.061	.315	.690	6.075
June	1.785	1.746	.919	.213	4.663	.729	.285	.016	.008	.055	.318	.683	6.075
July	1.829	1.780	.971	.218	4.799	.763	.228	.017	.009	.048	.340	.643	6.205
August	1.818	1.795	.974	.220	4.807	.756	.191	.017	.009	.053	.345	.615	6.178
September	1.774	1.690	.965	.217	4.647	.688	.169	.016	.008	.045	.329	.568	5.903
October	1.771	1.770	.989	.226	4.756	.607	.192	.016	.008	.067	.343	.627	5.990
November	1.722	1.711	.944	.221	4.599	.618	.205	.017	.008	.067	.345	.642	5.859
December	1.737	1.760	.980	.224	4.701	.740	.241	.018	.008	.067	.357	.692	6.133
<b>Total</b>	<b>21.627</b>	<b>21.095</b>	<b>11.348</b>	<b>2.574</b>	<b>56.644</b>	<b>8.356</b>	<b>2.669</b>	<b>.200</b>	<b>.098</b>	<b>.721</b>	<b>3.915</b>	<b>7.603</b>	<b>72.603</b>
2010 January	1.742	E 1.812	E .977	.218	4.749	.759	.216	.018	.008	.068	.358	.669	6.178
February	1.686	E 1.661	E .887	.204	4.438	.682	.200	.016	.008	.054	.326	.604	5.725
March	1.967	E 1.865	E .989	.228	5.050	.676	.201	.018	.009	.085	.364	.677	6.404
April	1.850	E 1.808	E .956	.218	4.833	.603	.182	.017	.009	.096	.348	.652	6.088
May	1.739	E 1.867	E .983	.230	4.820	.697	.243	.018	.010	.085	.360	.716	6.233
June	1.804	E 1.782	E .951	.217	4.754	.714	.288	.018	.010	.078	.355	.748	6.217
July	1.853	E 1.854	E .972	.220	4.898	.752	.236	.018	.010	.065	.368	.696	6.346
August	1.905	E 1.888	E .990	.229	5.012	.749	.193	.018	.010	.065	.371	.656	6.416
September	1.903	E 1.843	E .969	.225	4.940	.726	.165	.017	.009	.069	.355	.616	6.282
October	1.870	E 1.906	E 1.010	.234	5.020	.656	.170	.017	.009	.078	.364	.637	6.314
November	1.865	E 1.866	E .973	.228	4.933	.655	.190	.018	.009	.096	.366	.678	6.266
December	1.891	E 1.942	E 1.011	.235	5.080	.771	.226	.019	.009	.086	.375	.714	6.564
<b>Total</b>	<b>22.077</b>	<b>E 22.095</b>	<b>E 11.669</b>	<b>2.686</b>	<b>58.527</b>	<b>8.441</b>	<b>2.509</b>	<b>.212</b>	<b>.109</b>	<b>.924</b>	<b>4.310</b>	<b>8.064</b>	<b>75.031</b>
2011 January	1.843	RE 1.932	E .986	.230	R 4.992	.761	.251	.019	.009	.087	.374	.740	R 6.493
February	1.728	E 1.719	E .911	.198	4.556	.678	.238	.017	.008	.101	.336	.700	5.933
<b>2-Month Total</b>	<b>3.571</b>	<b>E 3.651</b>	<b>E 1.897</b>	<b>.428</b>	<b>9.548</b>	<b>1.439</b>	<b>.489</b>	<b>.036</b>	<b>.017</b>	<b>.187</b>	<b>.710</b>	<b>1.440</b>	<b>12.426</b>
2010 2-Month Total ...	3.428	E 3.473	E 1.864	.421	9.187	1.442	.416	.035	.016	.122	.685	1.274	11.903
2009 2-Month Total ...	3.754	3.485	1.781	.384	9.404	1.447	.403	.033	.015	.115	.606	1.172	12.023

<sup>a</sup> Most data are estimates. See Tables 10.1-10.2c for notes on series components and estimation; and see Note, "Renewable Energy Production and Consumption," at end of Section 10.

<sup>b</sup> Beginning in 1989, includes waste coal supplied. Beginning in 2001, also includes a small amount of refuse recovery. See Table 6.1.

<sup>c</sup> Includes lease condensate.

<sup>d</sup> Natural gas plant liquids.

<sup>e</sup> Conventional hydroelectric power.

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

Notes: • See "Primary Energy Production" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

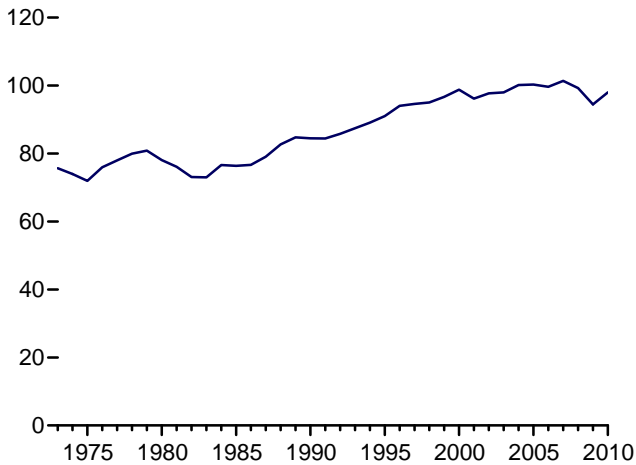
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1973.

Sources: • **Coal:** Tables 6.1 and A5. • **Natural Gas (Dry):** Tables 4.1 and A4. • **Crude Oil and Natural Gas Plant Liquids:** Tables 3.1 and A2. • **Nuclear Electric Power:** Tables 7.2a and A6 ("Nuclear Plants" heat rate). • **Renewable Energy:** Table 10.1.

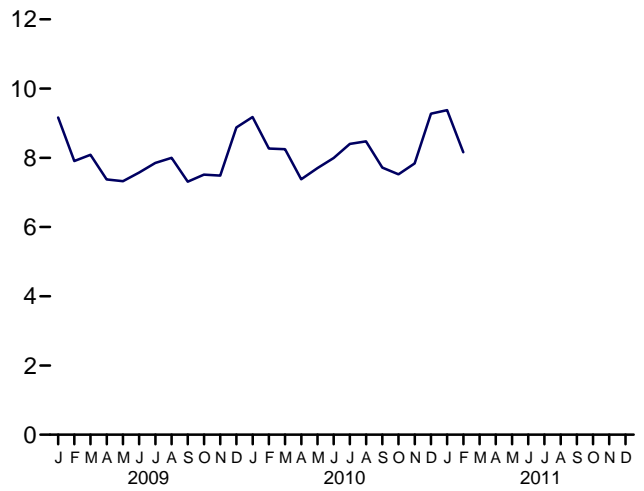
Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rate is used as the thermal conversion factor for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources—hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.** See Table A6.

**Figure 1.3 Primary Energy Consumption**  
(Quadrillion Btu)

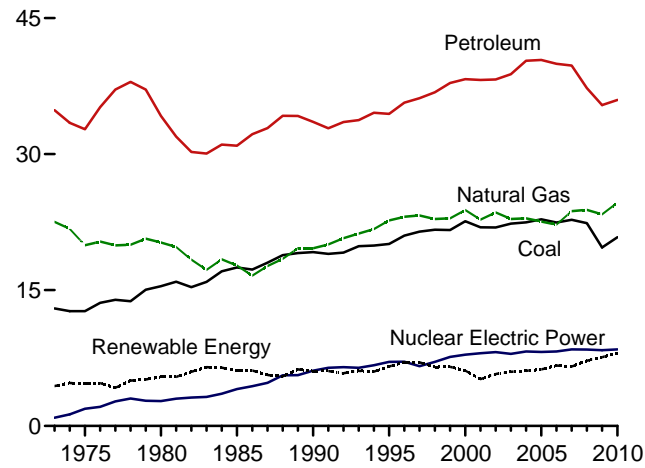
Total, 1973-2010



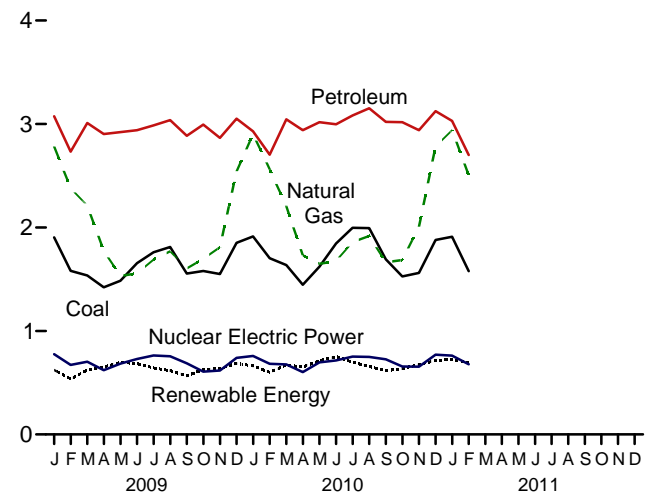
Total, Monthly



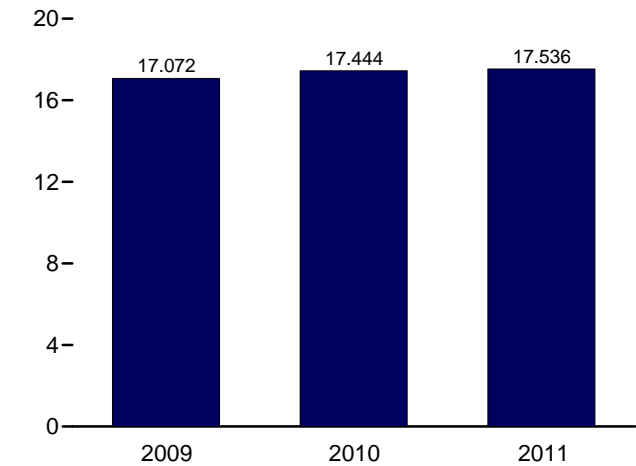
By Source,<sup>a</sup> 1973-2010



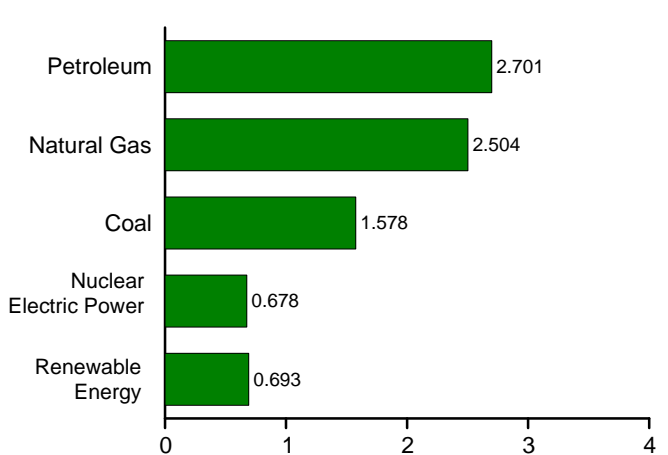
By Source,<sup>a</sup> Monthly



Total, January-February



By Source,<sup>a</sup> February 2011



<sup>a</sup> Small quantities of net imports of coal coke and electricity are not shown.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.  
Source: Table 1.3.



**Table 1.3 Primary Energy Consumption by Source**  
(Quadrillion Btu)

	Fossil Fuels				Nuclear Electric Power	Renewable Energy <sup>a</sup>						Total <sup>f</sup>
	Coal	Natural Gas <sup>b</sup>	Petroleum <sup>c</sup>	Total <sup>d</sup>		Hydro-electric Power <sup>e</sup>	Geo-thermal	Solar/PV	Wind	Bio-mass	Total	
1973 Total	12.971	22.512	34.837	70.314	0.910	2.861	0.020	NA	NA	1.529	4.411	75.684
1975 Total	12.663	19.948	32.732	65.357	1.900	3.155	.034	NA	NA	1.499	4.687	71.965
1980 Total	15.423	20.235	34.205	69.828	2.739	2.900	.053	NA	NA	2.475	5.428	78.067
1985 Total	17.478	17.703	30.925	66.093	4.076	2.970	.097	(s)	(s)	3.016	6.084	76.392
1990 Total	19.173	19.603	33.552	72.332	6.104	3.046	.171	.059	.029	2.735	6.041	84.485
1995 Total	20.089	22.671	34.438	77.259	7.075	3.205	.152	.069	.033	3.101	6.560	91.029
1996 Total	21.002	23.085	35.675	79.785	7.087	3.590	.163	.070	.033	3.157	7.014	94.022
1997 Total	21.445	23.223	36.159	80.873	6.597	3.640	.167	.070	.034	3.105	7.016	94.602
1998 Total	21.656	22.830	36.816	81.369	7.068	3.297	.168	.069	.031	2.927	6.493	95.018
1999 Total	21.623	22.909	37.838	82.427	7.610	3.268	.171	.068	.046	2.963	6.516	96.652
2000 Total	22.580	23.824	38.262	84.731	7.862	2.811	.164	.065	.057	3.008	6.106	98.814
2001 Total	21.914	22.773	38.186	82.902	8.029	2.242	.164	.064	.070	2.622	5.163	96.168
2002 Total	21.904	23.558	38.224	83.747	8.145	2.689	.171	.063	.105	2.701	5.729	97.693
2003 Total	22.321	22.831	38.811	84.014	7.959	2.825	.175	.062	.115	2.807	5.983	97.978
2004 Total	22.466	22.909	40.292	85.805	8.222	2.690	.178	.063	.142	3.010	6.082	100.148
2005 Total	22.797	22.561	40.388	85.790	8.161	2.703	.181	.063	.178	3.116	6.242	100.277
2006 Total	22.447	22.224	39.955	84.687	8.215	2.869	.181	.068	.264	3.276	6.659	99.624
2007 Total	22.749	23.702	39.774	86.251	8.455	2.446	.186	.076	.341	3.502	6.551	101.363
2008 Total	22.385	23.834	37.280	83.540	8.427	2.511	.192	.089	.546	3.852	7.190	99.268
2009 January	1.904	2.783	3.075	7.760	.775	.229	.017	.008	.058	.310	.622	9.165
February	1.582	2.378	2.732	6.691	.672	.174	.016	.007	.057	.283	.537	7.908
March	1.536	2.212	3.010	6.757	.703	.213	.017	.008	.069	.314	.621	8.086
April	1.422	1.774	2.904	6.097	.621	.252	.016	.008	.073	.304	.653	7.377
May	1.486	1.531	2.921	5.936	.684	.289	.017	.009	.061	.319	.694	7.324
June	1.655	1.556	2.939	6.149	.729	.285	.016	.008	.055	.320	.685	7.573
July	1.760	1.689	2.987	6.433	.763	.228	.017	.009	.048	.340	.643	7.853
August	1.811	1.769	3.038	6.614	.756	.191	.017	.009	.053	.346	.615	8.001
September	1.555	1.604	2.886	6.043	.688	.169	.016	.008	.045	.327	.567	7.308
October	1.580	1.698	2.994	6.268	.607	.192	.016	.008	.067	.344	.627	7.513
November	1.550	1.810	2.866	6.224	.618	.205	.017	.008	.067	.340	.637	7.488
December	1.852	2.541	3.052	7.443	.740	.241	.018	.008	.067	.352	.686	8.879
Total	19.692	23.344	35.403	78.415	8.356	2.669	.200	.098	.721	3.899	7.587	94.475
2010 January	1.914	2.901	2.929	7.740	.759	.216	.018	.008	.068	.352	.662	9.176
February	1.704	2.563	2.704	6.974	.682	.200	.016	.008	.054	.322	.600	8.268
March	1.636	2.205	3.045	6.889	.676	.201	.018	.009	.085	.359	.672	8.247
April	1.447	1.730	2.940	6.118	.603	.182	.017	.009	.096	.347	.652	7.381
May	1.621	1.650	3.017	6.289	.697	.243	.018	.010	.085	.358	.714	7.705
June	1.846	1.676	2.998	6.521	.714	.288	.018	.010	.078	.358	.752	7.996
July	1.997	1.859	3.082	6.939	.752	.236	.018	.010	.065	.371	.699	8.399
August	1.993	1.918	3.152	7.065	.749	.193	.018	.010	.065	.372	.657	8.476
September	1.692	1.662	3.021	6.374	.726	.165	.017	.009	.069	.355	.616	7.717
October	1.527	1.686	3.018	6.229	.656	.170	.017	.009	.078	.364	.637	7.524
November	1.561	2.008	2.940	6.504	.655	.190	.018	.009	.096	.363	.675	7.837
December	1.879	2.783	3.125	7.782	.771	.226	.019	.009	.086	.375	.714	9.275
Total	20.817	24.643	35.970	81.424	8.441	2.509	.212	.109	.924	4.295	8.049	98.002
2011 January	1.911	2.940	3.030	7.881	.761	.251	.019	.009	.087	.359	.724	9.375
February	1.578	2.504	2.701	6.783	.678	.238	.017	.008	.101	.329	.693	8.161
2-Month Total	3.488	5.444	5.731	14.663	1.439	.489	.036	.017	.187	.688	1.418	17.536
2010 2-Month Total	3.618	5.464	5.633	14.715	1.442	.416	.035	.016	.122	.674	1.263	17.444
2009 2-Month Total	3.486	5.161	5.807	14.451	1.447	.403	.033	.015	.115	.593	1.159	17.072

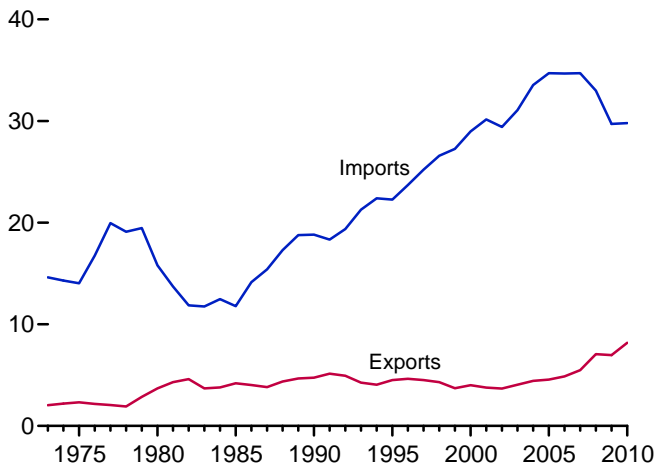
<sup>a</sup> Most data are estimates. See Tables 10.1-10.2c for notes on series components and estimation; and see Note, "Renewable Energy Production and Consumption," at end of Section 10.  
<sup>b</sup> Natural gas only; excludes supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
<sup>c</sup> Petroleum products supplied, including natural gas plant liquids and crude oil burned as fuel. Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."  
<sup>d</sup> Includes coal coke net imports. See Tables 1.4a and 1.4b.  
<sup>e</sup> Conventional hydroelectric power.  
<sup>f</sup> Includes coal coke net imports and electricity net imports, which are not

separately displayed. See Tables 1.4a and 1.4b.  
R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.  
Notes: • See "Primary Energy Consumption" in Glossary.  
• Totals may not equal sum of components due to independent rounding.  
• Geographic coverage is the 50 States and the District of Columbia.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1973.  
Sources: • **Coal:** Tables 6.1 and A5. • **Natural Gas:** Tables 4.1 and A4.  
• **Petroleum:** Table 3.6. • **Nuclear Electric Power:** Tables 7.2a and A6 ("Nuclear Plants" heat rate). • **Renewable Energy:** Table 10.1. • **Net Imports of Coal Coke and Electricity:** Tables 1.4a and 1.4b.

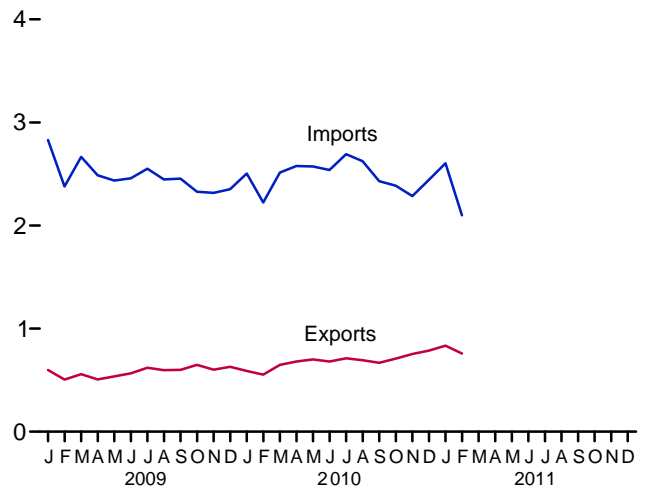
Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rate is used as the thermal conversion factor for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources—hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.** See Table A6.

**Figure 1.4a Primary Energy Imports and Exports**  
(Quadrillion Btu)

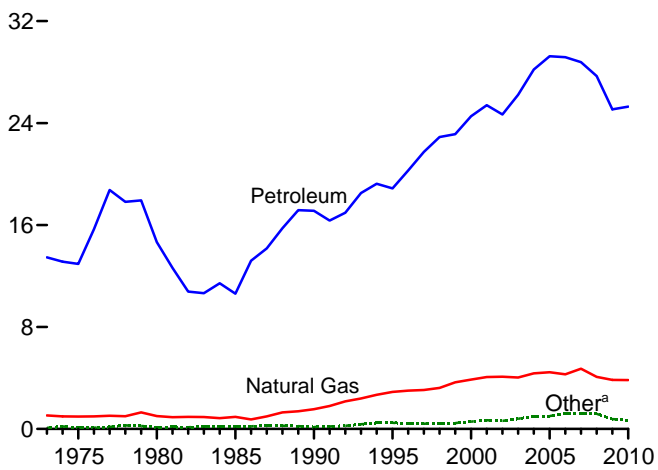
Total Imports and Exports, 1973-2010



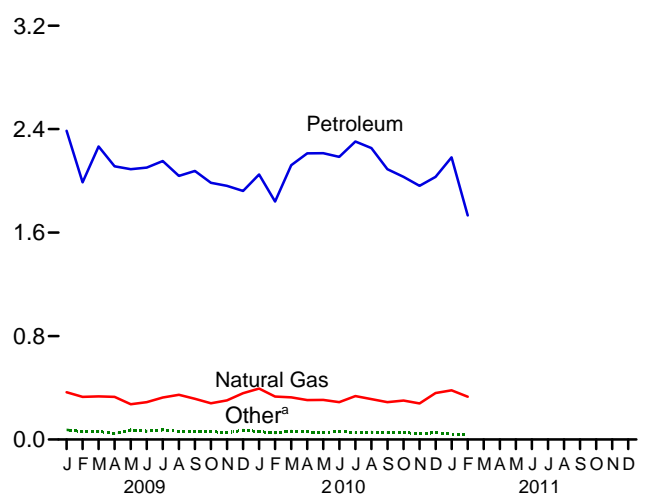
Total Imports and Exports, Monthly



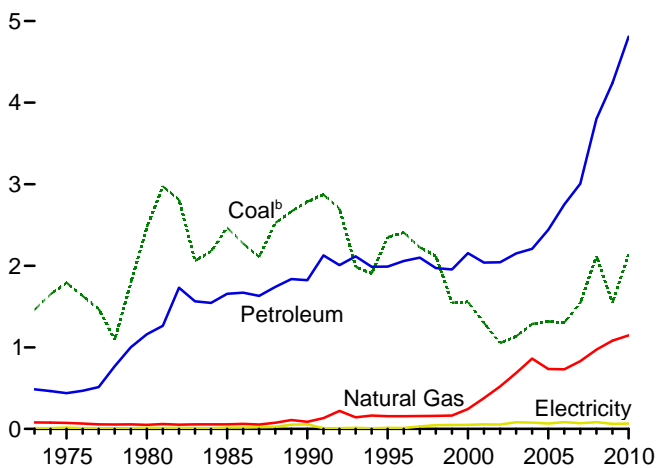
Imports by Source, 1973-2010



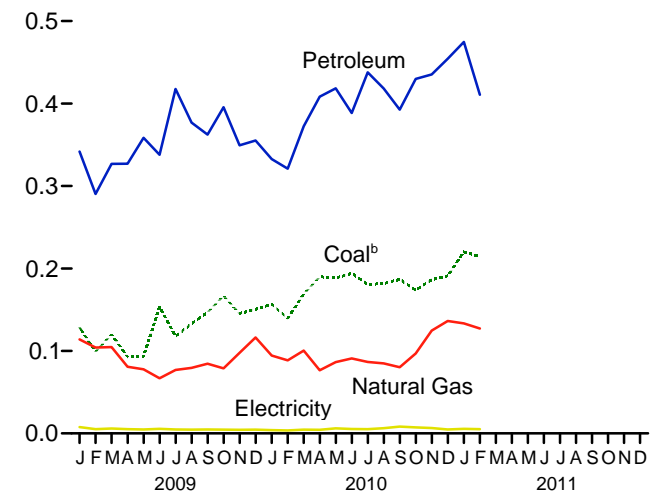
Imports by Source, Monthly



Exports by Source, 1973-2010



Exports by Major Source, Monthly



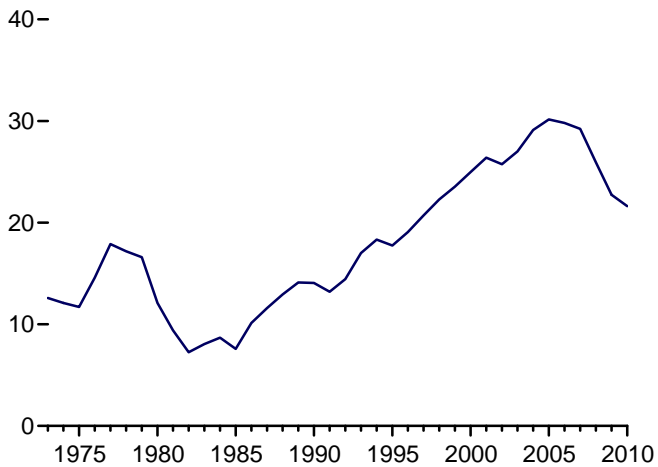
<sup>a</sup> Coal, coal coke, biofuels, and electricity.

<sup>b</sup> Includes coal coke.

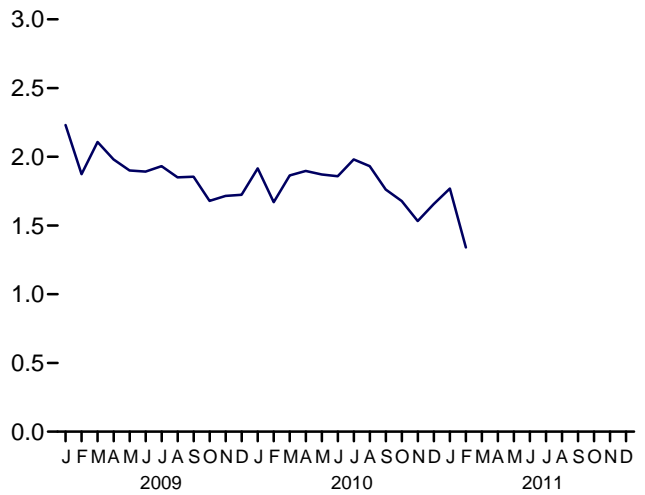
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.  
Sources: Tables 1.4a and 1.4b.

**Figure 1.4b Primary Energy Net Imports**  
(Quadrillion Btu, Except as noted)

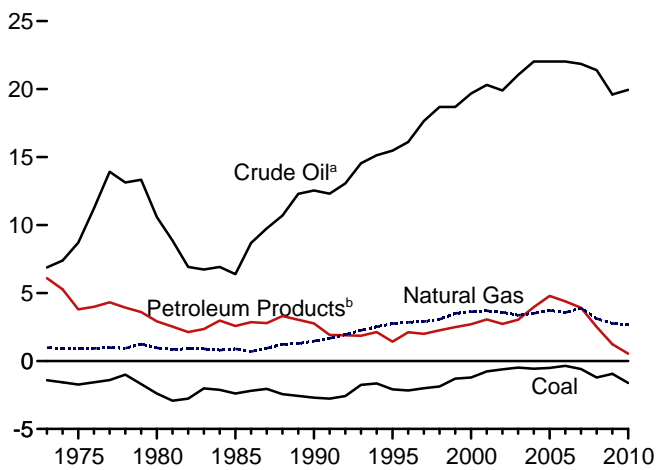
Total, 1973-2010



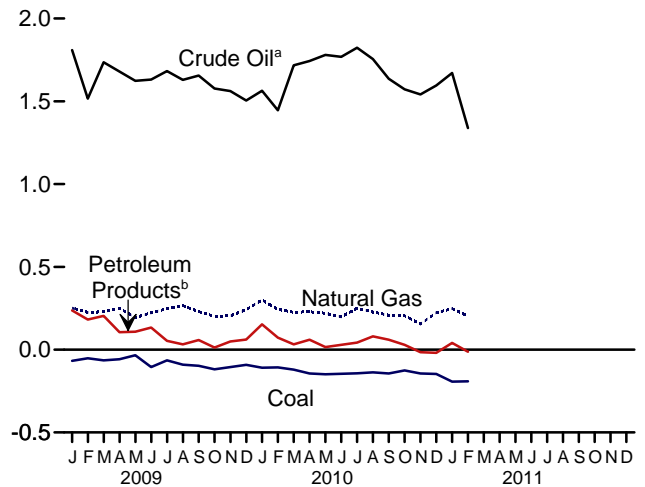
Total, Monthly



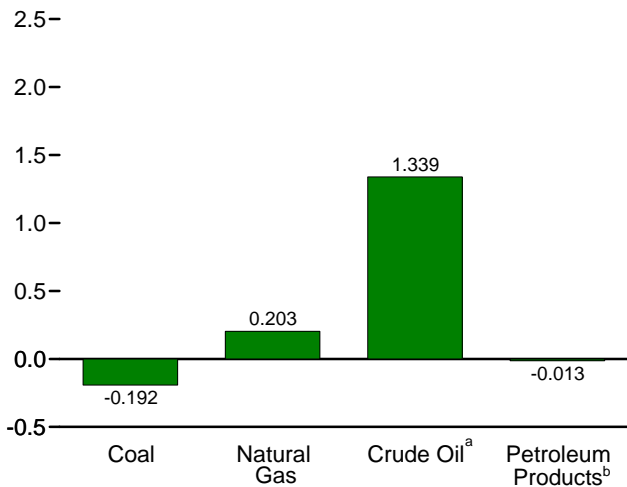
By Major Source, 1973-2010



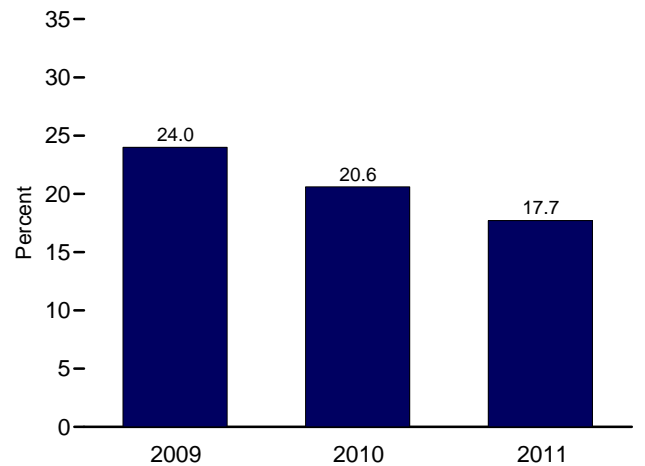
By Major Source, Monthly



By Major Source, February 2011



As Share of Consumption, January-February



<sup>a</sup> Crude oil and lease condensate. Includes imports into the Strategic Petroleum Reserve, which began in 1977.

<sup>b</sup> Petroleum products, unfinished oils, pentanes plus, and gasoline blending components. Does not include biofuels.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.  
Sources: Tables 1.3, 1.4a, and 1.4b.

**Table 1.4a Primary Energy Imports by Source**  
(Quadrillion Btu)

	Imports								
	Coal	Coal Coke	Natural Gas	Petroleum			Biofuels <sup>C</sup>	Electricity	Total
				Crude Oil <sup>a</sup>	Petroleum Products <sup>b</sup>	Total			
<b>1973 Total</b> .....	<b>0.003</b>	<b>0.027</b>	<b>1.060</b>	<b>6.887</b>	<b>6.578</b>	<b>13.466</b>	NA	<b>0.057</b>	<b>14.613</b>
<b>1975 Total</b> .....	<b>.024</b>	<b>.045</b>	<b>.978</b>	<b>8.721</b>	<b>4.227</b>	<b>12.948</b>	NA	<b>.038</b>	<b>14.032</b>
<b>1980 Total</b> .....	<b>.030</b>	<b>.016</b>	<b>1.006</b>	<b>11.195</b>	<b>3.463</b>	<b>14.658</b>	NA	<b>.085</b>	<b>15.796</b>
<b>1985 Total</b> .....	<b>.049</b>	<b>.014</b>	<b>.952</b>	<b>6.814</b>	<b>3.796</b>	<b>10.609</b>	NA	<b>.157</b>	<b>11.781</b>
<b>1990 Total</b> .....	<b>.067</b>	<b>.019</b>	<b>1.551</b>	<b>12.766</b>	<b>4.351</b>	<b>17.117</b>	NA	<b>.063</b>	<b>18.817</b>
<b>1995 Total</b> .....	<b>.237</b>	<b>.095</b>	<b>2.901</b>	<b>15.669</b>	<b>3.211</b>	<b>18.881</b>	.001	<b>.146</b>	<b>22.260</b>
<b>1996 Total</b> .....	<b>.203</b>	<b>.063</b>	<b>3.002</b>	<b>16.341</b>	<b>3.943</b>	<b>20.284</b>	.001	<b>.148</b>	<b>23.702</b>
<b>1997 Total</b> .....	<b>.187</b>	<b>.078</b>	<b>3.063</b>	<b>17.876</b>	<b>3.864</b>	<b>21.740</b>	(s)	<b>.147</b>	<b>25.215</b>
<b>1998 Total</b> .....	<b>.218</b>	<b>.095</b>	<b>3.225</b>	<b>18.916</b>	<b>3.992</b>	<b>22.908</b>	(s)	<b>.135</b>	<b>26.581</b>
<b>1999 Total</b> .....	<b>.227</b>	<b>.080</b>	<b>3.664</b>	<b>18.935</b>	<b>4.198</b>	<b>23.133</b>	(s)	<b>.147</b>	<b>27.252</b>
<b>2000 Total</b> .....	<b>.313</b>	<b>.094</b>	<b>3.869</b>	<b>19.783</b>	<b>4.749</b>	<b>24.531</b>	(s)	<b>.166</b>	<b>28.973</b>
<b>2001 Total</b> .....	<b>.495</b>	<b>.063</b>	<b>4.068</b>	<b>20.348</b>	<sup>R</sup> 5.051	<b>25.398</b>	.002	<b>.131</b>	<b>30.157</b>
<b>2002 Total</b> .....	<b>.422</b>	<b>.080</b>	<b>4.104</b>	<b>19.920</b>	<sup>R</sup> 4.754	<sup>R</sup> 24.674	.002	<b>.125</b>	<sup>R</sup> 29.408
<b>2003 Total</b> .....	<b>.626</b>	<b>.068</b>	<b>4.042</b>	<b>21.060</b>	<sup>R</sup> 5.159	<sup>R</sup> 26.219	.002	<b>.104</b>	<b>31.061</b>
<b>2004 Total</b> .....	<b>.682</b>	<b>.170</b>	<b>4.365</b>	<b>22.082</b>	<b>6.114</b>	<sup>R</sup> 28.197	.013	<b>.117</b>	<sup>R</sup> 33.544
<b>2005 Total</b> .....	<b>.762</b>	<b>.088</b>	<b>4.450</b>	<b>22.091</b>	<sup>R</sup> 7.157	<sup>R</sup> 29.248	<sup>R</sup> .012	<b>.150</b>	<sup>R</sup> 34.709
<b>2006 Total</b> .....	<b>.906</b>	<b>.101</b>	<b>4.291</b>	<b>22.085</b>	<sup>R</sup> 7.084	<sup>R</sup> 29.169	<sup>R</sup> .066	<b>.146</b>	<sup>R</sup> 34.679
<b>2007 Total</b> .....	<b>.909</b>	<b>.061</b>	<b>4.723</b>	<b>21.914</b>	<sup>R</sup> 6.868	<sup>R</sup> 28.781	<sup>R</sup> .054	<b>.175</b>	<sup>R</sup> 34.703
<b>2008 Total</b> .....	<b>.855</b>	<b>.089</b>	<b>4.084</b>	<b>21.448</b>	<sup>R</sup> 6.237	<sup>R</sup> 27.685	<sup>R</sup> .084	<b>.195</b>	<sup>R</sup> 32.992
<b>2009</b> January .....	.058	.001	.366	1.815	<sup>R</sup> .572	<sup>R</sup> 2.387	.003	.015	<sup>R</sup> 2.829
February .....	.046	(s)	.330	1.521	<sup>R</sup> .467	<sup>R</sup> 1.989	.001	.013	<sup>R</sup> 2.379
March .....	.054	(s)	.333	1.741	<sup>R</sup> .525	<sup>R</sup> 2.266	.002	.010	<sup>R</sup> 2.666
April .....	.033	(s)	.330	1.684	.428	2.112	.001	.011	2.487
May .....	.057	.001	.272	1.633	<sup>R</sup> .457	<sup>R</sup> 2.090	.002	.014	<sup>R</sup> 2.437
June .....	.046	.001	.289	1.641	<sup>R</sup> .462	<sup>R</sup> 2.103	.003	.016	<sup>R</sup> 2.458
July .....	.050	.001	.325	1.688	.465	2.153	.004	.019	<sup>R</sup> 2.552
August .....	.039	(s)	.345	1.636	<sup>R</sup> .402	2.038	.004	.020	<sup>R</sup> 2.447
September .....	.046	.001	.315	1.662	.413	<sup>R</sup> 2.076	.002	.015	<sup>R</sup> 2.455
October .....	.044	(s)	.280	1.590	<sup>R</sup> .395	<sup>R</sup> 1.985	.002	.016	<sup>R</sup> 2.327
November .....	.038	.001	.302	1.570	<sup>R</sup> .391	<sup>R</sup> 1.961	.002	.013	<sup>R</sup> 2.317
December .....	.054	.002	.358	1.517	<sup>R</sup> .405	1.921	.001	.016	<sup>R</sup> 2.353
<b>Total</b> .....	<b>.566</b>	<b>.009</b>	<b>3.845</b>	<b>19.699</b>	<sup>R</sup> 5.383	<sup>R</sup> 25.082	<sup>R</sup> .026	<b>.178</b>	<sup>R</sup> 29.706
<b>2010</b> January .....	.042	.001	.394	1.570	.480	2.049	(s)	.018	2.505
February .....	.031	.005	.332	1.456	<sup>R</sup> .385	1.840	(s)	.015	2.223
March .....	.047	.003	.326	1.725	.396	2.121	(s)	.015	2.513
April .....	.045	.001	.305	1.750	.462	2.212	(s)	.013	2.577
May .....	.037	.005	.306	1.786	.427	<sup>R</sup> 2.214	.001	.010	2.572
June .....	.044	.005	.289	1.774	<sup>R</sup> .412	2.185	(s)	.014	2.538
July .....	.035	.003	.336	1.836	.468	2.304	(s)	.015	2.692
August .....	.043	.003	.312	1.761	.492	<sup>R</sup> 2.254	(s)	.012	2.624
September .....	.040	.002	.289	1.647	.442	2.089	(s)	.010	2.430
October .....	.044	.001	<sup>R</sup> .301	1.576	.455	2.031	(s)	.009	2.387
November .....	.037	(s)	.279	1.547	.414	1.961	(s)	.009	2.286
December .....	.039	(s)	.360	1.602	<sup>R</sup> .428	2.030	(s)	.014	<sup>R</sup> 2.443
<b>Total</b> .....	<b>.484</b>	<b>.030</b>	<b>3.830</b>	<b>20.030</b>	<sup>R</sup> 5.260	<sup>R</sup> 25.290	<b>.004</b>	<b>.154</b>	<sup>R</sup> 29.792
<b>2011</b> January .....	.025	.001	<sup>R</sup> .381	1.684	<sup>R</sup> .498	2.181	(s)	.015	<sup>R</sup> 2.604
February .....	.021	.002	<sup>E</sup> .331	1.344	.388	1.732	(s)	.013	2.099
<b>2-Month Total</b> .....	<b>.046</b>	<b>.004</b>	<sup>E</sup> .711	<b>3.027</b>	<b>.886</b>	<b>3.913</b>	<b>(s)</b>	<b>.027</b>	<b>4.702</b>
<b>2010 2-Month Total</b> .....	<b>.073</b>	<b>.006</b>	<b>.726</b>	<b>3.025</b>	<b>.864</b>	<b>3.889</b>	<b>.001</b>	<b>.033</b>	<b>4.728</b>
<b>2009 2-Month Total</b> .....	<b>.105</b>	<b>.001</b>	<b>.695</b>	<b>3.336</b>	<b>1.039</b>	<b>4.376</b>	<b>.004</b>	<b>.028</b>	<b>5.208</b>

<sup>a</sup> Crude oil and lease condensate. Includes imports into the Strategic Petroleum Reserve, which began in 1977.

<sup>b</sup> Petroleum products, unfinished oils, pentanes plus, and gasoline blending components. Does not include biofuels.

<sup>c</sup> Fuel ethanol (minus denaturant) and biodiesel.

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

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

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1973.

Sources: • **Coal:** Tables 6.1 and A5. • **Coal Coke:** 1973-1975—U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter. 1976-1980—U.S. Energy Information Administration (EIA), *Energy Data Report*, "Coke and Coal Chemicals," annual reports. 1981 forward—EIA, *Quarterly Coal Report*, quarterly reports. • **Natural Gas:** Tables 4.1 and A4. • **Crude Oil and Petroleum Products:** Tables 3.3b, 10.3, 10.4, and A2. • **Biofuels:** Tables 10.3 and 10.4. • **Electricity:** Tables 7.1 and A6.

**Table 1.4b Primary Energy Exports by Source and Total Net Imports**  
(Quadrillion Btu)

	Exports									Net Imports <sup>a</sup>
	Coal	Coal Coke	Natural Gas	Petroleum			Biofuels <sup>d</sup>	Electricity	Total	
				Crude Oil <sup>b</sup>	Petroleum Products <sup>c</sup>	Total				
<b>1973 Total</b> .....	1.425	0.035	0.079	0.004	0.482	0.486	NA	0.009	2.033	12.580
<b>1975 Total</b> .....	1.761	.032	.074	.012	.427	.439	NA	.017	2.323	11.709
<b>1980 Total</b> .....	2.421	.051	.049	.609	.551	1.160	NA	.014	3.695	12.101
<b>1985 Total</b> .....	2.438	.028	.056	.432	1.225	1.657	NA	.017	4.196	7.584
<b>1990 Total</b> .....	2.772	.014	.087	.230	1.594	1.824	NA	.055	4.752	14.065
<b>1995 Total</b> .....	2.318	.034	.156	.200	1.791	1.991	NA	.012	4.511	17.750
<b>1996 Total</b> .....	2.368	.040	.155	.233	1.825	2.059	NA	.011	4.633	19.069
<b>1997 Total</b> .....	2.193	.031	.159	.228	1.872	2.100	NA	.031	4.514	20.701
<b>1998 Total</b> .....	2.092	.028	.161	.233	1.740	1.972	NA	.047	4.299	22.281
<b>1999 Total</b> .....	1.525	.022	.164	.250	1.705	1.955	NA	.049	3.715	23.537
<b>2000 Total</b> .....	1.528	.028	.245	.106	2.048	2.154	NA	.051	4.006	24.967
<b>2001 Total</b> .....	1.265	.033	.377	.043	1.996	R 2.039	(s)	.056	R 3.771	26.386
<b>2002 Total</b> .....	1.032	.020	.520	.019	2.023	2.042	(s)	.054	R 3.669	25.739
<b>2003 Total</b> .....	1.117	.018	.686	.026	2.124	R 2.151	.001	.082	R 4.054	27.007
<b>2004 Total</b> .....	1.253	.033	.862	.057	R 2.151	R 2.208	.001	.078	R 4.434	29.110
<b>2005 Total</b> .....	1.273	.043	.735	.067	R 2.374	R 2.442	.001	.065	R 4.560	30.149
<b>2006 Total</b> .....	1.264	.040	.730	.052	R 2.699	R 2.751	.004	.083	R 4.872	R 29.806
<b>2007 Total</b> .....	1.507	.036	.830	.058	R 2.949	R 3.007	.035	.069	R 5.482	R 29.221
<b>2008 Total</b> .....	2.071	.049	.972	.061	R 3.739	R 3.800	.086	.083	R 7.060	R 25.932
<b>2009</b>										
January .....	.126	.003	.114	.007	R .335	R .342	.006	.008	R .598	R 2.231
February .....	.098	.001	.104	.005	R .286	R .290	.006	.005	R .505	R 1.874
March .....	.118	.002	.105	.005	R .321	R .327	.001	.006	R .558	R 2.107
April .....	.090	.003	.081	.005	.322	R .327	.001	.005	R .507	R 1.980
May .....	.091	.002	.078	.009	R .349	R .358	.002	.005	R .537	R 1.900
June .....	.151	.002	.067	.010	R .328	R .338	.002	.006	R .566	R 1.892
July .....	.115	.003	.077	.006	R .412	R .418	.003	.005	R .620	R 1.932
August .....	.130	.003	.079	.006	R .371	R .377	.002	.005	R .596	R 1.851
September .....	.144	.003	.085	.007	R .355	R .362	.001	.005	R .600	R 1.855
October .....	.163	.004	.079	.013	R .382	R .395	.002	.005	R .648	R 1.679
November .....	.143	.002	.098	.008	R .341	R .349	.004	.004	R .601	R 1.716
December .....	.146	.004	.116	.012	R .343	R .355	.002	.005	R .629	R 1.724
<b>Total</b> .....	1.515	.032	1.082	.093	R 4.147	R 4.240	.034	.062	R 6.965	R 22.741
<b>2010</b>										
January .....	.151	.006	.094	.006	R .327	R .333	.002	.004	R .589	R 1.916
February .....	.138	.001	.089	.009	R .312	R .321	.001	.004	R .554	1.670
March .....	.169	(s)	.100	.008	R .364	R .372	.002	.005	R .649	R 1.864
April .....	.189	.001	.077	.006	R .402	R .408	.001	.004	R .680	R 1.897
May .....	.186	.003	.086	.007	R .412	R .418	.001	.006	R .701	R 1.872
June .....	.190	.004	.091	.005	R .383	R .388	.002	.005	R .680	R 1.858
July .....	.178	.003	.087	.012	R .425	R .438	.001	.005	R .711	R 1.981
August .....	.180	.002	.085	.006	R .412	R .418	.001	.006	R .692	R 1.932
September .....	.184	.003	.080	.011	R .382	R .393	.001	.008	R .669	1.762
October .....	.170	.003	.097	.004	R .426	R .430	.001	.007	.708	1.679
November .....	.180	.006	R .125	.006	R .430	.435	(s)	.006	.753	R 1.533
December .....	.186	.005	.136	.007	R .447	.454	.001	.005	R .787	1.656
<b>Total</b> .....	2.101	.036	1.147	.088	R 4.721	R 4.809	.013	.066	R 8.173	R 21.619
<b>2011</b>										
January .....	.219	.001	R .133	.013	R .457	R .470	.006	.005	R .835	R 1.769
February .....	.213	.002	E .127	.005	.401	.406	.005	.005	.758	1.341
<b>2-Month Total</b> .....	.432	.003	E .261	.018	.858	.876	.011	.011	1.593	3.109
<b>2010 2-Month Total</b> .....	.289	.007	.183	.015	.638	.654	.002	.008	1.143	3.586
<b>2009 2-Month Total</b> .....	.224	.004	.218	.011	.621	.632	.012	.013	1.103	4.105

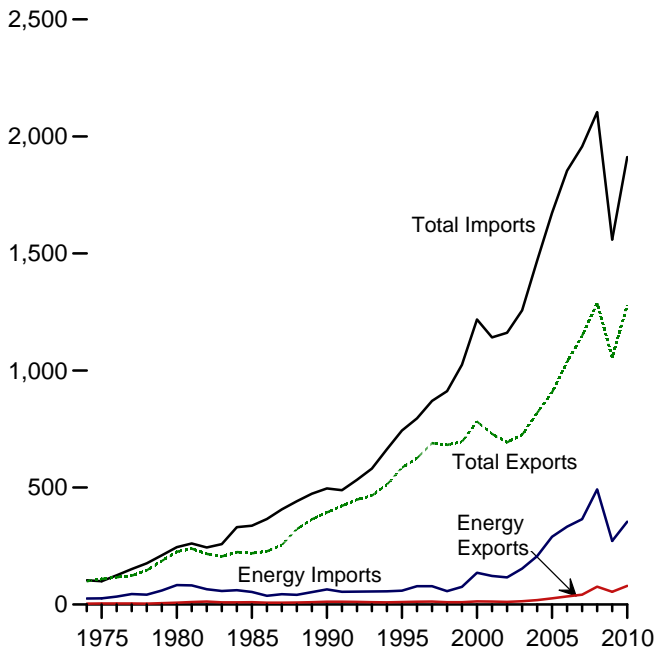
<sup>a</sup> Net imports equal imports minus exports.  
<sup>b</sup> Crude oil and lease condensate.  
<sup>c</sup> Petroleum products, unfinished oils, pentanes plus, and gasoline blending components. Does not include biofuels.  
<sup>d</sup> Through 2010, data are for biodiesel only. Beginning in 2011, data are for fuel ethanol (minus denaturant) and biodiesel.  
R=Revised. E=Estimate. NA=Not available. (s)=Less than 0.5 trillion Btu.  
Notes: • See "Primary Energy" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1973.

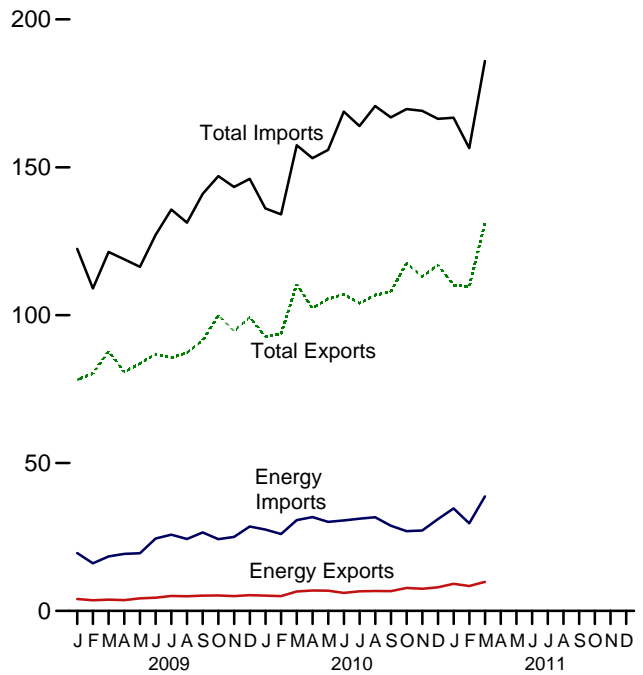
Sources: • **Coal:** Tables 6.1 and A5. • **Coal Coke: 1973-1975**—U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter. **1976-1980**—U.S. Energy Information Administration (EIA), *Energy Data Report*, "Coke and Coal Chemicals," annual reports. **1981 forward**—EIA, *Quarterly Coal Report*, quarterly reports. • **Natural Gas:** Tables 4.1 and A4. • **Crude Oil and Petroleum Products:** Tables 3.3b, 10.4, and A2. • **Biofuels:** Tables 10.3 and 10.4. • **Electricity:** Tables 7.1 and A6.

**Figure 1.5 Merchandise Trade Value**  
(Billion Dollars<sup>a</sup>)

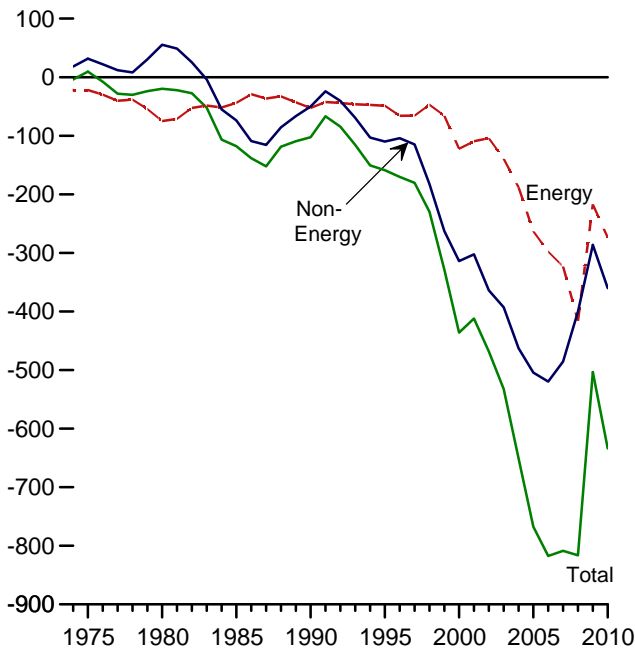
Imports and Exports, 1974-2010



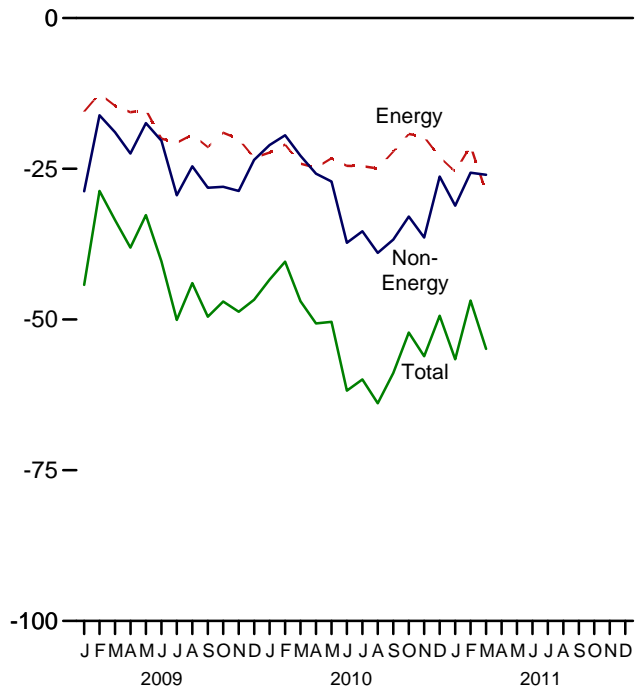
Imports and Exports, Monthly



Trade Balance, 1974-2010



Trade Balance, Monthly



<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
<http://www.eia.gov/totalenergy/data/monthly/#summary>.  
Source: Table 1.5.

**Table 1.5 Merchandise Trade Value**  
(Million Dollars<sup>a</sup>)

	Petroleum <sup>b</sup>			Energy <sup>c</sup>			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
1980 Total	2,833	78,637	-75,803	7,982	82,924	-74,942	55,246	225,566	245,262	-19,696
1985 Total	4,707	50,475	-45,768	9,971	53,917	-43,946	-73,765	218,815	336,526	-117,712
1990 Total	6,901	61,583	-54,682	12,233	64,661	-52,428	-50,068	393,592	496,088	-102,496
1995 Total	6,321	54,368	-48,047	10,358	59,109	-48,751	-110,050	584,742	743,543	-158,801
1996 Total	7,984	72,022	-64,038	12,181	78,086	-65,905	-104,309	625,075	795,289	-170,214
1997 Total	8,592	71,152	-62,560	12,682	78,277	-65,595	-114,927	689,182	869,704	-180,522
1998 Total	6,574	50,264	-43,690	10,251	57,323	-47,072	-182,686	682,138	911,896	-229,758
1999 Total	7,118	67,173	-60,055	9,880	75,803	-65,923	-262,898	695,797	1,024,618	-328,821
2000 Total	10,192	119,251	-109,059	13,179	135,367	-122,188	-313,916	781,918	1,218,022	-436,104
2001 Total	8,868	102,747	-93,879	12,494	121,923	-109,429	-302,470	729,100	1,140,999	-411,899
2002 Total	8,569	102,663	-94,094	11,541	115,748	-104,207	-364,056	693,103	1,161,366	-468,263
2003 Total	10,209	132,433	-122,224	13,768	153,298	-139,530	-392,820	724,771	1,257,121	-532,350
2004 Total	13,130	179,266	-166,136	18,642	206,660	-188,018	-462,912	818,775	1,469,704	-650,930
2005 Total	19,155	250,068	-230,913	26,488	289,723	-263,235	-504,242	905,978	1,673,455	-767,477
2006 Total	28,171	299,714	-271,543	34,711	332,500	-297,789	-519,515	1,036,635	1,853,938	-817,304
2007 Total	33,293	327,620	-294,327	41,725	364,987	-323,262	-485,501	1,148,199	1,956,962	-808,763
2008 Total	61,695	449,847	-388,152	76,075	491,885	-415,810	-400,389	1,287,442	2,103,641	-816,199
2009 January	3,029	16,924	-13,895	4,037	19,559	-15,522	-28,742	78,151	122,415	-44,264
February	2,549	14,006	-11,457	3,589	16,120	-12,531	-16,132	80,349	109,012	-28,663
March	2,878	16,658	-13,780	3,835	18,398	-14,563	-18,948	87,848	121,359	-33,511
April	2,988	17,884	-14,896	3,664	19,275	-15,611	-22,462	80,822	118,896	-38,073
May	3,596	18,179	-14,583	4,227	19,484	-15,257	-17,433	83,651	116,341	-32,690
June	3,625	23,119	-19,494	4,459	24,467	-20,008	-20,336	86,830	127,173	-40,344
July	4,390	24,295	-19,905	5,077	25,754	-20,677	-29,384	85,635	135,696	-50,061
August	4,234	23,026	-18,792	4,947	24,312	-19,365	-24,591	87,315	131,272	-43,956
September	4,329	25,259	-20,930	5,152	26,546	-21,394	-28,152	91,458	141,004	-49,546
October	4,359	22,826	-18,467	5,230	24,255	-19,025	-27,996	100,005	147,027	-47,021
November	4,140	23,393	-19,253	4,994	25,047	-20,053	-28,665	94,607	143,324	-48,718
December	4,391	26,264	-21,873	5,326	28,521	-23,195	-23,539	99,372	146,106	-46,734
Total	44,509	251,833	-207,324	54,536	271,739	-217,203	-286,379	1,056,043	1,559,625	-503,582
2010 January	4,093	25,255	-21,162	5,185	27,504	-22,319	-21,052	92,716	136,087	-43,371
February	3,953	23,685	-19,732	4,995	25,984	-20,989	-19,428	93,691	134,108	-40,417
March	5,357	28,630	-23,273	6,567	30,705	-24,138	-22,834	110,454	157,426	-46,972
April	5,703	29,943	-24,240	6,903	31,737	-24,834	-25,811	102,436	153,082	-50,645
May	5,580	28,558	-22,978	6,832	30,098	-23,266	-27,118	105,492	155,877	-50,384
June	4,831	28,926	-24,095	6,080	30,600	-24,520	-37,265	107,043	168,828	-61,785
July	5,469	29,464	-23,995	6,612	31,175	-24,563	-35,374	104,026	163,963	-59,937
August	5,372	30,109	-24,737	6,712	31,682	-24,970	-38,936	106,775	170,680	-63,906
September	5,398	27,352	-21,954	6,671	28,810	-22,139	-36,735	107,972	166,846	-58,874
October	6,069	25,663	-19,594	7,772	26,987	-19,215	-32,935	117,513	169,663	-52,150
November	6,189	25,958	-19,769	7,508	27,210	-19,702	-36,387	113,006	169,095	-56,089
December	6,527	29,812	-23,285	7,964	31,049	-23,085	-26,288	117,014	166,387	-49,373
Total	64,540	333,354	-268,814	79,801	353,540	-273,739	-360,164	1,278,139	1,912,041	-633,903
2011 January	7,330	32,982	-25,652	9,153	34,630	-25,477	-31,114	110,155	166,745	-56,591
February	6,682	27,856	-21,174	8,404	29,597	-21,193	<sup>R</sup> -25,654	<sup>R</sup> 109,640	<sup>R</sup> 156,487	<sup>R</sup> -46,847
March	7,717	37,076	-29,359	9,803	38,682	-28,879	-26,004	131,051	185,934	-54,883
3-Month Total	21,729	97,914	-76,185	27,360	102,909	-75,549	-82,772	350,845	509,166	-158,321
2010 3-Month Total	13,403	77,570	-64,167	16,747	84,193	-67,446	-63,314	296,861	427,621	-130,760
2009 3-Month Total	8,456	47,588	-39,132	11,461	54,077	-42,616	-63,822	246,348	352,785	-106,438

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> Crude oil, petroleum preparations, liquefied propane and butane, and other mineral fuels.

<sup>c</sup> Petroleum, coal, natural gas, and electricity.

<sup>R</sup>=Revised.

Notes: • Monthly data are not adjusted for seasonal variations. • See Note, "Merchandise Trade Value," at end of section. • Totals may not equal sum of

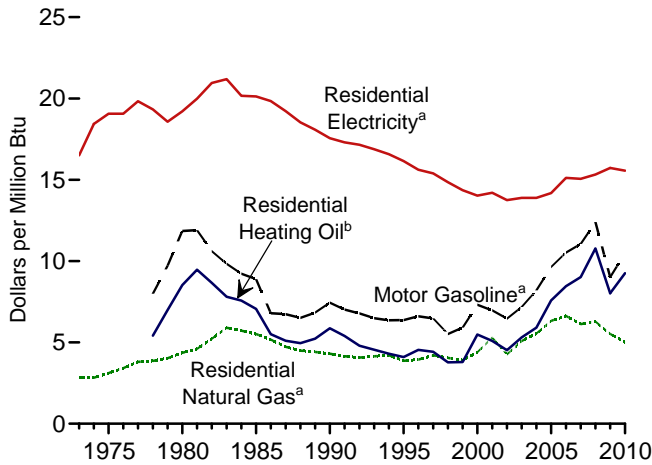
components due to independent rounding. • The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory, which comprises the 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1974.

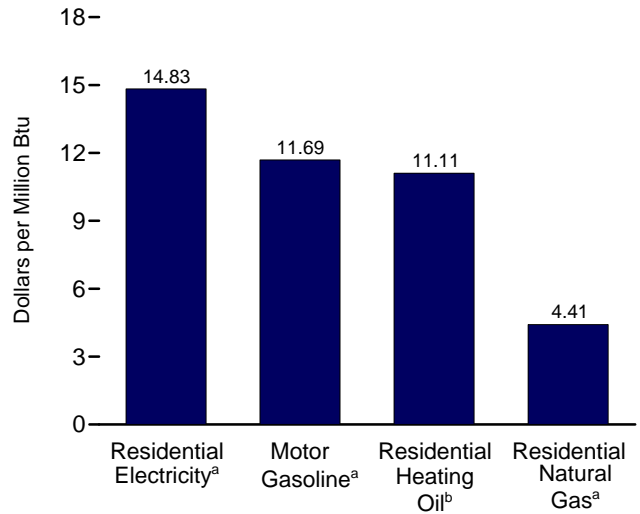
Sources: See end of section.

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

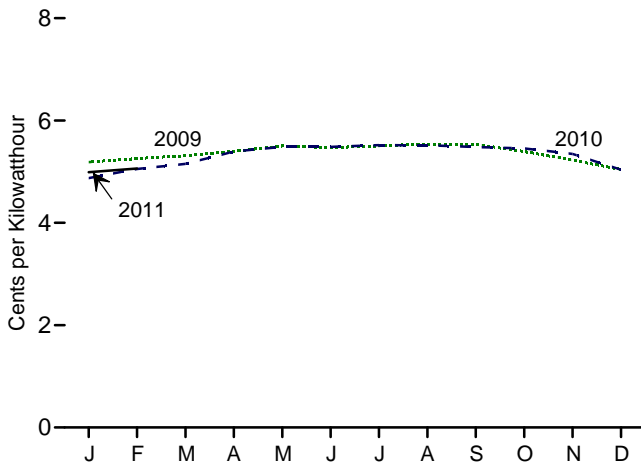
Costs, 1973-2010



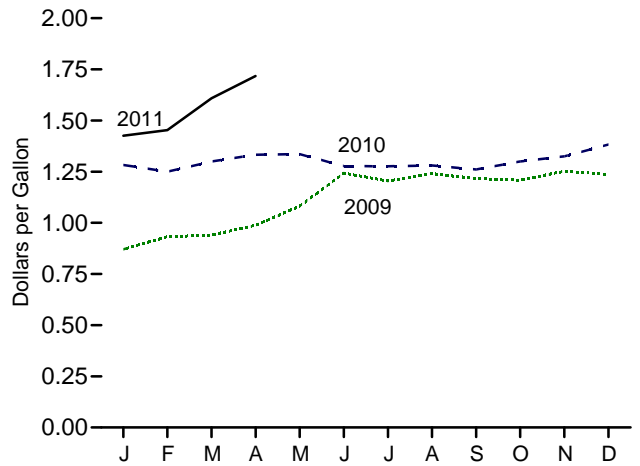
Costs, February 2011



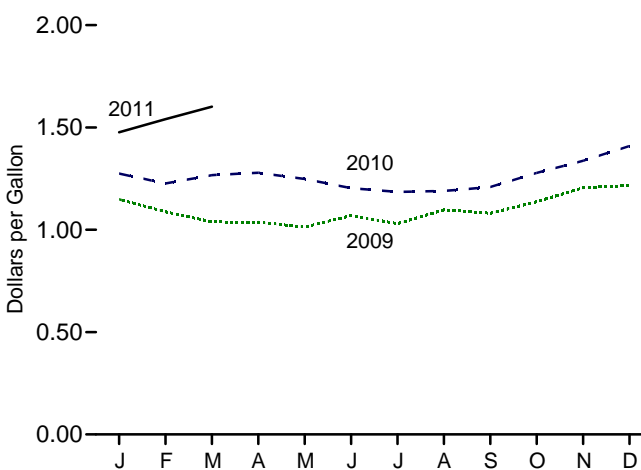
Residential Electricity,<sup>a</sup> Monthly



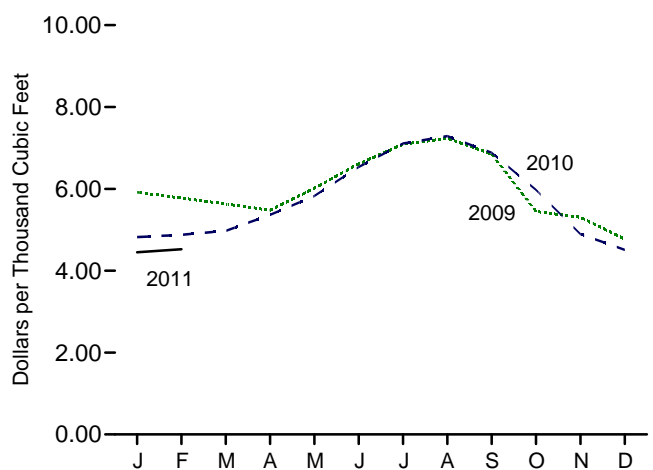
Motor Gasoline,<sup>a</sup> Monthly



Residential Heating Oil,<sup>b</sup> Monthly



Residential Natural Gas,<sup>a</sup> Monthly



<sup>a</sup> Includes taxes.

<sup>b</sup> Excludes taxes.

Note: See "Real Dollars" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.6.



**Table 1.6 Cost of Fuels to End Users in Real (1982-1984) Dollars**

	Consumer Price Index, All Urban Consumers <sup>a</sup>	Motor Gasoline <sup>b</sup>		Residential Heating Oil <sup>c</sup>		Residential Natural Gas <sup>b</sup>		Residential Electricity <sup>b</sup>	
	Index 1982-1984=100	Dollars per Gallon	Dollars per Million Btu	Dollars per Gallon	Dollars per Million Btu	Dollars per Thousand Cubic Feet	Dollars per Million Btu	Cents per Kilowatt-hour	Dollars per Million Btu
<b>1973 Average</b> .....	44.4	NA	NA	NA	NA	2.91	2.85	5.6	16.50
<b>1975 Average</b> .....	53.8	NA	NA	NA	NA	3.18	3.12	6.5	19.07
<b>1980 Average</b> .....	82.4	1.482	11.85	1.182	8.52	4.47	4.36	6.6	19.21
<b>1985 Average</b> .....	107.6	1.112	8.89	0.979	7.06	5.69	5.52	6.87	20.13
<b>1990 Average</b> .....	130.7	0.931	7.44	0.813	5.86	4.44	4.31	5.99	17.56
<b>1995 Average</b> .....	152.4	0.791	6.37	0.569	4.10	3.98	3.87	5.51	16.15
<b>1996 Average</b> .....	156.9	0.821	6.61	0.630	4.54	4.04	3.94	5.33	15.62
<b>1997 Average</b> .....	160.5	0.804	6.48	0.613	4.42	4.32	4.21	5.25	15.39
<b>1998 Average</b> .....	163.0	0.684	5.51	0.523	3.77	4.18	4.05	5.07	14.85
<b>1999 Average</b> .....	166.6	0.733	5.91	0.526	3.79	4.02	3.91	4.90	14.36
<b>2000 Average</b> .....	172.2	0.908	7.32	0.761	5.49	4.51	4.39	4.79	14.02
<b>2001 Average</b> .....	177.1	0.864	6.97	0.706	5.09	5.44	5.28	4.84	14.20
<b>2002 Average</b> .....	179.9	0.801	6.46	0.628	4.52	4.39	4.26	4.69	13.75
<b>2003 Average</b> .....	184.0	0.890	7.18	0.736	5.31	5.23	5.09	4.74	13.89
<b>2004 Average</b> .....	188.9	1.018	8.20	0.819	5.91	5.69	5.55	4.74	13.89
<b>2005 Average</b> .....	195.3	1.197	9.64	1.051	7.58	6.50	6.33	4.84	14.18
<b>2006 Average</b> .....	201.6	1.307	10.52	1.173	8.46	6.81	6.63	5.16	15.12
<b>2007 Average</b> .....	207.342	1.374	11.06	1.250	9.01	6.31	6.12	5.14	15.05
<b>2008 Average</b> .....	215.303	1.541	12.40	1.495	10.78	6.45	6.28	5.23	15.33
<b>2009</b> January .....	211.143	0.871	7.01	1.149	8.28	5.92	5.77	5.19	15.20
February .....	212.193	0.933	7.51	1.088	7.85	5.78	5.64	5.25	15.40
March .....	212.709	0.940	7.57	1.039	7.49	5.63	5.49	5.31	15.57
April .....	213.240	0.988	7.95	1.037	7.48	5.48	5.34	5.40	15.82
May .....	213.856	1.082	8.71	1.013	7.31	6.01	5.87	5.50	16.13
June .....	215.693	1.243	10.00	1.070	7.71	6.61	6.45	5.47	16.03
July .....	215.351	1.205	9.70	1.030	7.43	7.09	6.92	5.50	16.13
August .....	215.834	1.240	9.98	1.098	7.91	7.23	7.06	5.54	16.24
September .....	215.969	1.216	9.79	1.081	7.79	6.85	6.69	5.53	16.22
October .....	216.177	1.209	9.73	1.137	8.20	5.45	5.32	5.39	15.81
November .....	216.330	1.252	10.08	1.206	8.69	5.31	5.18	5.22	15.31
December .....	215.949	1.237	9.96	1.217	8.77	4.77	4.65	5.04	14.78
<b>Average</b> .....	<b>214.537</b>	<b>1.119</b>	<b>9.01</b>	<b>1.112</b>	<b>8.02</b>	<b>5.66</b>	<b>5.52</b>	<b>5.37</b>	<b>15.72</b>
<b>2010</b> January .....	216.687	1.282	10.32	1.275	9.19	4.82	4.70	4.87	14.28
February .....	216.741	1.250	10.06	1.226	8.84	4.88	4.76	5.05	14.81
March .....	217.631	1.300	10.46	1.267	9.13	4.98	4.85	5.15	15.10
April .....	218.009	1.333	10.73	1.278	9.22	5.37	5.24	5.39	15.81
May .....	218.178	1.336	10.75	1.248	9.00	5.83	5.68	5.49	16.08
June .....	217.965	1.277	10.28	1.203	8.68	6.53	6.37	5.48	16.07
July .....	218.011	1.277	10.27	1.185	8.55	7.11	6.94	5.52	16.17
August .....	218.312	1.280	10.31	1.190	8.58	7.29	7.11	5.52	16.16
September .....	218.439	1.261	10.15	1.209	8.72	6.88	6.71	5.48	16.06
October .....	218.711	1.300	10.46	1.278	9.21	<sup>R</sup> 5.98	5.83	5.45	15.99
November .....	218.803	1.325	10.66	1.337	9.64	4.90	4.78	5.35	15.67
December .....	219.179	1.383	11.13	1.409	10.16	4.51	4.40	5.04	14.76
<b>Average</b> .....	<b>218.056</b>	<b>1.301</b>	<b>10.47</b>	<b>1.283</b>	<b>9.25</b>	<b>5.14</b>	<b>5.01</b>	<b>5.31</b>	<b>15.56</b>
<b>2011</b> January .....	220.223	1.425	11.47	1.476	10.64	4.45	4.34	4.99	14.63
February .....	221.309	1.453	11.69	<sup>R</sup> 1.540	<sup>R</sup> 11.11	<sup>R</sup> 4.52	<sup>R</sup> 4.41	<sup>R</sup> 5.06	<sup>R</sup> 14.83
March .....	223.467	1.608	12.95	<sup>RE</sup> 1.602	<sup>RE</sup> 11.55	NA	NA	NA	NA
April .....	224.906	1.718	13.83	NA	NA	NA	NA	NA	NA

<sup>a</sup> Data are U.S. city averages for all items, and are not seasonally adjusted.

<sup>b</sup> Includes taxes.

<sup>c</sup> Excludes taxes.

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

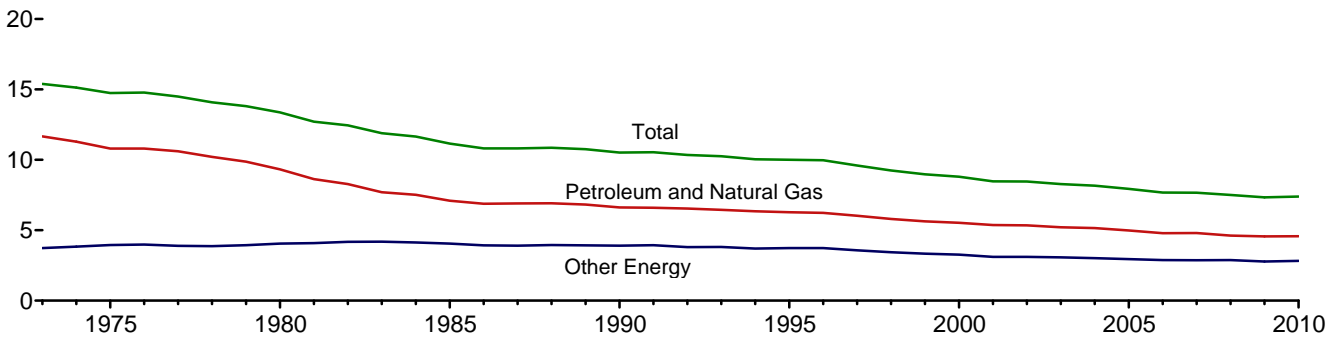
Notes: • See "Real Dollars" in Glossary. • Fuel costs are calculated by using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. • Annual averages may not equal average of months due to independent rounding. • Geographic coverage is the 50 States and the District of

Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available data beginning in 1973.

Sources: • **Fuel Prices:** Tables 9.4 (All Types), 9.8c, 9.9, and 9.11, adjusted by the CPI. • **Consumer Price Index, All Urban Consumers:** U.S. Department of Labor, Bureau of Labor Statistics, series ID CUUR0000SA0. • **Conversion Factors:** Tables A1, A3, A4, and A6.

**Figure 1.7 Primary Energy Consumption per Real Dollar of Gross Domestic Product, 1973-2010**  
(Thousand Btu per Chained (2005) Dollar)



Note: See "Real Dollars" in Glossary.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.  
Source: Table 1.7.

**Table 1.7 Primary Energy Consumption per Real Dollar of Gross Domestic Product**

	Energy Consumption			Gross Domestic Product (GDP)	Energy Consumption per Real Dollar of GDP		
	Petroleum and Natural Gas	Other Energy <sup>a</sup>	Total		Petroleum and Natural Gas	Other Energy <sup>a</sup>	Total
	Quadrillion Btu				Billion Chained (2005) Dollars	Thousand Btu per Chained (2005) Dollar	
1973 Year	57.350	18.334	75.684	4,917.0	11.66	3.73	15.39
1974 Year	55.186	18.776	73.962	4,889.9	11.29	3.84	15.13
1975 Year	52.680	19.284	71.965	4,879.5	10.80	3.95	14.75
1976 Year	55.523	20.452	75.975	5,141.3	10.80	3.98	14.78
1977 Year	57.054	20.907	77.961	5,377.7	10.61	3.89	14.50
1978 Year	57.963	21.987	79.950	5,677.6	10.21	3.87	14.08
1979 Year	57.788	23.070	80.859	5,855.0	9.87	3.94	13.81
1980 Year	54.440	23.627	78.067	5,839.0	9.32	4.05	13.37
1981 Year	51.680	24.426	76.106	5,987.2	8.63	4.08	12.71
1982 Year	48.588	24.511	73.099	5,870.9	8.28	4.17	12.45
1983 Year	47.273	25.698	72.971	6,136.2	7.70	4.19	11.89
1984 Year	49.447	27.185	76.632	6,577.1	7.52	4.13	11.65
1985 Year	48.628	27.764	76.392	6,849.3	7.10	4.05	11.15
1986 Year	48.790	27.857	76.647	7,086.5	6.88	3.93	10.82
1987 Year	50.504	28.551	79.054	7,313.3	6.91	3.90	10.81
1988 Year	52.671	30.038	82.709	7,613.9	6.92	3.95	10.86
1989 Year	53.811	30.975	84.786	7,885.9	6.82	3.93	10.75
1990 Year	53.155	31.330	84.485	8,033.9	6.62	3.90	10.52
1991 Year	52.879	31.559	84.438	8,015.1	6.60	3.94	10.53
1992 Year	54.239	31.544	85.783	8,287.1	6.54	3.81	10.35
1993 Year	54.973	32.450	87.424	8,523.4	6.45	3.81	10.26
1994 Year	56.289	32.803	89.091	8,870.7	6.35	3.70	10.04
1995 Year	57.110	33.920	91.029	9,093.7	6.28	3.73	10.01
1996 Year	58.760	35.262	94.022	9,433.9	6.23	3.74	9.97
1997 Year	59.382	35.221	94.602	9,854.3	6.03	3.57	9.60
1998 Year	59.646	35.372	95.018	10,283.5	5.80	3.44	9.24
1999 Year	60.747	35.905	96.652	10,779.8	5.64	3.33	8.97
2000 Year	62.086	36.729	98.814	11,226.0	5.53	3.27	8.80
2001 Year	60.958	35.210	96.168	11,347.2	5.37	3.10	8.48
2002 Year	61.783	35.911	<sup>R</sup> 97.693	11,553.0	5.35	3.11	8.46
2003 Year	61.642	36.336	97.978	11,840.7	5.21	3.07	8.27
2004 Year	63.201	36.947	100.148	12,263.8	5.15	3.01	8.17
2005 Year	62.950	37.328	100.277	12,638.4	4.98	2.95	7.93
2006 Year	62.179	37.445	99.624	12,976.2	4.79	2.89	7.68
2007 Year	63.476	<sup>R</sup> 37.887	<sup>R</sup> 101.363	13,228.9	4.80	2.86	7.66
2008 Year	61.114	38.155	<sup>R</sup> 99.268	13,228.8	4.62	2.88	7.50
2009 Year	58.747	35.728	94.475	12,880.6	4.56	2.77	7.33
2010 Year	<sup>R</sup> 60.613	37.389	<sup>R</sup> 98.002	13,248.2	4.58	2.82	7.40

<sup>a</sup> Coal, coal coke net imports, nuclear electric power, renewable energy, and electricity net imports.

<sup>R</sup>=Revised.

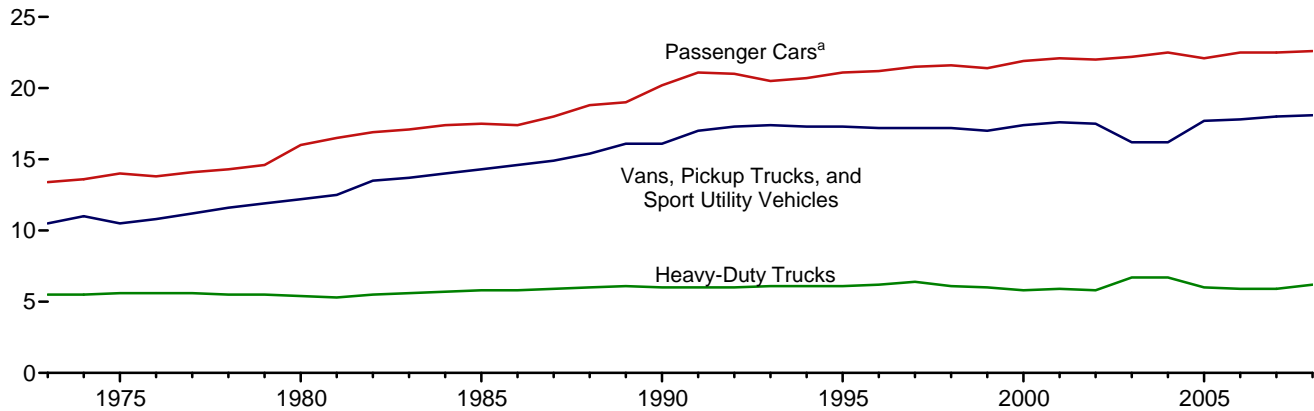
Notes: • See "Primary Energy Consumption" and "Real Dollars" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of

Columbia.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Sources: • **Energy Consumption:** Table 1.3. • **Gross Domestic Product:** U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts (Apr. 28, 2011), Table 1.1.6.

**Figure 1.8 Motor Vehicle Fuel Economy, 1973-2008**  
(Miles per Gallon)



<sup>a</sup> Motorcycles are included through 1989.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.8.

**Table 1.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy**

	Passenger Cars <sup>a</sup>			Vans, Pickup Trucks, and Sport Utility Vehicles <sup>b</sup>			Heavy-Duty Trucks <sup>c</sup>			All Motor Vehicles <sup>d</sup>		
	Mileage (miles per vehicle)	Fuel Consumption (gallons per vehicle)	Fuel Economy (miles per gallon)	Mileage (miles per vehicle)	Fuel Consumption (gallons per vehicle)	Fuel Economy (miles per gallon)	Mileage (miles per vehicle)	Fuel Consumption (gallons per vehicle)	Fuel Economy (miles per gallon)	Mileage (miles per vehicle)	Fuel Consumption (gallons per vehicle)	Fuel Economy (miles per gallon)
1973	9,884	737	13.4	9,779	931	10.5	15,370	2,775	5.5	10,099	850	11.9
1974	9,221	677	13.6	9,452	862	11.0	14,995	2,708	5.5	9,493	788	12.0
1975	9,309	665	14.0	9,829	934	10.5	15,167	2,722	5.6	9,627	790	12.2
1976	9,418	681	13.8	10,127	934	10.8	15,438	2,764	5.6	9,774	806	12.1
1977	9,517	676	14.1	10,607	947	11.2	16,700	3,002	5.6	9,978	814	12.3
1978	9,500	665	14.3	10,968	948	11.6	18,045	3,263	5.5	10,077	816	12.4
1979	9,062	620	14.6	10,802	905	11.9	18,502	3,380	5.5	9,722	776	12.5
1980	8,813	551	16.0	10,437	854	12.2	18,736	3,447	5.4	9,458	712	13.3
1981	8,873	538	16.5	10,244	819	12.5	19,016	3,565	5.3	9,477	697	13.6
1982	9,050	535	16.9	10,276	762	13.5	19,931	3,647	5.5	9,644	686	14.1
1983	9,118	534	17.1	10,497	767	13.7	21,083	3,769	5.6	9,760	686	14.2
1984	9,248	530	17.4	11,151	797	14.0	22,550	3,967	5.7	10,017	691	14.5
1985	9,419	538	17.5	10,506	735	14.3	20,597	3,570	5.8	10,020	685	14.6
1986	9,464	543	17.4	10,764	738	14.6	22,143	3,821	5.8	10,143	692	14.7
1987	9,720	539	18.0	11,114	744	14.9	23,349	3,937	5.9	10,453	694	15.1
1988	9,972	531	18.8	11,465	745	15.4	22,485	3,736	6.0	10,721	688	15.6
1989	<sup>a</sup> 10,157	<sup>a</sup> 533	<sup>a</sup> 19.0	11,676	724	16.1	22,926	3,776	6.1	10,932	688	15.9
1990	10,504	520	20.2	11,902	738	16.1	23,603	3,953	6.0	11,107	677	16.4
1991	10,571	501	21.1	12,245	721	17.0	24,229	4,047	6.0	11,294	669	16.9
1992	10,857	517	21.0	12,381	717	17.3	25,373	4,210	6.0	11,558	683	16.9
1993	10,804	527	20.5	12,430	714	17.4	26,262	4,309	6.1	11,595	693	16.7
1994	10,992	531	20.7	12,156	701	17.3	25,838	4,202	6.1	11,683	698	16.7
1995	11,203	530	21.1	12,018	694	17.3	26,514	4,315	6.1	11,793	700	16.8
1996	11,330	534	21.2	11,811	685	17.2	26,092	4,221	6.2	11,813	700	16.9
1997	11,581	539	21.5	12,115	703	17.2	27,032	4,218	6.4	12,107	711	17.0
1998	11,754	544	21.6	12,173	707	17.2	25,397	4,135	6.1	12,211	721	16.9
1999	11,848	553	21.4	11,957	701	17.0	26,014	4,352	6.0	12,206	732	16.7
2000	11,976	547	21.9	11,672	669	17.4	25,617	4,391	5.8	12,164	720	16.9
2001	11,831	534	22.1	11,204	636	17.6	26,602	4,477	5.9	11,887	695	17.1
2002	12,202	555	22.0	11,364	650	17.5	27,071	4,642	5.8	12,171	719	16.9
2003	12,325	556	22.2	11,287	697	16.2	28,093	4,215	6.7	12,208	718	17.0
2004	12,460	553	22.5	11,184	690	16.2	27,023	4,057	6.7	12,200	714	17.1
2005	12,510	567	22.1	10,920	617	17.7	26,235	4,385	6.0	12,082	706	17.1
2006	12,485	554	22.5	10,920	612	17.8	25,231	4,304	5.9	12,017	698	17.2
2007	12,304	547	22.5	10,962	609	18.0	25,152	4,275	5.9	11,920	693	17.2
2008 <sup>P</sup>	11,788	522	22.6	10,951	605	18.1	25,254	4,075	6.2	11,619	667	17.4

<sup>a</sup> Through 1989, includes motorcycles.

<sup>b</sup> Includes a small number of trucks with 2 axles and 4 tires, such as step vans.

<sup>c</sup> Single-unit trucks with 2 axles and 6 or more tires, and combination trucks.

<sup>d</sup> Includes buses and motorcycles, which are not shown separately.

P=Preliminary.

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

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

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

**Table 1.9 Heating Degree-Days by Census Division**

Census Divisions	April					Cumulative July through April				
	Normal <sup>a</sup>	2010	2011	Percent Change		Normal <sup>a</sup>	2010	2011	Percent Change	
				Normal to 2011	2010 to 2011				Normal to 2011	2010 to 2011
<b>New England</b> Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont .....	583	429	521	-11	21	6,264	5,826	6,234	(s)	7
<b>Middle Atlantic</b> New Jersey, New York, Pennsylvania .....	496	335	430	-13	28	5,655	5,222	5,598	-1	7
<b>East North Central</b> Illinois, Indiana, Michigan, Ohio, Wisconsin .....	510	331	485	-5	47	6,209	5,951	6,280	1	6
<b>West North Central</b> Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota .....	472	320	477	1	49	6,493	6,478	6,581	1	2
<b>South Atlantic</b> Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia .....	179	124	130	-27	5	2,785	2,952	2,880	3	-2
<b>East South Central</b> Alabama, Kentucky, Mississippi, Tennessee .....	216	146	150	-31	3	3,521	3,819	3,521	0	-8
<b>West South Central</b> Arkansas, Louisiana, Oklahoma, Texas .....	94	85	58	NM	NM	2,269	2,636	2,169	-4	-18
<b>Mountain</b> Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming .....	426	430	421	-1	-2	4,894	4,921	4,610	-6	-6
<b>Pacific<sup>b</sup></b> California, Oregon, Washington .....	298	372	331	11	-11	2,970	2,926	3,011	1	3
<b>U.S. Average<sup>b</sup></b> .....	<b>345</b>	<b>271</b>	<b>316</b>	<b>-8</b>	<b>17</b>	<b>4,326</b>	<b>4,285</b>	<b>4,328</b>	(s)	<b>1</b>

<sup>a</sup> "Normal" is based on calculations of data from 1971 through 2000.

<sup>b</sup> Excludes Alaska and Hawaii.

(s)=Less than 0.5 percent and greater than -0.5 percent.

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

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#summary> for current data. • See <http://www.eia.gov/totalenergy/data/annual/#summary>

for historical data.

Sources: 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 Prediction 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 the 2000 Census 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) developed by the National Climatic Data Center, Asheville, NC, which compiles data from some 8,000 weather stations.

**Table 1.10 Cooling Degree-Days by Census Division**

Census Divisions	April					Cumulative January through April				
	Normal <sup>a</sup>	2010	2011	Percent Change		Normal <sup>a</sup>	2010	2011	Percent Change	
				Normal to 2011	2010 to 2011				Normal to 2011	2010 to 2011
<b>New England</b> Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont .....	0	0	0	NM	NM	0	0	0	NM	NM
<b>Middle Atlantic</b> New Jersey, New York, Pennsylvania .....	0	7	8	NM	NM	0	7	8	NM	NM
<b>East North Central</b> Illinois, Indiana, Michigan, Ohio, Wisconsin .....	1	8	2	NM	NM	2	8	2	NM	NM
<b>West North Central</b> Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota .....	6	6	5	NM	NM	9	7	6	NM	NM
<b>South Atlantic</b> Delaware, Florida, Georgia, Maryland and the District of Columbia, North Carolina, South Carolina, Virginia, West Virginia .....	70	84	136	NM	NM	183	125	234	28	87
<b>East South Central</b> Alabama, Kentucky, Mississippi, Tennessee .....	26	28	70	NM	NM	56	29	80	NM	NM
<b>West South Central</b> Arkansas, Louisiana, Oklahoma, Texas .....	94	109	202	NM	NM	175	127	315	80	148
<b>Mountain</b> Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming .....	35	18	34	NM	NM	49	21	45	NM	NM
<b>Pacific<sup>b</sup></b> California, Oregon, Washington .....	14	0	2	NM	NM	21	0	4	NM	NM
<b>U.S. Average<sup>b</sup></b> .....	<b>30</b>	<b>33</b>	<b>56</b>	<b>NM</b>	<b>NM</b>	<b>65</b>	<b>43</b>	<b>89</b>	<b>NM</b>	<b>NM</b>

<sup>a</sup> "Normal" is based on calculations of data from 1971 through 2000.

<sup>b</sup> Excludes Alaska and Hawaii.

NM=Not meaningful (because "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).

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#summary>

for current data. • See <http://www.eia.gov/totalenergy/data/annual/#summary> for historical data.

Sources: 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 Prediction 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 the 2000 Census by the U.S. Department of Commerce, Bureau of the Census. The data provided here are available sooner than the Historical Climatology Series 5-2 (cooling degree-days) developed by the National Climatic Data Center, Asheville, NC, which compiles data from some 8,000 weather stations.

## Energy Overview

**Note. Merchandise Trade Value.** Imports data presented are based on the customs values. Those values do not include insurance and freight and are consequently lower than the cost, insurance, and freight (CIF) values, which are also reported by the Bureau of the Census. All exports data, and imports 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 U.S. 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.

### Table 1.5 Sources

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

#### Petroleum Exports

1974-1987: “U.S. Exports,” FT410, December issues.  
1988 and 1989: “Report on U.S. Merchandise Trade,” Final Revisions.  
1990-1992: “U.S. Merchandise Trade,” Final Report.  
1993-2007: “U.S. International Trade in Goods and Services,” Annual Revision.

2008 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

#### Petroleum Imports

1974-1987: “U.S. Merchandise Trade,” FT900, December issues, 1975-1988.  
1988 and 1989: “Report on U.S. Merchandise Trade,” Final Revisions.  
1990-1993: “U.S. Merchandise Trade,” Final Report.  
1994-2007: “U.S. International Trade in Goods and Services,” Annual Revision.  
2008 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

#### Energy Exports and Imports

1974-1987: U.S. merchandise trade press releases and database printouts for adjustments.  
1988: January-July, monthly FT-900 supplement, 1989 issues. August-December, monthly FT-900, 1989 issues.  
1989: Monthly FT-900, 1990 issues.  
1990-1992: “U.S. Merchandise Trade,” Final Report.  
1993-2007: “U.S. International Trade in Goods and Services,” Annual Revision.  
2008 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

#### Petroleum, Energy, and Non-Energy Balances

Calculated by the U.S. Energy Information Administration.

#### Total Merchandise

1974-1987: U.S. merchandise trade press releases and database printouts for adjustments.  
1988: “Report on U.S. Merchandise Trade, 1988 Final Revisions,” August 18, 1989.  
1989: “Report on U.S. Merchandise Trade, 1989 Revisions,” July 10, 1990.  
1990: “U.S. Merchandise Trade, 1990 Final Report,” May 10, 1991, and “U.S. Merchandise Trade, December 1992,” February 18, 1993, page 3.  
1991: “U.S. Merchandise Trade, 1992 Final Report,” May 12, 1993.  
1992-2007: “U.S. International Trade in Goods and Services,” Annual Revision.  
2008 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

# 2

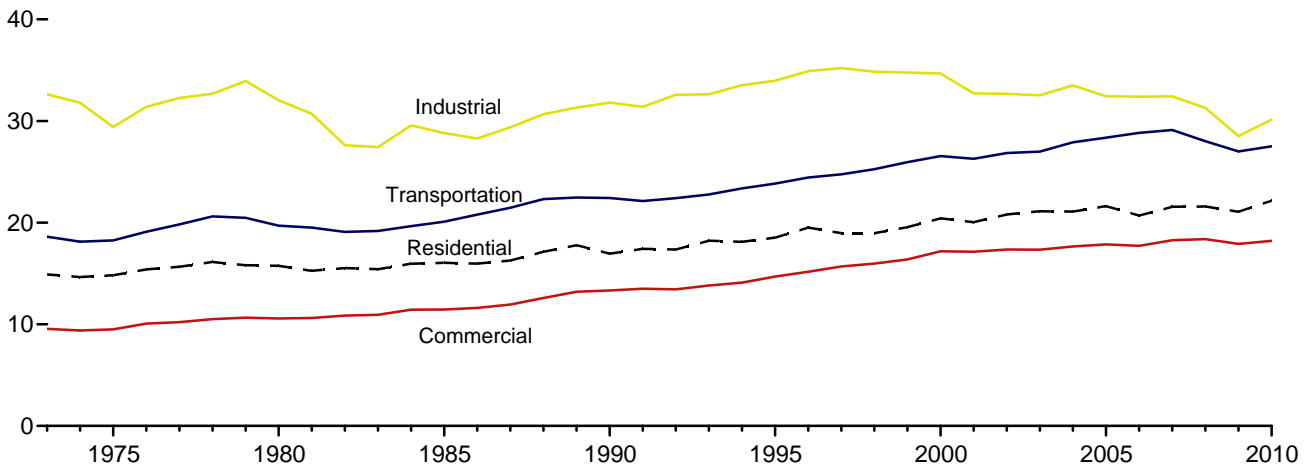
## Energy Consumption by Sector



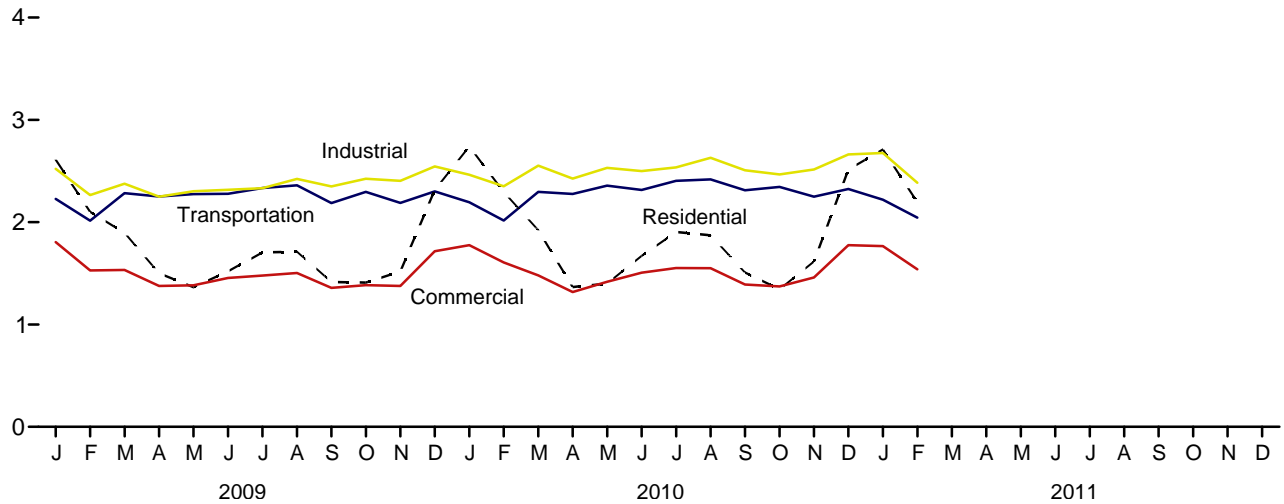
Office buildings, industries, residences, and transport systems, Baltimore, Maryland; east view from the inner harbor.  
Source: U.S. Department of Energy.

**Figure 2.1 Energy Consumption by Sector**  
(Quadrillion Btu)

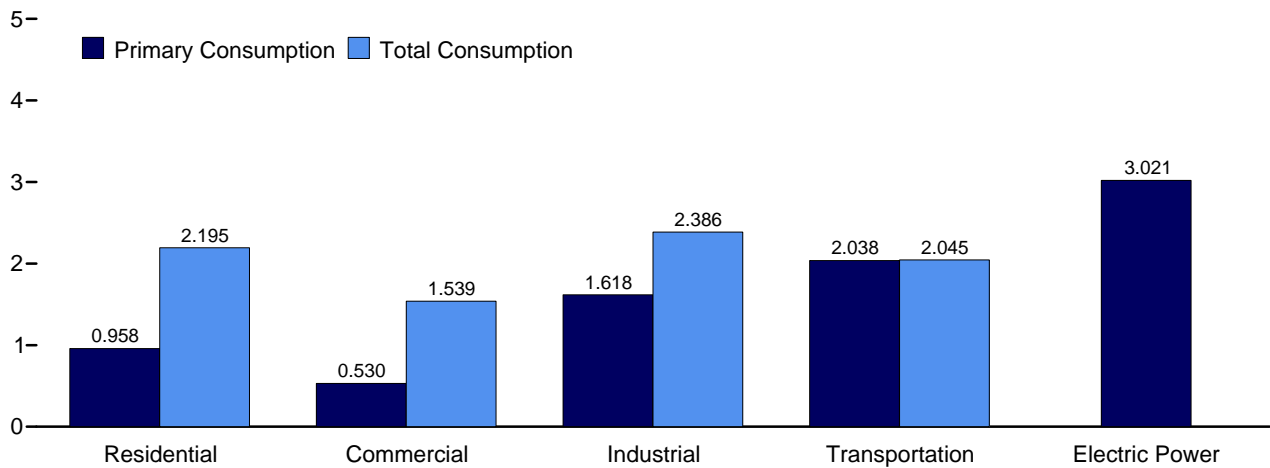
Total Consumption by End-Use Sector, 1973-2010



Total Consumption by End-Use Sector, Monthly



By Sector, February 2011



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.  
Source: Table 2.1.



**Table 2.1 Energy Consumption by Sector**  
(Trillion Btu)

	End-Use Sectors								Electric Power Sector <sup>c,d</sup>	Balancing Item <sup>g</sup>	Primary Total <sup>h</sup>
	Residential		Commercial <sup>a</sup>		Industrial <sup>b</sup>		Transportation				
	Primary <sup>e</sup>	Total <sup>f</sup>	Primary <sup>e</sup>	Total <sup>f</sup>	Primary <sup>e</sup>	Total <sup>f</sup>	Primary <sup>e</sup>	Total <sup>f</sup>			
<b>1973 Total</b> .....	8,225	14,897	4,423	9,543	24,720	32,623	18,577	18,613	19,731	7	75,684
<b>1975 Total</b> .....	7,990	14,813	4,059	9,492	21,434	29,413	18,210	18,245	20,270	1	71,965
<b>1980 Total</b> .....	7,439	15,753	4,105	10,578	22,595	32,039	19,659	19,697	24,269	-1	78,067
<b>1985 Total</b> .....	7,148	16,041	3,732	11,451	19,443	28,816	20,041	20,088	26,032	-4	76,392
<b>1990 Total</b> .....	6,557	16,945	3,896	13,320	21,180	31,810	22,366	22,420	30,495	-9	84,485
<b>1995 Total</b> .....	6,936	18,519	4,101	14,690	22,719	33,971	23,791	23,846	33,479	3	91,029
<b>1996 Total</b> .....	7,466	19,504	4,273	15,172	23,410	34,904	24,383	24,437	34,485	4	94,022
<b>1997 Total</b> .....	7,033	18,965	4,295	15,681	23,686	35,200	24,695	24,750	34,886	6	94,602
<b>1998 Total</b> .....	6,413	18,955	4,005	15,968	23,177	34,843	25,201	25,256	36,225	-3	95,018
<b>1999 Total</b> .....	6,775	19,557	4,053	16,376	22,950	34,764	25,891	25,949	36,976	6	96,652
<b>2000 Total</b> .....	7,159	20,425	4,278	17,175	22,824	34,664	26,489	26,548	38,062	2	98,814
<b>2001 Total</b> .....	6,868	20,042	4,084	17,137	21,794	32,720	26,213	26,275	37,215	-6	96,168
<b>2002 Total</b> .....	6,931	20,810	4,144	17,358	21,813	32,676	26,784	26,845	38,016	5	97,973
<b>2003 Total</b> .....	7,211	21,110	4,283	17,343	21,503	32,532	26,920	26,994	38,062	-1	97,978
<b>2004 Total</b> .....	6,993	21,093	4,232	17,659	22,398	33,506	27,817	<sup>R</sup> 27,895	38,713	-6	100,148
<b>2005 Total</b> .....	6,909	21,626	4,051	17,856	21,407	32,442	28,272	28,353	39,638	(s)	100,277
<b>2006 Total</b> .....	6,178	20,698	3,746	17,710	21,521	32,386	28,751	28,830	39,428	(s)	99,624
<b>2007 Total</b> .....	6,633	21,565	3,931	18,264	21,395	32,419	29,031	29,119	40,377	-3	<sup>R</sup> 101,363
<b>2008 Total</b> .....	6,817	21,596	4,073	18,381	20,474	31,284	<sup>R</sup> 27,925	28,008	39,978	(s)	<sup>R</sup> 99,268
<b>2009 January</b> .....	1,151	2,610	631	1,805	1,717	2,521	2,219	2,227	3,446	1	9,165
February .....	932	2,101	523	1,528	1,545	2,266	2,009	2,016	2,901	-3	7,908
March .....	774	1,896	453	1,534	1,598	2,376	2,277	2,284	2,988	-4	8,086
April .....	538	1,500	325	1,377	1,475	2,250	2,245	2,251	2,795	-1	7,377
May .....	330	1,364	228	1,383	1,476	2,302	2,269	2,275	3,022	(s)	7,324
June .....	261	1,521	192	1,456	1,488	2,317	2,271	2,278	3,359	2	7,573
July .....	247	1,704	191	1,478	1,507	2,333	2,327	2,334	3,578	3	7,853
August .....	245	1,711	194	1,504	1,551	2,423	2,354	2,361	3,653	3	8,001
September .....	255	1,416	200	1,357	1,544	2,349	2,180	2,186	3,130	(s)	7,308
October .....	397	1,409	268	1,385	1,607	2,425	2,290	2,296	2,952	-2	7,513
November .....	528	1,519	324	1,377	1,594	2,405	2,182	2,188	2,860	-1	7,488
December .....	962	2,315	534	1,717	1,699	2,545	2,294	2,302	3,389	1	8,879
<b>Total</b> .....	<b>6,619</b>	<b>21,063</b>	<b>4,061</b>	<b>17,899</b>	<b>18,801</b>	<b>28,513</b>	<b>26,916</b>	<b>26,998</b>	<b>38,077</b>	<b>(s)</b>	<b>94,475</b>
<b>2010 January</b> .....	1,189	2,741	641	1,775	1,677	2,464	2,186	2,194	3,480	3	9,176
February .....	1,026	2,294	574	1,607	1,595	2,351	2,009	2,016	3,065	-1	8,268
March .....	770	1,922	436	1,480	1,754	2,552	2,289	2,296	3,001	-3	8,247
April .....	455	1,366	287	1,317	1,620	2,426	2,269	2,275	2,754	-4	7,381
May .....	338	1,400	233	1,417	1,619	2,532	2,350	2,357	3,165	-1	7,705
June .....	274	1,671	202	1,507	1,601	2,500	2,308	2,316	3,608	2	7,996
July .....	248	1,904	187	1,552	1,632	2,535	2,397	2,404	3,932	4	8,399
August .....	239	1,873	191	1,551	1,713	2,629	2,412	2,419	3,917	4	8,476
September .....	245	1,508	193	1,391	1,678	2,508	2,306	2,312	3,297	-1	7,717
October .....	353	1,343	263	1,373	1,633	2,466	2,338	2,344	2,940	-2	7,524
November .....	617	1,616	<sup>R</sup> 372	<sup>R</sup> 1,459	1,670	2,515	2,243	2,250	2,937	-3	<sup>R</sup> 7,837
December .....	1,089	2,514	596	1,775	1,791	2,662	2,317	2,324	3,484	(s)	9,275
<b>Total</b> .....	<b>6,841</b>	<b>22,153</b>	<b>4,175</b>	<b>18,205</b>	<b>19,984</b>	<b>30,139</b>	<b>27,425</b>	<b>27,507</b>	<b>39,579</b>	<b>-2</b>	<b><sup>R</sup> 98,002</b>
<b>2011 January</b> .....	<sup>R</sup> 1,172	<sup>R</sup> 2,711	<sup>R</sup> 632	1,766	<sup>R</sup> 1,847	<sup>R</sup> 2,677	2,213	2,220	3,511	1	<sup>R</sup> 9,375
February .....	958	2,195	530	1,539	1,618	2,386	2,038	2,045	3,021	-3	8,161
<b>2-Month Total</b> .....	<b>2,130</b>	<b>4,906</b>	<b>1,162</b>	<b>3,306</b>	<b>3,465</b>	<b>5,062</b>	<b>4,251</b>	<b>4,265</b>	<b>6,532</b>	<b>-3</b>	<b>17,536</b>
<b>2010 2-Month Total</b> .....	<b>2,215</b>	<b>5,035</b>	<b>1,215</b>	<b>3,382</b>	<b>3,272</b>	<b>4,815</b>	<b>4,195</b>	<b>4,210</b>	<b>6,545</b>	<b>2</b>	<b>17,444</b>
<b>2009 2-Month Total</b> .....	<b>2,083</b>	<b>4,711</b>	<b>1,154</b>	<b>3,333</b>	<b>3,261</b>	<b>4,787</b>	<b>4,227</b>	<b>4,243</b>	<b>6,348</b>	<b>-1</b>	<b>17,072</b>

<sup>a</sup> Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>b</sup> Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

<sup>c</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>d</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

<sup>e</sup> See "Primary Energy Consumption" in Glossary.

<sup>f</sup> Total energy consumption in the end-use sectors consists of primary energy consumption, electricity retail sales, and electrical system energy losses. See Note 2, "Electrical System Energy Losses," at end of section.

<sup>g</sup> A balancing item. The sum of primary consumption in the five energy-use sectors equals the sum of total consumption in the four end-use sectors. However, total energy consumption does not equal the sum of the sectoral components due to the use of sector-specific conversion factors for coal and natural gas.

<sup>h</sup> Primary energy consumption total. See Table 1.3.

<sup>R</sup>=Revised. (s)=Less than 0.5 trillion Btu and greater than -0.5 trillion Btu.

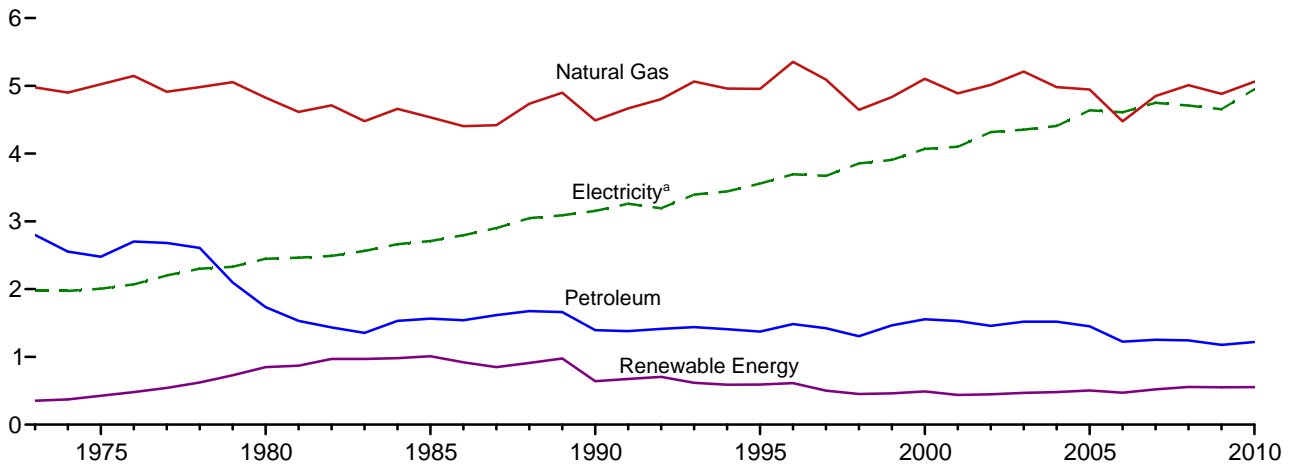
Notes: • See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7. • See Note 1, "Energy Consumption Data and Surveys," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for all available data beginning in 1973.

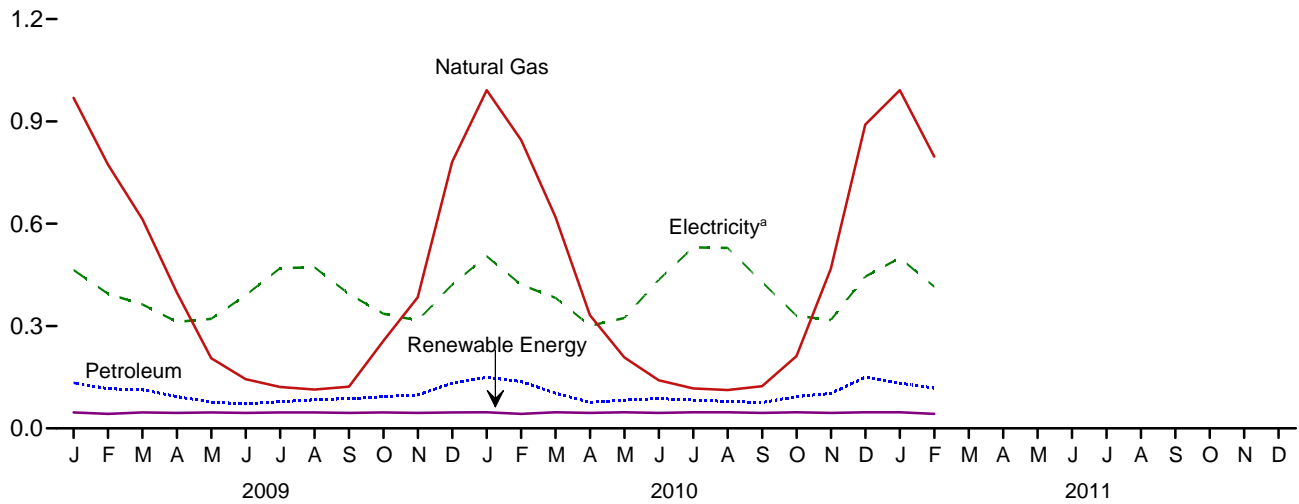
Sources: Tables 1.3 and 2.2-2.6.

**Figure 2.2 Residential Sector Energy Consumption**  
(Quadrillion Btu)

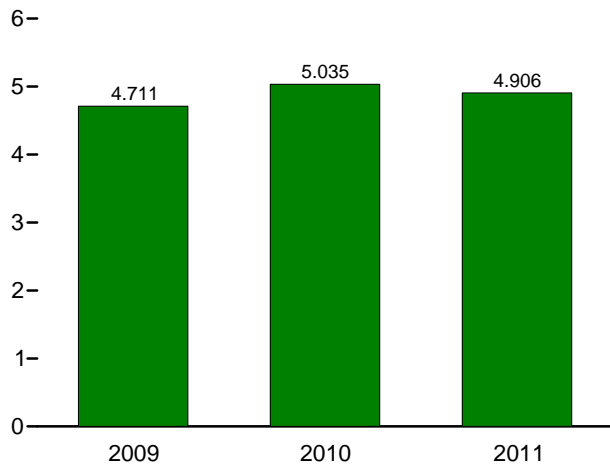
By Major Source, 1973-2010



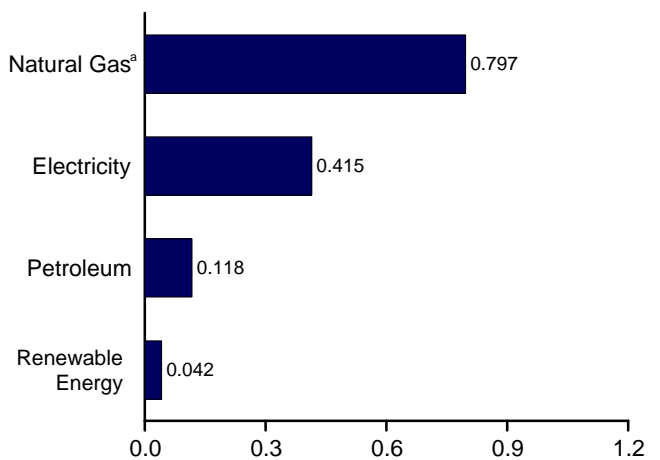
By Major Source, Monthly



Total, January-February



By Major Source, February 2011



<sup>a</sup> Electricity retail sales.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Source: Table 2.2.

**Table 2.2 Residential Sector Energy Consumption**  
(Trillion Btu)

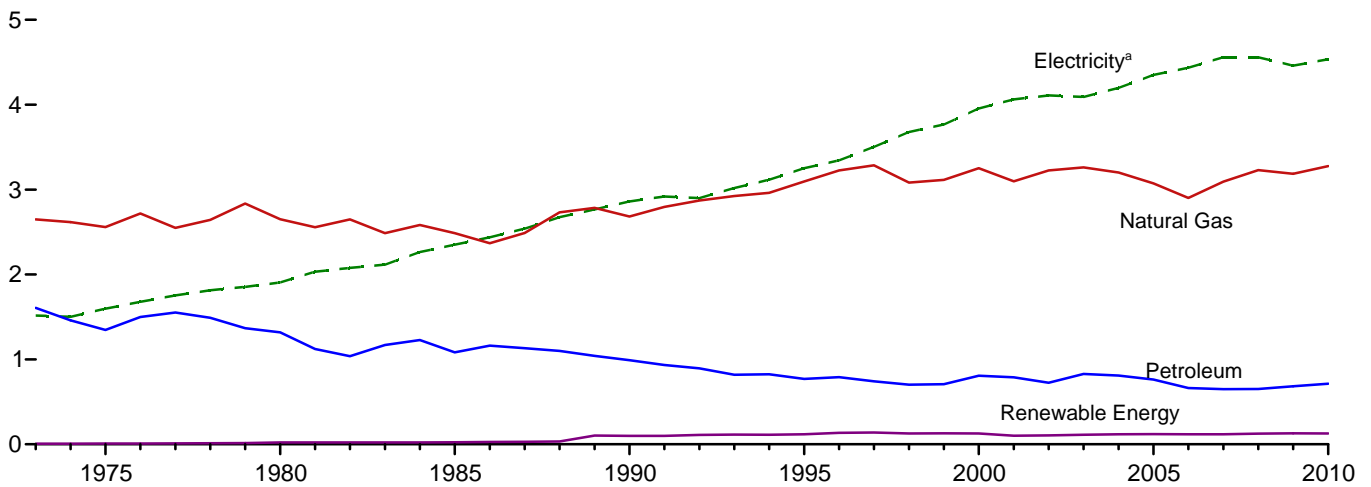
	Primary Consumption <sup>a</sup>									Electricity Retail Sales <sup>d</sup>	Electrical System Energy Losses <sup>e</sup>	Total
	Fossil Fuels				Renewable Energy <sup>b</sup>				Total Primary			
	Coal	Natural Gas <sup>c</sup>	Petroleum	Total	Geo-thermal	Solar/PV	Bio-mass	Total				
1973 Total .....	94	4,977	2,800	7,871	NA	NA	354	354	8,225	1,976	4,696	14,897
1975 Total .....	63	5,023	2,479	7,564	NA	NA	425	425	7,990	2,007	4,817	14,813
1980 Total .....	31	4,825	1,734	6,589	NA	NA	850	850	7,439	2,448	5,866	15,753
1985 Total .....	39	4,534	1,565	6,138	NA	NA	1,010	1,010	7,148	2,709	6,184	16,041
1990 Total .....	31	4,491	1,394	5,916	6	56	580	641	6,557	3,153	7,235	16,945
1995 Total .....	17	4,954	1,374	6,345	7	64	520	591	6,936	3,557	8,026	18,519
1996 Total .....	17	5,354	1,484	6,854	7	65	540	612	7,466	3,694	8,344	19,504
1997 Total .....	16	5,093	1,422	6,531	8	64	430	502	7,033	3,671	8,261	18,965
1998 Total .....	12	4,646	1,304	5,962	8	64	380	452	6,413	3,856	8,686	18,955
1999 Total .....	14	4,835	1,465	6,314	9	63	390	461	6,775	3,906	8,875	19,557
2000 Total .....	11	5,105	1,554	6,670	9	60	420	489	7,159	4,069	9,197	20,425
2001 Total .....	12	4,889	1,529	6,430	9	59	370	438	6,868	4,100	9,074	20,042
2002 Total .....	12	5,014	1,457	6,484	10	57	380	448	6,931	4,317	9,562	20,810
2003 Total .....	12	5,209	1,519	6,741	13	57	400	470	7,211	4,353	9,546	21,110
2004 Total .....	11	4,981	1,520	6,513	14	57	410	481	6,993	4,408	9,691	21,093
2005 Total .....	8	4,946	1,451	6,406	16	58	430	504	6,909	4,638	10,079	21,626
2006 Total .....	6	4,476	1,224	5,706	18	63	390	472	6,178	4,611	9,909	20,698
2007 Total .....	8	4,850	1,254	6,111	22	70	430	522	6,633	4,750	10,182	21,565
2008 Total .....	8	5,010	1,243	6,261	26	80	450	556	6,817	4,708	10,071	21,596
<b>2009</b> January .....	1	969	134	1,104	3	8	37	47	1,151	464	995	2,610
February .....	1	773	116	890	3	7	33	42	932	394	774	2,101
March .....	1	614	113	727	3	8	37	47	774	364	758	1,896
April .....	1	399	93	492	3	7	35	45	538	312	650	1,500
May .....	(s)	206	77	283	3	8	37	47	330	321	713	1,364
June .....	1	144	71	216	3	7	35	45	261	390	869	1,521
July .....	1	121	78	200	3	8	37	47	247	470	988	1,704
August .....	1	114	84	198	3	8	37	47	245	472	993	1,711
September .....	(s)	122	87	210	3	7	35	45	255	394	767	1,416
October .....	1	256	93	350	3	8	37	47	397	336	676	1,409
November .....	1	385	98	483	3	7	35	45	528	316	674	1,519
December .....	1	781	133	915	3	8	37	47	962	422	931	2,315
<b>Total</b> .....	<b>8</b>	<b>4,883</b>	<b>1,176</b>	<b>6,067</b>	<b>33</b>	<b>89</b>	<b>430</b>	<b>552</b>	<b>6,619</b>	<b>4,665</b>	<b>9,789</b>	<b>21,063</b>
<b>2010</b> January .....	1	991	149	1,142	3	8	36	47	1,189	505	1,047	2,741
February .....	1	845	137	983	3	7	32	42	1,026	421	847	2,294
March .....	1	619	103	723	3	8	36	47	770	383	769	1,922
April .....	(s)	332	77	409	3	8	35	45	455	301	610	1,366
May .....	(s)	208	83	291	3	8	36	47	338	324	738	1,400
June .....	1	141	87	229	3	8	35	45	274	436	961	1,671
July .....	(s)	117	83	201	3	8	36	47	248	531	1,126	1,904
August .....	1	112	79	192	3	8	36	47	239	529	1,105	1,873
September .....	(s)	124	76	200	3	8	35	45	245	429	833	1,508
October .....	1	212	93	306	3	8	36	47	353	330	660	1,343
November .....	1	<sup>R</sup> 468	103	<sup>R</sup> 571	3	8	35	45	617	318	681	1,616
December .....	1	891	150	1,042	3	8	36	47	1,089	445	981	2,514
<b>Total</b> .....	<b>7</b>	<b><sup>R</sup>5,060</b>	<b>1,220</b>	<b>6,288</b>	<b>37</b>	<b>97</b>	<b>420</b>	<b>554</b>	<b>6,841</b>	<b>4,950</b>	<b>10,362</b>	<b>22,153</b>
<b>2011</b> January .....	1	<sup>R</sup> 992	132	<sup>R</sup> 1,125	3	8	36	47	<sup>R</sup> 1,172	500	1,040	<sup>R</sup> 2,711
February .....	1	797	118	916	3	7	32	42	958	415	821	2,195
<b>2-Month Total</b> .....	<b>2</b>	<b>1,788</b>	<b>250</b>	<b>2,041</b>	<b>6</b>	<b>16</b>	<b>68</b>	<b>89</b>	<b>2,130</b>	<b>915</b>	<b>1,861</b>	<b>4,906</b>
<b>2010 2-Month Total</b> .....	<b>2</b>	<b>1,837</b>	<b>286</b>	<b>2,125</b>	<b>6</b>	<b>16</b>	<b>68</b>	<b>89</b>	<b>2,215</b>	<b>926</b>	<b>1,894</b>	<b>5,035</b>
<b>2009 2-Month Total</b> .....	<b>2</b>	<b>1,743</b>	<b>250</b>	<b>1,994</b>	<b>5</b>	<b>14</b>	<b>70</b>	<b>89</b>	<b>2,083</b>	<b>859</b>	<b>1,769</b>	<b>4,711</b>

<sup>a</sup> See "Primary Energy Consumption" in Glossary.  
<sup>b</sup> Data are estimates. See Table 10.2a for notes on series components.  
<sup>c</sup> Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
<sup>d</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.  
<sup>e</sup> Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total

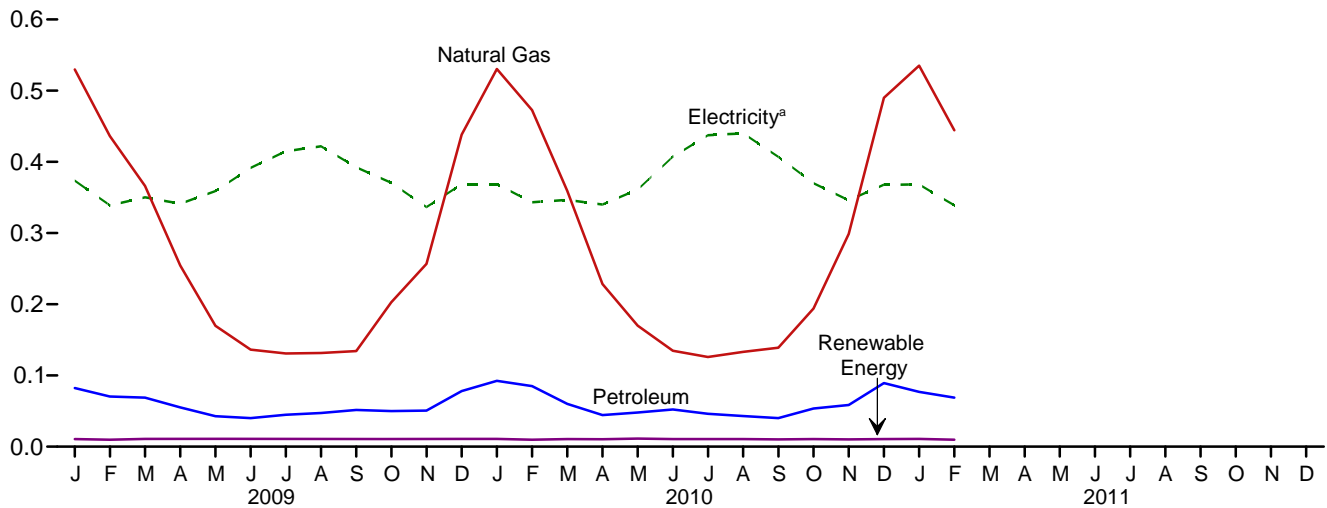
electricity retail sales. See Note 2, "Electrical System Energy Losses," at end of section.  
R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.  
Notes: • See Note 1, "Energy Consumption Data and Surveys," at end of section. • Totals may not equal sum of components due to independent rounding.  
• Geographic coverage is the 50 States and the District of Columbia.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for all available data beginning in 1973.  
Sources: Tables 2.6, 3.8a, 4.3, 6.2, 7.6, 10.2a, A4, A5, and A6.

**Figure 2.3 Commercial Sector Energy Consumption**  
(Quadrillion Btu)

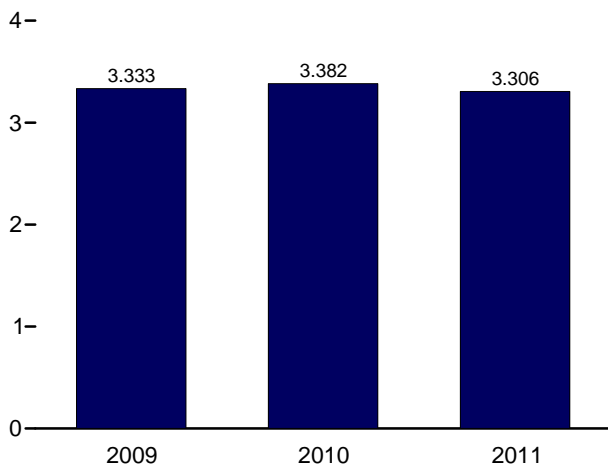
By Major Source, 1973-2010



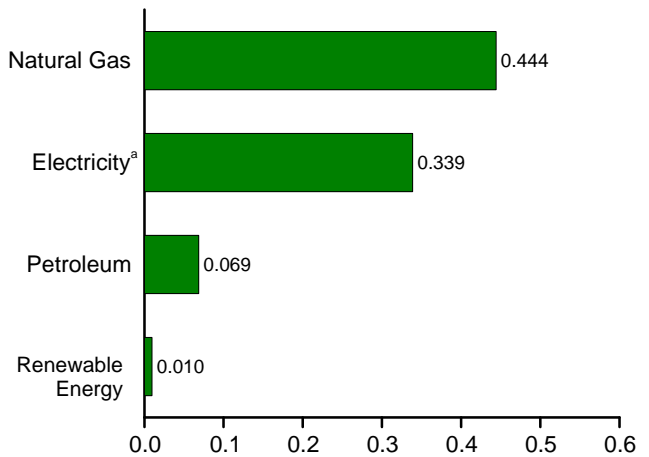
By Major Source, Monthly



Total, January-February



By Major Source, February 2011



<sup>a</sup> Electricity retail sales.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Source: Table 2.3.

**Table 2.3 Commercial Sector Energy Consumption**  
(Trillion Btu)

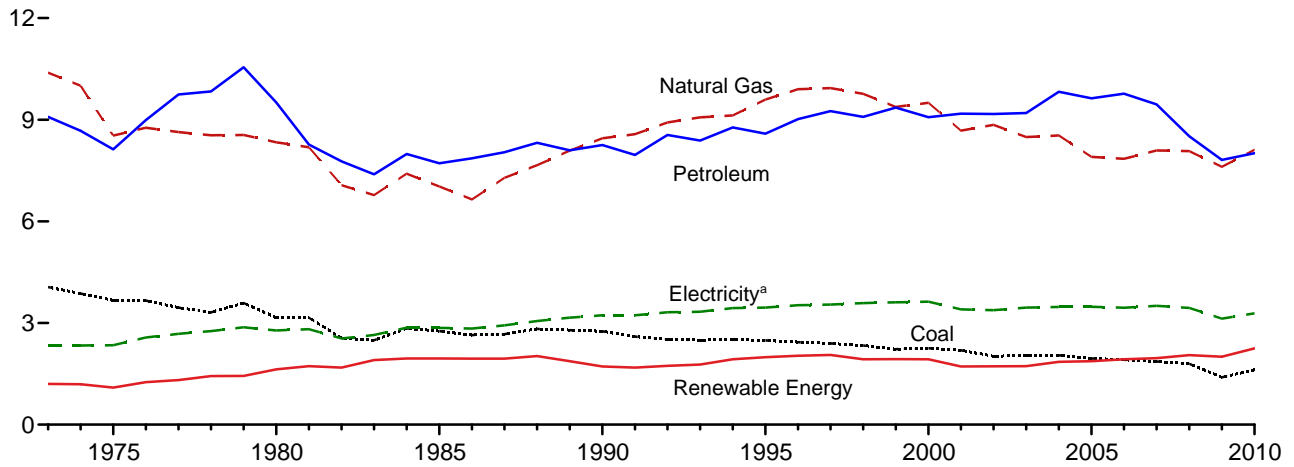
	Primary Consumption <sup>a</sup>										Total Primary	Elec- tricity Retail Sales <sup>f</sup>	Electrical System Energy Losses <sup>g</sup>	Total
	Fossil Fuels				Renewable Energy <sup>b</sup>									
	Coal	Natural Gas <sup>c</sup>	Petro- leum <sup>d</sup>	Total	Hydro- electric Power <sup>e</sup>	Geo- thermal	Solar/ PV	Wind	Bio- mass	Total				
1973 Total .....	160	2,649	1,607	4,416	NA	NA	NA	NA	7	7	4,423	1,517	3,604	9,543
1975 Total .....	147	2,558	1,346	4,051	NA	NA	NA	NA	8	8	4,059	1,598	3,835	9,492
1980 Total .....	115	2,651	1,318	4,084	NA	NA	NA	NA	21	21	4,105	1,906	4,567	10,578
1985 Total .....	137	2,488	1,083	3,708	NA	NA	NA	NA	24	24	3,732	2,351	5,368	11,451
1990 Total .....	124	2,682	991	3,798	1	3	—	—	94	98	3,896	2,860	6,564	13,320
1995 Total .....	117	3,096	769	3,982	1	5	—	—	113	118	4,101	3,252	7,338	14,690
1996 Total .....	122	3,226	790	4,138	1	5	—	—	129	135	4,273	3,344	7,555	15,172
1997 Total .....	129	3,285	743	4,157	1	6	—	—	131	138	4,295	3,503	7,883	15,681
1998 Total .....	93	3,083	702	3,878	1	7	—	—	118	127	4,005	3,678	8,285	15,968
1999 Total .....	103	3,115	707	3,925	1	7	—	—	121	129	4,053	3,766	8,557	16,376
2000 Total .....	92	3,252	807	4,150	1	8	—	—	119	128	4,278	3,956	8,942	17,175
2001 Total .....	97	3,097	790	3,984	1	8	—	—	92	101	4,084	4,062	8,990	17,137
2002 Total .....	90	3,225	726	4,040	(s)	9	—	—	95	104	4,144	4,110	9,104	17,358
2003 Total .....	82	3,261	827	4,170	1	11	—	—	101	113	4,283	4,090	8,969	17,343
2004 Total .....	103	3,201	809	4,113	1	12	—	—	105	118	4,232	4,198	9,229	17,659
2005 Total .....	97	3,073	761	3,932	1	14	—	—	105	119	4,051	4,351	9,455	17,856
2006 Total .....	65	2,902	663	3,629	1	14	—	—	102	117	3,746	4,435	9,529	17,710
2007 Total .....	70	3,094	649	3,814	1	14	—	—	102	118	3,931	4,560	9,773	18,264
2008 Total .....	69	3,228	651	3,948	1	15	(s)	—	109	125	4,073	4,558	9,749	18,381
2009 January .....	8	530	82	620	(s)	1	(s)	(s)	9	11	631	374	801	1,805
February .....	7	436	70	513	(s)	1	(s)	(s)	8	10	523	339	666	1,528
March .....	6	366	69	442	(s)	1	(s)	(s)	9	11	453	350	731	1,534
April .....	4	255	55	314	(s)	1	(s)	(s)	9	11	325	341	711	1,377
May .....	4	170	43	217	(s)	1	(s)	(s)	10	11	228	359	796	1,383
June .....	5	136	40	181	(s)	1	(s)	(s)	9	11	192	392	872	1,456
July .....	4	131	45	180	(s)	1	(s)	(s)	10	11	191	415	872	1,478
August .....	4	132	47	183	(s)	1	(s)	(s)	10	11	194	422	887	1,504
September .....	4	134	52	190	(s)	1	(s)	(s)	9	10	200	392	765	1,357
October .....	5	203	50	258	(s)	1	(s)	(s)	9	11	268	371	745	1,385
November .....	6	257	51	313	(s)	1	(s)	(s)	9	11	324	337	717	1,377
December .....	6	438	78	523	(s)	1	(s)	(s)	9	11	534	369	814	1,717
<b>Total .....</b>	<b>63</b>	<b>3,187</b>	<b>682</b>	<b>3,932</b>	<b>1</b>	<b>17</b>	<b>(s)</b>	<b>(s)</b>	<b>112</b>	<b>129</b>	<b>4,061</b>	<b>4,460</b>	<b>9,378</b>	<b>17,899</b>
2010 January .....	7	531	93	630	(s)	2	(s)	(s)	9	11	641	369	765	1,775
February .....	6	473	85	564	(s)	1	(s)	(s)	8	10	574	343	690	1,607
March .....	6	359	60	425	(s)	2	(s)	(s)	9	11	436	347	697	1,480
April .....	4	228	44	277	(s)	2	(s)	(s)	9	11	287	340	690	1,317
May .....	4	170	48	222	(s)	2	(s)	(s)	10	11	233	361	823	1,417
June .....	4	135	52	191	(s)	2	(s)	(s)	9	11	202	407	898	1,507
July .....	4	126	46	176	(s)	2	(s)	(s)	9	11	187	437	928	1,552
August .....	4	133	43	180	(s)	2	(s)	(s)	9	11	191	440	920	1,551
September .....	4	139	40	183	(s)	2	(s)	(s)	9	10	193	407	791	1,391
October .....	5	194	54	252	(s)	2	(s)	(s)	9	11	263	370	740	1,373
November .....	5	299	58	362	(s)	2	(s)	(s)	9	10	<sup>R</sup> 372	346	741	<sup>R</sup> 1,459
December .....	6	490	89	585	(s)	2	(s)	(s)	9	11	596	368	811	1,775
<b>Total .....</b>	<b>58</b>	<b>3,276</b>	<b>713</b>	<b><sup>R</sup>4,047</b>	<b>1</b>	<b>19</b>	<b>(s)</b>	<b>(s)</b>	<b>108</b>	<b>127</b>	<b>4,175</b>	<b>4,536</b>	<b>9,495</b>	<b>18,205</b>
2011 January .....	9	535	77	<sup>R</sup> 621	(s)	2	(s)	—	9	11	<sup>R</sup> 632	368	766	1,766
February .....	7	444	69	520	(s)	1	(s)	—	8	10	530	339	671	1,539
<b>2-Month Total .....</b>	<b>15</b>	<b>980</b>	<b>146</b>	<b>1,141</b>	<b>(s)</b>	<b>3</b>	<b>(s)</b>	<b>—</b>	<b>17</b>	<b>21</b>	<b>1,162</b>	<b>707</b>	<b>1,437</b>	<b>3,306</b>
2010 2-Month Total .....	14	1,003	178	1,195	(s)	3	(s)	(s)	18	21	1,215	712	1,455	3,382
2009 2-Month Total .....	15	966	153	1,133	(s)	3	(s)	(s)	18	20	1,154	713	1,467	3,333

<sup>a</sup> See "Primary Energy Consumption" in Glossary.  
<sup>b</sup> Most data are estimates. See Table 10.2a for notes on series components and estimation.  
<sup>c</sup> Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
<sup>d</sup> Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."  
<sup>e</sup> Conventional hydroelectric power.  
<sup>f</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.  
<sup>g</sup> Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total

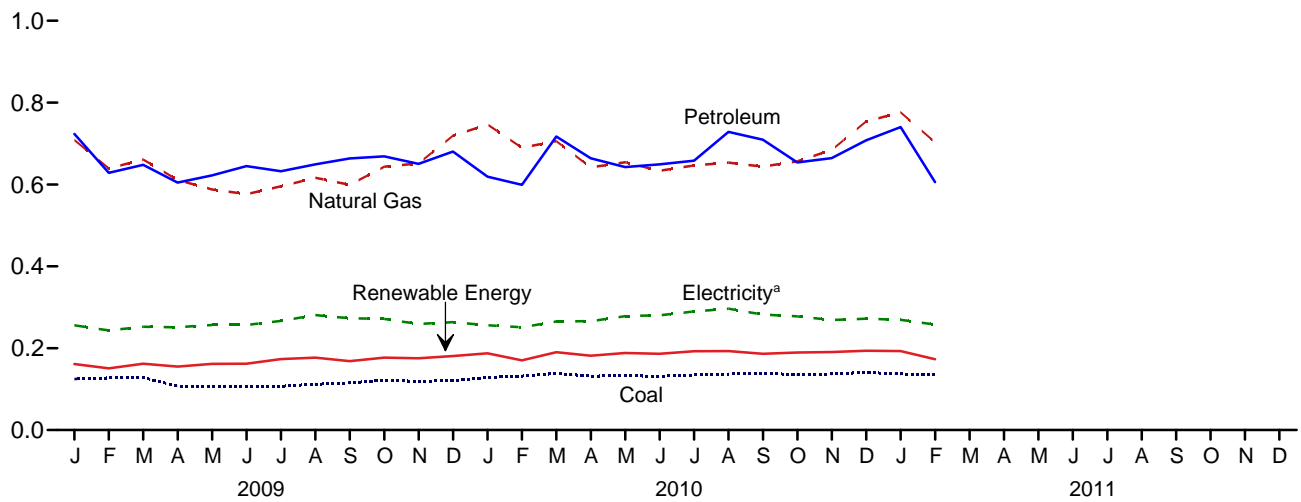
electricity retail sales. See Note 2, "Electrical System Energy Losses," at end of section.  
<sup>R</sup>=Revised. NA=Not available. —=No data reported. (s)=Less than 0.5 trillion Btu.  
Notes: • The commercial sector includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7. • See Note 1, "Energy Consumption Data and Surveys," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for all available data beginning in 1973.  
Sources: Tables 2.6, 3.8a, 4.3, 6.2, 7.6, 10.2a, A4, A5, and A6.

**Figure 2.4 Industrial Sector Energy Consumption**  
(Quadrillion Btu)

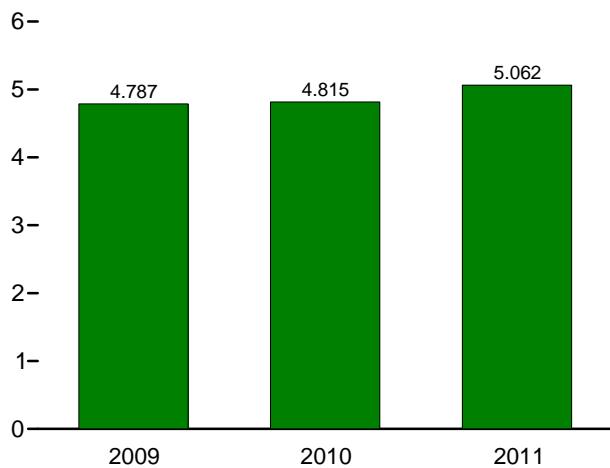
By Major Source, 1973-2010



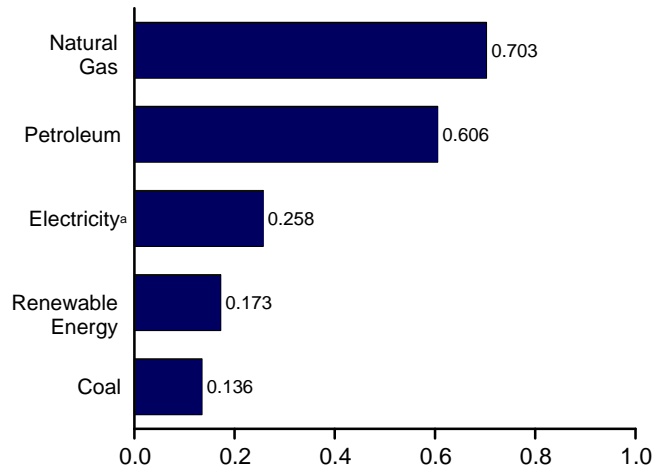
By Major Source, Monthly



Total, January-February



By Major Source, February 2011



<sup>a</sup>Electricity retail sales.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Source: Table 2.4.

**Table 2.4 Industrial Sector Energy Consumption**  
(Trillion Btu)

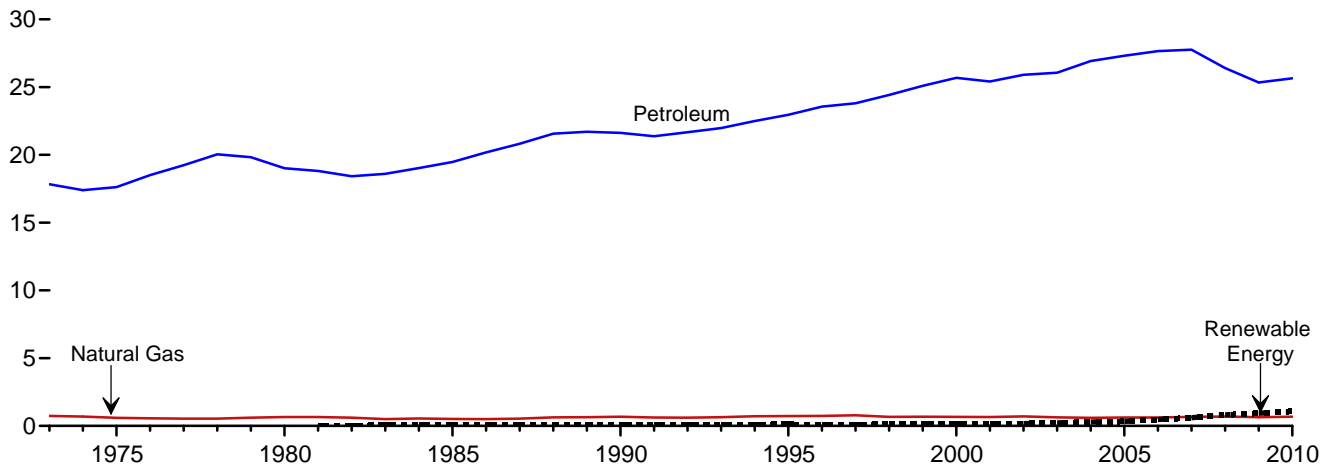
	Primary Consumption <sup>a</sup>									Total Primary	Electricity Retail Sales <sup>g</sup>	Electrical System Energy Losses <sup>h</sup>	Total <sup>e</sup>
	Fossil Fuels				Renewable Energy <sup>b</sup>								
	Coal	Natural Gas <sup>c</sup>	Petroleum <sup>d</sup>	Total <sup>e</sup>	Hydroelectric Power <sup>f</sup>	Geothermal	Solar/PV	Biomass	Total				
1973 Total	4,057	10,388	9,083	23,521	35	NA	NA	1,165	1,200	24,720	2,341	5,562	32,623
1975 Total	3,667	8,532	8,127	20,339	32	NA	NA	1,063	1,096	21,434	2,346	5,632	29,413
1980 Total	3,155	8,333	9,509	20,962	33	NA	NA	1,600	1,633	22,595	2,781	6,664	32,039
1985 Total	2,760	7,032	7,714	17,492	33	NA	NA	1,918	1,951	19,443	2,855	6,518	28,816
1990 Total	2,756	8,451	8,251	19,463	31	2	—	1,684	1,717	21,180	3,226	7,404	31,810
1995 Total	2,488	9,592	8,586	20,727	55	3	—	1,934	1,992	22,719	3,455	7,796	33,971
1996 Total	2,434	9,901	9,019	21,377	61	3	—	1,969	2,033	23,410	3,527	7,968	34,904
1997 Total	2,395	9,933	9,255	21,629	58	3	—	1,996	2,057	23,686	3,542	7,972	35,200
1998 Total	2,335	9,763	9,082	21,248	55	3	—	1,872	1,929	23,177	3,587	8,079	34,843
1999 Total	2,227	9,375	9,356	21,016	49	4	—	1,882	1,934	22,950	3,611	8,203	34,764
2000 Total	2,256	9,500	9,075	20,896	42	4	—	1,881	1,928	22,824	3,631	8,208	34,664
2001 Total	2,192	8,676	9,178	20,075	33	5	—	1,681	1,719	21,794	3,400	7,526	32,720
2002 Total	2,019	8,845	9,168	20,093	39	5	—	1,676	1,720	21,813	3,379	7,484	32,676
2003 Total	2,041	8,488	9,197	19,777	43	3	—	1,679	1,726	21,503	3,454	7,575	32,532
2004 Total	2,047	8,536	9,825	20,545	33	4	—	1,817	1,853	22,398	3,473	7,635	33,506
2005 Total	1,954	7,903	9,633	19,534	32	4	—	1,837	1,873	21,407	3,477	7,557	32,442
2006 Total	1,914	7,846	9,770	19,591	29	4	—	1,897	1,930	21,521	3,451	7,415	32,386
2007 Total	1,865	8,090	9,451	19,431	16	5	—	1,944	1,964	21,395	3,507	7,517	32,419
2008 Total	1,796	8,074	8,511	18,422	17	5	—	2,031	2,053	20,474	3,444	7,365	31,284
2009 January	125	709	724	1,555	2	(s)	—	159	161	1,717	256	548	2,521
February	127	639	628	1,394	1	(s)	—	149	151	1,545	243	478	2,266
March	128	661	648	1,435	2	(s)	—	160	162	1,598	252	526	2,376
April	107	611	605	1,320	2	(s)	—	153	155	1,475	251	523	2,250
May	106	588	622	1,314	2	(s)	—	160	162	1,476	257	569	2,302
June	107	576	645	1,326	2	(s)	—	160	162	1,488	257	572	2,317
July	107	596	632	1,333	1	(s)	—	172	173	1,507	266	560	2,333
August	112	616	649	1,374	1	(s)	—	175	177	1,551	281	591	2,423
September	115	599	663	1,376	1	(s)	—	167	168	1,544	273	532	2,349
October	122	643	669	1,430	1	(s)	—	175	177	1,607	272	546	2,425
November	118	651	650	1,419	1	(s)	—	174	175	1,594	259	552	2,405
December	121	719	681	1,518	2	(s)	—	179	181	1,699	264	582	2,545
Total	1,396	7,609	7,816	16,796	18	4	(s)	1,982	2,005	18,801	3,130	6,582	28,513
2010 January	129	747	619	1,490	2	(s)	(s)	185	187	1,677	256	531	2,464
February	132	690	599	1,425	2	(s)	(s)	168	170	1,595	251	505	2,351
March	138	706	717	1,564	2	(s)	(s)	188	190	1,754	265	533	2,552
April	132	642	664	1,438	2	(s)	(s)	180	182	1,620	266	540	2,426
May	133	654	643	1,431	2	(s)	(s)	186	188	1,619	278	634	2,532
June	132	633	649	1,415	1	(s)	(s)	184	186	1,601	280	618	2,500
July	135	646	658	1,440	1	(s)	(s)	191	192	1,632	289	614	2,535
August	136	653	729	1,520	1	(s)	(s)	192	193	1,713	296	620	2,629
September	139	644	709	1,491	1	(s)	(s)	185	186	1,678	282	548	2,508
October	135	657	654	1,444	1	(s)	(s)	188	189	1,633	278	555	2,466
November	137	684	664	1,480	1	(s)	(s)	189	191	1,670	269	576	2,515
December	140	754	708	1,597	1	(s)	(s)	192	194	1,791	272	599	2,662
Total	1,618	8,110	8,013	17,735	16	4	(s)	2,229	2,249	19,984	3,283	6,872	30,139
2011 January	137	<sup>R</sup> 776	<sup>R</sup> 740	<sup>R</sup> 1,654	1	(s)	(s)	191	193	<sup>R</sup> 1,847	269	560	<sup>R</sup> 2,677
February	136	703	606	1,445	2	(s)	(s)	171	173	1,618	258	510	2,386
2-Month Total	273	1,479	1,346	3,099	3	1	(s)	363	366	3,465	527	1,070	5,062
2010 2-Month Total	261	1,436	1,218	2,915	3	1	(s)	354	358	3,272	507	1,036	4,815
2009 2-Month Total	252	1,348	1,352	2,949	3	1	—	309	312	3,261	499	1,026	4,787

<sup>a</sup> See "Primary Energy Consumption" in Glossary.  
<sup>b</sup> Most data are estimates. See Table 10.2b for notes on series components and estimation.  
<sup>c</sup> Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
<sup>d</sup> Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."  
<sup>e</sup> Includes coal coke net imports, which are not separately displayed. See Tables 1.4a and 1.4b.  
<sup>f</sup> Conventional hydroelectric power.  
<sup>g</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.  
<sup>h</sup> Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are

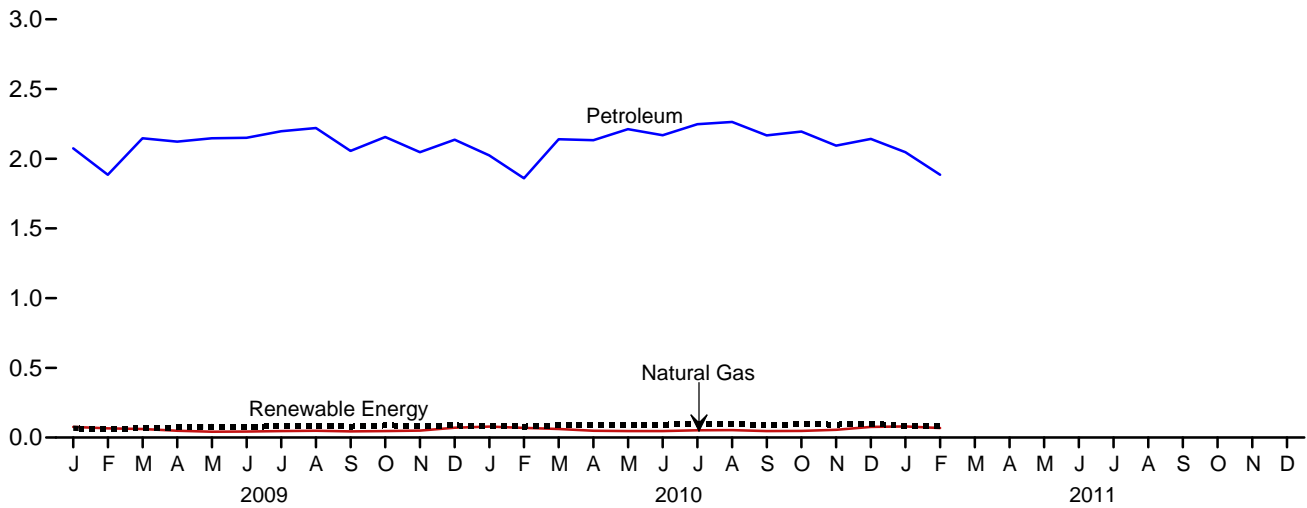
allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Note 2, "Electrical System Energy Losses," at end of section.  
<sup>R</sup>=Revised. NA=Not available. —=No data reported. (s)=Less than 0.5 trillion Btu.  
Notes: • The industrial sector includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7. • See Note 1, "Energy Consumption Data and Surveys," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for all available data beginning in 1973.  
Sources: Tables 1.4a, 1.4b, 2.6, 3.8b, 4.3, 6.2, 7.6, 10.2b, A4, A5, and A6.

**Figure 2.5 Transportation Sector Energy Consumption**  
(Quadrillion Btu)

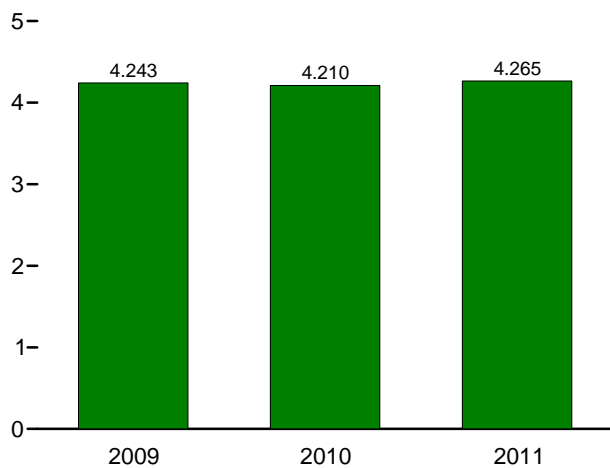
By Major Source, 1973-2010



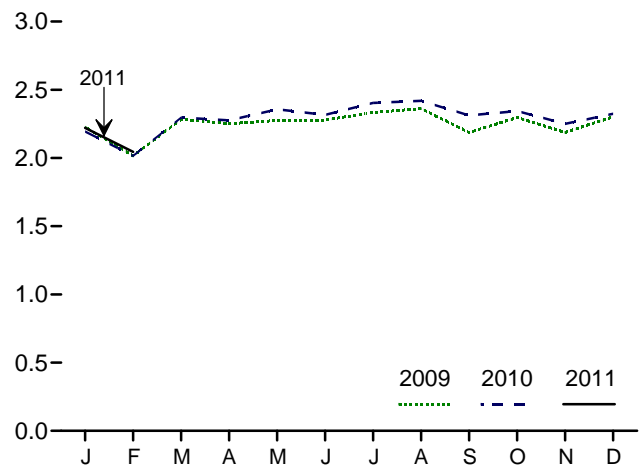
By Major Source, Monthly



Total, January-February



Total, Monthly



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.  
Source: Table 2.5.



**Table 2.5 Transportation Sector Energy Consumption**  
(Trillion Btu)

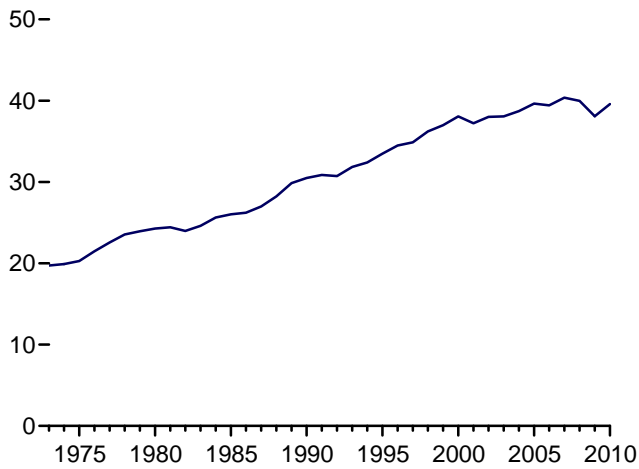
	Primary Consumption <sup>a</sup>					Total Primary	Electricity Retail Sales <sup>e</sup>	Electrical System Energy Losses <sup>f</sup>	Total
	Fossil Fuels				Renewable Energy <sup>b</sup>				
	Coal	Natural Gas <sup>c</sup>	Petroleum <sup>d</sup>	Total	Biomass				
1973 Total	3	743	17,832	18,577	NA	18,577	11	25	18,613
1975 Total	1	595	17,615	18,210	NA	18,210	10	24	18,245
1980 Total	(9)	650	19,009	19,659	NA	19,659	11	27	19,697
1985 Total	(9)	519	19,472	19,992	50	20,041	14	32	20,088
1990 Total	(9)	680	21,626	22,306	60	22,366	16	37	22,420
1995 Total	(9)	724	22,955	23,679	R 112	23,791	17	38	23,846
1996 Total	(9)	737	23,565	24,302	81	24,383	17	38	24,437
1997 Total	(9)	780	23,813	24,593	102	24,695	17	38	24,750
1998 Total	(9)	666	24,422	25,088	113	25,201	17	38	25,256
1999 Total	(9)	675	25,098	25,774	118	25,891	17	40	25,949
2000 Total	(9)	672	25,682	26,354	135	26,489	18	42	26,548
2001 Total	(9)	658	25,412	26,070	142	26,213	20	43	26,275
2002 Total	(9)	702	25,913	26,614	170	26,784	19	42	26,845
2003 Total	(9)	627	26,063	26,690	230	26,920	23	51	26,994
2004 Total	(9)	602	26,925	27,527	290	27,817	25	54	R 27,895
2005 Total	(9)	624	27,309	27,933	339	28,272	26	56	28,353
2006 Total	(9)	625	27,651	28,276	475	28,751	25	54	28,830
2007 Total	(9)	665	27,763	28,429	R 602	29,031	28	60	29,119
2008 Total	(9)	692	26,407	27,099	R 826	R 27,925	26	56	28,008
2009 January	(9)	77	2,075	2,151	67	2,219	3	6	2,227
February	(9)	66	1,885	1,951	58	2,009	2	5	2,016
March	(9)	61	2,146	2,207	70	2,277	2	5	2,284
April	(9)	49	2,123	2,172	73	2,245	2	4	2,251
May	(9)	42	2,147	2,189	79	2,269	2	5	2,275
June	(9)	43	2,150	2,193	78	2,271	2	5	2,278
July	(9)	47	2,197	2,243	83	2,327	2	5	2,334
August	(9)	49	2,220	2,269	85	2,354	2	5	2,361
September	(9)	44	2,056	2,100	80	2,180	2	4	2,186
October	(9)	47	2,156	2,203	88	2,290	2	4	2,296
November	(9)	50	2,047	2,097	85	2,182	2	4	2,188
December	(9)	70	2,137	2,207	87	2,294	2	5	2,302
Total	(9)	643	25,339	25,982	934	26,916	27	56	26,998
2010 January	(9)	79	2,024	2,103	84	2,186	3	5	2,194
February	(9)	70	1,859	1,929	79	2,009	2	5	2,016
March	(9)	61	2,140	2,201	89	2,289	2	5	2,296
April	(9)	48	2,132	2,181	88	2,269	2	4	2,275
May	(9)	46	2,213	2,259	91	2,350	2	5	2,357
June	(9)	47	2,168	2,215	93	2,308	2	5	2,316
July	(9)	52	2,248	2,300	97	2,397	2	5	2,404
August	(9)	53	2,263	2,317	96	2,412	2	4	2,419
September	(9)	46	2,168	2,214	92	2,306	2	4	2,312
October	(9)	47	2,195	2,242	96	2,338	2	4	2,344
November	(9)	56	2,094	2,150	94	2,243	2	4	2,250
December	(9)	76	2,142	2,218	99	2,317	2	5	2,324
Total	(9)	682	25,646	26,327	1,098	27,425	26	55	27,507
2011 January	(9)	80	2,047	2,127	86	2,213	2	5	2,220
February	(9)	68	1,886	1,954	84	2,038	2	4	2,045
2-Month Total	(9)	148	3,932	4,081	170	4,251	5	9	4,265
2010 2-Month Total	(9)	149	3,883	4,032	163	4,195	5	10	4,210
2009 2-Month Total	(9)	142	3,960	4,102	126	4,227	5	10	4,243

<sup>a</sup> See "Primary Energy Consumption" in Glossary.  
<sup>b</sup> Data are estimates. See Table 10.2b for notes on series components.  
<sup>c</sup> Natural gas only; does not include supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
<sup>d</sup> Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."  
<sup>e</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.  
<sup>f</sup> Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity retail sales. Total losses are allocated to the end-use sectors in proportion to each sector's share of total

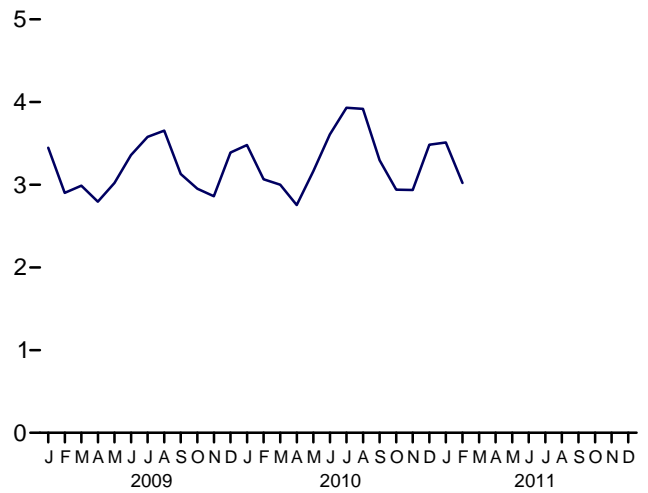
electricity retail sales. See Note 2, "Electrical System Energy Losses," at end of section.  
<sup>g</sup> Beginning in 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.  
R=Revised. NA=Not available.  
Notes: • See Note 1, "Energy Consumption Data and Surveys," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for all available data beginning in 1973.  
Sources: Tables 2.6, 3.8c, 4.3, 6.2, 7.6, 10.2b, A4, A5, and A6.

**Figure 2.6 Electric Power Sector Energy Consumption**  
(Quadrillion Btu)

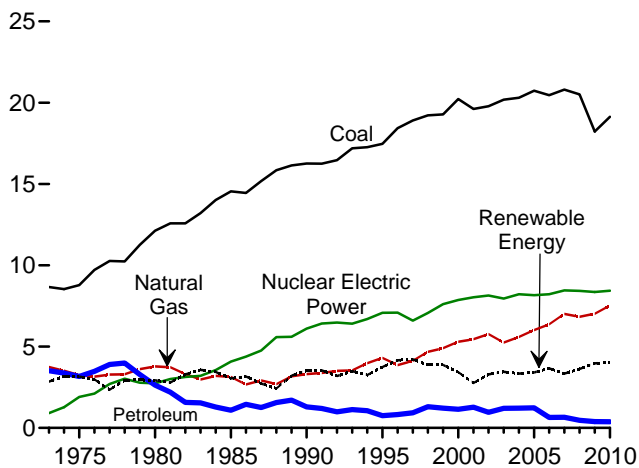
Total, 1973-2010



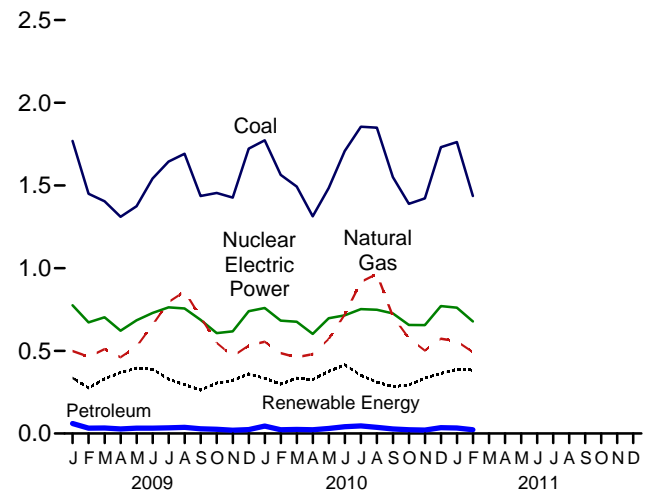
Total, Monthly



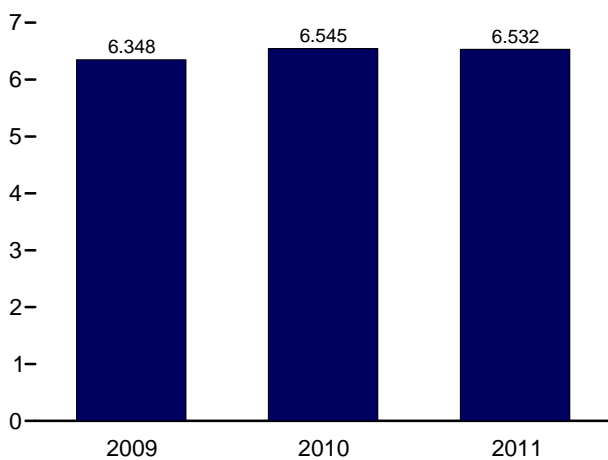
By Major Source, 1973-2010



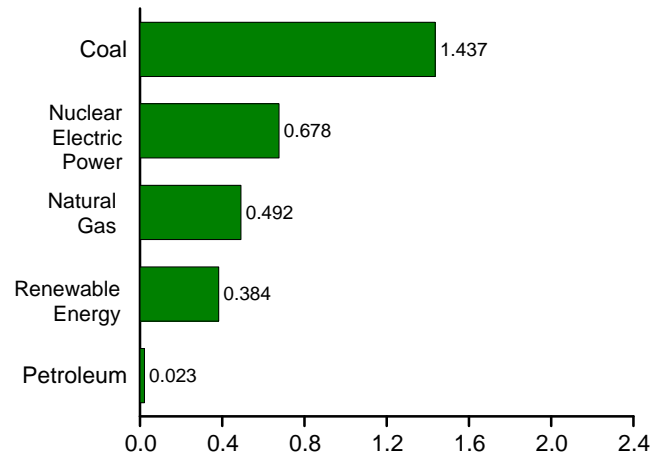
By Major Source, Monthly



Total, January-February



By Major Source, February 2011



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.  
Source: Table 2.6.

**Table 2.6 Electric Power Sector Energy Consumption**  
(Trillion Btu)

	Primary Consumption <sup>a</sup>													Elec- tricity Net Imports	Total Primary
	Fossil Fuels				Nuclear Electric Power	Renewable Energy <sup>b</sup>									
	Coal	Natural Gas <sup>c</sup>	Petro- leum	Total		Hydro- electric Power <sup>d</sup>	Geo- thermal	Solar/ PV	Wind	Bio- mass	Total				
1973 Total .....	8,658	3,748	3,515	15,921	910	2,827	20	NA	NA	3	2,851	49	19,731		
1975 Total .....	8,786	3,240	3,166	15,191	1,900	3,122	34	NA	NA	2	3,158	21	20,270		
1980 Total .....	12,123	3,778	2,634	18,534	2,739	2,867	53	NA	NA	4	2,925	71	24,269		
1985 Total .....	14,542	3,135	1,090	18,767	4,076	2,937	97	(s)	(s)	14	3,049	140	26,032		
1990 Total <sup>e</sup> .....	16,261	3,309	1,289	20,859	6,104	3,014	161	4	29	317	3,524	8	30,495		
1995 Total .....	17,466	4,302	755	22,523	7,075	3,149	138	5	33	422	3,747	134	33,479		
1996 Total .....	18,429	3,862	817	23,109	7,087	3,528	148	5	33	438	4,153	137	34,485		
1997 Total .....	18,905	4,126	927	23,957	6,597	3,581	150	5	34	446	4,216	116	34,886		
1998 Total .....	19,216	4,675	1,306	25,197	7,068	3,241	151	5	31	444	3,872	88	36,225		
1999 Total .....	19,279	4,902	1,211	25,393	7,610	3,218	152	5	46	453	3,874	99	36,976		
2000 Total .....	20,220	5,293	1,144	26,658	7,862	2,768	144	5	57	453	3,427	115	38,062		
2001 Total .....	19,614	5,458	1,277	26,348	8,029	2,209	142	6	70	337	2,763	75	37,215		
2002 Total .....	19,783	5,767	961	26,511	8,145	2,650	147	6	105	380	3,288	72	38,016		
2003 Total .....	20,185	5,246	1,205	26,636	7,959	2,781	148	5	115	397	3,445	22	38,062		
2004 Total .....	20,305	5,595	1,212	27,112	8,222	2,656	148	6	142	388	3,340	39	38,713		
2005 Total .....	20,737	6,015	1,235	27,986	8,161	2,670	147	6	178	406	3,406	85	39,638		
2006 Total .....	20,462	6,375	648	27,485	8,215	2,839	145	5	264	412	3,665	63	39,428		
2007 Total .....	20,808	7,005	657	28,470	8,455	2,430	145	6	341	423	3,345	107	40,377		
2008 Total .....	20,513	6,829	468	27,810	8,427	2,494	146	9	546	435	3,630	112	39,978		
2009 January .....	1,769	499	61	2,329	775	228	13	(s)	58	37	336	7	3,446		
February .....	1,450	464	33	1,946	672	172	11	(s)	57	34	276	8	2,901		
March .....	1,404	511	34	1,949	703	211	13	1	69	38	332	4	2,988		
April .....	1,310	461	28	1,799	621	250	12	1	73	33	369	6	2,795		
May .....	1,375	526	32	1,933	684	287	12	1	61	34	395	9	3,022		
June .....	1,541	656	33	2,230	729	284	12	1	55	37	388	11	3,359		
July .....	1,645	795	34	2,473	763	227	12	1	48	39	328	14	3,578		
August .....	1,691	858	37	2,587	756	190	12	1	53	39	296	15	3,653		
September .....	1,436	705	29	2,169	688	168	12	1	45	36	262	11	3,130		
October .....	1,455	548	26	2,029	607	191	12	1	67	35	305	11	2,952		
November .....	1,426	467	20	1,913	618	204	12	(s)	67	37	320	9	2,860		
December .....	1,723	532	24	2,278	740	240	13	(s)	67	40	360	11	3,389		
Total .....	18,225	7,022	390	25,638	8,356	2,650	146	9	721	441	3,967	116	38,077		
2010 January .....	1,773	555	45	2,373	759	214	13	(s)	68	37	333	14	3,480		
February .....	1,564	486	23	2,073	682	198	12	(s)	54	34	298	12	3,065		
March .....	1,493	461	25	1,979	676	199	13	1	85	37	335	10	3,001		
April .....	1,314	480	23	1,817	603	180	12	1	96	36	325	9	2,754		
May .....	1,485	571	31	2,087	697	241	13	2	85	35	376	4	3,165		
June .....	1,708	720	41	2,469	714	286	13	2	78	37	416	8	3,608		
July .....	1,855	917	46	2,818	752	234	13	2	65	38	352	10	3,932		
August .....	1,849	965	37	2,852	749	192	13	2	65	39	310	6	3,917		
September .....	1,550	709	28	2,287	726	164	12	1	69	35	283	2	3,297		
October .....	1,389	576	22	1,988	656	169	12	1	78	35	294	1	2,940		
November .....	1,421	502	21	1,944	655	188	13	1	96	37	335	3	2,937		
December .....	1,731	574	36	2,341	771	224	14	(s)	86	39	363	9	3,484		
Total .....	19,133	7,517	378	27,028	8,441	2,492	153	13	924	440	4,022	88	39,579		
2011 January .....	1,762	558	34	2,353	761	250	14	(s)	87	37	388	9	3,511		
February .....	1,437	492	23	1,951	678	236	13	1	101	34	384	8	3,021		
2-Month Total .....	3,199	1,050	56	4,305	1,439	486	27	1	187	70	772	17	6,532		
2010 2-Month Total .....	3,337	1,041	68	4,446	1,442	413	25	(s)	122	71	632	26	6,545		
2009 2-Month Total .....	3,219	962	93	4,275	1,447	400	24	(s)	115	72	611	15	6,348		

<sup>a</sup> See "Primary Energy Consumption" in Glossary.  
<sup>b</sup> See Table 10.2c for notes on series components.  
<sup>c</sup> Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
<sup>d</sup> Conventional hydroelectric power.  
<sup>e</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.  
 NA=Not available. (s)=Less than 0.5 trillion Btu.  
 Notes: • Data are for fuels consumed to produce electricity and useful thermal

output. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Note 1, "Energy Consumption Data and Surveys," 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.  
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for all available data beginning in 1973.  
 Sources: Tables 3.8c, 4.3, 6.2, 7.1, 7.2b, 10.2c, A4, A5, and A6.

Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rate is used as the thermal conversion factor for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources—hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.** See Table A6.

## Energy Consumption by Sector

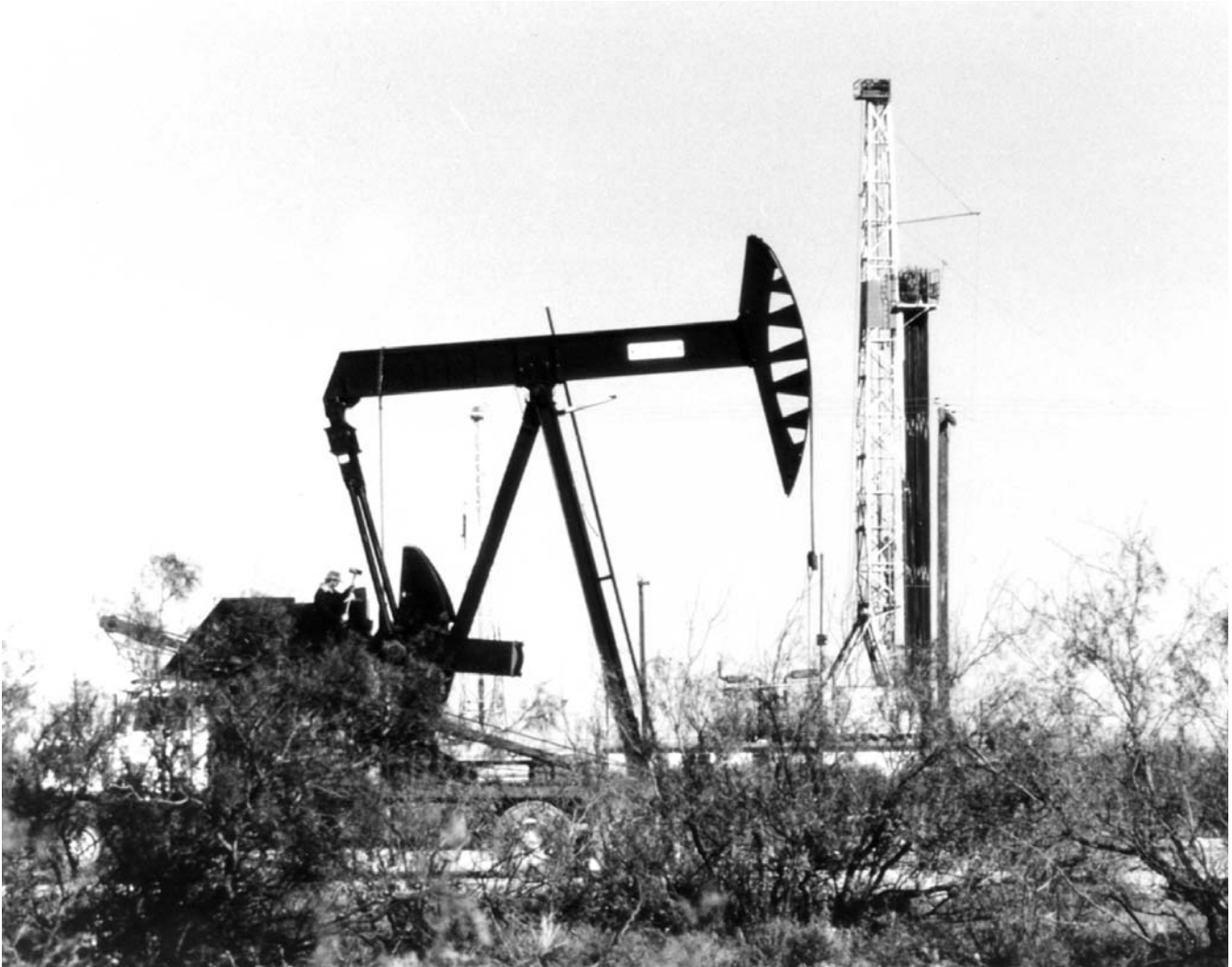
**Note 1. Energy Consumption Data and Surveys.** Most of the data in this section of the *Monthly Energy Review (MER)* are developed from a group of energy-related surveys, typically called "supply surveys," conducted by the U.S. Energy Information Administration (EIA). Supply surveys are directed to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

Users of EIA's energy consumption statistics should be aware of a second group of energy-related surveys, typically called "consumption surveys." Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the Manufacturing Energy Consumption Survey belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on

those differences, see *Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys*, DOE/EIA-0533, U.S. Energy Information Administration, Washington, DC, April 6, 1990.

**Note 2. Electrical System Energy Losses.** Electrical system energy losses are calculated as the difference between total primary consumption by the electric power sector (see Table 2.6) and the total energy content of electricity retail sales (see Tables 7.6 and A6). Most of these losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses is a result of imputing fossil energy equivalent inputs for hydroelectric and other energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, about two thirds of total energy input is lost in conversion. Currently, of electricity generated, approximately 5 percent is lost in plant use and 7 percent is lost in transmission and distribution.

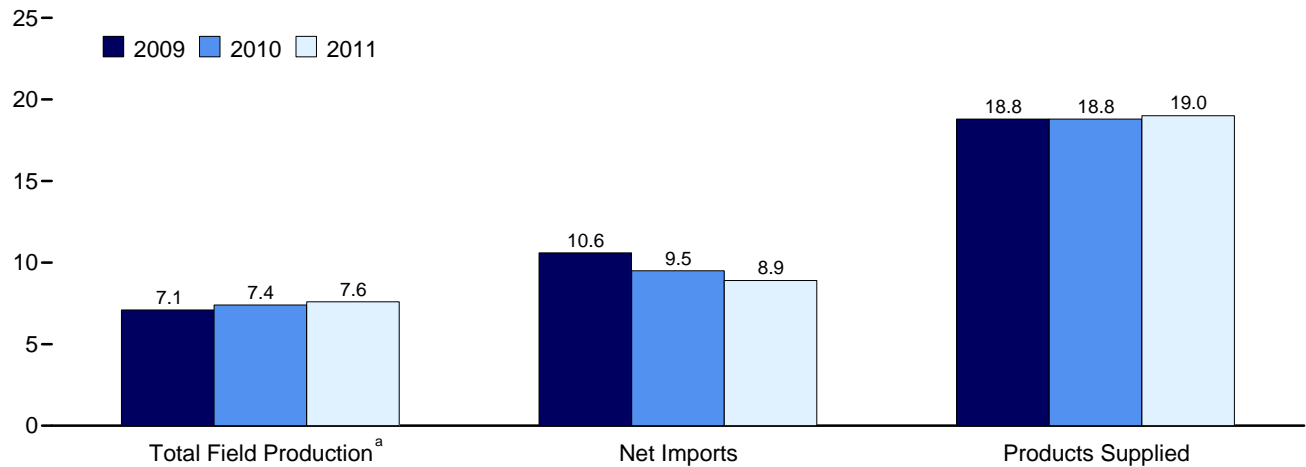
# Petroleum



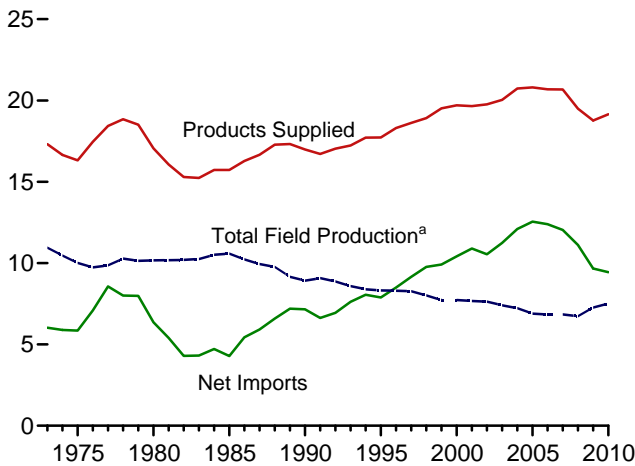
Oil pumping unit and drilling rig, Texas. Source: U.S. Department of Energy.

**Figure 3.1 Petroleum Overview**  
(Million Barrels per Day)

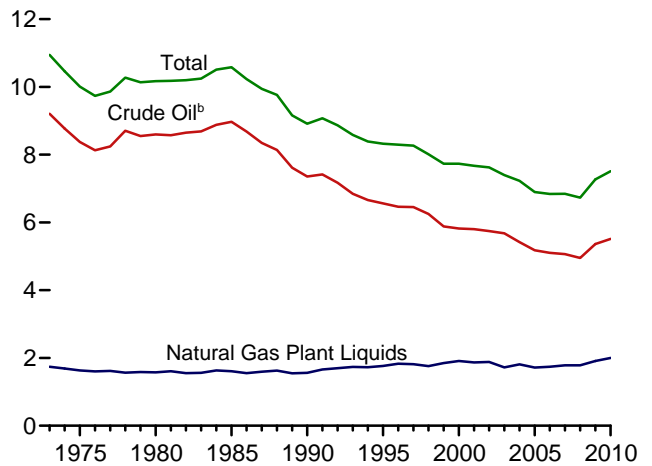
Overview, January-April



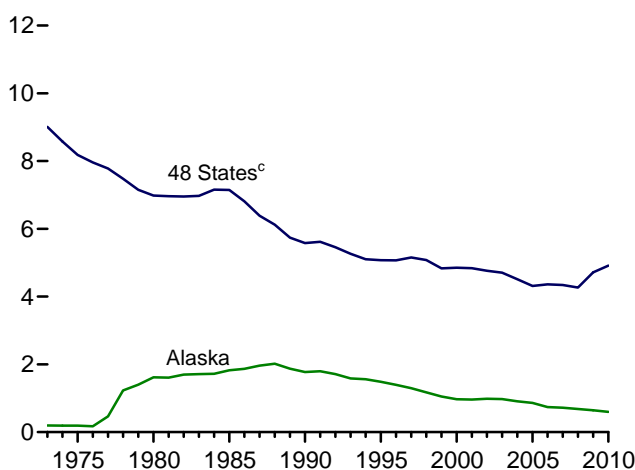
Overview, 1973-2010



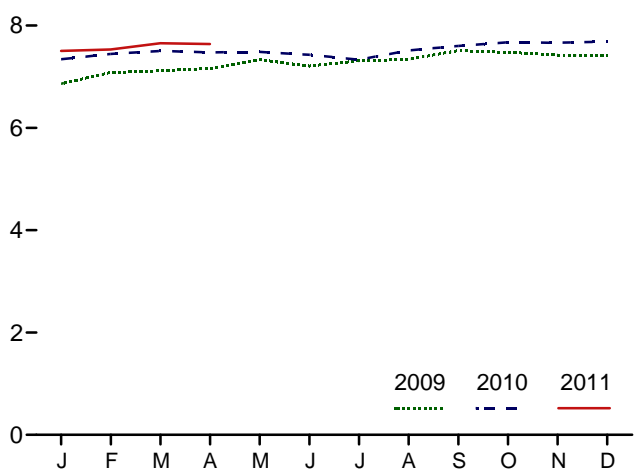
Total Field Production, 1973-2010



Crude Oil<sup>b</sup> Field Production, 1973-2010



Total Field Production,<sup>a</sup> Monthly



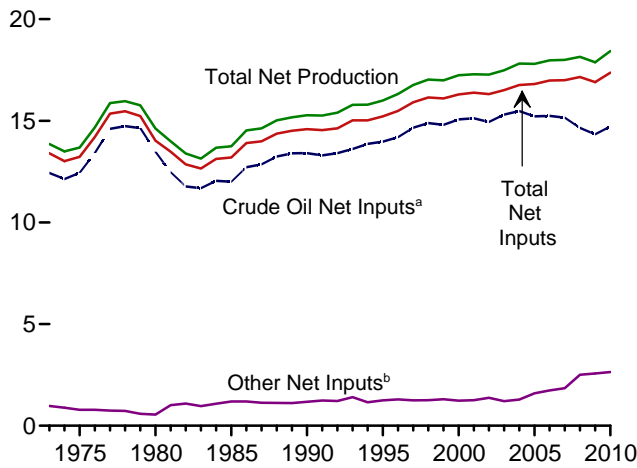
<sup>a</sup> Crude oil, including lease condensate, and natural gas plant liquids field production.  
<sup>b</sup> Includes lease condensate.

<sup>c</sup> United States excluding Alaska and Hawaii.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.  
Source: Table 3.1.

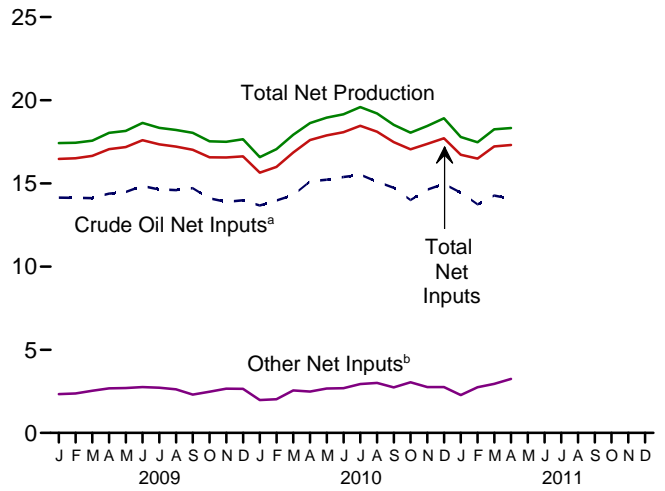


**Figure 3.2 Refinery and Blender Net Inputs and Net Production**  
(Million Barrels per Day)

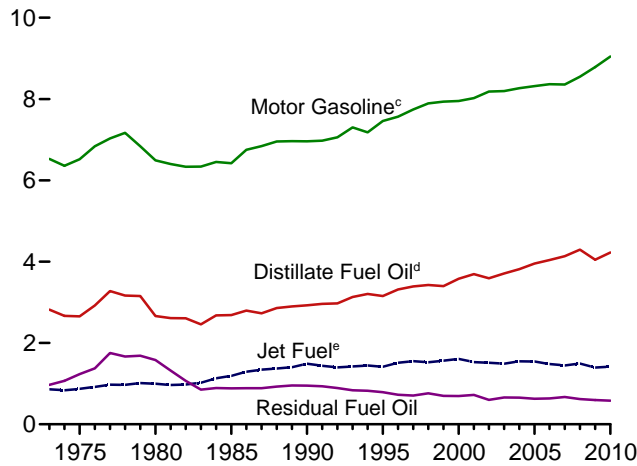
Net Inputs and Net Production, 1973-2010



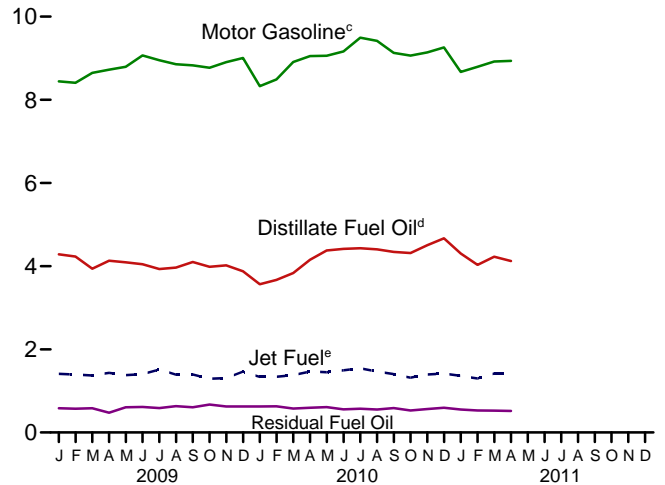
Net Inputs and Net Production, Monthly



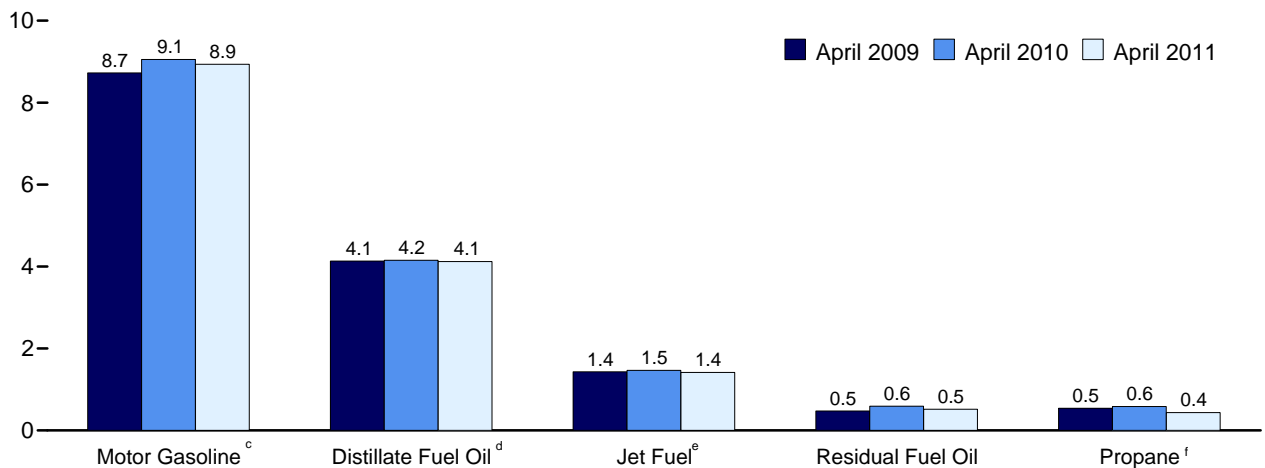
Net Production, Selected Products, 1973-2010



Net Production, Selected Products, Monthly



Net Production, Selected Products



<sup>a</sup> Includes lease condensate.

<sup>b</sup> Natural gas plant liquids and other liquids.

<sup>c</sup> Beginning in 1993, includes fuel ethanol blended into motor gasoline.

<sup>d</sup> Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.

<sup>e</sup> Beginning in 2005, includes kerosene-type jet fuel only.

<sup>f</sup> Includes propylene.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Source: Table 3.2.



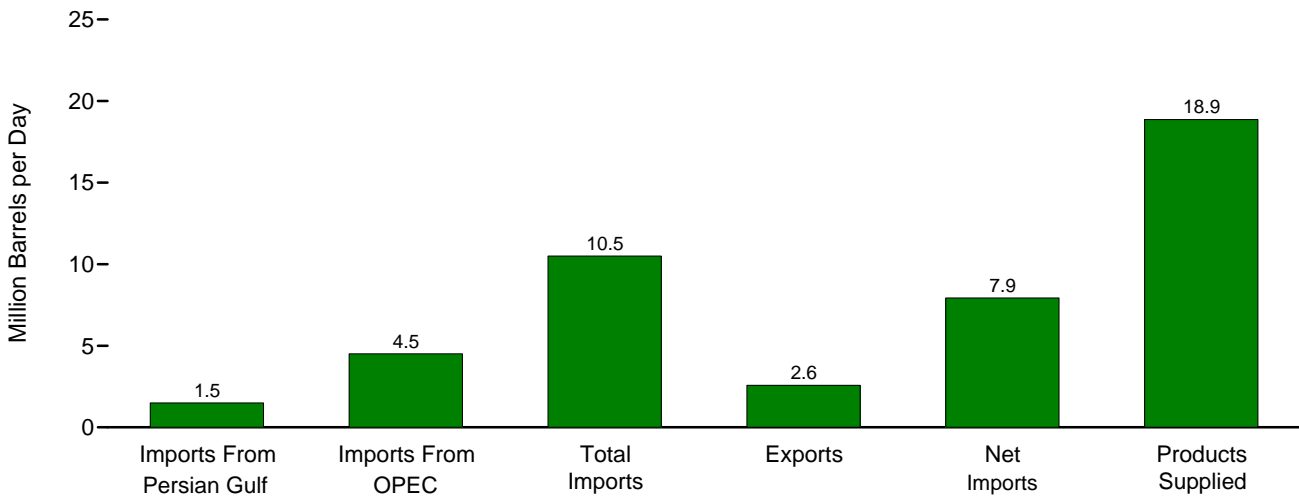
**Table 3.2 Refinery and Blender Net Inputs and Net Production**  
(Thousand Barrels per Day)

	Refinery and Blender Net Inputs <sup>a</sup>				Refinery and Blender Net Production <sup>b</sup>							
	Crude Oil <sup>d</sup>	NGPL <sup>e</sup>	Other Liquids <sup>f</sup>	Total	Distillate Fuel Oil <sup>g</sup>	Jet Fuel <sup>h</sup>	LPG <sup>c</sup>		Motor Gasoline <sup>i</sup>	Residual Fuel Oil	Other Products <sup>k</sup>	Total
							Propane <sup>i</sup>	Total				
<b>1973 Average</b> .....	12,431	815	155	13,401	2,820	859	271	375	6,527	971	2,301	13,854
<b>1975 Average</b> .....	12,442	710	72	13,225	2,653	871	234	311	6,518	1,235	2,097	13,685
<b>1980 Average</b> .....	13,481	462	81	14,025	2,661	999	269	330	6,492	1,580	2,559	14,622
<b>1985 Average</b> .....	12,002	509	681	13,192	2,686	1,189	295	391	6,419	882	2,183	13,750
<b>1990 Average</b> .....	13,409	467	713	14,589	2,925	1,488	404	499	6,959	950	2,452	15,272
<b>1995 Average</b> .....	13,973	471	775	15,220	3,155	1,416	503	654	7,459	788	2,522	15,994
<b>1996 Average</b> .....	14,195	450	843	15,487	3,316	1,515	520	662	7,565	726	2,541	16,324
<b>1997 Average</b> .....	14,662	416	832	15,909	3,392	1,554	565	691	7,743	708	2,671	16,759
<b>1998 Average</b> .....	14,889	403	853	16,144	3,424	1,526	550	674	7,892	762	2,753	17,030
<b>1999 Average</b> .....	14,804	372	927	16,103	3,399	1,565	569	684	7,934	698	2,709	16,989
<b>2000 Average</b> .....	15,067	380	849	16,295	3,580	1,606	583	705	7,951	696	2,705	17,243
<b>2001 Average</b> .....	15,128	429	825	16,382	3,695	1,530	556	667	8,022	721	2,651	17,285
<b>2002 Average</b> .....	14,947	429	941	16,316	3,592	1,514	572	671	8,183	601	2,712	17,273
<b>2003 Average</b> .....	15,304	419	791	16,513	3,707	1,488	570	658	8,194	660	2,780	17,487
<b>2004 Average</b> .....	15,475	422	866	16,762	3,814	1,547	584	645	8,265	655	2,887	17,814
<b>2005 Average</b> .....	15,220	441	1,149	16,811	3,954	1,546	540	573	8,318	628	2,782	17,800
<b>2006 Average</b> .....	15,242	501	1,238	16,981	4,040	1,481	543	627	8,364	635	2,827	17,975
<b>2007 Average</b> .....	15,156	505	1,337	16,999	4,133	1,448	562	655	8,358	673	2,728	17,994
<b>2008 Average</b> .....	14,648	485	2,019	17,153	4,294	1,493	519	630	8,548	620	2,561	18,146
<b>2009</b> January .....	14,146	552	1,777	16,476	4,284	1,409	479	383	8,445	585	2,321	17,426
February .....	14,134	493	1,883	16,509	4,231	1,391	483	471	8,408	571	2,367	17,440
March .....	14,118	447	2,089	16,654	3,939	1,373	519	618	8,646	583	2,407	17,566
April .....	14,382	416	2,264	17,062	4,132	1,432	542	782	8,724	475	2,499	18,044
May .....	14,483	432	2,266	17,181	4,093	1,378	554	798	8,793	605	2,488	18,155
June .....	14,850	429	2,323	17,602	4,047	1,404	566	847	9,068	613	2,662	18,641
July .....	14,636	437	2,279	17,352	3,929	1,515	554	809	8,952	586	2,546	18,337
August .....	14,593	404	2,218	17,214	3,965	1,389	554	838	8,856	631	2,537	18,218
September .....	14,710	482	1,825	17,018	4,099	1,396	559	624	8,829	604	2,493	18,045
October .....	14,095	545	1,933	16,573	3,984	1,291	527	476	8,770	672	2,341	17,535
November .....	13,898	609	2,051	16,558	4,018	1,311	550	379	8,905	624	2,264	17,502
December .....	13,983	580	2,066	16,629	3,877	1,465	554	442	9,006	624	2,246	17,660
<b>Average</b> .....	<b>14,336</b>	<b>485</b>	<b>2,082</b>	<b>16,904</b>	<b>4,048</b>	<b>1,396</b>	<b>537</b>	<b>623</b>	<b>8,786</b>	<b>598</b>	<b>2,431</b>	<b>17,882</b>
<b>2010</b> January .....	13,671	497	1,482	15,650	3,563	1,339	529	465	8,327	625	2,262	16,581
February .....	13,967	405	1,623	15,995	3,670	1,343	562	535	8,489	630	2,392	17,060
March .....	14,302	397	2,161	16,860	3,833	1,377	575	710	8,910	576	2,519	17,925
April .....	15,120	363	2,123	17,607	4,152	1,468	585	841	9,053	593	2,525	18,631
May .....	15,219	385	2,282	17,886	4,375	1,449	567	840	9,059	611	2,618	18,952
June .....	15,389	384	2,305	18,078	4,416	1,495	572	856	9,165	556	2,665	19,152
July .....	15,518	373	2,570	18,461	4,431	1,543	574	859	9,493	570	2,695	19,591
August .....	15,110	384	2,618	18,112	4,404	1,463	552	772	9,417	551	2,603	19,208
September .....	14,741	441	2,299	17,481	4,341	1,404	552	613	9,128	588	2,450	18,524
October .....	13,999	497	2,551	17,047	4,315	1,317	526	493	9,062	528	2,333	18,047
November .....	14,629	530	2,221	17,380	4,503	1,394	543	389	9,142	564	2,458	18,450
December .....	14,962	563	2,192	17,717	4,670	1,417	572	430	9,261	595	2,547	18,920
<b>Average</b> .....	<b>14,722</b>	<b>435</b>	<b>2,207</b>	<b>17,364</b>	<b>4,226</b>	<b>1,418</b>	<b>559</b>	<b>651</b>	<b>9,046</b>	<b>582</b>	<b>2,506</b>	<b>18,428</b>
<b>2011</b> January .....	14,446	543	1,732	16,721	4,305	1,362	560	439	8,671	552	2,459	17,788
February .....	R 13,745	R 517	R 2,229	R 16,491	R 4,032	R 1,298	R 513	R 490	R 8,793	R 529	R 2,329	R 17,471
March .....	RE 14,273	F 435	RE 2,513	RF 17,221	RE 4,227	RE 1,419	RE 434	F 652	RE 8,922	RE 523	RE 2,510	RE 18,252
April .....	E 14,067	F 422	E 2,820	F 17,309	E 4,122	E 1,414	E 436	F 805	E 8,936	E 517	E 2,539	E 18,332
<b>4-Month Average</b> .....	<b>E 14,143</b>	<b>E 479</b>	<b>E 2,322</b>	<b>E 16,943</b>	<b>E 4,175</b>	<b>E 1,375</b>	<b>E 485</b>	<b>E 597</b>	<b>E 8,830</b>	<b>E 531</b>	<b>E 2,462</b>	<b>E 17,970</b>
<b>2010 4-Month Average</b> .....	<b>14,265</b>	<b>416</b>	<b>1,851</b>	<b>16,532</b>	<b>3,805</b>	<b>1,382</b>	<b>563</b>	<b>639</b>	<b>8,697</b>	<b>606</b>	<b>2,424</b>	<b>17,553</b>
<b>2009 4-Month Average</b> .....	<b>14,195</b>	<b>477</b>	<b>2,004</b>	<b>16,676</b>	<b>4,144</b>	<b>1,401</b>	<b>506</b>	<b>564</b>	<b>8,558</b>	<b>554</b>	<b>2,399</b>	<b>17,620</b>

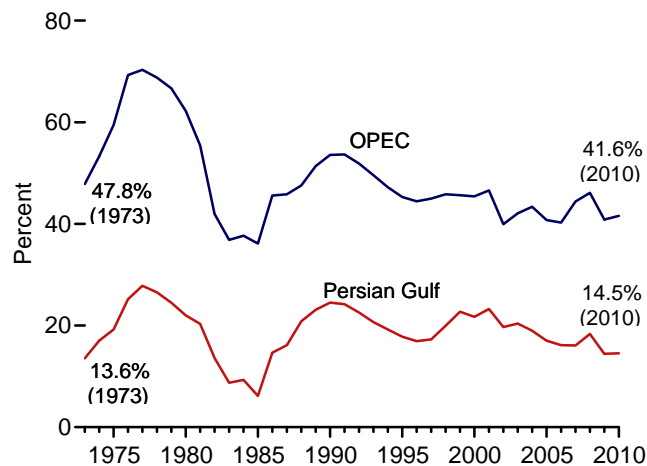
a See "Refinery and Blender Net Inputs," in Glossary.  
b See "Refinery and Blender Net Production," in Glossary.  
c Liquefied petroleum gases.  
d Includes lease condensate.  
e Natural gas plant liquids (liquefied petroleum gases and pentanes plus).  
f Unfinished oils (net), other hydrocarbons, and hydrogen. Beginning in 1981, also includes aviation and motor gasoline blending components (net). Beginning in 1993, also includes oxygenates (net), including fuel ethanol. Beginning in 2009, also includes renewable diesel fuel (including biodiesel).  
g Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.  
h Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Other Products."  
i Includes propylene.  
j Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.  
k Asphalt and road oil, finished aviation gasoline, kerosene, lubricants, petrochemical feedstocks, petroleum coke, special naphthas, still gas, waxes, and miscellaneous products. Beginning in 2005, also includes naphtha-type jet fuel.  
R=Revised. E=Estimate. F=Forecast.  
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Web Pages: • For all available data beginning in 1973, see <http://www.eia.gov/totalenergy/data/monthly/#petroleum>. • For related information, see [http://www.eia.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.gov/oil_gas/petroleum/info_glance/petroleum.html).  
Sources: • **1973-1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976-1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981-2009:** EIA, *Petroleum Supply Annual*, annual reports. • **2010 and 2011:** EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system, Short-Term Integrated Forecasting System, and *Monthly Energy Review* data system calculations.

### Figure 3.3a Petroleum Trade: Overview

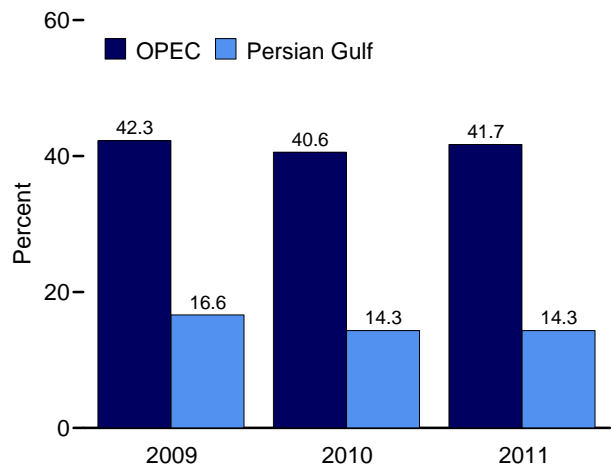
Overview, February 2011



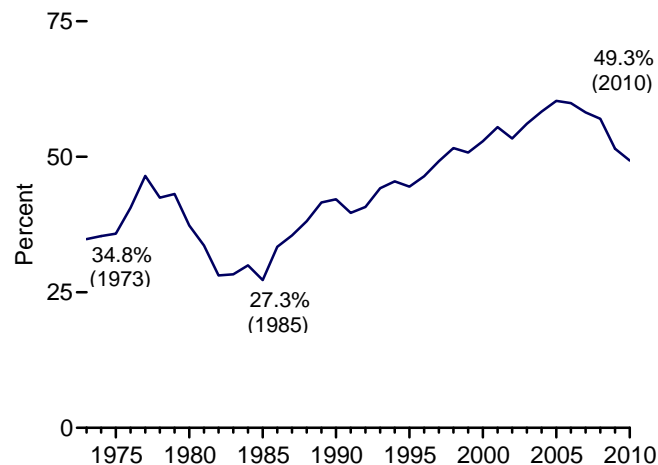
Imports From OPEC and Persian Gulf as Share of Total Imports, 1973-2010



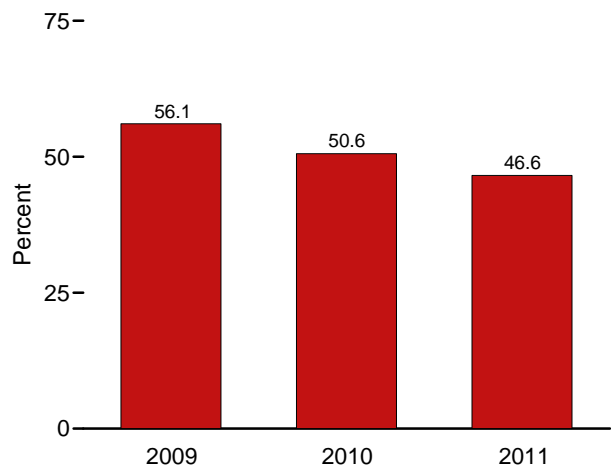
Imports From OPEC and Persian Gulf as Share of Total Imports, January-February



Net Imports as Share of Products Supplied, 1973-2010



Net Imports as Share of Products Supplied, January-April



Note: OPEC=Organization of the Petroleum Exporting Countries.  
 Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.  
 Source: Table 3.3a.

**Table 3.3a Petroleum Trade: Overview**

	Imports From Persian Gulf <sup>a</sup>	Imports From OPEC <sup>b</sup>	Imports	Exports	Net Imports	Products Supplied	As Share of Products Supplied				As Share of Total Imports	
							Imports From Persian Gulf <sup>a</sup>	Imports From OPEC <sup>b</sup>	Imports	Net Imports	Imports From Persian Gulf <sup>a</sup>	Imports From OPEC <sup>b</sup>
							Thousand Barrels per Day					
<b>1973 Average</b>	848	2,993	6,256	231	6,025	17,308	4.9	17.3	36.1	34.8	13.6	47.8
<b>1975 Average</b>	1,165	3,601	6,056	209	5,846	16,322	7.1	22.1	37.1	35.8	19.2	59.5
<b>1980 Average</b>	1,519	4,300	6,909	544	6,365	17,056	8.9	25.2	40.5	37.3	22.0	62.2
<b>1985 Average</b>	311	1,830	5,067	781	4,286	15,726	2.0	11.6	32.2	27.3	6.1	36.1
<b>1990 Average</b>	1,966	4,296	8,018	857	7,161	16,988	11.6	25.3	47.2	42.2	24.5	53.6
<b>1995 Average</b>	1,573	4,002	8,835	949	7,886	17,725	8.9	22.6	49.8	44.5	17.8	45.3
<b>1996 Average</b>	1,604	4,211	9,478	981	8,498	18,309	8.8	23.0	51.8	46.4	16.9	44.4
<b>1997 Average</b>	1,755	4,569	10,162	1,003	9,158	18,620	9.4	24.5	54.6	49.2	17.3	45.0
<b>1998 Average</b>	2,136	4,905	10,708	945	9,764	18,917	11.3	25.9	56.6	51.6	19.9	45.8
<b>1999 Average</b>	2,464	4,953	10,852	940	9,912	19,519	12.6	25.4	55.6	50.8	22.7	45.6
<b>2000 Average</b>	2,488	5,203	11,459	1,040	10,419	19,701	12.6	26.4	58.2	52.9	21.7	45.4
<b>2001 Average</b>	2,761	5,528	11,871	971	10,900	19,649	14.1	28.1	60.4	55.5	23.3	46.6
<b>2002 Average</b>	2,269	4,605	11,530	984	10,546	19,761	11.5	23.3	58.3	53.4	19.7	39.9
<b>2003 Average</b>	2,501	5,162	12,264	1,027	11,238	20,034	12.5	25.8	61.2	56.1	20.4	42.1
<b>2004 Average</b>	2,493	5,701	13,145	1,048	12,097	20,731	12.0	27.5	63.4	58.4	19.0	43.4
<b>2005 Average</b>	2,334	5,587	13,714	1,165	12,549	20,802	11.2	26.9	65.9	60.3	17.0	40.7
<b>2006 Average</b>	2,211	5,517	13,707	1,317	12,390	20,687	10.7	26.7	66.3	59.9	16.1	40.2
<b>2007 Average</b>	2,163	5,980	13,468	1,433	12,036	20,680	10.5	28.9	65.1	58.2	16.1	44.4
<b>2008 Average</b>	2,370	5,954	12,915	1,802	11,114	19,498	12.2	30.5	66.2	57.0	18.4	46.1
<b>2009</b>												
January	2,218	5,689	13,127	1,922	11,205	19,040	11.6	29.9	68.9	58.9	16.9	43.3
February	1,974	4,958	12,095	1,808	10,287	18,822	10.5	26.3	64.3	54.7	16.3	41.0
March	1,823	5,212	12,446	1,838	10,609	18,719	9.7	27.8	66.5	56.7	14.6	41.9
April	1,735	4,803	11,962	1,900	10,061	18,672	9.3	25.7	64.1	53.9	14.5	40.2
May	1,548	4,372	11,477	2,015	9,461	18,211	8.5	24.0	63.0	52.0	13.5	38.1
June	1,602	4,825	11,936	1,963	9,973	18,828	8.5	25.6	63.4	53.0	13.4	40.4
July	1,730	4,554	11,830	2,348	9,482	18,626	9.3	24.4	63.5	50.9	14.6	38.5
August	1,428	4,530	11,183	2,119	9,064	18,949	7.5	23.9	59.0	47.8	12.8	40.5
September	1,718	5,052	11,756	2,105	9,651	18,594	9.2	27.2	63.2	51.9	14.6	43.0
October	1,545	4,581	10,878	2,223	8,655	18,803	8.2	24.4	57.9	46.0	14.2	42.1
November	1,606	4,585	11,105	2,029	9,076	18,753	8.6	24.5	59.2	48.4	14.5	41.3
December	1,362	4,171	10,534	1,996	8,538	19,237	7.1	21.7	54.8	44.4	12.9	39.6
<b>Average</b>	<b>1,689</b>	<b>4,776</b>	<b>11,691</b>	<b>2,024</b>	<b>9,667</b>	<b>18,771</b>	<b>9.0</b>	<b>25.4</b>	<b>62.3</b>	<b>51.5</b>	<b>14.4</b>	<b>40.9</b>
<b>2010</b>												
January	1,546	4,503	11,236	1,883	9,352	18,528	8.3	24.3	60.6	50.5	13.8	40.1
February	1,666	4,587	11,148	2,012	9,136	18,860	8.8	24.3	59.1	48.4	14.9	41.1
March	1,842	5,068	11,588	2,108	9,480	19,070	9.7	26.6	60.8	49.7	15.9	43.7
April	2,026	5,414	12,508	2,389	10,119	18,910	10.7	28.6	66.1	53.5	16.2	43.3
May	1,724	5,024	12,100	2,369	9,731	18,827	9.2	26.7	64.3	51.7	14.3	41.5
June	1,972	5,263	12,339	2,273	10,066	19,314	10.2	27.2	63.9	52.1	16.0	42.7
July	1,679	5,144	12,602	2,479	10,123	19,278	8.7	26.7	65.4	52.5	13.3	40.8
August	1,663	5,083	12,341	2,368	9,973	19,692	8.4	25.8	62.7	50.6	13.5	41.2
September	1,698	5,111	11,816	2,297	9,519	19,507	8.7	26.2	60.6	48.8	14.4	43.3
October	1,479	4,294	11,126	2,434	8,692	18,939	7.8	22.7	58.7	45.9	13.3	38.6
November	1,651	4,517	11,088	2,546	8,542	19,074	8.7	23.7	58.1	44.8	14.9	40.7
December	1,564	4,614	11,109	2,572	8,537	19,758	7.9	23.4	56.2	43.2	14.1	41.5
<b>Average</b>	<b>1,708</b>	<b>4,885</b>	<b>11,753</b>	<b>2,312</b>	<b>9,440</b>	<b>19,148</b>	<b>8.9</b>	<b>25.5</b>	<b>61.4</b>	<b>49.3</b>	<b>14.5</b>	<b>41.6</b>
<b>2011</b>												
January	1,719	4,872	11,954	2,687	9,266	19,121	9.0	25.5	62.5	48.5	14.4	40.8
February	<sup>R</sup> 1,495	<sup>R</sup> 4,504	<sup>R</sup> 10,503	<sup>R</sup> 2,575	<sup>R</sup> 7,929	<sup>R</sup> 18,869	<sup>R</sup> 7.9	<sup>R</sup> 23.9	<sup>R</sup> 55.7	<sup>R</sup> 42.0	<sup>R</sup> 14.2	<sup>R</sup> 42.9
March	NA	NA	<sup>E</sup> 11,283	<sup>E</sup> 2,312	<sup>RE</sup> 8,971	<sup>E</sup> 19,112	NA	NA	<sup>E</sup> 59.0	<sup>E</sup> 46.9	NA	NA
April	NA	NA	<sup>E</sup> 11,459	<sup>E</sup> 2,247	<sup>E</sup> 9,213	<sup>E</sup> 19,050	NA	NA	<sup>E</sup> 60.2	<sup>E</sup> 48.4	NA	NA
<b>4-Month Average</b>	<b>NA</b>	<b>NA</b>	<sup>E</sup> <b>11,318</b>	<sup>E</sup> <b>2,454</b>	<sup>E</sup> <b>8,865</b>	<sup>E</sup> <b>19,042</b>	<b>NA</b>	<b>NA</b>	<sup>E</sup> <b>59.4</b>	<sup>E</sup> <b>46.6</b>	<b>NA</b>	<b>NA</b>
<b>2010 4-Month Average</b>	<b>1,771</b>	<b>4,896</b>	<b>11,624</b>	<b>2,098</b>	<b>9,526</b>	<b>18,841</b>	<b>9.4</b>	<b>26.0</b>	<b>61.7</b>	<b>50.6</b>	<b>15.2</b>	<b>42.1</b>
<b>2009 4-Month Average</b>	<b>1,938</b>	<b>5,174</b>	<b>12,419</b>	<b>1,868</b>	<b>10,551</b>	<b>18,814</b>	<b>10.3</b>	<b>27.5</b>	<b>66.0</b>	<b>56.1</b>	<b>15.6</b>	<b>41.7</b>

<sup>a</sup> Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and the Neutral Zone (between Kuwait and Saudi Arabia).

<sup>b</sup> See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary. See Table 3.3c for notes on which countries are included in the data.

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

Notes: • Readers of this table may be interested in a feature article, "Measuring Dependence on Imported Oil," that was published in the August 1995 *Monthly Energy Review*. See [http://www.eia.gov/totalenergy/data/monthly/pdf/historical/imported\\_oil.pdf](http://www.eia.gov/totalenergy/data/monthly/pdf/historical/imported_oil.pdf).

• Beginning in October 1977, data include Strategic Petroleum Reserve imports. See Table 3.3b. • Annual averages may not equal average of months due to independent rounding. • U.S. geographic coverage is the 50 States and the

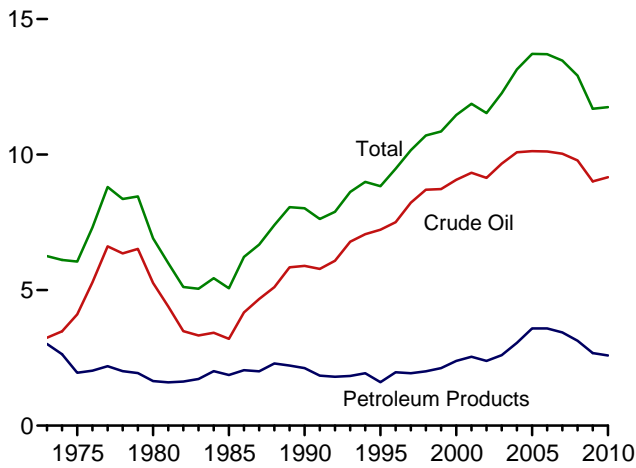
District of Columbia. U.S. exports include shipments to U.S. territories, and imports include receipts from U.S. territories.

Web Pages: • For all available data beginning in 1973, see <http://www.eia.gov/totalenergy/data/monthly/#petroleum>. • For related information, see [http://www.eia.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.gov/oil_gas/petroleum/info_glance/petroleum.html).

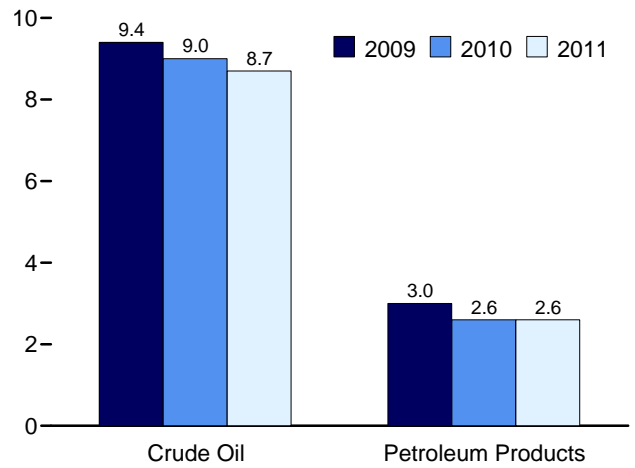
Sources: • **1973-1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976-1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981-2009:** EIA, *Petroleum Supply Annual*, annual reports. • **2010 and 2011:** EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

**Figure 3.3b Petroleum Trade: Imports**  
(Million Barrels per Day)

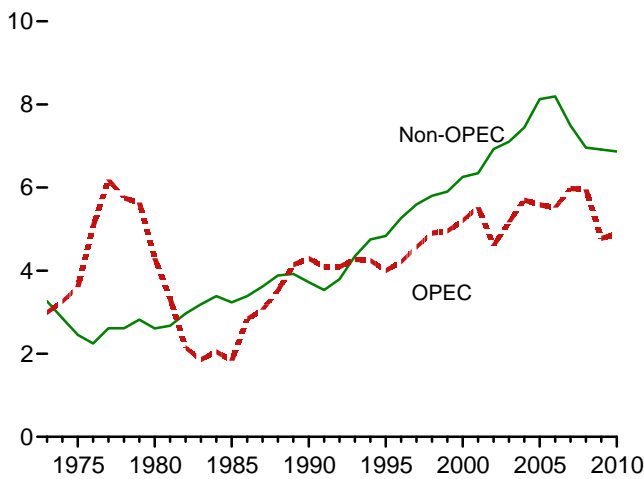
Total, 1973-2010



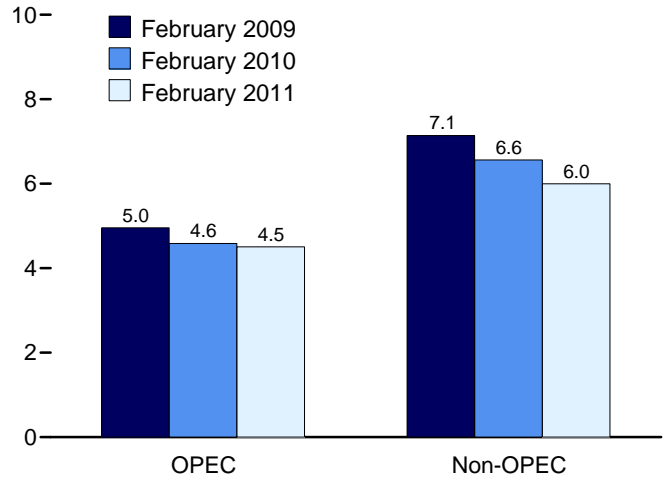
Crude Oil and Petroleum Products, January-April



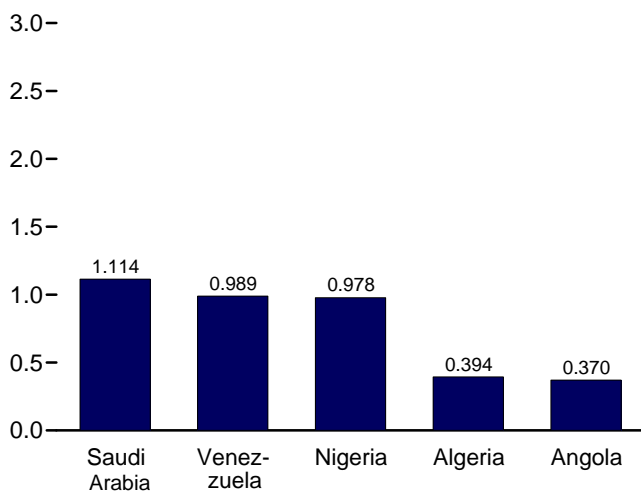
OPEC and Non-OPEC, 1973-2010



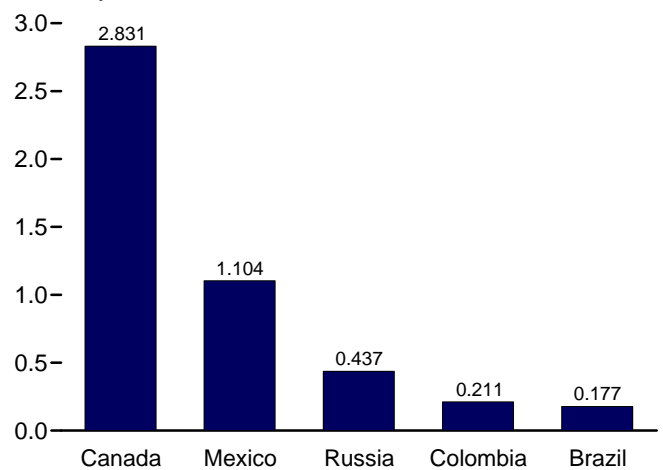
OPEC and Non-OPEC



From Selected OPEC Countries, February 2011



From Selected Non-OPEC Countries, February 2011



Note: OPEC=Organization of the Petroleum Exporting Countries.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.  
Sources: Tables 3.3b-3.3d.

**Table 3.3b Petroleum Trade: Imports and Exports by Type**  
(Thousand Barrels per Day)

	Imports										Exports		
	Crude Oil <sup>a</sup>		Distillate Fuel Oil	Jet Fuel <sup>e</sup>	LPG <sup>b</sup>		Motor Gasoline <sup>g</sup>	Residual Fuel Oil	Other <sup>h</sup>	Total	Crude Oil <sup>a</sup>	Petroleum Products	Total
	SPR <sup>c,d</sup>	Total			Propane <sup>f</sup>	Total							
<b>1973 Average</b>	--	3,244	392	212	71	132	134	1,853	290	6,256	2	229	231
<b>1975 Average</b>	--	4,105	155	133	60	112	184	1,223	144	6,056	6	204	209
<b>1980 Average</b>	44	5,263	142	80	69	216	140	939	130	6,909	287	258	544
<b>1985 Average</b>	118	3,201	200	39	67	187	381	510	550	5,067	204	577	781
<b>1990 Average</b>	27	5,894	278	108	115	188	342	504	705	8,018	109	748	857
<b>1995 Average</b>	0	7,230	193	106	102	146	265	187	708	8,835	95	855	949
<b>1996 Average</b>	0	7,508	230	111	119	166	336	248	879	9,478	110	871	981
<b>1997 Average</b>	0	8,225	228	91	113	169	309	194	945	10,162	108	896	1,003
<b>1998 Average</b>	0	8,706	210	124	137	194	311	275	888	10,708	110	835	945
<b>1999 Average</b>	8	8,731	250	128	122	182	382	237	943	10,852	118	822	940
<b>2000 Average</b>	8	9,071	295	162	161	215	427	352	938	11,459	50	990	1,040
<b>2001 Average</b>	11	9,328	344	148	145	206	454	295	1,095	11,871	20	951	971
<b>2002 Average</b>	16	9,140	267	107	145	183	498	249	1,085	11,530	9	975	984
<b>2003 Average</b>	0	9,665	333	109	168	225	518	327	1,087	12,264	12	1,014	1,027
<b>2004 Average</b>	77	10,088	325	127	209	263	496	426	1,419	13,145	27	1,021	1,048
<b>2005 Average</b>	52	10,126	329	190	233	328	603	530	1,609	13,714	32	1,133	1,165
<b>2006 Average</b>	8	10,118	365	186	228	332	475	350	1,881	13,707	25	1,292	1,317
<b>2007 Average</b>	7	10,031	304	217	182	247	413	372	1,885	13,468	27	1,405	1,433
<b>2008 Average</b>	19	9,783	213	103	185	253	302	349	1,913	12,915	29	1,773	1,802
<b>2009</b>													
January	33	9,779	368	89	223	253	236	424	1,978	13,127	36	1,885	1,922
February	34	9,074	327	71	207	234	263	349	1,776	12,095	30	1,778	1,808
March	221	9,378	269	92	218	249	274	381	1,804	12,446	30	1,807	1,838
April	154	9,374	166	90	124	164	227	396	1,545	11,962	27	1,874	1,900
May	52	8,797	206	66	105	172	244	341	1,650	11,477	53	1,962	2,015
June	77	9,135	245	65	70	98	218	363	1,812	11,936	57	1,906	1,963
July	0	9,094	191	102	100	128	230	268	1,818	11,830	31	2,317	2,348
August	16	8,814	166	92	63	105	304	256	1,446	11,183	35	2,084	2,119
September	32	9,254	205	91	95	124	142	309	1,631	11,756	42	2,063	2,105
October	0	8,566	177	84	145	182	161	303	1,404	10,878	72	2,151	2,223
November	35	8,740	164	71	206	238	149	282	1,462	11,105	46	1,983	2,029
December	16	8,170	224	55	212	241	232	307	1,305	10,534	65	1,931	1,996
<b>Average</b>	<b>56</b>	<b>9,013</b>	<b>225</b>	<b>81</b>	<b>147</b>	<b>182</b>	<b>223</b>	<b>331</b>	<b>1,635</b>	<b>11,691</b>	<b>44</b>	<b>1,980</b>	<b>2,024</b>
<b>2010</b>													
January	--	8,454	429	150	191	216	179	373	1,433	11,236	33	1,851	1,883
February	--	8,680	293	75	216	234	196	378	1,291	11,148	58	1,954	2,012
March	--	9,292	179	74	136	149	120	395	1,378	11,588	45	2,063	2,108
April	--	9,741	201	74	78	101	178	474	1,739	12,508	37	2,352	2,389
May	--	9,622	191	63	81	108	107	404	1,606	12,100	36	2,333	2,369
June	--	9,872	237	79	69	109	163	279	1,599	12,339	31	2,242	2,273
July	--	9,890	166	76	55	103	114	400	1,851	12,602	69	2,410	2,479
August	--	9,486	236	103	62	106	129	329	1,952	12,341	36	2,332	2,368
September	--	9,168	189	117	84	123	130	418	1,671	11,816	61	2,235	2,297
October	--	8,489	163	94	131	163	86	363	1,768	11,126	23	2,410	2,434
November	--	8,608	178	101	131	164	128	419	1,491	11,088	32	2,515	2,546
December	--	8,631	219	73	213	229	99	358	1,501	11,109	40	2,532	2,572
<b>Average</b>	<b>--</b>	<b>9,163</b>	<b>223</b>	<b>90</b>	<b>120</b>	<b>150</b>	<b>135</b>	<b>382</b>	<b>1,609</b>	<b>11,753</b>	<b>42</b>	<b>2,271</b>	<b>2,312</b>
<b>2011</b>													
January	--	9,069	326	65	172	204	103	456	1,733	11,954	72	2,616	2,687
February	R --	R 8,013	R 206	R 68	R 172	R 199	R 119	R 428	R 1,471	R 10,503	R 30	R 2,544	R 2,575
March	NA	E 8,875	E 189	E 48	E 98	NA	E 91	E 418	NA	E 11,283	E 34	E 2,278	E 2,312
April	NA	E 8,710	E 177	E 82	E 77	NA	E 159	E 446	NA	E 11,459	E 34	E 2,213	E 2,247
<b>4-Month Average</b>	<b>NA</b>	<b>E 8,683</b>	<b>E 225</b>	<b>E 65</b>	<b>E 129</b>	<b>NA</b>	<b>E 118</b>	<b>E 437</b>	<b>NA</b>	<b>E 11,318</b>	<b>E 43</b>	<b>E 2,411</b>	<b>E 2,454</b>
<b>2010 4-Month Average</b>	--	<b>9,045</b>	<b>275</b>	<b>94</b>	<b>154</b>	<b>174</b>	<b>168</b>	<b>405</b>	<b>1,462</b>	<b>11,624</b>	<b>43</b>	<b>2,055</b>	<b>2,098</b>
<b>2009 4-Month Average</b>	112	<b>9,410</b>	<b>282</b>	<b>86</b>	<b>193</b>	<b>225</b>	<b>250</b>	<b>388</b>	<b>1,778</b>	<b>12,419</b>	<b>31</b>	<b>1,837</b>	<b>1,868</b>

<sup>a</sup> Includes lease condensate.  
<sup>b</sup> Liquefied petroleum gases.  
<sup>c</sup> "SPR" is the Strategic Petroleum Reserve, which began in October 1977. Through 2003, includes crude oil imports by SPR only; beginning in 2004, includes crude oil imports by SPR, and crude oil imports into SPR by others.  
<sup>d</sup> See Note 6, "Petroleum Data Discrepancies," at end of section.  
<sup>e</sup> Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Other."  
<sup>f</sup> Includes propylene.  
<sup>g</sup> Finished motor gasoline. Through 1980, also includes motor gasoline blending components.  
<sup>h</sup> Asphalt and road oil, finished aviation gasoline, gasoline blending components, kerosene, lubricants, pentanes plus, petrochemical feedstocks, petroleum coke, special naphthas, unfinished oils, waxes, other hydrocarbons and oxygenates, and miscellaneous products. Beginning in 2005, also includes

naphtha-type jet fuel.  
R=Revised. E=Estimate. NA=Not available. -- =Not applicable. -- =No data reported.  
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Web Pages: • For all available data beginning in 1973, see <http://www.eia.gov/totalenergy/data/monthly/#petroleum>. • For related information, see [http://www.eia.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.gov/oil_gas/petroleum/info_glance/petroleum.html).  
Sources: • 1973-1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • 1976-1980: U.S. Energy Information Administration (EIA), *Energy Data Reports, Petroleum Statement, Annual*, annual reports. • 1981-2009: EIA, *Petroleum Supply Annual*, annual reports. • 2010 and 2011: EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

**Table 3.3c Petroleum Trade: Imports From OPEC Countries**  
(Thousand Barrels per Day)

	Algeria	Angola <sup>a</sup>	Ecuador <sup>b</sup>	Iraq	Kuwait <sup>c</sup>	Libya	Nigeria	Saudi Arabia <sup>c</sup>	Venezuela	Other <sup>d</sup>	Total OPEC
1973 Average	136	(a)	48	4	47	164	459	486	1,135	514	2,993
1975 Average	282	(a)	57	2	16	232	762	715	702	832	3,601
1980 Average	488	(a)	27	28	27	554	857	1,261	481	577	4,300
1985 Average	187	(a)	67	46	21	4	293	168	605	439	1,830
1990 Average	280	(a)	49	518	86	0	800	1,339	1,025	199	4,296
1995 Average	234	(a)	(b)	0	218	0	627	1,344	1,480	98	4,002
1996 Average	256	(a)	(b)	1	236	0	617	1,363	1,676	62	4,211
1997 Average	285	(a)	(b)	89	253	0	698	1,407	1,773	64	4,569
1998 Average	290	(a)	(b)	336	301	0	696	1,491	1,719	73	4,905
1999 Average	259	(a)	(b)	725	248	0	657	1,478	1,493	93	4,953
2000 Average	225	(a)	(b)	620	272	0	896	1,572	1,546	72	5,203
2001 Average	278	(a)	(b)	795	250	0	885	1,662	1,553	105	5,528
2002 Average	264	(a)	(b)	459	228	0	621	1,552	1,398	83	4,605
2003 Average	382	(a)	(b)	481	220	0	867	1,774	1,376	61	5,162
2004 Average	452	(a)	(b)	656	250	20	1,140	1,558	1,554	70	5,701
2005 Average	478	(a)	(b)	531	243	56	1,166	1,537	1,529	47	5,587
2006 Average	657	(a)	(b)	553	185	87	1,114	1,463	1,419	38	5,517
2007 Average	670	508	(b)	484	181	117	1,134	1,485	1,361	39	5,980
2008 Average	548	513	221	627	210	103	988	1,529	1,189	26	5,954
<b>2009</b> January	720	541	278	568	242	64	524	1,362	1,353	38	5,689
February	375	671	243	554	251	60	496	1,118	1,139	51	4,958
March	463	653	215	587	181	61	891	967	1,106	88	5,212
April	626	462	237	484	105	118	733	1,057	891	90	4,803
May	272	505	193	295	106	99	626	1,102	1,141	33	4,372
June	433	447	154	390	179	103	830	959	1,256	75	4,825
July	383	320	198	321	187	69	879	1,046	976	176	4,554
August	551	364	131	500	148	68	917	729	1,070	51	4,530
September	655	414	153	428	246	54	912	1,045	1,146	-	5,052
October	491	450	180	499	104	91	869	943	955	-	4,581
November	400	431	155	461	287	140	980	858	874	-	4,585
December	544	278	86	325	160	23	1,029	877	849	-	4,171
<b>Average</b>	<b>493</b>	<b>460</b>	<b>185</b>	<b>450</b>	<b>182</b>	<b>79</b>	<b>809</b>	<b>1,004</b>	<b>1,063</b>	<b>50</b>	<b>4,776</b>
<b>2010</b> January	498	280	215	506	77	40	1,013	963	911	-	4,503
February	461	326	152	540	228	40	932	898	1,009	-	4,587
March	455	502	183	475	218	63	962	1,149	1,061	-	5,068
April	464	508	179	490	278	163	1,125	1,257	950	-	5,414
May	518	448	160	394	225	39	1,026	1,097	1,109	10	5,024
June	550	425	211	630	217	98	1,108	1,125	899	-	5,263
July	518	374	205	430	189	110	1,174	1,053	1,084	7	5,144
August	565	484	242	281	251	123	985	1,132	1,022	-	5,083
September	543	417	229	422	172	43	1,174	1,093	1,008	10	5,111
October	451	324	203	143	215	36	872	1,121	930	-	4,294
November	572	276	194	340	170	23	860	1,141	942	-	4,517
December	484	319	192	336	125	66	1,070	1,087	917	16	4,614
<b>Average</b>	<b>507</b>	<b>390</b>	<b>197</b>	<b>414</b>	<b>197</b>	<b>70</b>	<b>1,025</b>	<b>1,094</b>	<b>987</b>	<b>4</b>	<b>4,885</b>
<b>2011</b> January	565	316	178	470	147	57	1,007	1,102	1,030	-	4,872
February	394	370	242	263	118	35	978	1,114	989	-	4,504
<b>2-Month Average</b>	<b>484</b>	<b>342</b>	<b>209</b>	<b>372</b>	<b>133</b>	<b>46</b>	<b>993</b>	<b>1,108</b>	<b>1,011</b>	<b>-</b>	<b>4,697</b>
<b>2010 2-Month Average</b>	<b>480</b>	<b>302</b>	<b>185</b>	<b>522</b>	<b>149</b>	<b>40</b>	<b>975</b>	<b>932</b>	<b>957</b>	<b>-</b>	<b>4,543</b>
<b>2009 2-Month Average</b>	<b>556</b>	<b>603</b>	<b>261</b>	<b>562</b>	<b>246</b>	<b>62</b>	<b>511</b>	<b>1,246</b>	<b>1,252</b>	<b>44</b>	<b>5,342</b>

<sup>a</sup> Angola joined OPEC in January 2007. For 1973-2006, Angola is included in "Total Non-OPEC" on Table 3.3d.

<sup>b</sup> Ecuador was a member of OPEC from 1973-1992, and rejoined OPEC in November 2007. For 1993-2007, Ecuador is included in "Total Non-OPEC" on Table 3.3d.

<sup>c</sup> Imports from the Neutral Zone are reported as originating in either Saudi Arabia or Kuwait depending on the country reported to U.S. Customs.

<sup>d</sup> For all years, includes Iran, Qatar, and United Arab Emirates. For 1973-2008, also includes Indonesia; and for 1975-1994, also includes Gabon.

- =No data reported.

Notes: • See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary. Petroleum imports not classified as "OPEC" on this table are included on Table 3.3d. • The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example,

refined products imported from West European refining areas may have been produced from Middle East crude oil. • Includes imports for the Strategic Petroleum Reserve, which began in October 1977. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

Web Pages: • For all available data beginning in 1973, see <http://www.eia.gov/totalenergy/data/monthly/#petroleum>. • For related information, see [http://www.eia.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.gov/oil_gas/petroleum/info_glance/petroleum.html).

Sources: • **1973-1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976-1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981-2009:** EIA, *Petroleum Supply Annual*, annual reports. • **2010 and 2011:** EIA, *Petroleum Supply Monthly*, monthly reports.

**Table 3.3d Petroleum Trade: Imports From Non-OPEC Countries**  
(Thousand Barrels per Day)

	Brazil	Canada	Colombia	Mexico	Nether-lands	Norway	Russia <sup>a</sup>	United Kingdom	U.S. Virgin Islands	Other	Total Non-OPEC
1973 Average .....	9	1,325	9	16	53	1	26	15	329	1,480	3,263
1975 Average .....	5	846	9	71	19	17	14	14	406	1,052	2,454
1980 Average .....	3	455	4	533	2	144	1	176	388	903	2,609
1985 Average .....	61	770	23	816	58	32	8	310	247	913	3,237
1990 Average .....	49	934	182	755	55	102	45	189	282	1,128	3,721
1995 Average .....	8	1,332	219	1,068	15	273	25	383	278	1,233	4,833
1996 Average .....	9	1,424	234	1,244	19	313	25	308	313	1,377	5,267
1997 Average .....	5	1,563	271	1,385	25	309	13	226	300	1,495	5,593
1998 Average .....	26	1,598	354	1,351	31	236	24	250	293	1,640	5,803
1999 Average .....	26	1,539	468	1,324	27	304	89	365	280	1,478	5,899
2000 Average .....	51	1,807	342	1,373	30	343	72	366	291	1,581	6,257
2001 Average .....	82	1,828	296	1,440	43	341	90	324	268	1,631	6,343
2002 Average .....	116	1,971	260	1,547	66	393	210	478	236	1,649	6,925
2003 Average .....	108	2,072	195	1,623	87	270	254	440	288	1,766	7,103
2004 Average .....	104	2,138	176	1,665	101	244	298	380	330	2,008	7,444
2005 Average .....	156	2,181	196	1,662	151	233	410	396	328	2,413	8,127
2006 Average .....	193	2,353	155	1,705	174	196	369	272	328	2,446	8,190
2007 Average .....	200	2,455	155	1,532	128	142	414	277	346	1,839	7,489
2008 Average .....	258	2,493	200	1,302	168	102	465	236	320	1,416	6,961
<b>2009</b> January .....	450	2,549	269	1,377	127	90	516	148	367	1,545	7,438
February .....	381	2,529	241	1,364	189	74	472	281	337	1,269	7,137
March .....	338	2,446	283	1,199	141	179	642	208	264	1,534	7,235
April .....	278	2,287	347	1,289	117	112	759	401	290	1,278	7,158
May .....	386	2,215	243	1,186	150	179	809	250	313	1,373	7,105
June .....	299	2,538	313	1,190	157	173	618	268	276	1,279	7,111
July .....	408	2,664	289	1,076	118	101	758	203	273	1,387	7,276
August .....	275	2,523	269	1,159	160	52	505	225	223	1,263	6,653
September .....	268	2,358	301	1,271	122	59	486	295	280	1,263	6,703
October .....	174	2,367	292	1,136	84	97	385	278	215	1,268	6,297
November .....	268	2,565	237	1,084	227	110	415	190	205	1,219	6,520
December .....	184	2,710	231	1,204	99	65	385	199	289	998	6,363
<b>Average .....</b>	<b>309</b>	<b>2,479</b>	<b>276</b>	<b>1,210</b>	<b>140</b>	<b>108</b>	<b>563</b>	<b>245</b>	<b>277</b>	<b>1,307</b>	<b>6,915</b>
<b>2010</b> January .....	353	2,593	322	1,131	116	126	463	282	308	1,039	6,733
February .....	226	2,490	386	1,134	126	99	423	413	187	1,077	6,562
March .....	302	2,517	251	1,265	136	59	488	267	228	1,008	6,520
April .....	307	2,486	423	1,276	92	166	587	304	316	1,137	7,093
May .....	320	2,527	315	1,428	108	119	719	176	193	1,172	7,076
June .....	308	2,711	407	1,208	87	52	760	269	244	1,030	7,076
July .....	332	2,534	404	1,289	211	119	719	351	239	1,258	7,457
August .....	251	2,483	372	1,282	135	57	786	266	339	1,286	7,258
September .....	181	2,475	363	1,256	45	62	648	178	302	1,195	6,705
October .....	169	2,345	422	1,345	107	111	655	152	270	1,256	6,832
November .....	198	2,510	492	1,363	57	79	553	187	234	896	6,571
December .....	295	2,713	231	1,365	71	26	514	236	191	855	6,495
<b>Average .....</b>	<b>271</b>	<b>2,532</b>	<b>365</b>	<b>1,280</b>	<b>108</b>	<b>89</b>	<b>611</b>	<b>256</b>	<b>255</b>	<b>1,101</b>	<b>6,867</b>
<b>2011</b> January .....	274	2,826	332	1,366	101	85	531	155	276	1,136	7,082
February .....	177	2,831	211	1,104	129	69	437	110	182	749	5,999
<b>2-Month Average .....</b>	<b>228</b>	<b>2,829</b>	<b>275</b>	<b>1,242</b>	<b>114</b>	<b>77</b>	<b>486</b>	<b>134</b>	<b>232</b>	<b>952</b>	<b>6,568</b>
<b>2010 2-Month Average .....</b>	<b>293</b>	<b>2,544</b>	<b>353</b>	<b>1,132</b>	<b>121</b>	<b>113</b>	<b>444</b>	<b>344</b>	<b>251</b>	<b>1,057</b>	<b>6,651</b>
<b>2009 2-Month Average .....</b>	<b>417</b>	<b>2,540</b>	<b>256</b>	<b>1,371</b>	<b>156</b>	<b>82</b>	<b>495</b>	<b>211</b>	<b>353</b>	<b>1,414</b>	<b>7,295</b>

<sup>a</sup> Through 1992, may include imports from republics other than Russia in the former U.S.S.R. See "Union of Soviet Socialist Republics (U.S.S.R.);" in Glossary.

Notes: • See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary for membership. Petroleum imports not classified as "OPEC" on Table 3.3c are included on this table. • The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil. • Includes imports for the Strategic Petroleum Reserve, which began in October 1977. • Totals may not equal sum of components due to independent rounding. • U.S. geographic

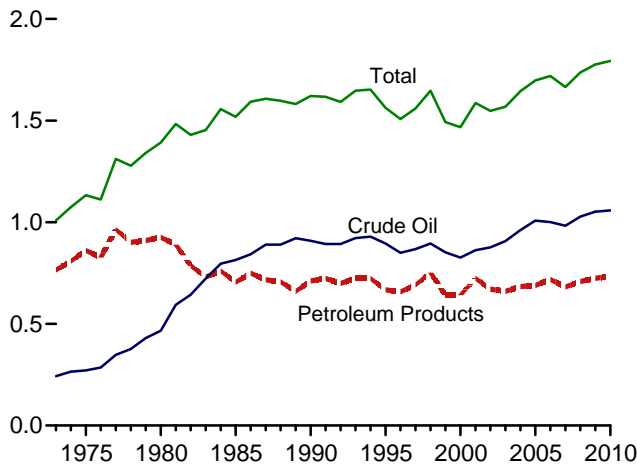
coverage is the 50 States and the District of Columbia.

Web Pages: • For all available data beginning in 1973, see <http://www.eia.gov/totalenergy/data/monthly/#petroleum>. • For related information, see [http://www.eia.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.gov/oil_gas/petroleum/info_glance/petroleum.html).

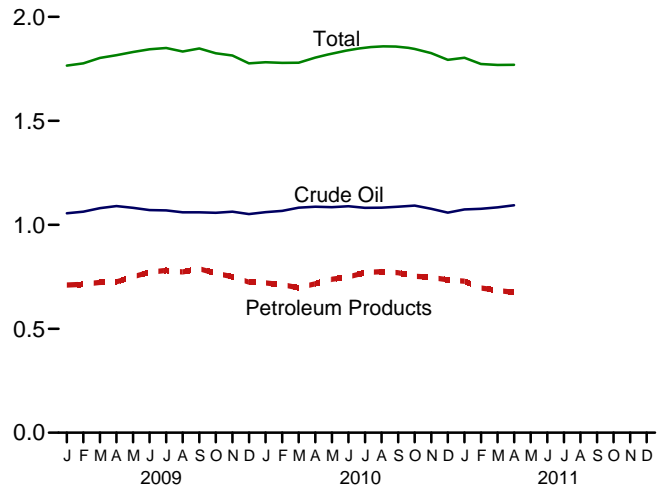
Sources: • **1973-1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976-1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981-2009:** EIA, *Petroleum Supply Annual*, annual reports. • **2010 and 2011:** EIA, *Petroleum Supply Monthly*, monthly reports.

**Figure 3.4 Petroleum Stocks**  
(Billion Barrels, Except as Noted)

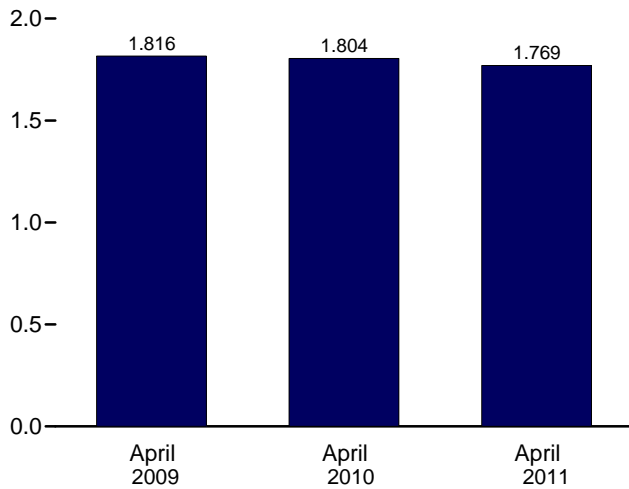
Overview, 1973-2010



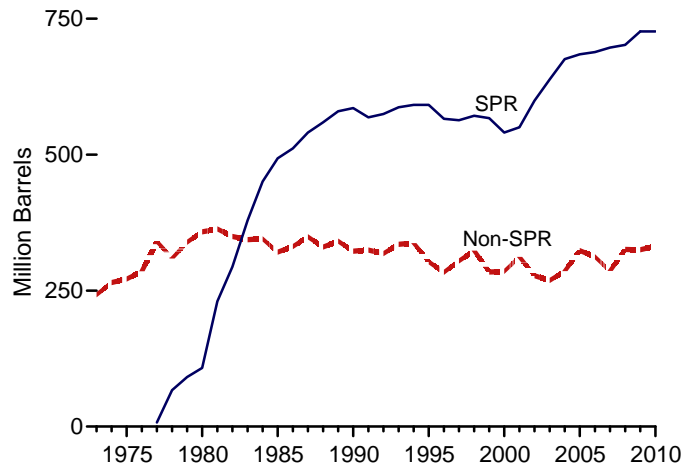
Overview, Monthly



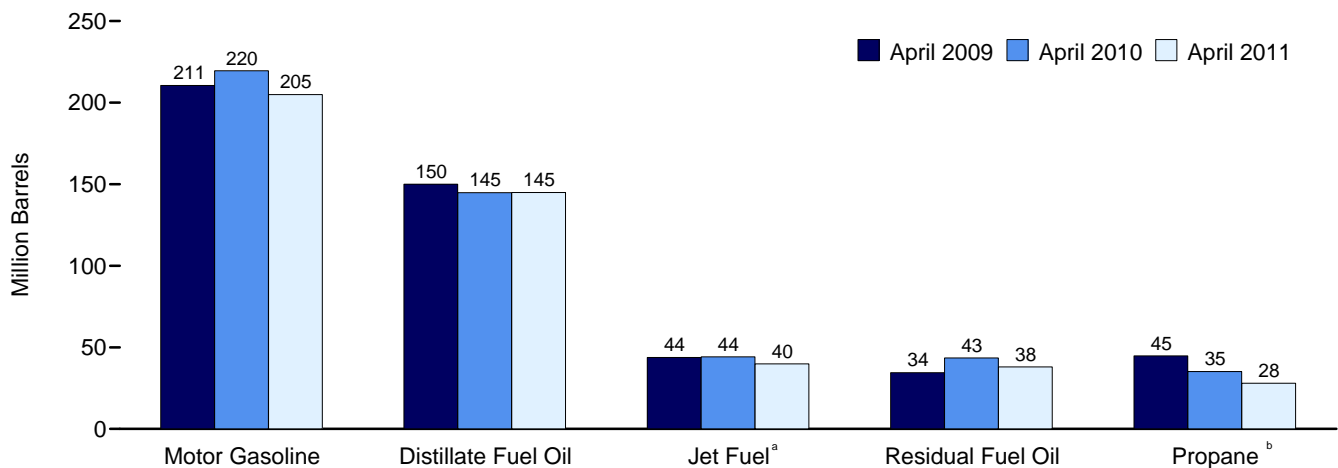
Total Stocks (Crude Oil and Petroleum Products)



SPR and Non-SPR Crude Oil Stocks, 1973-2010



Selected Products



<sup>a</sup> Includes kerosene-type jet fuel only.

<sup>b</sup> Includes propylene.

Notes: • SPR= Strategic Petroleum Reserve. • Stocks are at end of

period.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Source: Table 3.4.



**Table 3.4 Petroleum Stocks**  
(Million Barrels)

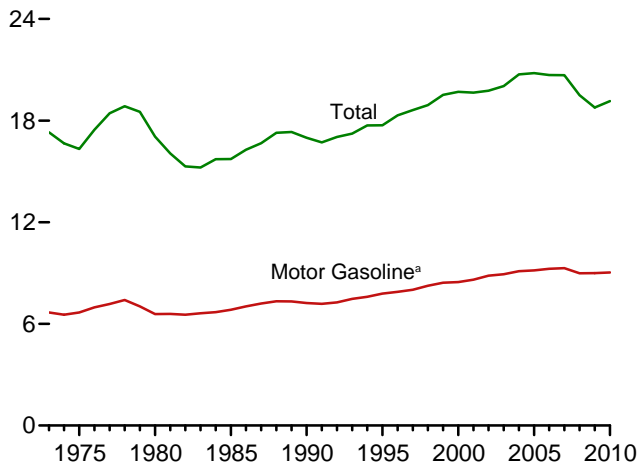
	Crude Oil <sup>a</sup>			Distillate Fuel Oil <sup>f,g</sup>	Jet Fuel <sup>h</sup>	LPG <sup>b</sup>		Motor Gasoline <sup>f,j</sup>	Residual Fuel Oil <sup>f</sup>	Other <sup>k</sup>	Total <sup>f</sup>
	SPR <sup>c</sup>	Non-SPR <sup>d,e,f</sup>	Total <sup>e,f</sup>			Propane <sup>f,i</sup>	Total <sup>f</sup>				
1973 Year .....	--	242	242	196	29	65	99	209	53	179	1,008
1975 Year .....	--	271	271	209	30	82	125	235	74	188	1,133
1980 Year .....	108	358	466	205	42	65	120	261	92	205	1,392
1985 Year .....	493	321	814	144	40	39	74	223	50	174	1,519
1990 Year .....	586	323	908	132	52	49	98	220	49	162	1,621
1995 Year .....	592	303	895	130	40	43	93	202	37	165	1,563
1996 Year .....	566	284	850	127	40	43	86	195	46	164	1,507
1997 Year .....	563	305	868	138	44	44	89	210	40	169	1,560
1998 Year .....	571	324	895	156	45	65	115	216	45	176	1,647
1999 Year .....	567	284	852	125	41	43	89	193	36	157	1,493
2000 Year .....	541	286	826	118	45	41	83	196	36	164	1,468
2001 Year .....	550	312	862	145	42	66	121	210	41	166	1,586
2002 Year .....	599	278	877	134	39	53	106	209	31	152	1,548
2003 Year .....	638	269	907	137	39	50	94	207	38	147	1,568
2004 Year .....	676	286	961	126	40	55	104	218	42	153	1,645
2005 Year .....	685	324	1,008	136	42	57	109	208	37	157	1,698
2006 Year .....	689	312	1,001	144	39	62	113	212	42	169	1,720
2007 Year .....	697	286	983	134	39	52	96	218	39	156	1,665
2008 Year .....	702	326	1,028	146	38	55	113	214	36	162	1,737
<b>2009</b> January .....	704	351	1,055	144	41	46	98	220	34	174	1,766
February .....	706	358	1,063	148	43	40	89	216	38	178	1,777
March .....	713	367	1,080	145	43	40	91	217	38	188	1,803
April .....	719	371	1,090	150	44	45	100	211	34	187	1,816
May .....	722	360	1,081	157	45	56	117	204	38	189	1,831
June .....	724	347	1,071	163	45	64	133	214	37	182	1,844
July .....	724	345	1,070	166	47	70	145	212	35	175	1,850
August .....	724	336	1,060	169	46	71	153	208	33	165	1,834
September .....	725	335	1,060	173	46	75	156	214	35	164	1,848
October .....	725	333	1,058	171	44	72	146	211	35	161	1,825
November .....	726	337	1,063	171	42	63	123	220	36	158	1,814
December .....	727	325	1,052	166	43	50	102	223	37	153	1,776
<b>2010</b> January .....	727	334	1,061	163	44	35	80	232	40	162	1,781
February .....	727	340	1,067	155	44	28	70	233	41	169	1,779
March .....	727	355	1,082	146	42	28	73	224	41	172	1,779
April .....	727	361	1,087	145	44	35	89	220	43	176	1,804
May .....	727	358	1,085	150	45	42	106	216	46	176	1,823
June .....	727	363	1,089	158	45	51	122	215	42	168	1,839
July .....	727	355	1,082	166	47	55	132	220	41	164	1,853
August .....	727	355	1,082	170	47	59	140	221	39	158	1,857
September .....	727	360	1,087	167	47	61	141	219	40	156	1,857
October .....	727	366	1,092	162	44	62	139	210	41	158	1,846
November .....	727	351	1,077	162	44	61	132	213	41	158	1,826
December .....	727	332	1,059	164	43	49	109	219	41	158	1,794
<b>2011</b> January .....	727	347	1,074	162	41	35	85	235	39	166	1,803
February .....	727	R 350	R 1,077	R 154	R 39	R 26	R 71	R 229	R 35	R 168	R 1,773
March .....	E 727	E 358	E 1,084	E 154	E 41	E 26	E 81	E 217	E 37	E 156	E 1,769
April .....	E 727	E 368	E 1,094	E 145	E 40	E 28	E 89	E 205	E 38	E 159	E 1,769

<sup>a</sup> Includes lease condensate.  
<sup>b</sup> Liquefied petroleum gases.  
<sup>c</sup> "SPR" is the Strategic Petroleum Reserve, which began in October 1977. Crude oil stocks in the SPR include non-U.S. stocks held under foreign or commercial storage agreements.  
<sup>d</sup> All crude oil stocks other than those in "SPR."  
<sup>e</sup> Beginning in 1981, includes stocks of Alaskan crude oil in transit. See Note 5, "Stocks of Alaskan Crude Oil," at end of section.  
<sup>f</sup> See Note 4, "Petroleum New Stock Basis," at end of section.  
<sup>g</sup> Excludes stocks in the Northeast Heating Oil Reserve. Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.  
<sup>h</sup> Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Other."  
<sup>i</sup> Includes propylene.  
<sup>j</sup> Includes finished motor gasoline and motor gasoline blending components; excludes oxygenates.  
<sup>k</sup> Asphalt and road oil, aviation gasoline, aviation gasoline blending

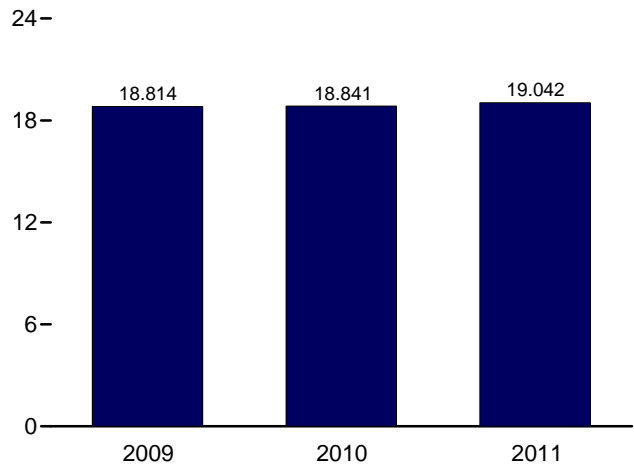
components, kerosene, lubricants, pentanes plus, petrochemical feedstocks, petroleum coke, special naphthas, unfinished oils, waxes, miscellaneous products, oxygenates, renewable fuels, and other hydrocarbons. Beginning in 2005, also includes naphtha-type jet fuel.  
R=Revised. E=Estimate. --=Not applicable.  
Notes: • Stocks are at end of period. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
Web Pages: • For all available data beginning in 1973, see <http://www.eia.gov/totalenergy/data/monthly/#petroleum>. • For related information, see [http://www.eia.gov/oil\\_gas/petroleum/info\\_glance/petroleum.html](http://www.eia.gov/oil_gas/petroleum/info_glance/petroleum.html).  
Sources: • **1973-1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976-1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981-2009:** EIA, *Petroleum Supply Annual*, annual reports. • **2010 and 2011:** EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

**Figure 3.5 Petroleum Products Supplied by Type**  
(Million Barrels per Day)

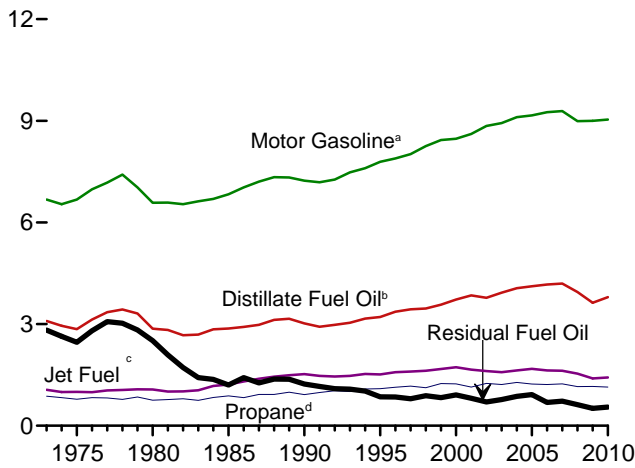
Total and Motor Gasoline, 1973-2010



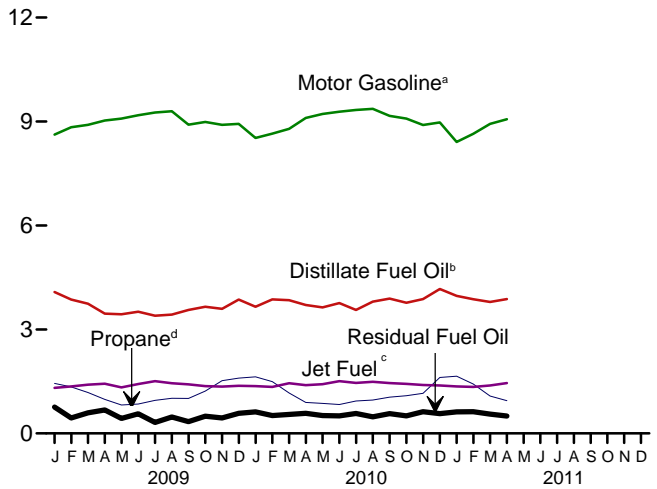
Total, January-April



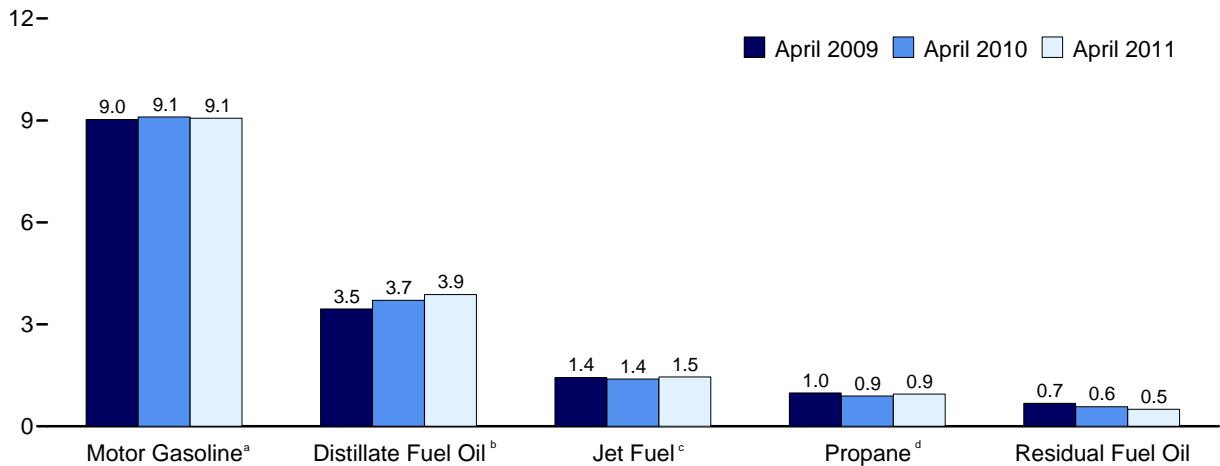
Selected Products, 1973-2010



Selected Products, Monthly



Selected Products



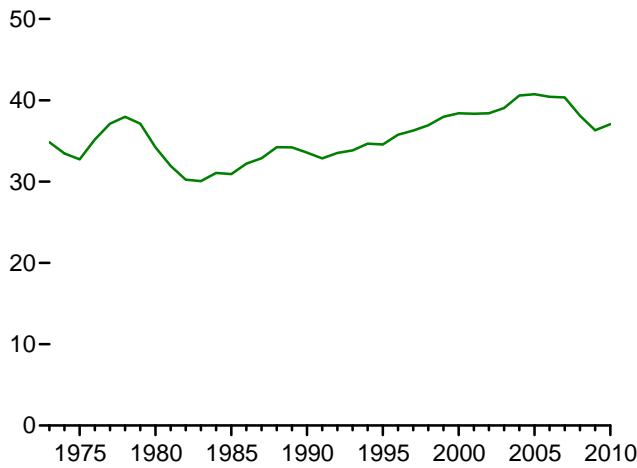
<sup>a</sup> Beginning in 1993, includes fuel ethanol blended into motor gasoline.  
<sup>b</sup> Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.  
<sup>c</sup> Beginning in 2005, includes kerosene-type jet fuel only.

<sup>d</sup> Includes propylene.  
 Note: SPR= Strategic Petroleum Reserve.  
 Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.  
 Source: Table 3.5.

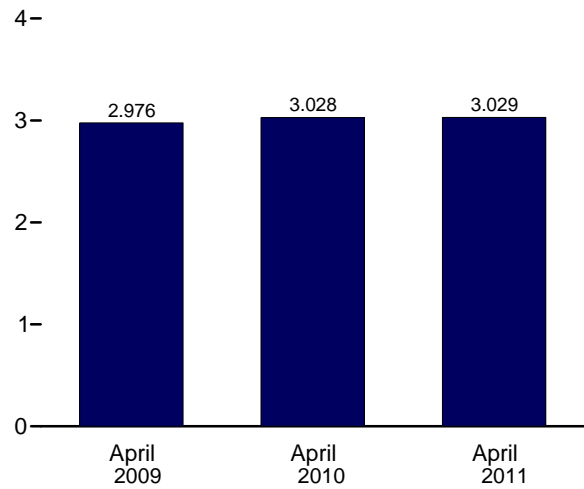


**Figure 3.6 Heat Content of Petroleum Products Supplied by Type**  
(Quadrillion Btu)

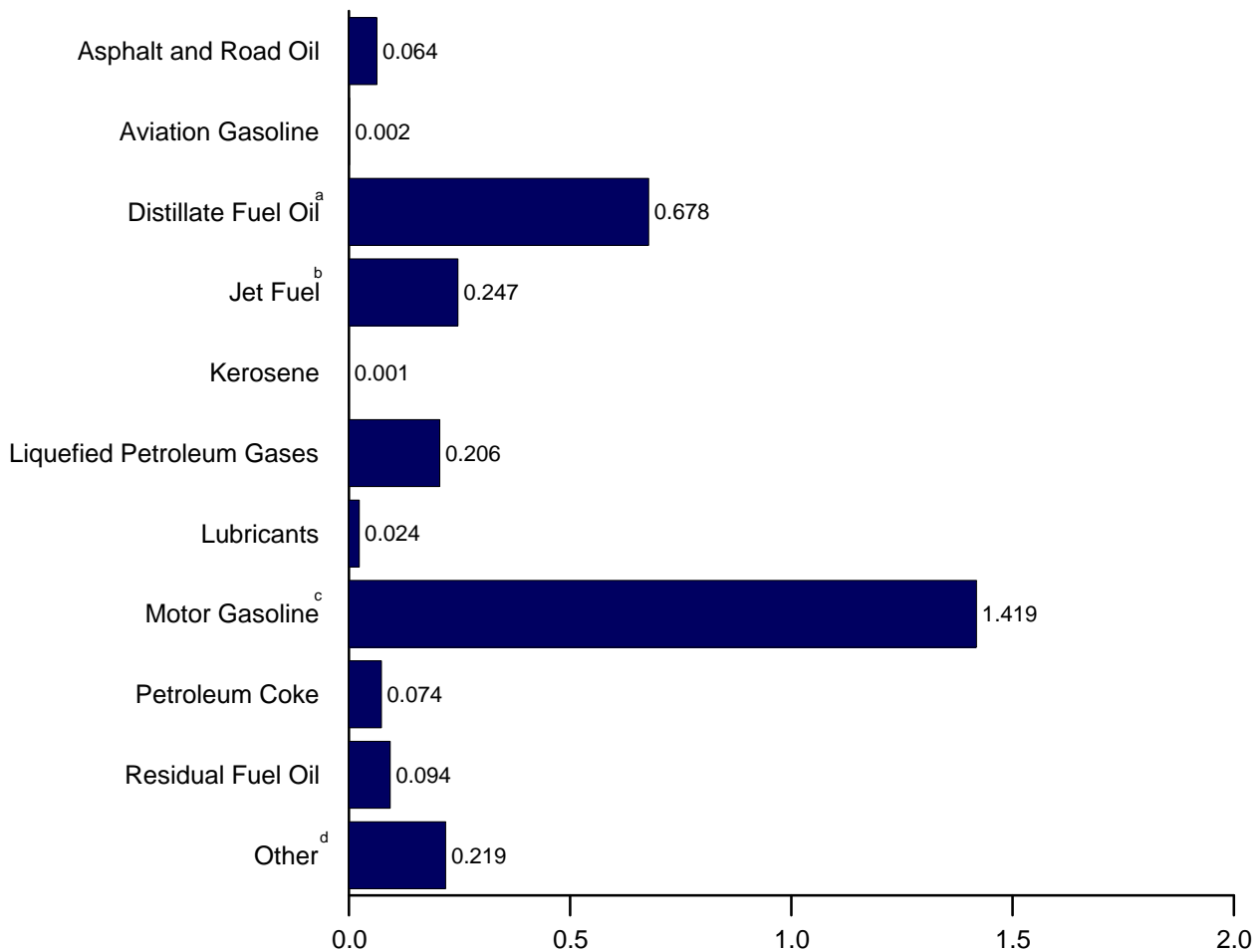
Total, 1973-2010



Total



By Product, April 2011



<sup>a</sup> Includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.

<sup>b</sup> Includes kerosene-type jet fuel only.

<sup>c</sup> Includes fuel ethanol blended into motor gasoline.

<sup>d</sup> All petroleum products not shown above.

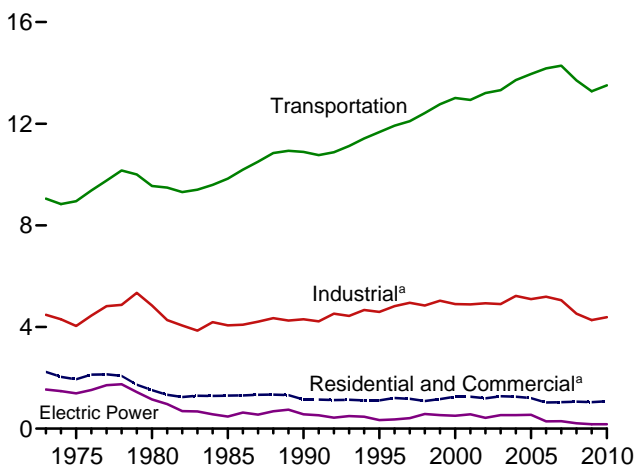
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Source: Table 3.6.

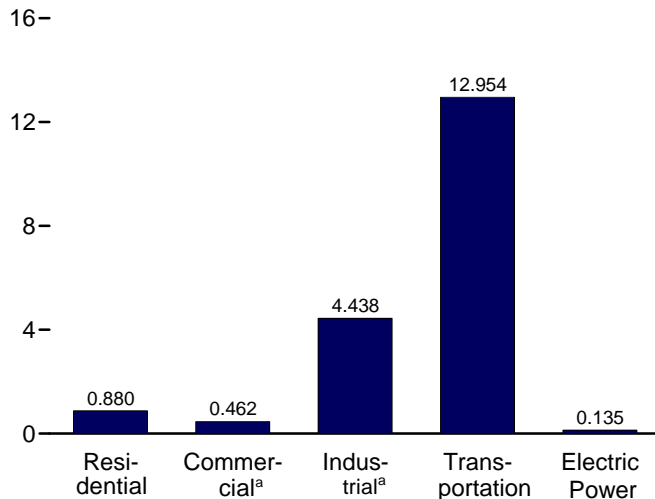


**Figure 3.7 Petroleum Consumption by Sector**  
(Million Barrels per Day)

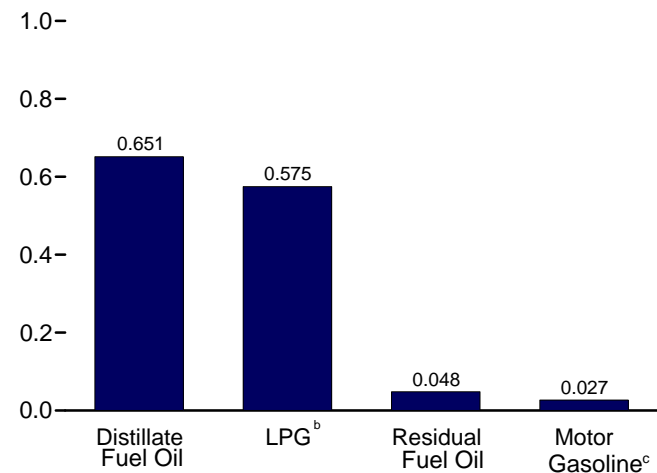
By Sector, 1973-2010



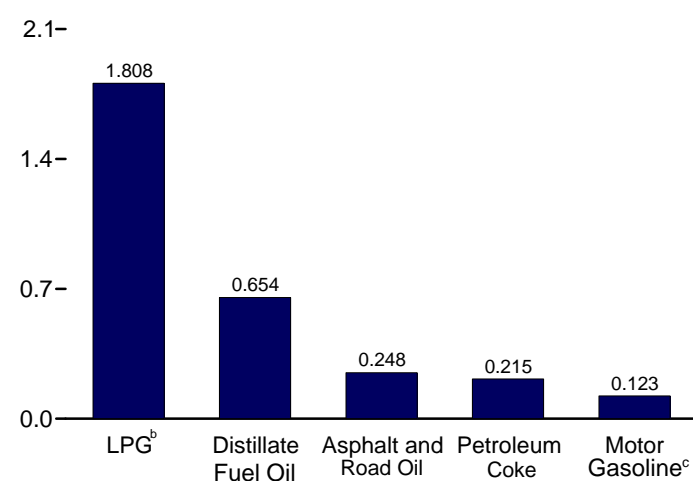
By Sector, February 2011



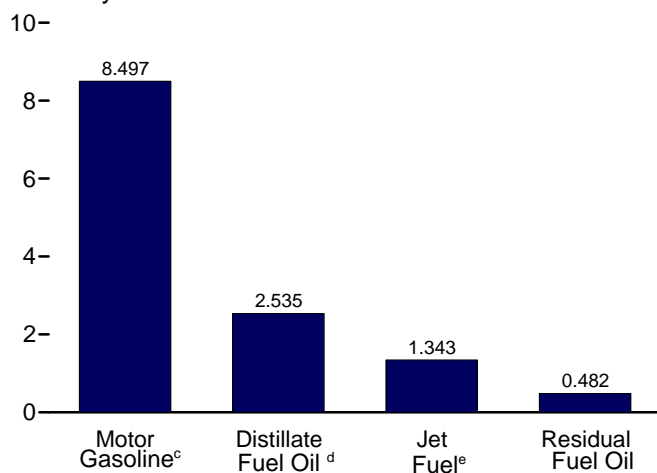
Residential and Commercial Sectors,<sup>a</sup> Selected Products, February 2011



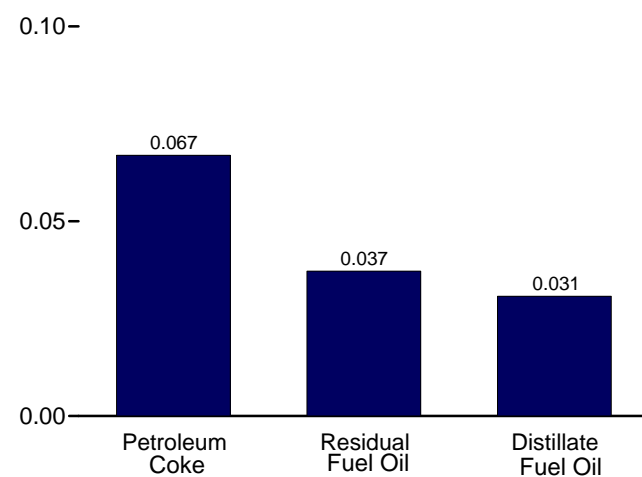
Industrial Sector,<sup>a</sup> Selected Products, February 2011



Transportation Sector, Selected Products, February 2011



Electric Power Sector, February 2011



<sup>a</sup> Includes combined-heat-and-power plants and a small number of electricity-only plants.

<sup>b</sup> Liquefied petroleum gases.

<sup>c</sup> Includes fuel ethanol blended into motor gasoline.

<sup>d</sup> Includes renewable diesel fuel (including biodiesel) blended into

distillate fuel oil.

<sup>e</sup> Includes kerosene-type jet fuel only.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Sources: Tables 3.7a-3.7c.

**Table 3.7a Petroleum Consumption: Residential and Commercial Sectors**  
(Thousand Barrels per Day)

	Residential Sector				Commercial Sector <sup>a</sup>						
	Distillate Fuel Oil	Kero-sene	Liquefied Petroleum Gases	Total	Distillate Fuel Oil	Kero-sene	Liquefied Petroleum Gases	Motor Gasoline <sup>b</sup>	Petro-leum Coke	Residual Fuel Oil	Total
1973 Average .....	942	110	407	1,459	303	31	105	45	NA	290	774
1975 Average .....	850	78	365	1,293	276	24	92	46	NA	214	653
1980 Average .....	617	51	222	890	243	20	63	56	NA	245	626
1985 Average .....	514	77	224	815	297	16	68	50	NA	99	530
1990 Average .....	460	31	252	742	252	6	73	58	0	100	489
1995 Average .....	426	36	282	743	225	11	78	10	(s)	62	385
1996 Average .....	434	43	334	811	227	10	87	14	(s)	60	397
1997 Average .....	411	45	325	781	209	12	86	22	(s)	48	378
1998 Average .....	363	52	303	718	202	15	84	20	(s)	37	358
1999 Average .....	389	54	376	819	206	13	100	15	(s)	32	366
2000 Average .....	424	46	395	865	230	14	107	23	(s)	40	415
2001 Average .....	427	46	375	849	239	15	102	20	(s)	30	406
2002 Average .....	404	29	384	817	209	8	101	24	(s)	35	376
2003 Average .....	425	34	389	848	226	9	112	32	(s)	48	428
2004 Average .....	433	41	364	839	221	10	108	23	(s)	53	416
2005 Average .....	402	40	366	809	210	10	94	24	(s)	50	389
2006 Average .....	335	32	318	685	189	7	88	26	(s)	33	343
2007 Average .....	342	21	345	708	181	4	87	32	(s)	33	337
2008 Average .....	314	10	394	718	174	2	113	24	(s)	32	345
<b>2009</b> January .....	445	33	399	877	306	5	101	27	(s)	52	491
February .....	413	31	407	851	284	5	103	27	(s)	48	467
March .....	358	12	389	760	246	2	99	28	(s)	42	416
April .....	283	11	363	657	195	2	92	28	0	33	349
May .....	191	11	338	540	131	2	86	28	0	22	269
June .....	183	9	330	521	126	1	84	29	0	21	261
July .....	205	1	344	550	141	(s)	87	29	0	24	281
August .....	214	5	373	591	147	1	95	29	(s)	25	296
September .....	259	-3	367	623	178	-1	93	28	(s)	30	329
October .....	223	16	421	659	153	2	107	28	0	26	316
November .....	226	16	482	725	155	3	122	28	(s)	26	335
December .....	401	20	477	898	275	3	121	28	(s)	47	474
<b>Average</b> .....	<b>283</b>	<b>13</b>	<b>391</b>	<b>687</b>	<b>194</b>	<b>2</b>	<b>99</b>	<b>28</b>	<b>(s)</b>	<b>33</b>	<b>357</b>
<b>2010</b> January .....	496	12	485	993	340	2	123	27	(s)	62	554
February .....	508	26	467	1,001	349	4	118	27	(s)	63	562
March .....	292	9	410	711	200	1	104	27	(s)	36	370
April .....	211	6	338	555	145	1	86	28	(s)	26	286
May .....	223	9	343	575	153	1	87	29	0	28	298
June .....	263	9	345	617	181	1	88	29	0	33	331
July .....	204	13	370	586	140	2	94	29	0	25	290
August .....	182	7	380	569	125	1	96	29	(s)	23	274
September .....	169	6	390	566	116	1	99	28	(s)	21	266
October .....	252	11	386	649	173	2	98	28	(s)	31	332
November .....	292	35	398	725	200	5	101	28	(s)	36	371
December .....	466	38	499	1,003	320	6	127	28	(s)	58	539
<b>Average</b> .....	<b>295</b>	<b>15</b>	<b>401</b>	<b>711</b>	<b>203</b>	<b>2</b>	<b>102</b>	<b>28</b>	<b>(s)</b>	<b>37</b>	<b>372</b>
<b>2011</b> January .....	<sup>R</sup> 387	13	507	<sup>R</sup> 907	<sup>R</sup> 266	2	129	26	(s)	48	<sup>R</sup> 471
February .....	386	36	458	880	265	5	116	27	(s)	48	462
<b>2-Month Average</b> .....	<b>387</b>	<b>24</b>	<b>484</b>	<b>894</b>	<b>266</b>	<b>4</b>	<b>123</b>	<b>27</b>	<b>(s)</b>	<b>48</b>	<b>467</b>
<b>2010 2-Month Average</b> .....	<b>502</b>	<b>19</b>	<b>476</b>	<b>997</b>	<b>344</b>	<b>3</b>	<b>121</b>	<b>27</b>	<b>(s)</b>	<b>62</b>	<b>557</b>
<b>2009 2-Month Average</b> .....	<b>430</b>	<b>32</b>	<b>403</b>	<b>865</b>	<b>295</b>	<b>5</b>	<b>102</b>	<b>27</b>	<b>(s)</b>	<b>50</b>	<b>480</b>

<sup>a</sup> Commercial sector fuel use, including that at commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>b</sup> Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

R=Revised. NA=Not available. (s)=Less than 500 barrels per day and greater than -500 barrels per day.

Notes: • Data are estimates. • For total petroleum consumption by all sectors, see petroleum products supplied data in Table 3.5. Petroleum products supplied is

an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. • See Note 7, "Petroleum Products Supplied and Petroleum Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> for all available data beginning in 1973.

Sources: See end of section.

**Table 3.7b Petroleum Consumption: Industrial Sector**  
(Thousand Barrels per Day)

	Industrial Sector <sup>a</sup>									
	Asphalt and Road Oil	Distillate Fuel Oil	Kerosene	Liquefied Petroleum Gases	Lubricants	Motor Gasoline <sup>b</sup>	Petroleum Coke	Residual Fuel Oil	Other <sup>c</sup>	Total
<b>1973 Average</b> .....	522	691	75	902	88	133	254	809	1,005	4,479
<b>1975 Average</b> .....	419	630	58	844	68	116	246	658	1,001	4,038
<b>1980 Average</b> .....	396	621	87	1,172	82	82	234	586	1,581	4,842
<b>1985 Average</b> .....	425	526	21	1,285	75	114	261	326	1,032	4,065
<b>1990 Average</b> .....	483	541	6	1,215	84	97	325	179	1,373	4,304
<b>1995 Average</b> .....	486	532	7	1,527	80	105	328	147	1,381	4,594
<b>1996 Average</b> .....	484	557	9	1,580	78	105	343	146	1,518	4,819
<b>1997 Average</b> .....	505	566	9	1,617	82	111	331	127	1,605	4,953
<b>1998 Average</b> .....	521	570	11	1,553	86	105	390	100	1,508	4,844
<b>1999 Average</b> .....	547	558	6	1,709	87	80	426	90	1,532	5,035
<b>2000 Average</b> .....	525	563	8	1,720	86	79	361	105	1,458	4,903
<b>2001 Average</b> .....	519	611	11	1,557	79	155	390	89	1,481	4,892
<b>2002 Average</b> .....	512	566	7	1,668	78	163	383	83	1,474	4,934
<b>2003 Average</b> .....	503	534	12	1,561	72	171	375	96	1,579	4,903
<b>2004 Average</b> .....	537	570	14	1,646	73	195	423	108	1,657	5,222
<b>2005 Average</b> .....	546	594	19	1,549	72	187	404	123	1,605	5,100
<b>2006 Average</b> .....	521	594	14	1,627	71	198	425	104	1,640	5,193
<b>2007 Average</b> .....	494	595	6	1,637	73	161	412	84	1,593	5,056
<b>2008 Average</b> .....	417	599	2	1,419	67	131	394	86	1,408	4,523
<b>2009</b>										
January .....	195	845	5	1,574	62	123	360	66	1,373	4,602
February .....	277	676	5	1,608	49	126	358	43	1,330	4,472
March .....	300	591	2	1,535	58	127	345	55	1,170	4,183
April .....	299	397	2	1,432	64	129	429	61	1,222	4,034
May .....	371	440	2	1,333	52	129	434	47	1,154	3,961
June .....	512	439	1	1,301	64	131	466	51	1,213	4,178
July .....	495	313	(s)	1,357	63	132	299	27	1,333	4,021
August .....	542	312	1	1,470	71	133	339	38	1,244	4,148
September .....	461	451	-1	1,449	64	127	400	30	1,372	4,353
October .....	377	564	3	1,659	63	128	288	42	1,236	4,360
November .....	287	608	3	1,902	60	127	314	41	1,132	4,474
December .....	204	621	3	1,881	59	127	331	54	1,241	4,522
<b>Average</b> .....	<b>360</b>	<b>521</b>	<b>2</b>	<b>1,541</b>	<b>61</b>	<b>128</b>	<b>363</b>	<b>46</b>	<b>1,251</b>	<b>4,274</b>
<b>2010</b>										
January .....	213	427	2	1,912	54	122	197	58	1,204	4,189
February .....	249	512	4	1,841	64	123	264	50	1,285	4,394
March .....	272	679	2	1,618	71	125	359	51	1,432	4,609
April .....	335	583	1	1,333	65	130	325	55	1,484	4,311
May .....	389	466	1	1,353	72	131	274	48	1,345	4,080
June .....	481	432	1	1,361	82	132	333	46	1,367	4,236
July .....	467	342	2	1,460	73	133	299	52	1,384	4,213
August .....	543	523	1	1,497	67	134	370	43	1,438	4,616
September .....	462	700	1	1,540	69	131	373	54	1,325	4,656
October .....	427	537	2	1,523	66	130	279	49	1,203	4,216
November .....	297	654	6	1,569	64	127	340	59	1,317	4,434
December .....	200	670	6	1,969	58	128	309	54	1,296	4,690
<b>Average</b> .....	<b>362</b>	<b>544</b>	<b>2</b>	<b>1,581</b>	<b>67</b>	<b>129</b>	<b>310</b>	<b>52</b>	<b>1,340</b>	<b>4,387</b>
<b>2011</b>										
January .....	224	<sup>R</sup> 790	2	1,999	70	120	282	59	1,349	<sup>R</sup> 4,895
February .....	248	654	6	1,808	62	123	215	59	1,264	4,438
<b>2-Month Average</b> .....	<b>235</b>	<b>725</b>	<b>4</b>	<b>1,908</b>	<b>66</b>	<b>122</b>	<b>250</b>	<b>59</b>	<b>1,308</b>	<b>4,678</b>
<b>2010 2-Month Average</b> .....	<b>230</b>	<b>467</b>	<b>3</b>	<b>1,878</b>	<b>59</b>	<b>122</b>	<b>229</b>	<b>54</b>	<b>1,243</b>	<b>4,286</b>
<b>2009 2-Month Average</b> .....	<b>234</b>	<b>765</b>	<b>5</b>	<b>1,590</b>	<b>56</b>	<b>124</b>	<b>359</b>	<b>55</b>	<b>1,353</b>	<b>4,540</b>

<sup>a</sup> Industrial sector fuel use, including that at industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

<sup>b</sup> Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

<sup>c</sup> Pentanes plus, petrochemical feedstocks, special naphthas, still gas (refinery gas), waxes, and miscellaneous products. Beginning in 1981, also includes negative barrels per day of distillate and residual fuel oil reclassified as unfinished oils, and other products (from both primary and secondary supply) reclassified as gasoline blending components. Beginning in 1983, also includes crude oil burned as fuel. Beginning in 2005, also includes naphtha-type jet fuel.

R=Revised. (s)=Less than 500 barrels per day and greater than -500 barrels per

day.

Notes: • Data are estimates. • For total petroleum consumption by all sectors, see petroleum products supplied data in Table 3.5. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. • See Note 7, "Petroleum Products Supplied and Petroleum Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> for all available data beginning in 1973.

Sources: See end of section.



**Table 3.7c Petroleum Consumption: Transportation and Electric Power Sectors**  
(Thousand Barrels per Day)

	Transportation Sector								Electric Power Sector <sup>a</sup>			
	Aviation Gasoline	Distillate Fuel Oil <sup>b</sup>	Jet Fuel <sup>c</sup>	Liquefied Petroleum Gases	Lubricants	Motor Gasoline <sup>d</sup>	Residual Fuel Oil	Total	Distillate Fuel Oil <sup>e</sup>	Petroleum Coke	Residual Fuel Oil <sup>f</sup>	Total
1973 Average .....	45	1,045	1,042	35	74	6,496	317	9,054	129	7	1,406	1,542
1975 Average .....	39	998	992	31	70	6,512	310	8,951	107	1	1,280	1,388
1980 Average .....	35	1,311	1,062	13	77	6,441	608	9,546	79	2	1,069	1,151
1985 Average .....	27	1,491	1,218	21	71	6,667	342	9,838	40	3	435	478
1990 Average .....	24	1,722	1,522	16	80	7,080	443	10,888	45	14	507	566
1995 Average .....	21	1,973	1,514	13	76	7,674	397	11,668	51	37	247	334
1996 Average .....	20	2,096	1,578	11	73	7,772	370	11,921	51	36	273	360
1997 Average .....	22	2,198	1,599	10	78	7,883	310	12,099	52	46	311	410
1998 Average .....	19	2,263	1,622	13	81	8,128	294	12,420	64	56	456	576
1999 Average .....	21	2,352	1,673	10	82	8,336	290	12,765	66	51	418	535
2000 Average .....	20	2,422	1,725	8	81	8,370	386	13,012	82	45	378	505
2001 Average .....	19	2,489	1,655	10	74	8,435	255	12,938	80	47	437	564
2002 Average .....	18	2,536	1,614	10	73	8,662	295	13,208	60	80	287	427
2003 Average .....	16	2,665	1,578	12	68	8,733	249	13,321	76	79	379	534
2004 Average .....	17	2,783	1,630	14	69	8,887	321	13,720	52	101	382	535
2005 Average .....	19	2,858	1,679	20	68	8,948	365	13,957	54	111	382	547
2006 Average .....	18	3,017	1,633	20	67	9,029	395	14,178	35	97	157	289
2007 Average .....	17	3,037	1,622	16	69	9,093	433	14,287	42	78	173	293
2008 Average .....	15	2,824	1,539	29	64	8,834	400	13,704	34	70	104	209
<b>2009</b> January .....	13	2,422	1,312	20	58	8,473	450	12,750	60	66	193	319
February .....	10	2,452	1,356	21	47	8,683	271	12,840	40	67	85	191
March .....	14	2,508	1,406	20	55	8,748	429	13,180	40	75	65	180
April .....	15	2,555	1,432	19	61	8,872	526	13,480	26	69	57	152
May .....	13	2,642	1,329	17	49	8,926	293	13,269	32	67	72	171
June .....	18	2,734	1,425	17	60	9,020	415	13,689	31	70	78	179
July .....	19	2,707	1,506	18	59	9,100	185	13,594	28	70	83	180
August .....	15	2,723	1,449	19	67	9,133	312	13,719	30	68	97	195
September .....	19	2,649	1,414	19	60	8,756	217	13,134	24	69	63	156
October .....	11	2,688	1,362	22	60	8,830	358	13,332	26	41	68	136
November .....	10	2,579	1,352	25	57	8,751	335	13,109	27	42	42	111
December .....	15	2,531	1,372	24	56	8,776	440	13,215	33	54	41	128
<b>Average</b> .....	14	2,600	1,393	20	57	8,840	353	13,279	33	63	79	175
<b>2010</b> January .....	11	2,314	1,365	25	51	8,377	411	12,552	79	68	92	240
February .....	10	2,468	1,342	24	61	8,501	362	12,768	29	69	38	136
March .....	14	2,648	1,446	21	67	8,635	417	13,247	23	69	41	133
April .....	17	2,747	1,391	17	62	8,945	456	13,635	22	61	41	124
May .....	15	2,761	1,422	18	68	9,057	371	13,711	32	65	67	163
June .....	18	2,842	1,507	18	78	9,122	320	13,905	41	78	106	224
July .....	20	2,833	1,458	19	69	9,170	376	13,944	42	82	121	245
August .....	14	2,936	1,487	19	63	9,203	314	14,037	34	62	99	196
September .....	20	2,874	1,451	20	65	9,004	432	13,866	30	60	62	153
October .....	15	2,782	1,429	20	62	8,928	387	13,623	26	56	38	119
November .....	11	2,702	1,397	20	60	8,746	493	13,431	29	49	35	114
December .....	12	2,653	1,383	26	54	8,816	392	13,336	60	63	67	190
<b>Average</b> .....	15	2,714	1,424	21	63	8,877	394	13,508	37	65	68	170
<b>2011</b> January .....	14	<sup>R</sup> 2,485	1,355	26	66	8,266	457	<sup>R</sup> 12,670	40	81	58	179
February .....	13	2,535	1,343	23	59	8,497	482	12,954	31	67	37	135
<b>2-Month Average</b> .....	14	2,509	1,350	25	62	8,376	469	12,805	36	74	48	158
<b>2010 2-Month Average</b> .....	10	2,387	1,354	24	56	8,436	387	12,655	55	69	67	191
<b>2009 2-Month Average</b> .....	12	2,436	1,333	21	53	8,573	365	12,793	50	66	142	258

<sup>a</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

<sup>b</sup> Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.

<sup>c</sup> Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Industrial Sector, Other" on Table 3.7b.

<sup>d</sup> Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

<sup>e</sup> Fuel oil nos. 1, 2, and 4. Through 2000, electric utility data also include small amounts of kerosene and jet fuel.

<sup>f</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.

<sup>R</sup>=Revised.

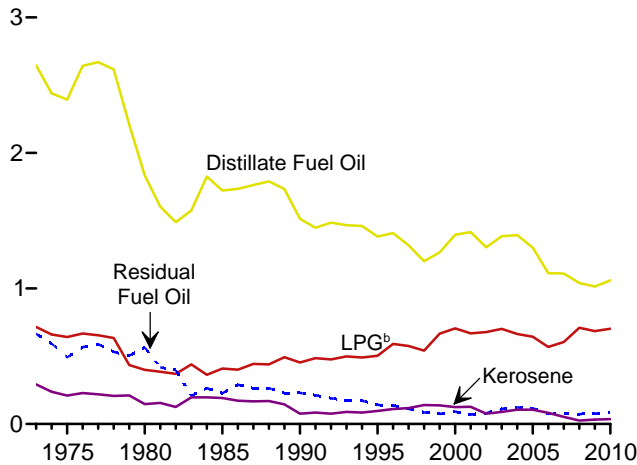
Notes: • Transportation sector data are estimates. • For total petroleum consumption by all sectors, see petroleum products supplied data in Table 3.5. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. • See Note 7, "Petroleum Products Supplied and Petroleum Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> for all available data beginning in 1973.

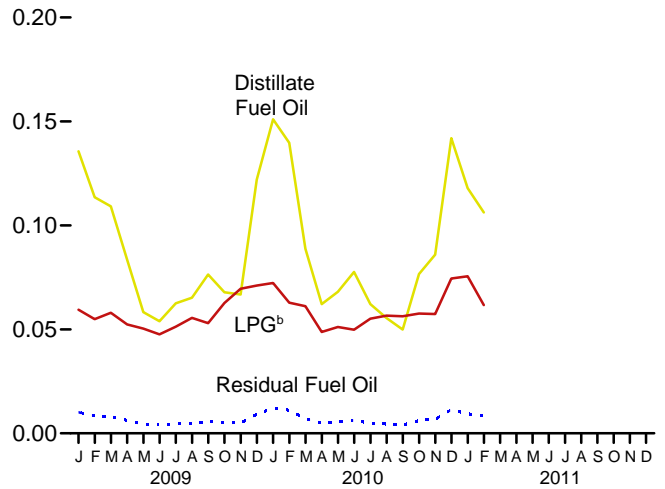
Sources: See end of section.

**Figure 3.8 Heat Content of Petroleum Consumption by Sector, Selected Products**  
(Quadrillion Btu)

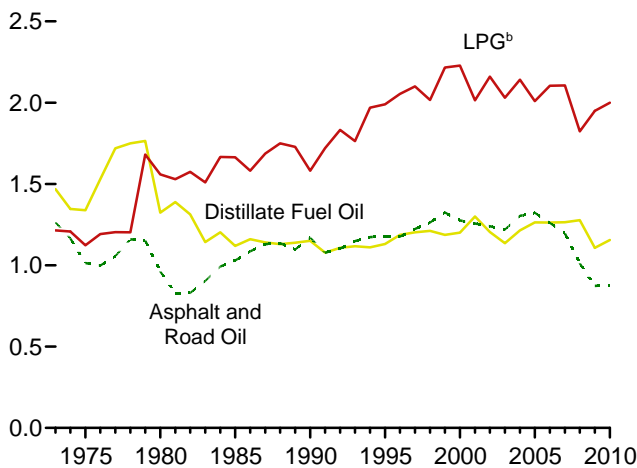
Residential and Commercial Sectors,<sup>a</sup> 1973-2010



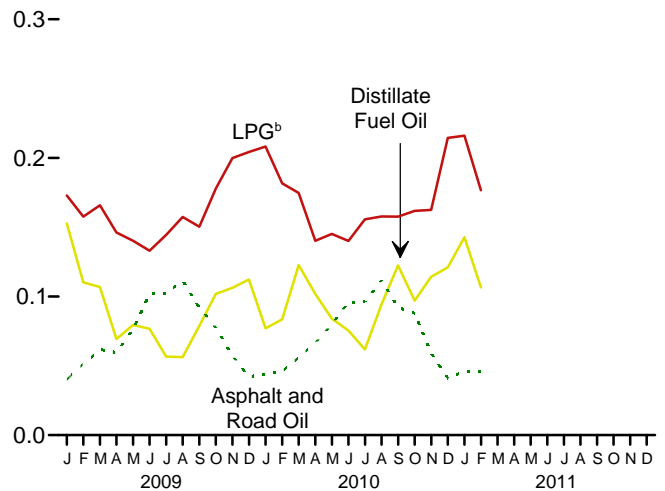
Residential and Commercial Sectors,<sup>a</sup> Monthly



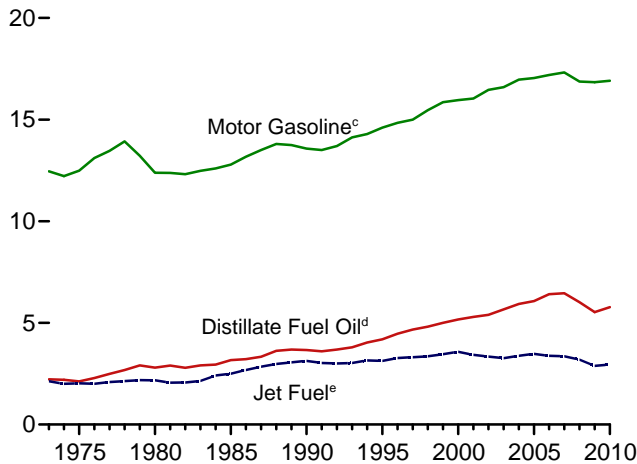
Industrial Sector,<sup>a</sup> 1973-2010



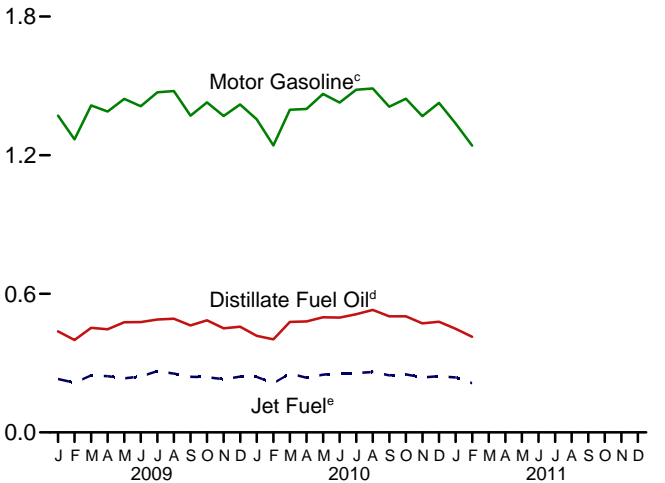
Industrial Sector,<sup>a</sup> Monthly



Transportation Sector, 1973-2010



Transportation Sector, Monthly



<sup>a</sup> Includes combined-heat-and-power plants and a small number of electricity-only plants.

<sup>b</sup> Liquefied petroleum gases.

<sup>c</sup> Beginning in 1993, includes fuel ethanol blended into motor gasoline.

<sup>d</sup> Beginning in 2009, includes renewable diesel fuel (including bio-

diesel) blended into distillate fuel oil.

<sup>e</sup> Beginning in 2005, includes kerosene-type jet fuel only.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Sources: Tables 3.8a-3.8c.

**Table 3.8a Heat Content of Petroleum Consumption: Residential and Commercial Sectors**  
(Trillion Btu)

	Residential Sector				Commercial Sector <sup>a</sup>						
	Distillate Fuel Oil	Kerosene	Liquefied Petroleum Gases	Total	Distillate Fuel Oil	Kerosene	Liquefied Petroleum Gases	Motor Gasoline <sup>b</sup>	Petroleum Coke	Residual Fuel Oil	Total
<b>1973 Total</b> .....	<b>2,003</b>	<b>227</b>	<b>570</b>	<b>2,800</b>	<b>644</b>	<b>65</b>	<b>147</b>	<b>87</b>	<b>NA</b>	<b>665</b>	<b>1,607</b>
<b>1975 Total</b> .....	<b>1,807</b>	<b>161</b>	<b>512</b>	<b>2,479</b>	<b>587</b>	<b>49</b>	<b>129</b>	<b>89</b>	<b>NA</b>	<b>492</b>	<b>1,346</b>
<b>1980 Total</b> .....	<b>1,316</b>	<b>107</b>	<b>311</b>	<b>1,734</b>	<b>518</b>	<b>41</b>	<b>88</b>	<b>107</b>	<b>NA</b>	<b>565</b>	<b>1,318</b>
<b>1985 Total</b> .....	<b>1,092</b>	<b>159</b>	<b>314</b>	<b>1,565</b>	<b>631</b>	<b>33</b>	<b>95</b>	<b>96</b>	<b>NA</b>	<b>228</b>	<b>1,083</b>
<b>1990 Total</b> .....	<b>978</b>	<b>64</b>	<b>352</b>	<b>1,394</b>	<b>536</b>	<b>12</b>	<b>102</b>	<b>111</b>	<b>0</b>	<b>230</b>	<b>991</b>
<b>1995 Total</b> .....	<b>905</b>	<b>74</b>	<b>395</b>	<b>1,374</b>	<b>479</b>	<b>22</b>	<b>109</b>	<b>18</b>	<b>(s)</b>	<b>141</b>	<b>769</b>
<b>1996 Total</b> .....	<b>926</b>	<b>89</b>	<b>469</b>	<b>1,484</b>	<b>483</b>	<b>21</b>	<b>122</b>	<b>27</b>	<b>(s)</b>	<b>137</b>	<b>790</b>
<b>1997 Total</b> .....	<b>874</b>	<b>93</b>	<b>455</b>	<b>1,422</b>	<b>444</b>	<b>25</b>	<b>120</b>	<b>43</b>	<b>(s)</b>	<b>111</b>	<b>743</b>
<b>1998 Total</b> .....	<b>772</b>	<b>108</b>	<b>424</b>	<b>1,304</b>	<b>429</b>	<b>31</b>	<b>118</b>	<b>39</b>	<b>(s)</b>	<b>85</b>	<b>702</b>
<b>1999 Total</b> .....	<b>828</b>	<b>111</b>	<b>526</b>	<b>1,465</b>	<b>438</b>	<b>27</b>	<b>140</b>	<b>28</b>	<b>(s)</b>	<b>73</b>	<b>707</b>
<b>2000 Total</b> .....	<b>905</b>	<b>95</b>	<b>555</b>	<b>1,554</b>	<b>491</b>	<b>30</b>	<b>150</b>	<b>45</b>	<b>(s)</b>	<b>92</b>	<b>807</b>
<b>2001 Total</b> .....	<b>908</b>	<b>95</b>	<b>526</b>	<b>1,529</b>	<b>508</b>	<b>31</b>	<b>143</b>	<b>37</b>	<b>(s)</b>	<b>70</b>	<b>790</b>
<b>2002 Total</b> .....	<b>860</b>	<b>60</b>	<b>537</b>	<b>1,457</b>	<b>444</b>	<b>16</b>	<b>141</b>	<b>45</b>	<b>(s)</b>	<b>80</b>	<b>726</b>
<b>2003 Total</b> .....	<b>905</b>	<b>70</b>	<b>544</b>	<b>1,519</b>	<b>481</b>	<b>19</b>	<b>157</b>	<b>60</b>	<b>(s)</b>	<b>111</b>	<b>828</b>
<b>2004 Total</b> .....	<b>924</b>	<b>85</b>	<b>512</b>	<b>1,520</b>	<b>470</b>	<b>20</b>	<b>152</b>	<b>45</b>	<b>(s)</b>	<b>122</b>	<b>810</b>
<b>2005 Total</b> .....	<b>854</b>	<b>84</b>	<b>513</b>	<b>1,451</b>	<b>447</b>	<b>22</b>	<b>131</b>	<b>46</b>	<b>(s)</b>	<b>116</b>	<b>762</b>
<b>2006 Total</b> .....	<b>712</b>	<b>66</b>	<b>446</b>	<b>1,224</b>	<b>401</b>	<b>15</b>	<b>123</b>	<b>49</b>	<b>(s)</b>	<b>75</b>	<b>664</b>
<b>2007 Total</b> .....	<b>726</b>	<b>44</b>	<b>484</b>	<b>1,254</b>	<b>384</b>	<b>9</b>	<b>121</b>	<b>61</b>	<b>(s)</b>	<b>75</b>	<b>651</b>
<b>2008 Total</b> .....	<b>669</b>	<b>21</b>	<b>553</b>	<b>1,243</b>	<b>372</b>	<b>4</b>	<b>158</b>	<b>46</b>	<b>(s)</b>	<b>73</b>	<b>653</b>
<b>2009</b> January .....	80	6	47	134	55	1	12	4	(s)	10	83
February .....	67	5	44	116	46	1	11	4	(s)	8	71
March .....	65	2	46	113	44	(s)	12	4	(s)	8	69
April .....	49	2	42	93	34	(s)	11	4	0	6	55
May .....	35	2	40	77	24	(s)	10	5	0	4	43
June .....	32	1	38	71	22	(s)	10	4	0	4	40
July .....	37	(s)	41	78	25	(s)	10	5	0	5	45
August .....	39	1	44	84	27	(s)	11	5	(s)	5	47
September .....	45	-1	42	87	31	(s)	11	4	(s)	6	52
October .....	40	3	50	93	28	(s)	13	5	0	5	50
November .....	40	3	55	98	27	(s)	14	4	(s)	5	51
December .....	72	4	57	133	50	1	14	4	(s)	9	78
<b>Total</b> .....	<b>602</b>	<b>28</b>	<b>547</b>	<b>1,176</b>	<b>413</b>	<b>4</b>	<b>139</b>	<b>53</b>	<b>(s)</b>	<b>76</b>	<b>685</b>
<b>2010</b> January .....	90	2	58	149	61	(s)	15	4	(s)	12	93
February .....	83	4	50	137	57	1	13	4	(s)	11	85
March .....	53	2	49	103	36	(s)	12	4	(s)	7	60
April .....	37	1	39	77	25	(s)	10	4	(s)	5	45
May .....	40	2	41	83	28	(s)	10	5	0	5	48
June .....	46	2	40	87	32	(s)	10	5	0	6	53
July .....	37	2	44	83	25	(s)	11	5	0	5	46
August .....	33	1	45	79	23	(s)	11	5	(s)	4	43
September .....	30	1	45	76	20	(s)	11	4	(s)	4	40
October .....	45	2	46	93	31	(s)	12	5	(s)	6	54
November .....	51	6	46	103	35	1	12	4	(s)	7	59
December .....	84	7	59	150	58	1	15	5	(s)	11	90
<b>Total</b> .....	<b>628</b>	<b>31</b>	<b>561</b>	<b>1,220</b>	<b>431</b>	<b>5</b>	<b>142</b>	<b>54</b>	<b>(s)</b>	<b>84</b>	<b>717</b>
<b>2011</b> January .....	<sup>R</sup> 70	2	60	132	48	(s)	15	4	(s)	9	77
February .....	63	6	49	118	43	1	12	4	(s)	8	69
<b>2-Month Total</b> .....	<b>133</b>	<b>8</b>	<b>109</b>	<b>250</b>	<b>91</b>	<b>1</b>	<b>28</b>	<b>8</b>	<b>(s)</b>	<b>18</b>	<b>146</b>
<b>2010 2-Month Total</b> .....	<b>172</b>	<b>6</b>	<b>108</b>	<b>286</b>	<b>118</b>	<b>1</b>	<b>27</b>	<b>8</b>	<b>(s)</b>	<b>23</b>	<b>178</b>
<b>2009 2-Month Total</b> .....	<b>148</b>	<b>11</b>	<b>91</b>	<b>250</b>	<b>101</b>	<b>2</b>	<b>23</b>	<b>8</b>	<b>(s)</b>	<b>19</b>	<b>153</b>

<sup>a</sup> Commercial sector fuel use, including that at commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>b</sup> Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: • Data are estimates. • For total heat content of petroleum consumption by all sectors, see data for heat content of petroleum products supplied in Table

3.6. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a-3.8c. • See Note 7, "Petroleum Products Supplied and Petroleum Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> for all available data beginning in 1973.

Sources: See end of section.

**Table 3.8b Heat Content of Petroleum Consumption: Industrial Sector**  
(Trillion Btu)

	Industrial Sector <sup>a</sup>									Total
	Asphalt and Road Oil	Distillate Fuel Oil	Kerosene	Liquefied Petroleum Gases	Lubricants	Motor Gasoline <sup>b</sup>	Petroleum Coke	Residual Fuel Oil	Other <sup>c</sup>	
<b>1973 Total</b> .....	1,264	1,469	156	1,215	195	255	558	1,858	2,114	9,083
<b>1975 Total</b> .....	1,014	1,339	119	1,123	149	223	540	1,509	2,109	8,127
<b>1980 Total</b> .....	962	1,324	181	1,559	182	158	516	1,349	3,278	9,509
<b>1985 Total</b> .....	1,029	1,119	44	1,664	166	218	575	748	2,152	7,714
<b>1990 Total</b> .....	1,170	1,150	12	1,582	186	185	714	411	2,839	8,251
<b>1995 Total</b> .....	1,178	1,131	15	1,990	178	200	721	337	2,837	8,588
<b>1996 Total</b> .....	1,176	1,187	18	2,054	173	200	757	335	3,121	9,020
<b>1997 Total</b> .....	1,224	1,203	19	2,100	182	212	727	291	3,298	9,256
<b>1998 Total</b> .....	1,263	1,211	22	2,016	191	199	858	230	3,093	9,083
<b>1999 Total</b> .....	1,324	1,187	13	2,217	193	152	936	207	3,129	9,357
<b>2000 Total</b> .....	1,276	1,200	16	2,228	190	150	796	241	2,979	9,076
<b>2001 Total</b> .....	1,257	1,300	23	2,014	174	295	858	203	3,056	9,181
<b>2002 Total</b> .....	1,240	1,204	14	2,160	172	309	842	190	3,040	9,171
<b>2003 Total</b> .....	1,220	1,136	24	2,030	159	324	825	220	3,264	9,202
<b>2004 Total</b> .....	1,304	1,214	28	2,141	161	372	934	249	3,428	9,831
<b>2005 Total</b> .....	1,323	1,264	39	2,009	160	356	889	281	3,318	9,640
<b>2006 Total</b> .....	1,261	1,263	30	2,104	156	376	934	239	3,416	9,780
<b>2007 Total</b> .....	1,197	1,265	13	2,106	161	306	906	193	3,313	9,461
<b>2008 Total</b> .....	1,012	1,277	4	1,823	150	250	868	198	2,941	8,523
<b>2009</b> January .....	40	153	1	173	12	20	67	13	247	725
February .....	51	110	1	158	8	18	60	8	214	629
March .....	62	107	(s)	166	11	21	64	11	208	649
April .....	59	69	(s)	146	12	20	78	12	209	606
May .....	76	79	(s)	140	10	21	81	9	206	623
June .....	102	77	(s)	133	12	20	84	10	208	646
July .....	102	57	(s)	144	12	21	56	5	236	634
August .....	111	56	(s)	157	13	21	63	7	220	650
September .....	92	79	(s)	150	12	20	72	6	234	665
October .....	78	102	(s)	178	12	21	54	8	218	670
November .....	57	106	(s)	200	11	20	57	8	192	651
December .....	42	112	1	204	11	21	62	11	219	682
<b>Total</b> .....	<b>873</b>	<b>1,107</b>	<b>4</b>	<b>1,950</b>	<b>135</b>	<b>244</b>	<b>799</b>	<b>106</b>	<b>2,611</b>	<b>7,829</b>
<b>2010</b> January .....	44	77	(s)	208	10	20	37	11	213	620
February .....	46	84	1	182	11	18	45	9	206	600
March .....	56	123	(s)	175	13	20	67	10	254	718
April .....	67	102	(s)	140	12	20	59	10	255	665
May .....	80	84	(s)	145	13	21	51	9	239	644
June .....	96	75	(s)	140	15	21	60	9	234	650
July .....	96	62	(s)	156	14	22	56	10	244	660
August .....	112	94	(s)	158	13	22	69	8	254	730
September .....	92	122	(s)	158	13	20	67	10	228	711
October .....	88	97	(s)	162	12	21	52	10	213	655
November .....	59	114	1	162	12	20	61	11	225	666
December .....	41	121	1	214	11	21	58	10	232	709
<b>Total</b> .....	<b>877</b>	<b>1,156</b>	<b>5</b>	<b>2,000</b>	<b>149</b>	<b>245</b>	<b>682</b>	<b>119</b>	<b>2,797</b>	<b>8,029</b>
<b>2011</b> January .....	46	143	(s)	216	13	19	53	12	239	<sup>R</sup> 741
February .....	46	107	1	177	11	18	36	10	202	607
<b>2-Month Total</b> .....	<b>92</b>	<b>249</b>	<b>1</b>	<b>393</b>	<b>24</b>	<b>37</b>	<b>89</b>	<b>22</b>	<b>441</b>	<b>1,348</b>
<b>2010 2-Month Total</b> .....	<b>90</b>	<b>161</b>	<b>1</b>	<b>390</b>	<b>21</b>	<b>38</b>	<b>81</b>	<b>20</b>	<b>419</b>	<b>1,220</b>
<b>2009 2-Month Total</b> .....	<b>92</b>	<b>263</b>	<b>2</b>	<b>330</b>	<b>20</b>	<b>38</b>	<b>128</b>	<b>20</b>	<b>461</b>	<b>1,354</b>

<sup>a</sup> Industrial sector fuel use, including that at industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

<sup>b</sup> Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

<sup>c</sup> Pentanes plus, petrochemical feedstocks, special naphthas, still gas (refinery gas), waxes, and miscellaneous products. Beginning in 1981, also includes negative barrels per day of distillate and residual fuel oil reclassified as unfinished oils, and other products (from both primary and secondary supply) reclassified as gasoline blending components. Beginning in 1983, also includes crude oil burned as fuel. Beginning in 2005, also includes naphtha-type jet fuel.

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

Notes: • Data are estimates. • For total heat content of petroleum consumption by all sectors, see data for heat content of petroleum products supplied in Table 3.6. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. • See Note 7, "Petroleum Products Supplied and Petroleum Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> for all available data beginning in 1973.

Sources: See end of section.

**Table 3.8c Heat Content of Petroleum Consumption: Transportation and Electric Power Sectors (Trillion Btu)**

	Transportation Sector							Electric Power Sector <sup>a</sup>				
	Aviation Gasoline	Distillate Fuel Oil <sup>b</sup>	Jet Fuel <sup>c</sup>	Liquefied Petroleum Gases	Lubricants	Motor Gasoline <sup>d</sup>	Residual Fuel Oil	Total	Distillate Fuel Oil <sup>e</sup>	Petroleum Coke	Residual Fuel Oil <sup>f</sup>	Total
1973 Total	83	2,222	2,131	49	163	12,455	727	17,832	273	15	3,226	3,515
1975 Total	71	2,121	2,029	43	155	12,485	711	17,615	226	2	2,937	3,166
1980 Total	64	2,795	2,179	18	172	12,383	1,398	19,009	169	5	2,459	2,634
1985 Total	50	3,170	2,497	30	156	12,784	786	19,472	85	7	998	1,090
1990 Total	45	3,661	3,129	23	176	13,575	1,016	21,626	97	30	1,163	1,289
1995 Total	40	4,195	3,132	18	168	14,607	911	23,070	108	81	566	755
1996 Total	37	4,469	3,274	16	163	14,837	851	23,648	109	80	628	817
1997 Total	40	4,672	3,308	14	172	14,999	712	23,918	111	102	715	927
1998 Total	35	4,812	3,357	18	180	15,463	674	24,538	136	124	1,047	1,306
1999 Total	39	5,001	3,462	14	182	15,855	665	25,219	140	112	959	1,211
2000 Total	36	5,165	3,580	12	179	15,960	888	25,820	175	99	871	1,144
2001 Total	35	5,292	3,426	14	164	16,041	586	25,557	171	103	1,003	1,277
2002 Total	34	5,392	3,340	14	162	16,465	677	26,085	127	175	659	961
2003 Total	30	5,666	3,265	17	150	16,597	571	26,297	161	175	869	1,205
2004 Total	31	5,932	3,383	19	152	16,962	740	27,219	111	222	879	1,212
2005 Total	35	6,076	3,475	28	151	17,043	837	27,645	115	243	876	1,235
2006 Total	33	6,414	3,379	27	147	17,197	906	28,105	74	214	361	648
2007 Total	32	6,457	3,358	22	152	17,321	994	28,335	89	171	397	657
2008 Total	28	6,020	3,193	40	141	16,872	920	27,214	73	154	240	468
<b>2009</b> January	2	437	231	2	11	1,371	88	2,142	11	12	38	61
February	1	400	215	2	8	1,269	48	1,943	6	11	15	33
March	2	453	247	2	10	1,415	84	2,214	7	14	13	34
April	2	446	244	2	11	1,389	99	2,194	5	12	11	28
May	2	477	234	2	9	1,444	57	2,225	6	13	14	32
June	3	478	242	2	11	1,412	78	2,226	5	13	15	33
July	3	489	265	2	11	1,472	36	2,278	5	13	16	34
August	2	492	255	2	13	1,477	61	2,302	5	13	19	37
September	3	463	241	2	11	1,371	41	2,131	4	13	12	29
October	2	485	239	3	11	1,428	70	2,239	5	8	13	26
November	1	451	230	3	10	1,370	63	2,129	5	8	8	20
December	2	457	241	3	10	1,420	86	2,219	6	10	8	24
<b>Total</b>	<b>27</b>	<b>5,528</b>	<b>2,883</b>	<b>28</b>	<b>127</b>	<b>16,837</b>	<b>810</b>	<b>26,240</b>	<b>70</b>	<b>139</b>	<b>181</b>	<b>390</b>
<b>2010</b> January	2	418	240	3	10	1,355	80	2,107	14	13	18	45
February	1	403	213	3	10	1,242	64	1,936	5	12	7	23
March	2	478	254	2	13	1,397	81	2,227	4	13	8	25
April	3	480	237	2	11	1,400	86	2,219	4	11	8	23
May	2	499	250	2	13	1,465	72	2,303	6	12	13	31
June	3	497	256	2	14	1,428	60	2,260	7	14	20	41
July	3	512	256	2	13	1,483	73	2,343	8	15	24	46
August	2	530	261	2	12	1,489	61	2,358	6	12	19	37
September	3	502	247	2	12	1,409	81	2,257	5	11	12	28
October	2	502	251	2	12	1,444	75	2,290	5	10	7	22
November	2	472	238	2	11	1,369	93	2,187	5	9	7	21
December	2	479	243	3	10	1,426	76	2,240	11	12	13	36
<b>Total</b>	<b>27</b>	<b>5,771</b>	<b>2,946</b>	<b>29</b>	<b>140</b>	<b>16,908</b>	<b>904</b>	<b>26,726</b>	<b>80</b>	<b>143</b>	<b>155</b>	<b>378</b>
<b>2011</b> January	2	449	238	3	12	1,337	89	2,131	7	15	11	34
February	2	413	213	3	10	1,241	85	1,968	5	11	7	23
<b>2-Month Total</b>	<b>4</b>	<b>862</b>	<b>452</b>	<b>6</b>	<b>22</b>	<b>2,579</b>	<b>174</b>	<b>4,098</b>	<b>12</b>	<b>26</b>	<b>18</b>	<b>56</b>
<b>2010 2-Month Total</b>	<b>3</b>	<b>820</b>	<b>453</b>	<b>6</b>	<b>20</b>	<b>2,597</b>	<b>144</b>	<b>4,043</b>	<b>19</b>	<b>24</b>	<b>25</b>	<b>68</b>
<b>2009 2-Month Total</b>	<b>4</b>	<b>837</b>	<b>446</b>	<b>5</b>	<b>19</b>	<b>2,639</b>	<b>135</b>	<b>4,085</b>	<b>17</b>	<b>24</b>	<b>53</b>	<b>93</b>

<sup>a</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

<sup>b</sup> Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.

<sup>c</sup> Through 2004, includes kerosene-type and naphtha-type jet fuel. Beginning in 2005, includes kerosene-type jet fuel only; naphtha-type jet fuel is included in "Industrial Sector Other" on Table 3.8b.

<sup>d</sup> Finished motor gasoline. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

<sup>e</sup> Fuel oil nos. 1, 2, and 4. Through 2000, electric utility data also include small amounts of kerosene and jet fuel.

<sup>f</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.

Notes: • Transportation sector data are estimates. • For total heat content of petroleum consumption by all sectors, see data for heat content of petroleum products supplied in Table 3.6. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a-3.8c. • See Note 7, "Petroleum Products Supplied and Petroleum Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> for all available data beginning in 1973.  
Sources: See end of section.

## Petroleum

**Note 1. Petroleum Survey Respondents.** The U.S. 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 & 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, communications 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, 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 (PSM)*. In order to continue to provide relevant information about U.S. and regional gasoline supply, 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 PSM, Appendix B, "Frame."

**Note 2. Motor Gasoline.** Beginning in January 1981, 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, EIA made adjustments to the product supplied series for finished motor gasoline. It was recognized that motor gasoline statistics published by 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 prepared a table of 1992 data adjusted according to the 1993 basis. See *Petroleum Supply Monthly*, March 1993, Table H3.

**Note 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 was 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, EIA modified its survey forms to account for redesignated product and discontinued the above-mentioned adjustment.

Prior to 1983, crude oil burned on leases and used at pipeline pump stations was reported as either distillate or residual fuel oil and was included as product supplied for these products.

**Note 4. Petroleum 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 (Non-SPR).

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

Jet Fuel (Total): 1974—30; 1980—42; and 1982—39.

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

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

Motor Gasoline (Total): 1974—225; 1980—263; 1982—244.

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

Total Petroleum: 1974—1,121; 1980—1,425; and 1982—1,461.

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 is now reported on a component basis (ethane, propane, normal butane, isobutane, and pentanes plus). This change affects stocks reported and stock change calculations. Under the new basis, 1983 end-of-year stocks, in million barrels, would have been 108 for liquefied petroleum gases, and 55 for propane and propylene.

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.

**Note 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 (Non-SPR).

**Note 6. Petroleum Data Discrepancies.** Due to differences internal to EIA data processing systems, some small discrepancies exist between data in the *Monthly Energy Review* and the *Petroleum Supply Annual (PSA)* and *Petroleum Supply Monthly (PSM)*. The data that have discrepancies are footnoted in Section 3 tables. The corresponding PSA/PSM values, in thousand barrels per day, are: Natural Gas Plant Liquids Production, 1976: 1,603; Total Exports, 1979: 472; Petroleum Products Exports, 1979: 237; and SPR Crude Oil Imports, 1978: 162.

**Note 7. Petroleum Products Supplied and Petroleum Consumption.** Total petroleum products supplied is the sum of the products supplied for each petroleum product, crude oil, unfinished oils, and gasoline blending components. For each of these except crude oil, product supplied is calculated by adding refinery production, natural gas plant liquids production, new supply of other liquids, imports, and stock withdrawals, and subtracting stock additions, refinery inputs, and exports. Crude oil product supplied is the sum of crude oil burned on leases and at pipeline pump stations as reported on Form EIA-813, "Monthly Crude Oil Report." Prior to 1983, crude oil burned on leases and used at pipeline pump stations was reported as either distillate or residual fuel oil and was included as product supplied for these products. Petroleum product supplied (see Tables 3.5 and 3.6) is an approximation of petroleum consumption and is synonymous with the term "Petroleum Consumption" in Tables 3.7a–3.8c.

### Table 3.6 Sources

#### Asphalt and Road Oil, Aviation Gasoline, Distillate Fuel Oil, Kerosene, Propane, Lubricants, Petroleum Coke, and Residual Fuel Oil

Product supplied data in thousand barrels per day for these petroleum products are from Table 3.5, and are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1.

#### Jet Fuel

Product supplied data in thousand barrels per day for kerosene-type jet fuel and, through 2004, naphtha-type jet fuel are from the U.S. Energy Information Administration's (EIA) *Petroleum Supply Annual (PSA)*, *Petroleum Supply Monthly (PSM)*, and earlier publications (see sources for Table 3.5). These data are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1. Total jet fuel product supplied is the sum of the data in trillion Btu for kerosene-type and naphtha-type jet fuel.

#### Liquefied Petroleum Gases (LPG) Total

Prior to the current two months, product supplied data in thousand barrels per day for the component products of LPG (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene) are from the PSA, PSM, and earlier publications (see sources for Table

3.5). These data are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1. Total LPG product supplied is the sum of the data in trillion Btu for the LPG component products.

For the current two months, product supplied data in thousand barrels per day for total LPG are from Table 3.5, and are converted to trillion Btu by multiplying by the LPG heat content factors in Table A3.

#### Motor Gasoline

Product supplied data in thousand barrels per day for motor gasoline are from Table 3.5, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

#### Other Petroleum Products

Prior to the current two months, product supplied data in thousand barrels per day for "other" petroleum products are from the PSA, PSM, and earlier publications (see sources for Table 3.5). "Other" petroleum products include pentanes plus, petrochemical feedstocks, special naphthas, still gas (refinery gas), waxes, and miscellaneous products; beginning in 1981, also includes negative barrels per day of distillate and residual fuel oil reclassified as unfinished oils, and other products (from both primary and secondary supply) reclassified as gasoline blending components; beginning in 1983, also includes crude oil burned as fuel; and beginning in 2005, also includes naphtha-type jet fuel. These data are converted to trillion Btu by multiplying by the appropriate heat content factors in MER Table A1. Total "Other" petroleum product supplied is the sum of the data in trillion Btu for the individual products.

For the current two months, total "Other" petroleum products supplied is calculated by first estimating total petroleum products supplied (product supplied data in thousand barrels per day for total petroleum from Table 3.5 are converted to trillion Btu by multiplying by the total petroleum consumption heat content factor in Table A3), and then subtracting data in trillion Btu (from Table 3.6) for asphalt and road oil, aviation gasoline, distillate fuel oil, jet fuel, kerosene, total LPG, lubricants, motor gasoline, petroleum coke, and residual fuel oil.

#### Total Petroleum

Total petroleum products supplied is the sum of the data in trillion Btu for the products (except "Propane") shown in Table 3.6.

### Tables 3.7a–3.7c Sources

Petroleum consumption data in these tables are derived from data for "petroleum products supplied" from the following sources:

1973–1975: U.S. Department of the Interior, Bureau of Mines, *Mineral Industry Surveys*, "Petroleum Statement, Annual."

1976–1980: U.S. Energy Information Administration's (EIA), *Energy Data Reports*, "Petroleum Statement, Annual."

1981–2009: EIA, *Petroleum Supply Annual*.

2010 and 2011: EIA, *Petroleum Supply Monthly*.

Energy-use allocation procedures by individual product are as follows:

#### **Asphalt and Road Oil**

All consumption of asphalt and road oil is assigned to the industrial sector.

#### **Aviation Gasoline**

All consumption of aviation gasoline is assigned to the transportation sector.

#### **Distillate Fuel Oil**

Distillate fuel oil consumption is assigned to the sectors as follows:

#### **Distillate Fuel Oil Consumed by the Electric Power Sector**

See sources for Table 7.4b. For 1973–1979, electric utility consumption of distillate fuel oil 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 1980–2000, electric utility consumption of distillate fuel oil is assumed to be the amount of light oil (fuel oil nos. 1 and 2, plus small amounts of kerosene and jet fuel) consumed.

#### **Distillate Fuel Oil Consumed by the End-Use Sectors, Annually**

The aggregate end-use amount is total distillate fuel oil supplied minus the amount consumed by the electric power sector. The end-use total consumed annually is allocated to the individual end-use sectors (residential, commercial, industrial, and transportation) in proportion to each sector's share of sales as reported in EIA's *Fuel Oil and Kerosene Sales (Sales)* report series (DOE/EIA-0535), which is based primarily on data collected by Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report" (previously Form EIA-172). Shares for the current year are based on the most recent Sales report.

Following are notes on the individual sector groupings:

Since 1979, the residential sector 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 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 sales total is the sum of the 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 sales total is the sum of the sales for railroad, vessel bunkering, on-highway diesel, and military uses for all years.

#### **Distillate Fuel Oil Consumed by the End-Use Sectors, Monthly**

Residential sector and commercial sector 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. (For each month of the current year, the residential and commercial consumption increase from the same month in the previous year is based on the percent increase in that month's No. 2 heating oil sales from the same month in the previous year.) The years' No. 2 heating oil 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 forward, 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.

A distillate fuel oil "balance" is calculated as total distillate fuel oil supplied minus the amount consumed by the electric power sector, residential sector, commercial sector, and for highway use.

Industrial sector monthly consumption is estimated by multiplying each month's distillate fuel oil "balance" by the annual industrial consumption share of the annual distillate fuel oil "balance."

Total transportation sector monthly consumption is estimated as total distillate fuel oil supplied minus the amount consumed by the residential, commercial, industrial, and electric power sectors.



## Jet Fuel

Through 1982, small amounts of kerosene-type jet fuel were consumed by the electric power sector. Kerosene-type jet fuel deliveries to the electric power sector as reported on Form FERC-423 (formerly Form FPC-423) were used as estimates of this consumption. Through 2004, all remaining jet fuel (kerosene-type and naphtha-type) is consumed by the transportation sector. Beginning in 2005, kerosene-type jet fuel is consumed by the transportation sector, while naphtha-type jet fuel is classified under "Other Petroleum Products," which is assigned to the industrial sector.

## Kerosene

Kerosene product supplied is allocated to the individual end-use sectors (residential, commercial, and industrial) in proportion to each sector's share of sales as reported in EIA's *Fuel Oil and Kerosene Sales (Sales)* report series (DOE/EIA-0535), which is based primarily on data collected by Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report" (previously Form EIA-172).

Since 1979, the residential sector sales total is directly from the Sales reports. Prior to 1979, each year's sales category called "heating" is allocated to the residential, commercial, and industrial sectors in proportion to the 1979 shares.

Since 1979, the commercial sector sales total is directly from the Sales reports. Prior to 1979, each year's sales category called "heating" is allocated to the residential, commercial, and industrial sectors in proportion to the 1979 shares.

Since 1979, the industrial sector sales total is the sum of the sales for industrial, farm, and all other uses. Prior to 1979, each year's sales category called "heating" is allocated to the residential, commercial and industrial sectors in proportion to the 1979 shares, and the estimated industrial (including farm) portion is added to all other uses.

## Liquefied Petroleum Gases (LPG)

The annual shares of LPG's total consumption that are estimated to be used by each sector are applied to each month's total LPG consumption to create monthly sector consumption estimates. The annual sector shares are calculated as described below.

Sales of LPG to the residential and commercial sectors combined are converted from thousand gallons per year to thousand barrels per year and are assumed to be the annual consumption of LPG by the combined sectors. Since 2003, residential sector LPG consumption is assumed to equal propane retail sales, with the remainder of the combined residential and commercial LPG consumption being assigned to the commercial sector. Prior to 2003, residential sector LPG consumption is based on the average of the State residential shares for 2003–2008, with the remainder of the combined residential and commercial LPG consumption being assigned to the commercial 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 20 percent (in 2001) to a high of 78 percent (in 2008).

LPG consumed annually by the industrial sector is estimated as the difference between LPG total product supplied and the sum of the estimated LPG consumption by the residential, commercial, and transportation sectors. The industrial sector LPG consumption includes LPG used by chemical plants as raw materials or solvents and used in the production of synthetic rubber; refinery fuel use; use as synthetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.

Sources of the annual sales data for creating annual energy shares are:

1973–1982: EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174, "Sales of Liquefied Petroleum Gases."

1983: End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.

1984 forward: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," which is based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association. EIA adjusts the data to remove quantities of pentanes plus and to estimate withheld values.

## Lubricants

The consumption of lubricants is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the two sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 forward.

## Motor Gasoline

The total monthly consumption of motor gasoline is allocated to the sectors in proportion to aggregations of annual sales categories created on the basis of the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24, and MF-25, as follows:

Commercial sales are the sum of sales for public non-highway use and miscellaneous and unclassified uses.

Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics*.

Transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use.

#### **Petroleum Coke**

Portions of petroleum coke are consumed by the electric power sector (see sources for Table 7.4b) and the commercial sector (see sources for Table 7.4c). The remaining petroleum coke is assigned to the industrial sector.

#### **Residual Fuel Oil**

Residual fuel oil consumption is assigned to the sectors as follows:

#### **Residual Fuel Oil Consumed by the Electric Power Sector**

See sources for Table 7.4b. For 1973–1979, electric utility consumption of residual fuel oil is assumed to be the amount of petroleum consumed in steam-electric power plants. For 1980–2000, electric utility consumption of residual fuel oil is assumed to be the amount of heavy oil (fuel oil nos. 4, 5, and 6) consumed.

#### **Residual Fuel Oil Consumed by the End-Use Sectors, Annually**

The aggregate end-use amount is total residual fuel oil supplied minus the amount consumed by the electric power sector. The end-use total consumed annually is allocated to the individual end-use sectors (commercial, industrial, and transportation) in proportion to each sector's share of sales as reported in EIA's *Fuel Oil and Kerosene Sales (Sales)* report series (DOE/EIA-535), which is based primarily on data collected by Form EIA-821, "Annual Fuel Oil and Kerosene Sales Report" (previously Form EIA-172). Shares for the current year are based on the most recent Sales report.

Following are notes on the individual sector groupings:

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 allocated to the commercial and industrial sectors 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 allocated to the commercial and industrial sectors in proportion to the 1979 shares, and the estimated industrial portion is added to oil company and all other uses.

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

#### **Residual Fuel Oil Consumed by the End-Use Sectors, Monthly**

Commercial sector 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. (For each month of the current year, the consumption increase from the same month in the previous year is based on the percent increase in that month's No. 2 heating oil sales from the same month in the previous year.) The years' No. 2 heating oil 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 forward, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

A residual fuel oil "balance" is calculated as total residual fuel oil supplied minus the amount consumed by the electric power sector, commercial sector, and by industrial combined-heat-and-power plants (see sources for Table 7.4c).

Transportation sector monthly consumption is estimated by multiplying each month's residual fuel oil "balance" by the annual transportation consumption share of the annual residual fuel oil "balance."

Total industrial sector monthly consumption is estimated as total residual fuel oil supplied minus the amount consumed by the commercial, transportation, and electric power sectors.

#### **Other Petroleum Products**

Consumption of all remaining petroleum products is assigned to the industrial sector. Other petroleum products include pentanes plus, petrochemical feedstocks, special naphthas, still gas (refinery gas), waxes, and miscellaneous products. Beginning in 1981, also includes negative barrels per day of distillate and residual fuel oil reclassified as unfinished oils, and other products (from both primary and secondary supply) reclassified as gasoline blending components. Beginning in 1983, also includes crude oil burned as fuel. Beginning in 2005, also includes naphtha-type jet fuel.

#### **Table 3.8a Sources**

#### **Distillate Fuel Oil, Kerosene, Petroleum Coke, and Residual Fuel Oil**

Residential and/or commercial sector consumption data in thousand barrels per day for these petroleum products are from Table 3.7a, and are converted to trillion Btu by

multiplying by the appropriate heat content factors in Table A1.

#### **Liquefied Petroleum Gases (LPG)**

Residential and commercial sector consumption data in thousand barrels per day for LPG are from Table 3.7a, and are converted to trillion Btu by multiplying by the propane heat content factor in Table A1.

#### **Motor Gasoline**

Commercial sector consumption data in thousand barrels per day for motor gasoline are from Table 3.7a, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

#### **Total Petroleum**

Residential sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Residential Sector" in Table 3.8a. Commercial sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Commercial Sector" in Table 3.8a.

#### **Table 3.8b Sources**

##### **Asphalt and Road Oil, Distillate Fuel Oil, Kerosene, Lubricants, Petroleum Coke, and Residual Fuel Oil**

Industrial sector consumption data in thousand barrels per day for these petroleum products are from Table 3.7b, and are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1.

##### **Liquefied Petroleum Gases (LPG)**

Industrial sector consumption data for LPG are calculated by subtracting LPG consumption data in trillion Btu for the residential (Table 3.8a), commercial (Table 3.8a), and transportation (Table 3.8c) sectors from total LPG consumption (Table 3.6).

##### **Motor Gasoline**

Industrial sector consumption data in thousand barrels per day for motor gasoline are from Table 3.7b, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

#### **Other Petroleum Products**

Industrial sector "Other" petroleum data are equal to the "Other" petroleum data in Table 3.6.

#### **Total Petroleum**

Industrial sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown in Table 3.8b.

#### **Table 3.8c Sources**

##### **Aviation Gasoline, Distillate Fuel Oil, Lubricants, Petroleum Coke, and Residual Fuel Oil**

Transportation and/or electric power sector consumption data in thousand barrels per day for these petroleum products are from Table 3.7c, and are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1.

##### **Jet Fuel**

Transportation sector consumption data in thousand barrels per day for kerosene-type jet fuel and, through 2004, naphtha-type jet fuel (see sources for Table 3.7c) are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1. Total transportation sector jet fuel consumption is the sum of the data in trillion Btu for kerosene-type and naphtha-type jet fuel.

##### **Liquefied Petroleum Gases (LPG)**

Transportation sector consumption data in thousand barrels per day for LPG are from Table 3.7c, and are converted to trillion Btu by multiplying by the propane heat content factor in Table A1.

##### **Motor Gasoline**

Transportation sector consumption data in thousand barrels per day for motor gasoline are from Table 3.7c, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

##### **Total Petroleum**

Transportation sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Transportation Sector" in Table 3.8c. Electric power sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Electric Power Sector" in Table 3.8c.



# 4

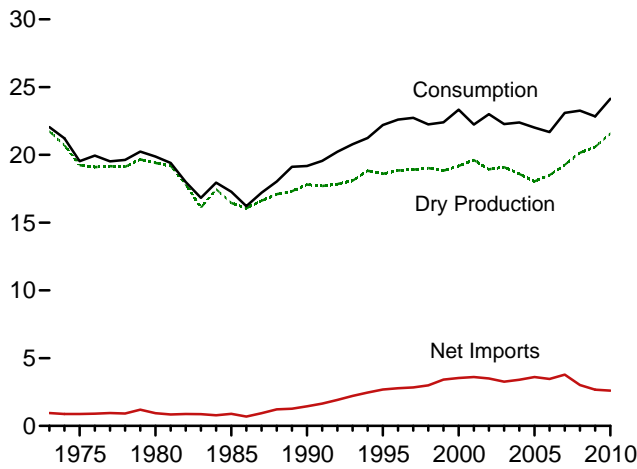
## Natural Gas



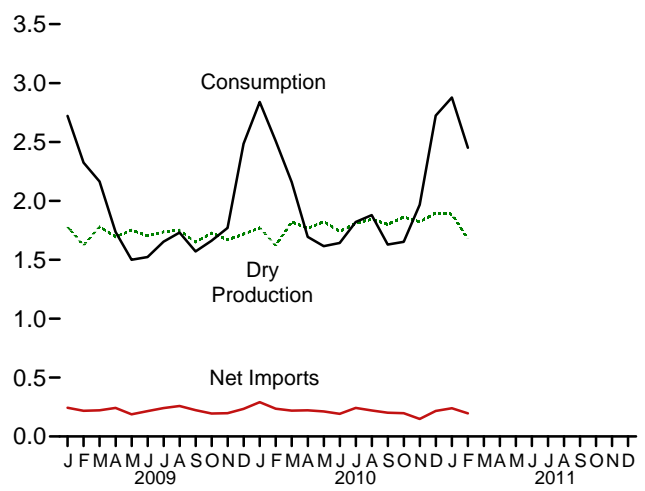
Natural gas pipeline, El Paso County, Texas. Source: U.S. Department of Energy.

**Figure 4.1 Natural Gas**  
(Trillion Cubic Feet)

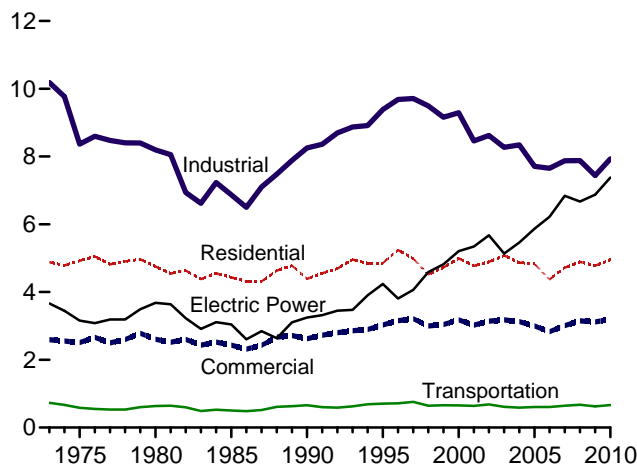
Overview, 1973-2010



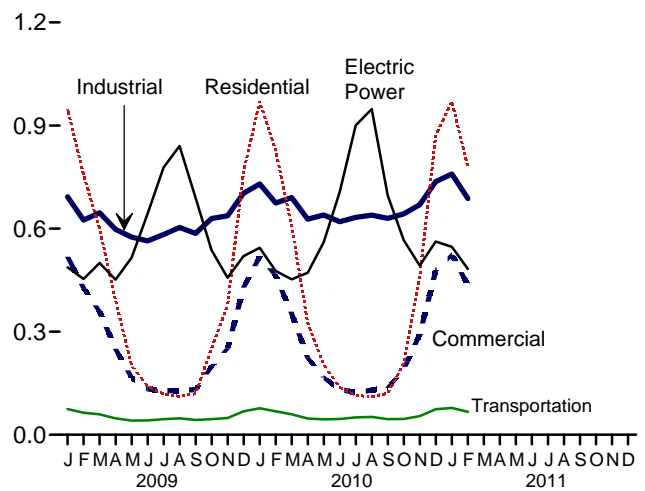
Overview, Monthly



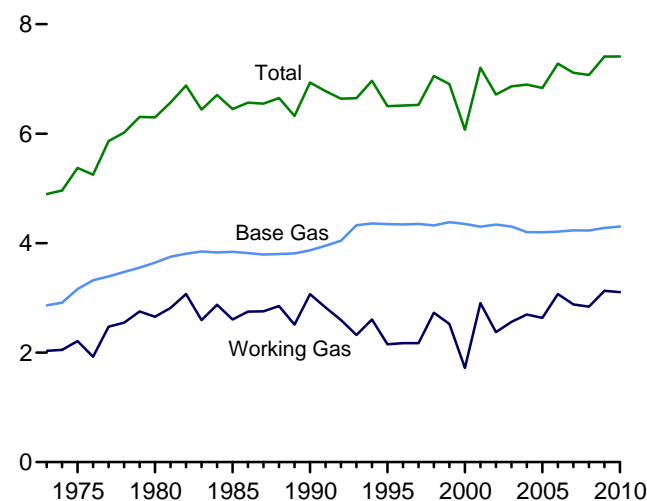
Consumption by Sector, 1973-2010



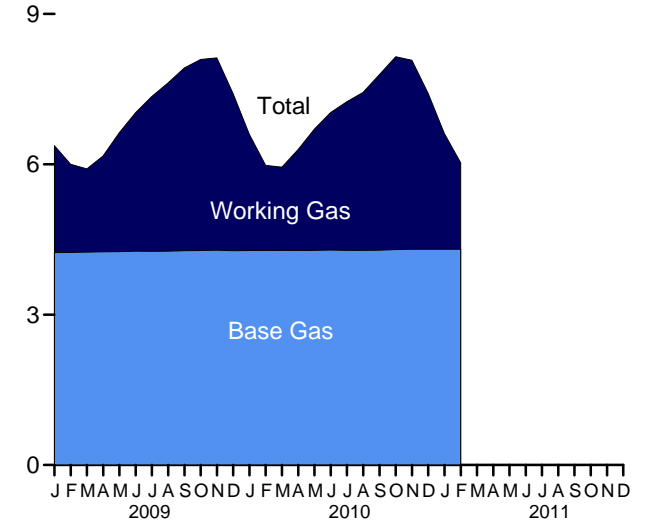
Consumption by Sector, Monthly



Underground Storage, End of Year, 1973-2010



Underground Storage, End of Month



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#naturalgas>.  
Sources: Tables 4.1, 4.3, and 4.4.

**Table 4.1 Natural Gas Overview**  
(Billion Cubic Feet)

	Gross Withdrawals <sup>a</sup>	Marketed Production (Wet) <sup>b</sup>	Extraction Loss <sup>c</sup>	Dry Gas Production <sup>d</sup>	Supplemental Gaseous Fuels <sup>e</sup>	Trade			Net Storage Withdrawals <sup>f</sup>	Balancing Item <sup>g</sup>	Consumption <sup>h</sup>
						Imports	Exports	Net Imports			
<b>1973 Total</b> .....	24,067	22,648	917	21,731	NA	1,033	77	956	-442	-196	22,049
<b>1975 Total</b> .....	21,104	20,109	872	19,236	NA	953	73	880	-344	-235	19,538
<b>1980 Total</b> .....	21,870	20,180	777	19,403	155	985	49	936	23	-640	19,877
<b>1985 Total</b> .....	19,607	17,270	816	16,454	126	950	55	894	235	-428	17,281
<b>1990 Total</b> .....	23,523	18,594	784	17,810	123	1,532	86	1,447	-513	307	19,174
<b>1995 Total</b> .....	23,744	19,506	908	18,599	110	2,841	154	2,687	415	396	22,207
<b>1996 Total</b> .....	24,114	19,812	958	18,854	109	2,937	153	2,784	2	860	22,609
<b>1997 Total</b> .....	24,213	19,866	964	18,902	103	2,994	157	2,837	24	871	22,737
<b>1998 Total</b> .....	24,108	19,961	938	19,024	102	3,152	159	2,993	-530	657	22,246
<b>1999 Total</b> .....	23,823	19,805	973	18,832	98	3,586	163	3,422	172	-119	22,405
<b>2000 Total</b> .....	24,174	20,198	1,016	19,182	90	3,782	244	3,538	829	-306	23,333
<b>2001 Total</b> .....	24,501	20,570	954	19,616	86	3,977	373	3,604	-1,166	99	22,239
<b>2002 Total</b> .....	23,941	19,885	957	18,928	68	4,015	516	3,499	468	44	23,007
<b>2003 Total</b> .....	24,119	19,974	876	19,099	68	3,944	680	3,264	-197	44	22,277
<b>2004 Total</b> .....	23,970	19,517	927	18,591	60	4,259	854	3,404	-114	448	22,389
<b>2005 Total</b> .....	23,457	18,927	876	18,051	64	4,341	729	3,612	52	232	22,011
<b>2006 Total</b> .....	23,535	19,410	906	18,504	66	4,186	724	3,462	-436	89	21,685
<b>2007 Total</b> .....	24,664	20,196	930	19,266	63	4,608	822	3,785	192	-209	23,097
<b>2008 Total</b> .....	25,636	21,112	953	20,159	61	3,984	963	3,021	34	-7	23,268
<b>2009</b> January .....	2,249	1,867	89	1,779	6	357	113	244	719	-27	2,721
February .....	2,071	1,701	81	1,621	5	322	103	218	380	101	2,325
March .....	2,257	1,869	89	1,781	6	325	104	221	98	58	2,164
April .....	2,143	1,779	84	1,694	5	322	80	242	-257	51	1,736
May .....	2,186	1,838	87	1,751	6	266	77	189	-475	29	1,499
June .....	2,137	1,788	85	1,703	5	282	66	216	-393	-8	1,523
July .....	2,166	1,823	86	1,737	5	317	76	240	-345	15	1,653
August .....	2,189	1,839	87	1,752	6	337	79	258	-280	-4	1,731
September .....	2,086	1,731	82	1,649	5	307	84	223	-301	-6	1,570
October .....	2,195	1,813	86	1,727	5	273	78	195	-172	-94	1,662
November .....	2,139	1,752	83	1,669	5	295	97	198	-36	-66	1,771
December .....	2,196	1,802	85	1,717	5	350	115	234	707	-180	2,484
<b>Total</b> .....	<b>26,013</b>	<b>21,604</b>	<b>1,024</b>	<b>20,580</b>	<b>65</b>	<b>3,751</b>	<b>1,072</b>	<b>2,679</b>	<b>-355</b>	<b>-130</b>	<b>22,840</b>
<b>2010</b> January .....	2,225	E 1,850	80	E 1,770	6	385	94	291	812	-40	2,840
February .....	2,051	E 1,697	75	E 1,622	6	324	88	236	620	25	2,508
March .....	2,304	E 1,906	84	E 1,821	6	318	100	219	36	77	2,159
April .....	2,208	E 1,847	81	E 1,766	5	298	76	222	-355	57	1,695
May .....	2,251	E 1,909	85	E 1,824	4	298	86	213	-409	-17	1,615
June .....	2,142	E 1,820	80	E 1,740	6	282	90	192	-321	25	1,643
July .....	2,194	E 1,891	81	E 1,810	6	328	86	242	-227	-10	1,821
August .....	2,231	E 1,928	84	E 1,844	6	304	84	220	-186	R -4	1,879
September .....	2,241	E 1,883	83	E 1,800	6	R 281	79	202	-353	-26	1,629
October .....	2,333	E 1,948	86	E 1,861	6	294	96	198	-352	-60	1,653
November .....	2,284	E 1,907	84	E 1,823	6	272	R 124	149	74	R -85	R 1,967
December .....	2,394	E 1,984	87	E 1,897	5	351	135	216	666	-60	2,724
<b>Total</b> .....	<b>26,858</b>	<b>E 22,569</b>	<b>992</b>	<b>E 21,577</b>	<b>67</b>	<b>3,737</b>	<b>R 1,137</b>	<b>R 2,600</b>	<b>5</b>	<b>-117</b>	<b>R 24,132</b>
<b>2011</b> January .....	R 2,309	RE 1,972	85	RE 1,887	6	R 371	R 132	R 239	799	R -54	R 2,877
February .....	2,109	E 1,752	73	E 1,679	6	E 323	E 126	E 197	584	-15	2,451
<b>2-Month Total</b> .....	<b>4,418</b>	<b>E 3,724</b>	<b>158</b>	<b>E 3,566</b>	<b>12</b>	<b>E 694</b>	<b>E 258</b>	<b>E 436</b>	<b>1,383</b>	<b>-69</b>	<b>5,328</b>
<b>2010 2-Month Total</b> .....	<b>4,276</b>	<b>E 3,548</b>	<b>156</b>	<b>E 3,392</b>	<b>12</b>	<b>708</b>	<b>181</b>	<b>527</b>	<b>1,432</b>	<b>-15</b>	<b>5,348</b>
<b>2009 2-Month Total</b> .....	<b>4,319</b>	<b>3,569</b>	<b>169</b>	<b>3,400</b>	<b>11</b>	<b>678</b>	<b>216</b>	<b>462</b>	<b>1,099</b>	<b>74</b>	<b>5,046</b>

<sup>a</sup> Gas withdrawn from natural gas and crude oil wells; excludes lease condensate.  
<sup>b</sup> Gross withdrawals minus repressuring, nonhydrocarbon gases removed, and vented and flared. See Note 1, "Natural Gas Production," at end of section.  
<sup>c</sup> See Note 2, "Natural Gas Extraction Loss," at end of section.  
<sup>d</sup> Marketed production (wet) minus extraction loss.  
<sup>e</sup> See Note 3, "Supplemental Gaseous Fuels," at end of section.  
<sup>f</sup> Net withdrawals from underground storage. For 1980-2009, also includes net withdrawals of liquefied natural gas in above-ground tanks. See Note 4, "Natural Gas Storage," at end of section.  
<sup>g</sup> See Note 5, "Natural Gas Balancing Item," 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).  
<sup>h</sup> See Note 6, "Natural Gas Consumption," at end of section.  
<sup>i</sup> May include unknown quantities of nonhydrocarbon gases.

<sup>j</sup> For 1989-1992, a small amount of consumption at independent power producers may be counted in both "Other Industrial" and "Electric Power Sector" on Table 4.3. See Note 7, "Natural Gas Consumption, 1989-1992," at end of section.  
R=Revised. E=Estimate. NA=Not available.  
Notes: • See Note 8, "Natural Gas Adjustments, 1993-2000," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> for all available data beginning in 1973.  
Sources: • **Imports and Exports:** Table 4.2. • **Consumption:** Table 4.3.  
• **Balancing Item:** Calculated as consumption minus dry gas production, supplemental gaseous fuels, net imports, and net storage withdrawals. • **All Other Data: 1973-2005**—U.S. Energy Information Administration (EIA), *Natural Gas Annual*, annual reports. **2006 forward**—EIA, *Natural Gas Monthly*, April 2011, Table 1.

**Table 4.2 Natural Gas Trade by Country**  
(Billion Cubic Feet)

	Imports									Exports				
	Algeria <sup>a</sup>	Canada <sup>b</sup>	Egypt <sup>a</sup>	Mexico <sup>b</sup>	Nigeria <sup>a</sup>	Qatar <sup>a</sup>	Trinidad and Tobago <sup>a</sup>	Other <sup>a,c</sup>	Total	Canada <sup>b</sup>	Japan <sup>a</sup>	Mexico <sup>b</sup>	Other <sup>a,d</sup>	Total
<b>1973 Total</b> .....	3	1,028	0	2	0	0	0	0	1,033	15	48	14	0	77
<b>1975 Total</b> .....	5	948	0	0	0	0	0	0	953	10	53	9	0	73
<b>1980 Total</b> .....	86	797	0	102	0	0	0	0	985	0	45	4	0	49
<b>1985 Total</b> .....	24	926	0	0	0	0	0	0	950	0	53	2	0	55
<b>1990 Total</b> .....	84	1,448	0	0	0	0	0	0	1,532	17	53	16	0	86
<b>1995 Total</b> .....	18	2,816	0	7	0	0	0	0	2,841	28	65	61	0	154
<b>1996 Total</b> .....	35	2,883	0	14	0	0	0	5	2,937	52	68	34	0	153
<b>1997 Total</b> .....	66	2,899	0	17	0	0	0	12	2,994	56	62	38	0	157
<b>1998 Total</b> .....	69	3,052	0	15	0	0	0	17	3,152	40	66	53	0	159
<b>1999 Total</b> .....	76	3,368	0	55	0	20	51	17	3,586	39	64	61	0	163
<b>2000 Total</b> .....	47	3,544	0	12	13	46	99	21	3,782	73	66	106	0	244
<b>2001 Total</b> .....	65	3,729	0	10	38	23	98	14	3,977	167	66	141	0	373
<b>2002 Total</b> .....	27	3,785	0	2	8	35	151	8	4,015	189	63	263	0	516
<b>2003 Total</b> .....	53	3,437	0	0	50	14	378	11	3,944	271	66	343	0	680
<b>2004 Total</b> .....	120	3,607	0	0	12	12	462	46	4,259	395	62	397	0	854
<b>2005 Total</b> .....	97	3,700	73	9	8	3	439	11	4,341	358	65	305	0	729
<b>2006 Total</b> .....	17	3,590	120	13	57	0	389	0	4,186	341	61	322	0	724
<b>2007 Total</b> .....	77	3,783	115	54	95	18	448	18	4,608	482	47	292	2	822
<b>2008 Total</b> .....	0	3,589	55	43	12	3	267	15	3,984	559	39	365	0	963
<b>2009</b> January .....	0	324	5	6	0	0	19	3	357	84	2	28	0	113
February .....	0	293	6	(s)	0	0	16	6	322	75	3	25	0	103
March .....	0	293	12	1	0	0	17	3	325	77	3	24	0	104
April .....	0	259	22	7	8	0	20	6	322	55	2	23	0	80
May .....	0	216	15	1	0	0	31	3	266	46	2	29	0	77
June .....	0	230	14	1	0	0	34	3	282	37	2	28	0	66
July .....	0	270	14	2	3	0	21	6	317	42	4	31	0	76
August .....	0	299	17	3	0	0	17	0	337	45	2	32	0	79
September .....	0	274	14	1	2	0	15	0	307	47	4	33	0	84
October .....	0	244	15	2	0	0	13	0	273	47	2	29	0	78
November .....	0	258	12	(s)	0	8	17	0	295	66	2	29	0	97
December .....	0	311	14	3	0	4	17	0	350	81	4	28	3	115
<b>Total</b> .....	<b>0</b>	<b>3,271</b>	<b>160</b>	<b>28</b>	<b>13</b>	<b>13</b>	<b>236</b>	<b>29</b>	<b>3,751</b>	<b>701</b>	<b>31</b>	<b>338</b>	<b>3</b>	<b>1,072</b>
<b>2010</b> January .....	0	327	17	1	0	12	22	6	385	68	2	23	0	94
February .....	0	277	12	1	0	6	16	12	324	60	2	22	3	88
March .....	0	276	9	5	3	1	16	9	318	77	2	21	0	100
April .....	0	251	6	5	9	9	15	3	298	50	4	22	0	76
May .....	0	257	9	4	9	0	16	3	298	55	2	29	0	86
June .....	0	248	6	2	11	0	11	5	282	51	2	34	3	90
July .....	0	290	6	1	5	0	17	8	328	50	4	32	0	86
August .....	0	281	0	1	0	0	17	5	304	49	2	33	0	84
September .....	0	250	6	3	3	0	16	3	R 281	50	7	23	0	79
October .....	0	R 256	3	4	2	5	15	9	294	63	2	25	6	96
November .....	0	241	0	(s)	0	9	14	9	272	84	2	30	8	R 124
December .....	0	321	0	1	0	4	15	9	351	82	3	38	12	135
<b>Total</b> .....	<b>0</b>	<b>3,276</b>	<b>73</b>	<b>30</b>	<b>42</b>	<b>46</b>	<b>190</b>	<b>81</b>	<b>3,737</b>	<b>R 739</b>	<b>33</b>	<b>333</b>	<b>32</b>	<b>R 1,137</b>
<b>2011</b> January .....	0	R 331	3	(s)	0	13	16	9	R 371	R 81	2	R 37	13	R 132
February .....	0	E 291	6	E(s)	0	0	11	15	E 323	E 85	2	E 36	3	E 126
<b>2-Month Total</b> .....	<b>0</b>	<b>E 622</b>	<b>9</b>	<b>E 0</b>	<b>0</b>	<b>13</b>	<b>27</b>	<b>24</b>	<b>E 694</b>	<b>E 166</b>	<b>4</b>	<b>E 73</b>	<b>16</b>	<b>E 258</b>
<b>2010 2-Month Total</b> .....	<b>0</b>	<b>604</b>	<b>28</b>	<b>2</b>	<b>0</b>	<b>18</b>	<b>38</b>	<b>18</b>	<b>708</b>	<b>129</b>	<b>4</b>	<b>46</b>	<b>3</b>	<b>181</b>
<b>2009 2-Month Total</b> .....	<b>0</b>	<b>617</b>	<b>11</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>35</b>	<b>9</b>	<b>678</b>	<b>159</b>	<b>5</b>	<b>53</b>	<b>0</b>	<b>216</b>

<sup>a</sup> As liquefied natural gas.

<sup>b</sup> By pipeline, except for very small amounts of liquefied natural gas imported from Canada in 1973, 1977, and 1981 and exported to Mexico beginning in 1998. See Note 9, "Natural Gas Imports and Exports," at end of section.

<sup>c</sup> Australia in 1997-2001 and 2004; Brunei in 2002; Equatorial Guinea in 2007; Indonesia in 1986 and 2000; Malaysia in 1999 and 2002-2005; Norway in 2008 forward; Oman in 2000-2005; Peru in 2010 and 2011; United Arab Emirates in 1996-2000; Yemen in 2010 and 2011; and Other (unassigned) in 2004.

<sup>d</sup> Brazil in 2010; India in 2010 and 2011; Russia in 2007; South Korea in 2009-2011; Spain in 2010 and 2011; and United Kingdom in 2010 and 2011.

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

Notes: • See Note 9, "Natural Gas Imports and Exports," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> for all available data beginning in 1973.

Sources: • **1973-1987:** U.S. Energy Information Administration (EIA), Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." • **1988-2008:** EIA, *Natural Gas Annual*, annual reports. • **2009 forward:** EIA, *Natural Gas Monthly*, April 2011, Table 4; and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."





**Table 4.4 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 <sup>a</sup>	Volume	Percent	Withdrawals	Injections	Net <sup>b,c</sup>
<b>1973 Total</b> .....	2,864	2,034	4,898	305	17.6	1,533	1,974	-442
<b>1975 Total</b> .....	3,162	2,212	5,374	162	7.9	1,760	2,104	-344
<b>1980 Total</b> .....	3,642	2,655	6,297	-99	-3.6	1,910	1,896	14
<b>1985 Total</b> .....	3,842	2,607	6,448	-270	-9.4	2,359	2,128	231
<b>1990 Total</b> .....	3,868	3,068	6,936	555	22.1	1,934	2,433	-499
<b>1995 Total</b> .....	4,349	2,153	6,503	-453	-17.4	2,974	2,566	408
<b>1996 Total</b> .....	4,341	2,173	6,513	19	.9	2,911	2,906	6
<b>1997 Total</b> .....	4,350	2,175	6,525	2	.1	2,824	2,800	24
<b>1998 Total</b> .....	4,326	2,730	7,056	554	25.5	2,379	2,905	-526
<b>1999 Total</b> .....	4,383	2,523	6,906	-207	-7.6	2,772	2,598	174
<b>2000 Total</b> .....	4,352	1,719	6,071	-806	-31.9	3,498	2,684	814
<b>2001 Total</b> .....	4,301	2,904	7,204	1,185	68.9	2,309	3,464	-1,156
<b>2002 Total</b> .....	4,340	2,375	6,715	-528	-18.2	3,138	2,670	468
<b>2003 Total</b> .....	4,303	2,563	6,866	187	7.9	3,099	3,292	-193
<b>2004 Total</b> .....	4,201	2,696	6,897	133	5.2	3,037	3,150	-113
<b>2005 Total</b> .....	4,200	2,635	6,835	-61	-2.3	3,057	3,002	55
<b>2006 Total</b> .....	4,211	3,070	7,281	435	16.5	2,493	2,924	-431
<b>2007 Total</b> .....	4,234	2,879	7,113	-191	-6.2	3,325	3,133	192
<b>2008 Total</b> .....	4,232	2,840	7,073	-39	-1.4	3,374	3,340	34
<b>2009</b> January .....	4,237	2,133	6,370	77	3.8	783	78	705
February .....	4,243	1,758	6,001	293	20.0	472	100	372
March .....	4,248	1,660	5,908	394	31.1	294	202	93
April .....	4,255	1,910	6,165	474	33.0	106	356	-251
May .....	4,257	2,375	6,632	535	29.1	45	512	-467
June .....	4,268	2,760	7,028	583	26.8	62	448	-386
July .....	4,263	3,090	7,354	573	22.8	83	421	-338
August .....	4,267	3,359	7,626	493	17.2	88	362	-274
September .....	4,276	3,646	7,922	485	15.3	57	352	-295
October .....	4,281	3,810	8,091	410	12.1	99	266	-167
November .....	4,288	3,837	8,125	492	14.7	140	173	-33
December .....	4,277	3,130	7,407	290	10.2	738	44	694
<b>Total</b> .....	<b>4,277</b>	<b>3,130</b>	<b>7,407</b>	<b>290</b>	<b>10.2</b>	<b>2,966</b>	<b>3,315</b>	<b>-349</b>
<b>2010</b> January .....	4,278	2,319	6,597	185	8.7	877	65	812
February .....	4,281	1,696	5,978	-62	-3.5	660	40	620
March .....	4,282	1,662	5,944	3	.2	240	204	36
April .....	4,281	2,012	6,293	102	5.4	70	425	-355
May .....	4,282	2,421	6,703	47	2.0	55	464	-409
June .....	4,289	2,741	7,030	-19	-7	64	385	-321
July .....	4,283	2,967	7,249	-123	-4.0	114	340	-227
August .....	4,283	3,150	7,433	-209	-6.2	143	329	-186
September .....	4,287	3,500	7,787	-146	-4.0	56	409	-353
October .....	4,300	3,847	8,146	37	1.0	52	405	-352
November .....	4,304	3,773	8,077	-65	-1.7	238	163	74
December .....	4,305	3,107	7,412	-23	-7	732	66	666
<b>Total</b> .....	<b>4,305</b>	<b>3,107</b>	<b>7,412</b>	<b>-23</b>	<b>-7</b>	<b>3,303</b>	<b>3,298</b>	<b>5</b>
<b>2011</b> January .....	4,306	2,308	6,614	-11	-.5	852	53	799
February .....	4,306	1,724	6,029	27	1.6	668	84	584
<b>2-Month Total</b> .....	--	--	--	--	--	<b>1,520</b>	<b>137</b>	<b>1,383</b>
<b>2010 2-Month Total</b> .....	--	--	--	--	--	<b>1,538</b>	<b>105</b>	<b>1,432</b>
<b>2009 2-Month Total</b> .....	--	--	--	--	--	<b>1,255</b>	<b>178</b>	<b>1,077</b>

<sup>a</sup> For total underground storage capacity at the end of each calendar year, see Note 4, "Natural Gas Storage," at end of section.

<sup>b</sup> For 1980-2009, data differ from those shown on Table 4.1, which includes liquefied natural gas storage for that period.

<sup>c</sup> 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 4, "Natural Gas Storage," at end of section.

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

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> for all available data beginning in 1973.

Sources: • **Storage Activity: 1973-1975**—U.S. Energy Information Administration (EIA), *Natural Gas Annual 1994, Volume 2*, Table 9.

**1976-1979**—EIA, *Natural Gas Production and Consumption 1979*, Table 1.

**1980-1995**—EIA, *Historical Natural Gas Annual 1930 Through 2000*, Table 11.

**1996-2005**—EIA, *Natural Gas Monthly (NGM)*, monthly issues. **2006**

**forward**—EIA, NGM, April 2011, Table 6. • **All Other Data: 1973 and**

**1974**—American Gas Association, *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-0, "Underground

Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8,

"Underground Gas Storage Report." **1977 and 1978**—EIA, Form FEA-G318-M-0,

"Underground Gas Storage Report," and Federal Energy Regulatory Commission

(FERC), Form FERC-8, "Underground Gas Storage Report." **1979-1995**—EIA,

Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8,

"Underground Gas Storage Report." **1996-2006**—EIA, NGM, monthly issues. **2007**

**forward**—EIA, NGM, April 2011, Table 6.

## Natural Gas

**Note 1. Natural Gas Production.** Final annual data are from the U.S. Energy Information Administration (EIA) *Natural Gas Annual (NGA)*.

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 *Natural Gas Monthly (NGM)*.

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.

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.

**Note 2. Natural Gas 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.

**Note 3. Supplemental Gaseous Fuels.** Supplemental gaseous fuels are any substances that, introduced into or commingled with natural gas, increase 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, and 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.

Although the total amount of supplemental gaseous fuels consumed is known for 1980 forward, the amount consumed by each energy-use sector is estimated by EIA. These estimates are used to create natural gas (without supplemental gaseous fuels) data for Tables 1.3, 2.2, 2.3, 2.4, and 2.6 (note: to avoid double-counting in these tables, supplemental gaseous fuels are accounted for in their primary energy category: "Coal," "Petroleum," or "Biomass"). It is assumed that supplemental gaseous fuels are commingled with natural gas consumed by the residential, commercial, other industrial, and electric power sectors, but are not commingled with natural gas used for lease and plant fuel, pipelines and distribution, or vehicle fuel. The estimated consumption of supplemental gaseous fuels by each sector (residential, commercial, other industrial, and electric power) is calculated as that sector's natural gas consumption (see Table 4.3) divided by the sum of natural gas consumption by the residential, commercial, other industrial, and electric power sectors (see Table 4.3), and then multiplied by total supplemental gaseous fuels consumption (see Table 4.1). For estimated sectoral consumption of supplemental gaseous fuels in Btu, the residential, commercial, and other industrial values in cubic feet are multiplied by the "End-Use Sectors" conversion factors (see Table A4), and the electric power values in cubic feet are multiplied by the "Electric Power Sector" conversion factors (see Table A4). Total supplemental gaseous fuels consumption in Btu is calculated as the sum of the Btu values for the sectors.

**Note 4. Natural Gas Storage.** Natural gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. The difference is due to changes in the quantity of native gas included in the base gas and/or losses in base gas due to migration from storage reservoirs.

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

1975 ... 6,280	1987 ... 8,124	1999 ... 8,229
1976 ... 6,544	1988 ... 8,124	2000 ... 8,241
1977 ... 6,678	1989 ... 8,120	2001 ... 8,182
1978 ... 6,890	1990 ... 7,794	2002 ... 8,207
1979 ... 6,929	1991 ... 7,993	2003 ... 8,206
1980 ... 7,434	1992 ... 7,932	2004 ... 8,255
1981 ... 7,805	1993 ... 7,989	2005 ... 8,268
1982 ... 7,915	1994 ... 8,043	2006 ... 8,330
1983 ... 7,985	1995 ... 7,953	2007 ... 8,402
1984 ... 8,043	1996 ... 7,980	2008 ... 8,499
1985 ... 8,087	1997 ... 8,332	2009 ... 8,656
1986 ... 8,145	1998 ... 8,179	2010 ... <sup>P</sup> 8,710

P=Preliminary

Monthly underground storage data are collected from the Federal Energy Regulatory Commission Form FERC-8 (interstate data) and EIA Form EIA-191 (intrastate data). Beginning in January 1991, all data are collected on the revised Form EIA-191. Injection and withdrawal data from the FERC-8/EIA-191 survey are adjusted to correspond to data from Form EIA-176 following publication of the EIA NGA.

The final monthly and annual storage and withdrawal data for 1980–2009 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.

**Note 5. Natural Gas 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 that 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 EIA NGM, which was published in July 1985.

**Note 6. Natural Gas Consumption.** Consumption includes use for lease and plant fuel, pipelines and distribution, vehicle fuel, and electric power plants, as well as deliveries to residential, commercial, and other industrial customers.

Final data for series other than “Other Industrial CHP” and “Electric Power Sector” 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.

**Note 7. Natural Gas Consumption, 1989–1992.** Prior to 1993, deliveries to nonutility generators were not separately collected from natural gas companies on Form EIA-176, “Annual Report of Natural and Supplemental Gas

Supply and Disposition.” As a result, for 1989 through 1992, those volumes are probably included in both the industrial and electric power sectors and double-counted in total consumption. In 1993, 0.28 trillion cubic feet was reported as delivered to nonutility generators.

**Note 8. Natural Gas Data Adjustments, 1993–2000.** For 1993–2000, the original data for natural gas delivered to industrial consumers (now “Other Industrial” in Table 4.3) included deliveries to both industrial users and independent power producers (IPPs). These data were adjusted to remove the estimated consumption at IPPs from “Other Industrial” and include it with electric utilities under “Electric Power Sector.” (To estimate the monthly IPP consumption, the monthly pattern for Other Industrial CHP in Table 4.3 was used.)

For 1996–2000, monthly data for several natural gas series shown in EIA's Natural Gas Navigator (see [http://www.eia.gov/dnav/ng/ng\\_cons\\_sum\\_dcu\\_nus\\_m.htm](http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_m.htm)) were not reconciled and updated to be consistent with the final annual data in EIA's NGA. In the *Monthly Energy Review*, monthly data for these series were adjusted so that the monthly data sum to the final annual values. The Table 4.1 data series (and years) that were adjusted are: Gross Withdrawals (1996, 1997), Marketed Production (1997), Extraction Loss (1997, 1998, 2000), Dry Gas Production (1996, 1997), Supplemental Gaseous Fuels (1997–2000), Balancing Item (1997–2000), and Total Consumption (1997–2000). The Table 4.3 data series (and years) that were adjusted are: Lease and Plant Fuel (1997–2000), Total Industrial (1997–2000), Pipelines and Distribution (2000), Total Transportation (2000), and Total Consumption (1997–2000).

**Note 9. Natural Gas Imports and Exports.** The United States imports natural gas via pipeline from Canada and Mexico; and imports liquefied natural gas (LNG) via tanker from Algeria, Australia, Brunei, Egypt, Equatorial Guinea, Indonesia, Malaysia, Nigeria, Norway, Oman, Peru, Qatar, Trinidad and Tobago, the United Arab Emirates, and Yemen. In addition, very small amounts of LNG arrived from Canada in 1973 (667 million cubic feet), 1977 (572 million cubic feet), and 1981 (6 million cubic feet). The United States exports natural gas via pipeline to Canada and Mexico; and exports LNG via tanker to Brazil, India, Japan, Russia, South Korea, Spain, and United Kingdom. Also, small amounts of LNG have gone to Mexico since 1998.

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

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

# 5

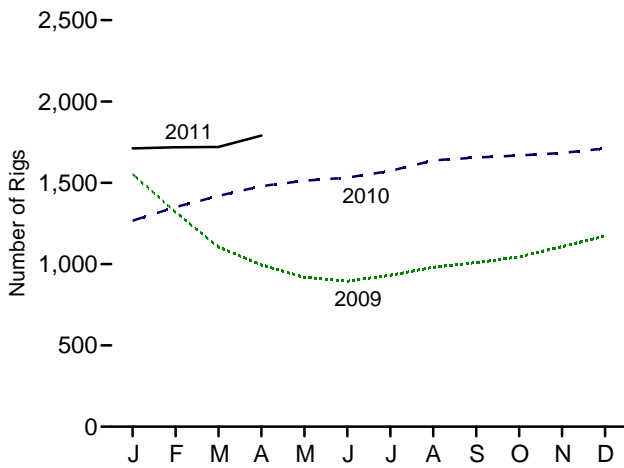
## Crude Oil and Natural Gas Resource Development



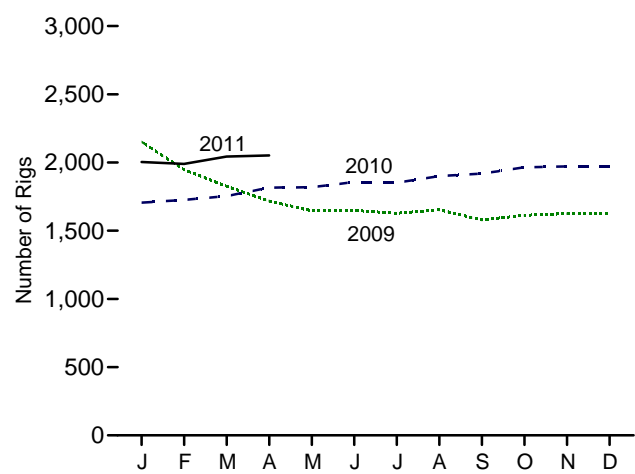
New oil and gas drilling activity in Wyoming. Source: Dreamstime Stock Photos.

**Figure 5.1 Crude Oil and Natural Gas Resource Development Indicators**

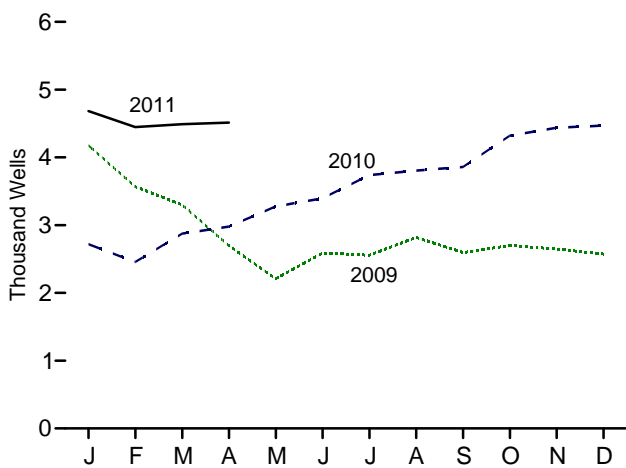
Rotary Rigs in Operation, Monthly



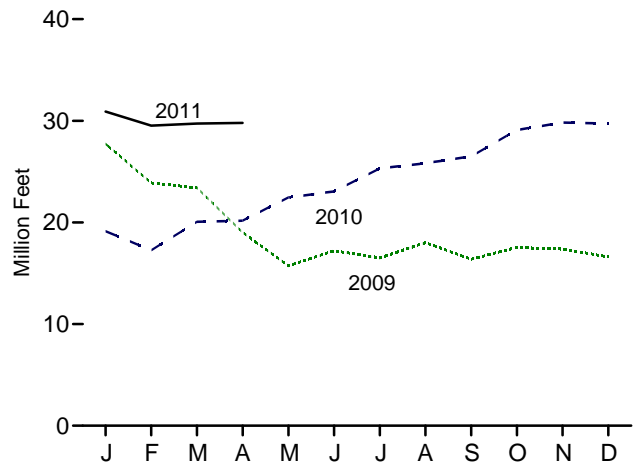
Active Well Service Rig Count, Monthly



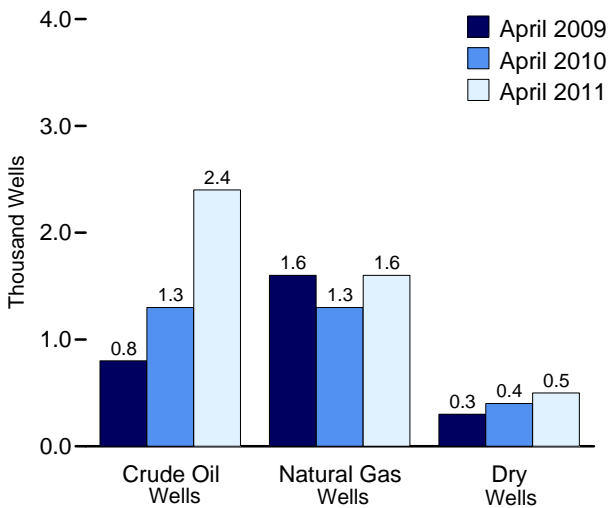
Wells Drilled, Monthly



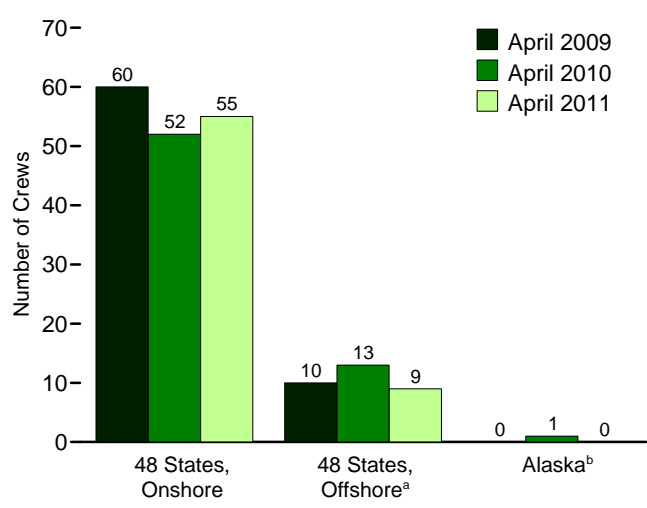
Footage Drilled, Monthly



Wells Drilled by Type



Maximum U.S. Active Seismic Crew Counts



<sup>a</sup> Federal and State Jurisdiction waters of the Gulf of Mexico.

<sup>b</sup> All onshore.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#crude>.  
Sources: Tables 5.1–5.3.

**Table 5.1 Crude Oil and Natural Gas Drilling Activity Measurements**  
(Number of Rigs)

	Rotary Rigs in Operation <sup>a</sup>					Active Well Service Rig Count <sup>c</sup>
	By Site		By Type		Total <sup>b</sup>	
	Onshore	Offshore	Crude Oil	Natural Gas		
<b>1973 Average</b> .....	1,110	84	NA	NA	1,194	2,008
<b>1975 Average</b> .....	1,554	106	NA	NA	1,660	2,486
<b>1980 Average</b> .....	2,678	231	NA	NA	2,909	4,089
<b>1985 Average</b> .....	1,774	206	NA	NA	1,980	4,716
<b>1990 Average</b> .....	902	108	532	464	1,010	3,658
<b>1995 Average</b> .....	622	101	323	385	723	3,041
<b>1996 Average</b> .....	671	108	306	464	779	3,445
<b>1997 Average</b> .....	821	122	376	564	943	3,499
<b>1998 Average</b> .....	703	123	264	560	827	3,014
<b>1999 Average</b> .....	519	106	128	496	625	2,232
<b>2000 Average</b> .....	778	140	197	720	918	2,692
<b>2001 Average</b> .....	1,003	153	217	939	1,156	2,267
<b>2002 Average</b> .....	717	113	137	691	830	1,830
<b>2003 Average</b> .....	924	108	157	872	1,032	1,967
<b>2004 Average</b> .....	1,095	97	165	1,025	1,192	2,064
<b>2005 Average</b> .....	1,287	94	194	1,184	1,381	2,222
<b>2006 Average</b> .....	1,559	90	274	1,372	1,649	2,364
<b>2007 Average</b> .....	1,695	72	297	1,466	1,768	2,388
<b>2008 Average</b> .....	1,814	65	379	1,491	1,879	2,515
<b>2009</b> January .....	1,487	66	328	1,215	1,553	2,152
February .....	1,263	57	271	1,037	1,320	1,947
March .....	1,059	46	225	867	1,105	1,825
April .....	947	48	209	775	995	1,718
May .....	864	54	187	723	918	1,646
June .....	848	47	194	691	895	1,648
July .....	893	38	245	675	931	1,629
August .....	949	31	279	691	980	1,653
September .....	976	33	293	704	1,009	1,579
October .....	1,011	33	312	722	1,044	1,613
November .....	1,071	36	362	734	1,107	1,625
December .....	1,136	37	404	758	1,172	1,625
<b>Average</b> .....	<b>1,046</b>	<b>44</b>	<b>278</b>	<b>801</b>	<b>1,089</b>	<b>1,722</b>
<b>2010</b> January .....	1,225	42	433	822	1,267	1,706
February .....	1,305	45	446	892	1,350	1,726
March .....	1,368	51	471	933	1,419	1,754
April .....	1,426	53	508	959	1,479	1,816
May .....	1,464	49	541	960	1,513	1,818
June .....	1,511	20	566	953	1,531	1,857
July .....	1,558	15	591	971	1,573	1,852
August .....	1,619	20	644	983	1,638	1,900
September .....	1,635	19	668	977	1,655	1,918
October .....	1,647	21	693	966	1,668	1,965
November .....	1,662	22	723	950	1,683	1,971
December .....	1,687	24	759	940	1,711	1,968
<b>Average</b> .....	<b>1,514</b>	<b>31</b>	<b>591</b>	<b>943</b>	<b>1,546</b>	<b>1,854</b>
<b>2011</b> January .....	1,686	26	793	909	1,711	2,004
February .....	1,692	26	801	907	1,718	1,990
March .....	<sup>R</sup> 1,694	26	<sup>R</sup> 830	<sup>R</sup> 884	<sup>R</sup> 1,720	2,044
April .....	1,762	28	896	885	1,790	2,052
<b>4-Month Average</b> .....	<b>1,712</b>	<b>27</b>	<b>834</b>	<b>896</b>	<b>1,738</b>	<b>2,023</b>
<b>2010 4-Month Average</b> .....	<b>1,337</b>	<b>48</b>	<b>467</b>	<b>905</b>	<b>1,385</b>	<b>1,751</b>
<b>2009 4-Month Average</b> .....	<b>1,207</b>	<b>55</b>	<b>262</b>	<b>988</b>	<b>1,262</b>	<b>1,911</b>

<sup>a</sup> 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.

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

<sup>c</sup> The number of rigs doing true workovers (where tubing is pulled from the well), or doing rod string and pump repair operations, and that are, on average, crewed and working every day of the month.

R=Revised. NA=Not available.

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

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#crude> for all available data beginning in 1973.

Sources: • **Rotary Rigs in Operation: By Site**—Baker Hughes, Inc., Houston, Texas, *Rotary Rigs Running—by State*. • **By Type**—Baker Hughes, Inc., Houston, Texas, weekly phone recording. • **Active Well Service Rig Count**: Cameron International Corporation, Houston, Texas. See <http://www.c-i-a-m.com/Forms/Product.aspx?prodID=cdc209c4-79a3-47e5-99c2-fdeda6d4aad6>.





**Table 5.3 Maximum U.S. Active Seismic Crew Counts**  
(Number of Crews)

	48 States, Onshore				48 States, Offshore <sup>a</sup>				Alaska <sup>b</sup>				Total
	Dimensions <sup>c</sup>			Total <sup>d</sup>	Dimensions <sup>c</sup>			Total <sup>d</sup>	Dimensions <sup>c</sup>			Total <sup>d</sup>	
	2	3	4		2	3	4		2	3	4		
<b>2000</b> April .....	4	36	1	41	7	11	0	19	1	2	0	3	63
<b>2001</b> April .....	7	39	1	47	9	9	0	18	0	0	0	0	65
<b>2002</b> April .....	7	25	0	32	9	7	0	16	1	1	0	2	50
<b>2003</b> April .....	7	20	0	27	7	4	0	11	1	1	0	2	40
<b>2004</b> April .....	9	27	0	36	5	4	0	9	0	0	0	0	45
<b>2005</b> April .....	8	30	0	38	6	6	0	12	0	0	0	0	50
<b>2006</b> April .....	4	42	0	46	5	6	0	11	0	1	0	1	58
<b>2007</b> April .....	4	55	0	59	4	6	1	11	0	1	0	1	71
<b>2008</b> April .....	4	53	0	57	3	11	1	15	0	0	0	0	72
<b>2009</b> January .....	2	63	0	65	2	8	0	10	0	0	0	0	75
February .....	3	62	0	65	2	9	0	11	0	0	0	0	76
March .....	3	59	0	62	2	8	0	10	0	0	0	0	72
April .....	3	57	0	60	2	8	0	10	0	0	0	0	70
May .....	2	54	0	56	2	7	0	9	0	0	0	0	65
June .....	2	50	0	52	2	6	0	8	0	0	0	0	60
July .....	2	51	0	53	2	6	0	8	0	0	0	0	61
August .....	2	49	0	51	3	6	0	9	0	0	0	0	60
September .....	1	49	0	50	4	6	0	10	0	0	0	0	60
October .....	1	50	0	51	5	7	0	12	0	0	0	0	63
November .....	0	49	0	49	5	8	0	13	0	0	0	0	62
December .....	0	49	0	49	5	8	0	13	0	1	0	1	63
<b>2010</b> January .....	0	50	0	50	5	8	0	13	0	1	0	1	64
February .....	0	51	0	51	5	8	0	13	0	1	0	1	65
March .....	0	49	0	49	5	8	0	13	0	1	0	1	63
April .....	1	51	0	52	5	8	0	13	0	1	0	1	66
May .....	1	50	0	52	5	9	0	14	0	1	0	1	67
June .....	2	50	0	52	4	10	0	14	0	1	0	1	67
July .....	2	51	0	53	3	10	0	13	0	1	0	1	67
August .....	2	50	0	52	4	9	0	13	0	0	0	0	65
September .....	2	49	0	51	4	9	0	13	0	0	0	0	64
October .....	1	50	0	51	4	7	0	11	0	0	0	0	62
November .....	1	50	0	51	4	7	0	11	0	0	0	0	62
December .....	1	51	0	52	4	6	0	10	0	0	0	0	62
<b>2011</b> January .....	2	52	0	54	4	6	0	10	0	0	0	0	64
February .....	3	53	0	56	3	6	0	9	0	0	0	0	65
March .....	2	52	0	54	3	6	0	9	0	0	0	0	63
April .....	2	53	0	55	3	6	0	9	0	0	0	0	64

<sup>a</sup> Federal and State Jurisdiction waters of the Gulf of Mexico.

<sup>b</sup> All onshore.

<sup>c</sup> In **two-dimensional** (2D) reflection seismic surveying both the sound source and the sound detectors (numbering up to a hundred or more per shot) are moved along a straight line. The resultant product can be thought of as a vertical sonic cross-section of the subsurface beneath the survey line. It is constructed by summing many compressional (pressure) wave reflections from the various sound source and sound detector locations at the halfway sound path points beneath each location (common depth point stacking). In **three-dimensional** (3D) reflection seismic surveying the sound detectors (numbering up to a thousand or more) are spread out over an area and the sound source is moved from location to location through the area. The resultant product can be thought of as a cube of common depth point stacked reflections. Advantages over 2D include the additional dimension, the fact that many more reflections are available for stacking at each point, which provides greatly improved resolution of subsurface features, and elimination of the "ghost" or "side swipe" reflections from nearby offline features that 2D surveys

are prone to (except, of course, along the outer faces of the cube). **Four dimensional** (4D) reflection seismic surveying is the exact repetition of a 3D survey at two or more time intervals. The primary application of 4D is mapping the movement of fluid interfaces in producing oil and gas reservoirs.

<sup>d</sup> Includes crews with unknown survey dimension.

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

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#crude> for all available data beginning in March 2000.

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

## Crude Oil and Natural Gas Resource Development

**Note. Crude Oil and Natural Gas Exploratory and Development Wells.** Three well types are considered in the *Monthly Energy Review (MER)* drilling statistics: “completed for crude oil,” “completed for natural gas,” and “dry hole.” Wells that productively encounter both crude oil and natural gas are categorized as “completed for crude oil.” Both development wells and exploratory wells (new field wildcats, new pool tests, and extension tests) are included in the statistics. All other classes of wells drilled in connection with the search for producible hydrocarbons are excluded. If a lateral is drilled at the same time as the original hole it is not counted separately, but its footage is included.

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 U.S. Energy Information Administration (EIA) estimates produced by statistically imputing well counts and footage based on the partial data available from the API. These estimates are subject to continuous revision as new data, some of which pertain to earlier months and years, become available. Additional information about the EIA estimation methodology may be found in “Estimating Well Completions,” a feature article published in the March 1985 MER.

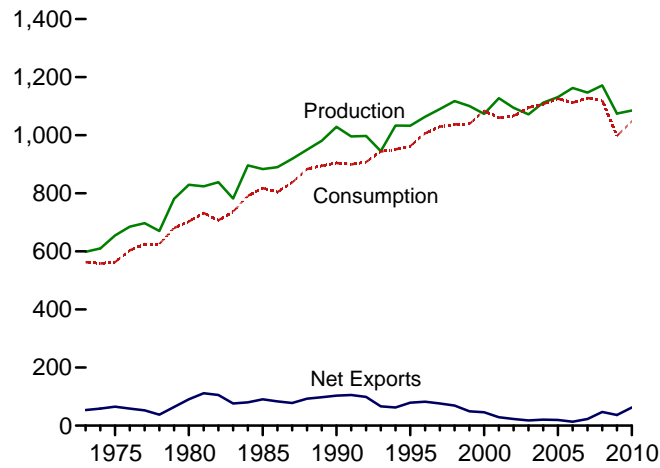
# Coal



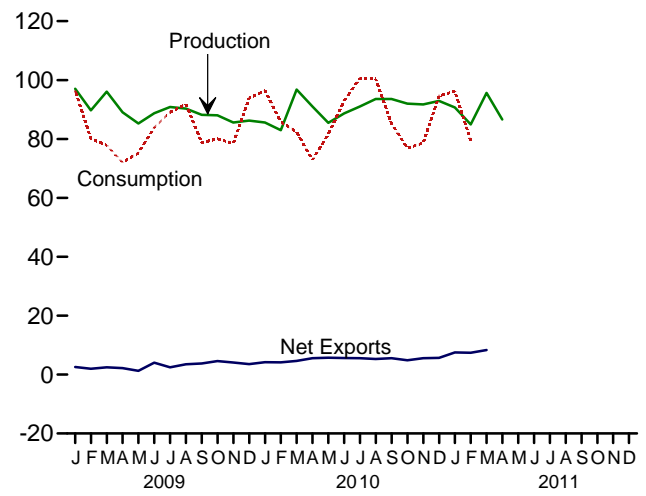
Coal yard, Curtis Bay, Maryland. Source: U.S. Department of Energy.

**Figure 6.1 Coal**  
(Million Short Tons)

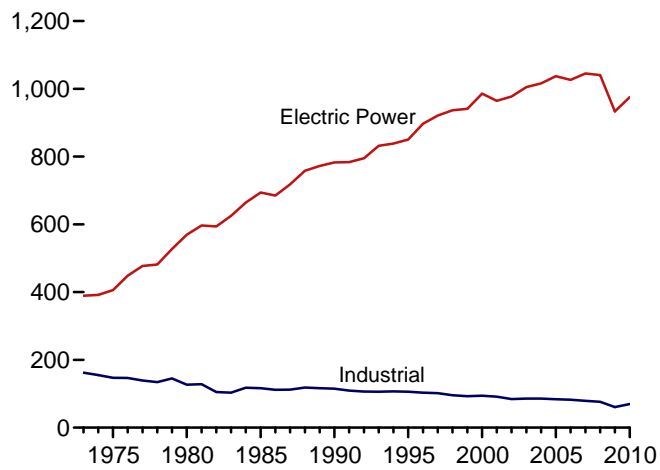
Overview, 1973-2010



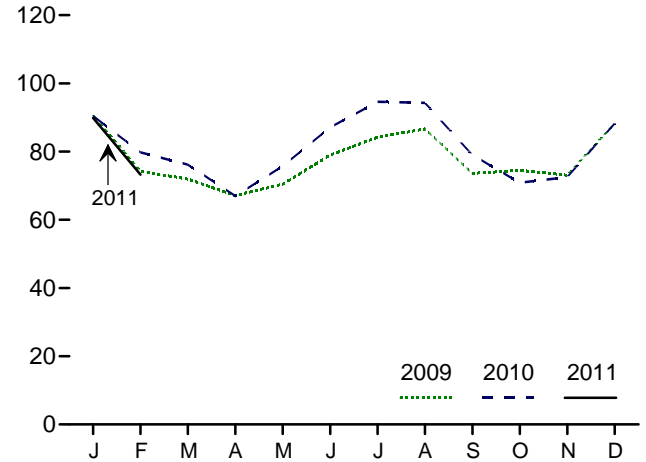
Overview, Monthly



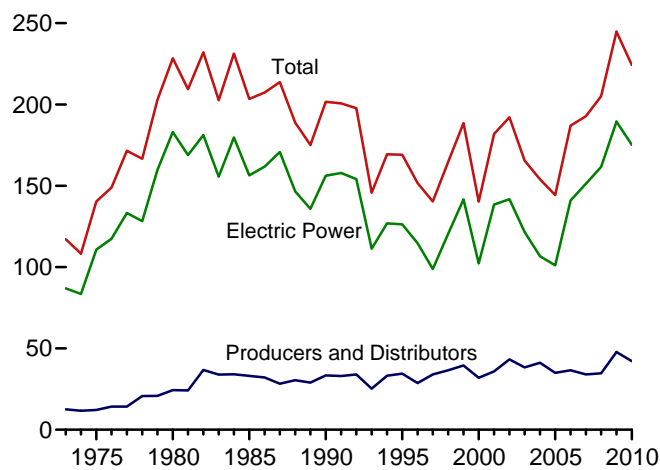
Consumption by Sector, 1973-2010



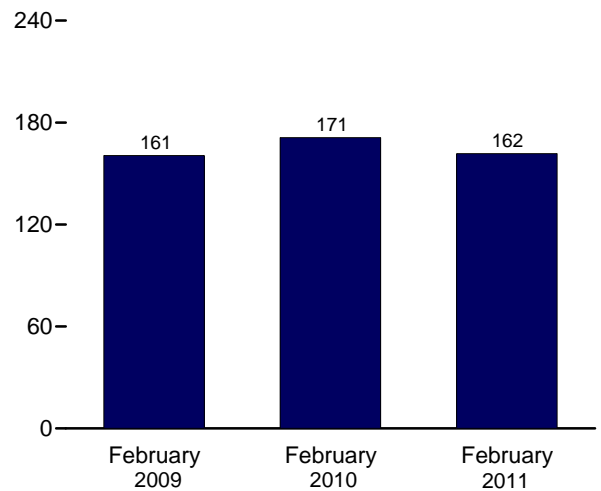
Electric Power Sector Consumption, Monthly



Stocks, End of Year, 1973-2010



Electric Power Sector Stocks, End of Month



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#coal>.  
Sources: Tables 6.1-6.3.

**Table 6.1 Coal Overview**  
(Thousand Short Tons)

	Production <sup>a</sup>	Waste Coal Supplied <sup>b</sup>	Trade			Stock Change <sup>d</sup>	Losses and Unaccounted for <sup>e</sup>	Consumption
			Imports	Exports	Net Imports <sup>c</sup>			
<b>1973 Total</b> .....	598,568	NA	127	53,587	-53,460	( <sup>f</sup> )	<sup>f</sup> -17,476	562,584
<b>1975 Total</b> .....	654,641	NA	940	66,309	-65,369	32,154	-5,522	562,640
<b>1980 Total</b> .....	829,700	NA	1,194	91,742	-90,548	25,595	10,827	702,730
<b>1985 Total</b> .....	883,638	NA	1,952	92,680	-90,727	-27,934	2,796	818,049
<b>1990 Total</b> .....	1,029,076	3,339	2,699	105,804	-103,104	26,542	-1,730	904,498
<b>1995 Total</b> .....	1,032,974	8,561	9,473	88,547	-79,074	-275	632	962,104
<b>1996 Total</b> .....	1,063,856	8,778	8,115	90,473	-82,357	-17,456	1,411	1,006,321
<b>1997 Total</b> .....	1,089,932	8,096	7,487	83,545	-76,058	-11,253	3,678	1,029,544
<b>1998 Total</b> .....	1,117,535	8,690	8,724	78,048	-69,324	24,228	-4,430	1,037,103
<b>1999 Total</b> .....	1,100,431	8,683	9,089	58,476	-49,387	23,988	-2,906	1,038,647
<b>2000 Total</b> .....	1,073,612	9,089	12,513	58,489	-45,976	-48,309	938	1,084,095
<b>2001 Total</b> .....	1,127,689	10,085	19,787	48,666	-28,879	41,630	7,120	1,066,146
<b>2002 Total</b> .....	1,094,283	9,052	16,875	39,601	-22,726	10,215	4,040	1,066,355
<b>2003 Total</b> .....	1,071,753	10,016	25,044	43,014	-17,970	-26,659	-4,403	1,094,861
<b>2004 Total</b> .....	1,112,099	11,299	27,280	47,998	-20,718	-11,462	6,887	1,107,255
<b>2005 Total</b> .....	1,131,498	13,352	30,460	49,942	-19,482	-9,702	9,092	1,125,978
<b>2006 Total</b> .....	1,162,750	14,409	36,246	49,647	-13,401	42,642	8,824	1,112,292
<b>2007 Total</b> .....	1,146,635	14,076	36,347	59,163	-22,816	5,812	4,085	1,127,998
<b>2008 Total</b> .....	1,171,809	14,146	34,208	81,519	-47,311	12,354	5,740	1,120,548
<b>2009</b>								
January .....	97,022	1,272	2,329	4,907	-2,578	-2,104	1,370	96,449
February .....	89,688	928	1,855	3,822	-1,968	7,901	626	80,121
March .....	96,062	1,121	2,141	4,605	-2,464	12,517	4,389	77,814
April .....	89,072	1,036	1,303	3,513	-2,210	13,303	2,577	72,019
May .....	85,236	1,065	2,283	3,552	-1,269	7,537	2,231	75,264
June .....	88,708	1,118	1,840	5,886	-4,045	2,746	-792	83,827
July .....	90,847	1,248	2,018	4,477	-2,459	4,477	1,282	89,134
August .....	90,308	1,206	1,568	5,056	-3,488	-4,988	1,282	91,731
September .....	88,185	1,113	1,854	5,625	-3,771	4,868	1,902	78,757
October .....	88,002	1,142	1,762	6,364	-4,603	4,561	-54	80,035
November .....	85,564	1,164	1,506	5,586	-4,080	2,724	1,423	78,502
December .....	86,229	1,252	2,179	5,703	-3,524	-8,617	-1,252	93,826
<b>Total</b> .....	<b>1,074,923</b>	<b>13,666</b>	<b>22,639</b>	<b>59,097</b>	<b>-36,458</b>	<b>39,668</b>	<b>14,985</b>	<b>997,478</b>
<b>2010</b>								
January .....	85,589	1,201	1,665	5,866	-4,202	-10,728	-3,065	96,381
February .....	82,968	903	1,239	5,386	-4,146	-7,969	1,897	85,796
March .....	96,760	1,165	1,899	6,554	-4,655	8,047	2,819	82,404
April .....	91,010	1,087	1,812	7,358	-5,545	12,072	1,634	72,845
May .....	85,456	1,163	1,475	7,220	-5,745	1,911	-2,649	81,612
June .....	88,666	1,193	1,771	7,387	-5,616	-11,636	2,917	92,962
July .....	91,020	1,288	1,390	6,928	-5,539	-15,359	1,547	100,581
August .....	93,587	1,295	1,702	7,001	-5,299	-8,656	-2,132	100,372
September .....	93,597	1,138	1,588	7,145	-5,556	-335	4,319	85,195
October .....	91,977	1,116	1,775	6,623	-4,849	13,664	-2,323	76,904
November .....	91,708	1,088	1,473	7,015	-5,542	4,715	3,915	78,624
December .....	92,942	1,225	1,563	7,232	-5,669	-6,190	69	94,620
<b>Total</b> .....	<b>1,085,281</b>	<b>13,862</b>	<b>19,353</b>	<b>81,716</b>	<b>-62,363</b>	<b>-20,465</b>	<b>8,950</b>	<b>1,048,295</b>
<b>2011</b>								
January .....	90,669	<sup>F</sup> 1,069	1,014	8,509	-7,496	-11,507	<sup>R</sup> -462	<sup>R</sup> 96,212
February .....	84,934	<sup>RF</sup> 1,069	<sup>R</sup> 843	<sup>R</sup> 8,275	<sup>R</sup> -7,432	<sup>R</sup> -6,052	<sup>R</sup> 5,181	<sup>R</sup> 79,441
March .....	95,633	NA	<sup>R</sup> 1,524	<sup>R</sup> 9,832	<sup>R</sup> -8,308	NA	NA	NA
April .....	86,600	NA	NA	NA	NA	NA	NA	NA
<b>4-Month Total</b> .....	<b>357,837</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>2010 4-Month Total</b> .....	<b>356,327</b>	<b>4,356</b>	<b>6,616</b>	<b>25,164</b>	<b>-18,549</b>	<b>1,422</b>	<b>3,286</b>	<b>337,426</b>
<b>2009 4-Month Total</b> .....	<b>371,844</b>	<b>4,357</b>	<b>7,627</b>	<b>16,848</b>	<b>-9,220</b>	<b>31,617</b>	<b>8,962</b>	<b>326,402</b>

<sup>a</sup> Beginning in 2001, includes a small amount of refuse recovery (coal recaptured from a refuse mine and cleaned to reduce the concentration of noncombustible materials).

<sup>b</sup> Waste coal (including fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste) consumed by the electric power and industrial sectors. Beginning in 1989, waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in "Consumption."

<sup>c</sup> Net imports equal imports minus exports. A minus sign indicates exports greater than imports.

<sup>d</sup> A negative value indicates a decrease in stocks; a positive value indicates an increase.

<sup>e</sup> "Losses and Unaccounted for" is calculated as the sum of production, imports,

and waste coal supplied, minus exports, stock change, and consumption.

<sup>f</sup> In 1973, stock change is included in "Losses and Unaccounted for."

<sup>R</sup> = Revised. <sup>NA</sup> = Not available. <sup>F</sup> = Forecast.

Notes: • For methodology used to calculate production, consumption, and stocks, see Note 1, "Coal Production," Note 2, "Coal Consumption," and Note 3, "Coal Stocks," at end of section. • Data values preceded by "F" are derived from the U.S. Energy Information Administration's Short-Term Integrated Forecasting System. See Note 4, "Coal Forecast Values," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#coal> for all available data beginning in 1973.

Sources: See end of section.



**Table 6.3 Coal Stocks by Sector**  
(Thousand Short Tons)

	Producers and Distributors	End-Use Sectors					Electric Power Sector <sup>b,c</sup>	Total
		Residential and Commercial	Industrial			Total		
			Coke Plants	Other <sup>a</sup>	Total			
<b>1973 Year</b> .....	<b>12,530</b>	<b>290</b>	<b>6,998</b>	<b>10,370</b>	<b>17,368</b>	<b>17,658</b>	<b>86,967</b>	<b>117,155</b>
<b>1975 Year</b> .....	<b>12,108</b>	<b>233</b>	<b>8,797</b>	<b>8,529</b>	<b>17,326</b>	<b>17,559</b>	<b>110,724</b>	<b>140,391</b>
<b>1980 Year</b> .....	<b>24,379</b>	<b>NA</b>	<b>9,067</b>	<b>11,951</b>	<b>21,018</b>	<b>21,018</b>	<b>183,010</b>	<b>228,407</b>
<b>1985 Year</b> .....	<b>33,133</b>	<b>NA</b>	<b>3,420</b>	<b>10,438</b>	<b>13,857</b>	<b>13,857</b>	<b>156,376</b>	<b>203,367</b>
<b>1990 Year</b> .....	<b>33,418</b>	<b>NA</b>	<b>3,329</b>	<b>8,716</b>	<b>12,044</b>	<b>12,044</b>	<b>156,166</b>	<b>201,629</b>
<b>1995 Year</b> .....	<b>34,444</b>	<b>NA</b>	<b>2,632</b>	<b>5,702</b>	<b>8,334</b>	<b>8,334</b>	<b>126,304</b>	<b>169,083</b>
<b>1996 Year</b> .....	<b>28,648</b>	<b>NA</b>	<b>2,667</b>	<b>5,688</b>	<b>8,355</b>	<b>8,355</b>	<b>114,623</b>	<b>151,627</b>
<b>1997 Year</b> .....	<b>33,973</b>	<b>NA</b>	<b>1,978</b>	<b>5,597</b>	<b>7,576</b>	<b>7,576</b>	<b>98,826</b>	<b>140,374</b>
<b>1998 Year</b> .....	<b>36,530</b>	<b>NA</b>	<b>2,026</b>	<b>5,545</b>	<b>7,571</b>	<b>7,571</b>	<b>120,501</b>	<b>164,602</b>
<b>1999 Year</b> .....	<b>39,475</b>	<b>NA</b>	<b>1,943</b>	<b>5,569</b>	<b>7,511</b>	<b>7,511</b>	<sup>c</sup> <b>141,604</b>	<b>188,590</b>
<b>2000 Year</b> .....	<b>31,905</b>	<b>NA</b>	<b>1,494</b>	<b>4,587</b>	<b>6,081</b>	<b>6,081</b>	<b>102,296</b>	<b>140,282</b>
<b>2001 Year</b> .....	<b>35,900</b>	<b>NA</b>	<b>1,510</b>	<b>6,006</b>	<b>7,516</b>	<b>7,516</b>	<b>138,496</b>	<b>181,912</b>
<b>2002 Year</b> .....	<b>43,257</b>	<b>NA</b>	<b>1,364</b>	<b>5,792</b>	<b>7,156</b>	<b>7,156</b>	<b>141,714</b>	<b>192,127</b>
<b>2003 Year</b> .....	<b>38,277</b>	<b>NA</b>	<b>905</b>	<b>4,718</b>	<b>5,623</b>	<b>5,623</b>	<b>121,567</b>	<b>165,468</b>
<b>2004 Year</b> .....	<b>41,151</b>	<b>NA</b>	<b>1,344</b>	<b>4,842</b>	<b>6,186</b>	<b>6,186</b>	<b>106,669</b>	<b>154,006</b>
<b>2005 Year</b> .....	<b>34,971</b>	<b>NA</b>	<b>2,615</b>	<b>5,582</b>	<b>8,196</b>	<b>8,196</b>	<b>101,137</b>	<b>144,304</b>
<b>2006 Year</b> .....	<b>36,548</b>	<b>NA</b>	<b>2,928</b>	<b>6,506</b>	<b>9,434</b>	<b>9,434</b>	<b>140,964</b>	<b>186,946</b>
<b>2007 Year</b> .....	<b>33,977</b>	<b>NA</b>	<b>1,936</b>	<b>5,624</b>	<b>7,560</b>	<b>7,560</b>	<b>151,221</b>	<b>192,758</b>
<b>2008 Year</b> .....	<b>34,688</b>	<b>498</b>	<b>2,331</b>	<b>6,007</b>	<b>8,338</b>	<b>8,836</b>	<b>161,589</b>	<b>205,112</b>
<b>2009</b> January .....	38,394	490	2,260	5,788	8,049	8,539	156,075	203,008
February .....	42,066	483	2,190	5,570	7,760	8,243	160,601	210,909
March .....	41,257	475	2,119	5,352	7,471	7,946	174,223	223,426
April .....	43,195	477	2,000	5,266	7,266	7,744	185,790	236,729
May .....	41,622	480	1,880	5,181	7,061	7,541	195,103	244,266
June .....	44,018	482	1,760	5,096	6,856	7,338	195,656	247,012
July .....	45,372	496	1,702	5,099	6,800	7,297	193,563	246,232
August .....	42,457	510	1,644	5,101	6,745	7,255	191,532	241,244
September .....	41,690	524	1,585	5,104	6,690	7,214	197,208	246,112
October .....	43,882	526	1,683	5,106	6,789	7,314	199,477	250,673
November .....	42,217	527	1,780	5,108	6,888	7,415	203,765	253,397
<b>December</b> .....	<b>47,718</b>	<b>529</b>	<b>1,957</b>	<b>5,109</b>	<b>7,066</b>	<b>7,595</b>	<b>189,467</b>	<b>244,780</b>
<b>2010</b> January .....	48,854	510	1,832	4,793	6,625	7,135	178,063	234,052
February .....	48,286	490	1,708	4,476	6,184	6,674	171,123	226,083
March .....	50,153	471	1,583	4,159	5,743	6,213	177,763	234,130
April .....	50,614	482	1,715	4,194	5,909	6,392	189,196	246,202
May .....	50,248	494	1,846	4,230	6,076	6,570	191,295	248,113
June .....	48,667	505	1,978	4,265	6,243	6,748	181,062	236,477
July .....	45,105	509	1,948	4,341	6,289	6,798	169,215	221,118
August .....	45,808	513	1,918	4,417	6,335	6,848	159,805	212,461
September .....	42,430	517	1,889	4,492	6,381	6,899	162,798	212,126
October .....	43,709	529	1,901	4,503	6,404	6,934	175,147	225,790
November .....	40,688	541	1,913	4,514	6,428	6,969	182,848	230,505
<b>December</b> .....	<b>42,151</b>	<b>553</b>	<b>1,925</b>	<b>4,525</b>	<b>6,451</b>	<b>7,004</b>	<b>175,160</b>	<b>224,315</b>
<b>2011</b> January .....	<sup>F</sup> 40,848	<sup>F</sup> 500	<sup>RF</sup> 1,856	<sup>F</sup> 4,545	<sup>F</sup> 6,401	<sup>F</sup> 6,901	165,059	212,808
February .....	<sup>F</sup> 38,526	<sup>F</sup> 497	<sup>F</sup> 1,731	<sup>F</sup> 4,297	<sup>F</sup> 6,028	<sup>F</sup> 6,525	161,705	206,756

<sup>a</sup> Through 1977, data are for stocks held by the manufacturing and transportation sectors. Beginning in 1978, data are for stocks held at manufacturing plants only.

<sup>b</sup> The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>c</sup> Through 1998, data are for stocks at electric utilities only. Beginning in 1999, data also include stocks at independent power producers.

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

Notes: • Stocks are at end of period. • Electric power sector monthly values

are from Table 7.5; producers and distributors monthly values are estimates derived from collected annual data; all other monthly values are estimates derived from collected quarterly values. • Data values preceded by "F" are derived from the U.S. Energy Information Administration's Short-Term Integrated Forecasting System. See Note 4, "Coal Forecast Values," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#coal> for all available data beginning in 1973.

Sources: See end of section.

## Coal

**Note 1. Coal Production.** Preliminary monthly estimates of national coal production are the sum of weekly estimates developed by the U.S. 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 (AAR) data showing the number of railcars loaded with coal during the week by Class I and certain other railroads.

Prior to 2002, the weekly coal production model converted AAR data into short tons of coal by using the average number of short tons of coal per railcar loaded reported in the “Quarterly Freight Commodity Statistics” from the Surface Transportation Board. If an average coal tonnage per railcar loaded was not available for a specific railroad, the national average was used. To derive the estimate of total weekly production, the total rail tonnage for the week was divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years were used to derive this ratio. This method ensured that the seasonal variations were preserved in the production estimates.

Beginning in 2002, the weekly coal production model uses statistical autoregressive methods to estimate national coal production as a function of railcar loadings of coal, and heating degree-days and cooling degree-days. On Thursday of each week, EIA receives from the AAR data for the previous week. The latest weekly national data for heating degree-days and cooling degree-days are obtained from the National Oceanic and Atmospheric Administration’s Climate Prediction Center. The weekly coal model is run and a national level coal production estimate is obtained. The weekly coal model is refit every quarter after preliminary coal data are available.

When preliminary quarterly data become available, the monthly and weekly estimates are adjusted to conform to the quarterly figures. 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 nine 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.

**Note 2. Coal Consumption.** Coal consumption data are reported by major end-use sector. Forecast data (designated

by an “F”) are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled “U.S. Coal Supply and Demand: Base Case.” The monthly estimates are based on the quarterly values, which are released in March, June, September, and December. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

**Residential and Commercial—**Coal consumption by the residential and commercial sectors is reported to EIA for the two sectors combined; EIA estimates the amount consumed by the sectors individually. To create the estimates, it is first assumed that an occupied coal-heated housing unit consumes fuel at the same Btu rate as an oil-heated housing unit. Then, for the years in which data are available on the number of occupied housing units by heating source (1973–1981 and subsequent odd-numbered years), residential consumption of coal is estimated by the following steps: a ratio is created of the number of occupied housing units heated by coal to the number of occupied housing units heated by oil; that ratio is then multiplied by the Btu quantity of oil consumed by the residential sector to derive an estimate of the Btu quantity of coal consumed by the residential sector; and, finally, the amount estimated as the residential sector consumption is subtracted from the residential and commercial sectors’ combined consumption to derive the commercial sector’s estimated consumption. The 2007 share is applied to 2008 forward, and the other missing years’ shares are interpolated.

**Industrial Coke Plants—**Prior to 1980, monthly coke plant consumption data were taken directly from reported data. For 1980–1987, coke plant consumption estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in January 1988, monthly coke plant consumption estimates are derived from the reported quarterly data by using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces.

**Industrial Other—**Prior to 1978, monthly consumption data for the other industrial sector (all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent Bureau of the Census Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. For 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. Beginning in January 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by using ratios derived from industrial production indices published by the Board of Governors of the



Federal Reserve System. Indices for six major industry groups are used as the basis for calculating the ratios: food manufacturing, which is North American Industry Classification System (NAICS) code 311; paper manufacturing, NAICS 322; chemical manufacturing, NAICS 325; petroleum and coal products, NAICS 324; non-metallic mineral products manufacturing, NAICS 327; and primary metal manufacturing, NAICS 331. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights. Prior to 2008, quarterly consumption data for the other industrial sector were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts are 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, and construction consumption data were included where appropriate. Beginning in 2008, quarterly consumption totals for other industrial coal include data for manufacturing and mining only. Over time, surveyed coal consumption data for agriculture, forestry, fishing, and construction dwindled to about 20,000 to 30,000 tons annually. Therefore, in 2008, EIA consolidated its programs by eliminating agriculture, forestry, fishing, and construction as surveyed sectors.

Electric Power Sector—Monthly consumption data for electric power plants are taken directly from reported data.

**Note 3. Coal Stocks.** Coal stocks data are reported by major end-use sector. Forecast data for the most recent months (designated by an “F”) are derived from forecasted values shown in the EIA *Short-Term Energy Outlook* (DOE/EIA-0202) table titled “U.S. Coal Supply and Demand: Base Case.” The monthly estimates are based on the quarterly values (released in March, June, September, and December) or annual values. The estimates are revised as collected data become available from the data sources. Sector-specific information follows.

Producers and Distributors—Prior to 1998, quarterly stocks at producers and distributors were taken directly from reported data. Monthly data were estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Beginning in 1998, end-of-year stocks are taken from reported data. Monthly stocks are estimated by a model.

Residential and Commercial—Prior to 1980, stock estimates for the residential and commercial sector were taken directly from reported data. For 1980-2007, stock estimates were not collected. Beginning in 2008, quarterly stocks data are collected on Form EIA-3 (data for “Commercial and Institutional Coal Users”).

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

Beginning in 1980, coke plant stocks are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are taken directly from data reported on Form EIA-5.

Industrial Other—Prior to 1978, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. For 1978–1982, monthly estimates were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. Beginning in 1983, 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 Power Sector—Monthly stocks data at electric power plants are taken directly from reported data.

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

The STIFS model results are published monthly in EIA’s *Short-Term Energy Outlook*, which is accessible on the Web at <http://www.eia.gov/emeu/steo/pub/contents.html>.

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

## Table 6.1 Sources

### Production

1973–September 1977: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977 forward: U.S. Energy Information Administration (EIA), *Weekly Coal Production*.

### Waste Coal Supplied

1989–1997: EIA, Form EIA-867, “Annual Nonutility Power Producer Report.”

1998–2000: EIA, Form EIA-860B, “Annual Electric Generator Report—Nonutility.”

2001–2003: EIA, Form EIA-906, “Power Plant Report,” and Form EIA-3, “Quarterly Coal Consumption and

Quality Report—Manufacturing Plants.”

2004–2007: EIA, Form EIA-906, “Power Plant Report,” Form EIA-920, “Combined Heat and Power Plant Report,” and Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants.”

2008 forward: EIA, Form EIA-923, “Power Plant Operations Report,” and Form EIA-3, “Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users”; and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### Imports and Exports

U.S. Department of Commerce, Bureau of the Census, Monthly Reports IM 145 (Imports) and EM 545 (Exports).

### Stock Change

Calculated from data in Table 6.3.

### Losses and Unaccounted for

Calculated as the sum of production, imports, and waste coal supplied, minus exports, stock change, and consumption.

### Consumption

Table 6.2.

## Table 6.2 Sources

### Residential and Commercial Total

Coal consumption by the residential and commercial sectors combined is reported to the U.S. Energy Information Administration (EIA). EIA estimates the sectors individually using the method described in Note 2, “Consumption,” at the end of Section 6. Data for the residential and commercial sectors combined are from:

1973–1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*.

January–September 1977: DOI, BOM, Form 6-1400, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.” October 1977–1979: EIA, Form EIA-2, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

1980–1997: EIA, Form EIA-6, “Coal Distribution Report,” quarterly.

1998–2007: DOI, Mine Safety and Health Administration, Form 7000-2, “Quarterly Mine Employment and Coal Production.”

2008 forward: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users” (data for “Commercial and Institutional Coal Users”); and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### Commercial CHP

Table 7.4c.

### Commercial Other

Calculated as “Commercial Total” minus “Commercial CHP.”

### Industrial Coke Plants

1973–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1980: EIA, Form EIA-5/5A, “Coke and Coal Chemicals—Monthly/Annual Supplement.”

1981–1984: EIA, Form EIA-5/5A, “Coke Plant Report—Quarterly/Annual Supplement.”

1985 forward: EIA, Form EIA-5, “Coke Plant Report—Quarterly”; and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### Other Industrial Total

1973–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1979: EIA, Form EIA-3, “Monthly Coal Consumption Report—Manufacturing Plants.”

1980–1997: EIA, Form EIA-3, “Quarterly Coal Consumption Report—Manufacturing Plants,” and Form EIA-6, “Coal Distribution Report,” quarterly.

1998–2007: EIA, Form EIA-3, “Quarterly Coal Consumption Report—Manufacturing Plants,” Form EIA-6A, “Coal Distribution Report,” annual, and Form EIA-7A, “Coal Production Report,” annual.

2008 forward: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users,” and Form EIA-7A, “Coal Production Report,” annual; and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### Other Industrial CHP

Table 7.4c.

### Other Industrial Non-CHP

Calculated as “Other Industrial Total” minus “Other Industrial CHP.”

### Transportation

1973–1976: DOI, BOM, *Minerals Yearbook*.

January–September 1977: DOI, BOM, Form 6-1400, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

October–December 1977: EIA, Form EIA-6, “Coal Distribution Report,” quarterly.

### Electric Power

Table 7.4b.

## Table 6.3 Sources

### Producers and Distributors

1973–1979: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), Form 6-1419Q, “Distribution of Bituminous Coal and Lignite Shipments.”

1980–1997: U.S. Energy Information Administration (EIA), Form EIA-6, “Coal Distribution Report,” quarterly.

1998–2007: EIA, Form EIA-6A, “Coal Distribution Report,” annual.

2008 forward: EIA, Form EIA-7A, “Coal Production Report,” annual, and Form EIA-8A, “Coal Stocks Report,” annual; and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### **Residential and Commercial**

1973–1976: DOI, BOM, *Minerals Yearbook*.

January–September 1977: DOI, BOM, Form 6-1400, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

October 1977–1979: EIA, Form EIA-2, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

2008 forward: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users” (data for “Commercial and Institutional Coal Users”); and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### **Industrial Coke Plants**

1973–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1980: EIA, Form EIA-5/5A, “Coke and Coal

Chemicals—Monthly/Annual.”

1981–1984: EIA, Form EIA 5/5A, “Coke Plant Report—Quarterly/Annual Supplement.”

1985 forward: EIA, Form EIA-5, “Coke Plant Report—Quarterly”; and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### **Industrial Other**

1973–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1979: EIA, Form EIA-3, “Monthly Coal Consumption Report—Manufacturing Plants.”

1998–2007: EIA, Form EIA-3, “Quarterly Coal Consumption Report—Manufacturing Plants.”

2008 forward: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users”; and, for forecast values, EIA, Short-Term Integrated Forecasting System.

### **Electric Power**

Table 7.5.



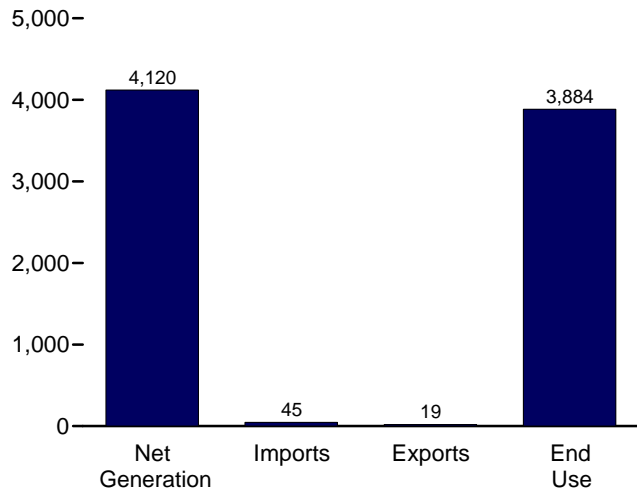
# Electricity



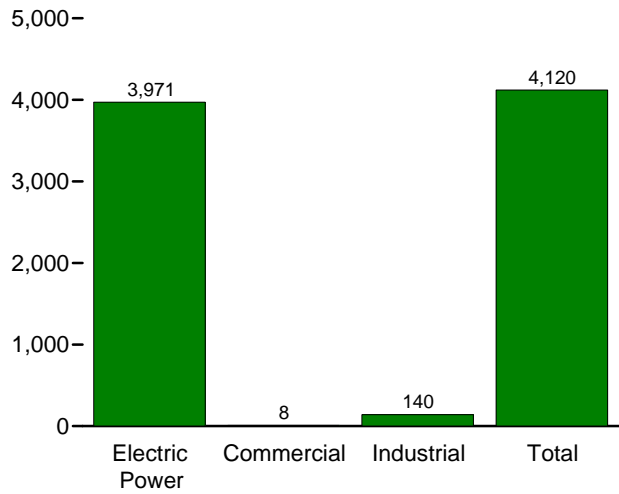
High-tension power lines and towers. Source: U.S. Department of Energy.

**Figure 7.1 Electricity Overview**  
(Billion Kilowatthours)

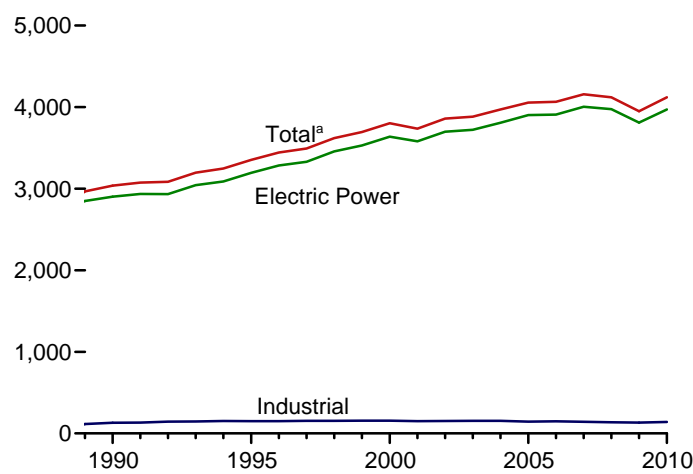
Overview, 2010



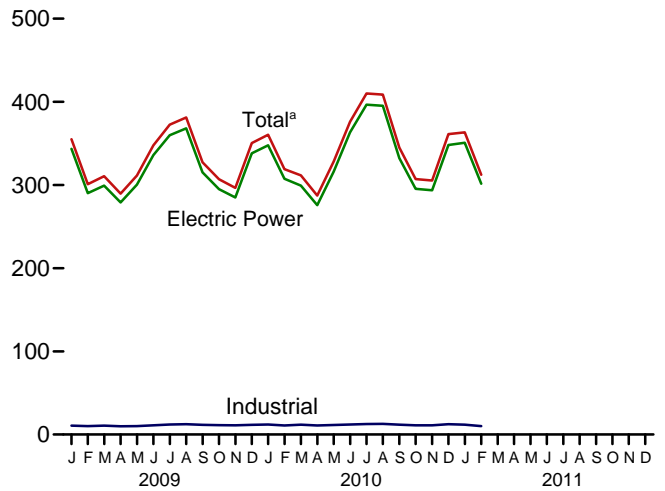
Net Generation, 2010



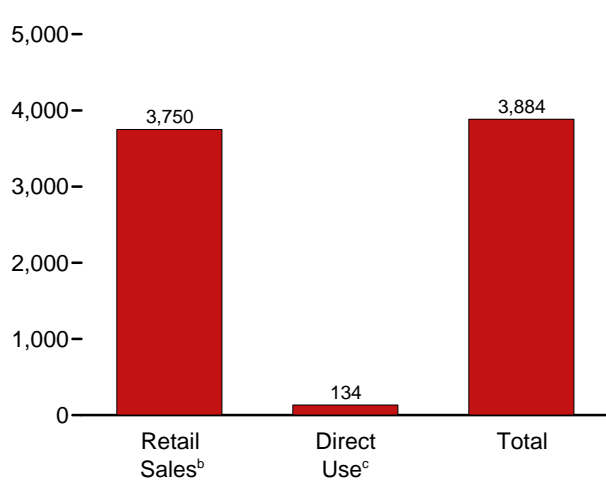
Net Generation by Sector, 1989-2010



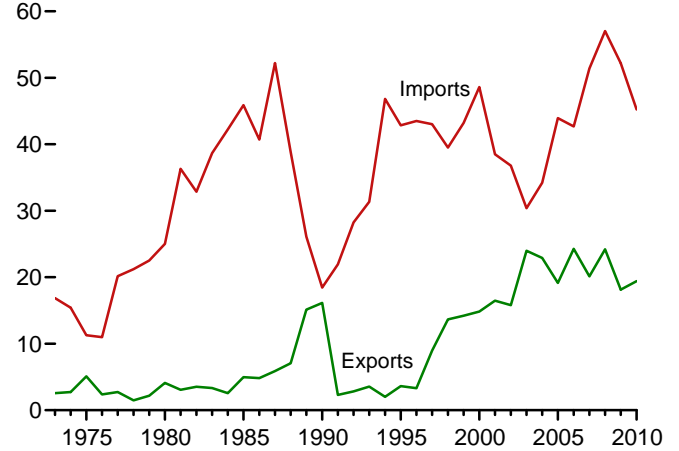
Net Generation by Sector, Monthly



End Use, 2010



Trade, 1973-2010



<sup>a</sup> Includes commercial sector.  
<sup>b</sup> Electricity retail sales to ultimate customers reported by electric utilities and other energy service providers.

<sup>c</sup> See "Direct Use" in Glossary.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.  
Source: Table 7.1.

**Table 7.1 Electricity Overview**  
(Billion Kilowatthours)

	Net Generation				Trade			T&D Losses <sup>e</sup> and Unaccounted for <sup>f</sup>	End Use		
	Electric Power Sector <sup>a</sup>	Com- mercial Sector <sup>b</sup>	Indus- trial <sup>c</sup>	Total	Imports <sup>d</sup>	Exports <sup>d</sup>	Net Imports <sup>d</sup>		Retail Sales <sup>g</sup>	Direct Use <sup>h</sup>	Total
1973 Total .....	1,861	NA	3	1,864	17	3	14	165	1,713	NA	1,713
1975 Total .....	1,918	NA	3	1,921	11	5	6	180	1,747	NA	1,747
1980 Total .....	2,286	NA	3	2,290	25	4	21	216	2,094	NA	2,094
1985 Total .....	2,470	NA	3	2,473	46	5	41	190	2,324	NA	2,324
1990 Total .....	2,901	6	131	3,038	18	16	2	203	2,713	125	2,837
1995 Total .....	3,194	8	151	3,353	43	4	39	229	3,013	151	3,164
1996 Total .....	3,284	9	151	3,444	43	3	40	231	3,101	153	3,254
1997 Total .....	3,329	9	154	3,492	43	9	34	224	3,146	156	3,302
1998 Total .....	3,457	9	154	3,620	40	14	26	221	3,264	161	3,425
1999 Total .....	3,530	9	156	3,695	43	14	29	240	3,312	172	3,484
2000 Total .....	3,638	8	157	3,802	49	15	34	244	3,421	171	3,592
2001 Total .....	3,580	7	149	3,737	39	16	22	202	3,394	163	3,557
2002 Total .....	3,698	7	153	3,858	37	16	21	248	3,465	166	3,632
2003 Total .....	3,721	7	155	3,883	30	24	6	228	3,494	168	3,662
2004 Total .....	3,808	8	154	3,971	34	23	11	266	3,547	168	3,716
2005 Total .....	3,902	8	145	4,055	44	19	25	269	3,661	150	3,811
2006 Total .....	3,908	8	148	4,065	43	24	18	266	3,670	147	3,817
2007 Total .....	4,005	8	143	4,157	51	20	31	298	3,765	126	3,890
2008 Total .....	3,974	8	137	4,119	57	24	33	287	3,733	132	3,865
<b>2009</b> January .....	344	1	11	355	4	2	2	25	321	<sup>E</sup> 10	332
February .....	290	1	10	301	4	2	2	7	287	<sup>E</sup> 10	297
March .....	299	1	11	311	3	2	1	18	284	<sup>E</sup> 10	294
April .....	279	1	10	290	3	1	2	16	266	<sup>E</sup> 10	275
May .....	300	1	10	311	4	1	3	29	275	<sup>E</sup> 10	285
June .....	336	1	11	348	5	2	3	35	305	<sup>E</sup> 11	315
July .....	360	1	12	373	6	1	4	27	338	<sup>E</sup> 11	349
August .....	368	1	12	381	6	1	4	29	345	<sup>E</sup> 12	357
September .....	315	1	12	327	4	1	3	8	311	<sup>E</sup> 11	322
October .....	295	1	11	307	5	1	3	12	287	<sup>E</sup> 11	298
November .....	285	1	11	297	4	1	3	21	268	<sup>E</sup> 11	278
December .....	338	1	12	351	5	1	3	33	310	<sup>E</sup> 11	321
<b>Total .....</b>	<b>3,810</b>	<b>8</b>	<b>132</b>	<b>3,950</b>	<b>52</b>	<b>18</b>	<b>34</b>	<b>261</b>	<b>3,597</b>	<b>127</b>	<b>3,724</b>
<b>2010</b> January .....	348	1	12	360	5	1	4	21	332	<sup>E</sup> 11	343
February .....	308	1	11	319	4	1	3	14	298	<sup>E</sup> 10	309
March .....	299	1	12	312	4	1	3	11	292	<sup>E</sup> 11	303
April .....	276	1	11	287	4	1	3	13	266	<sup>E</sup> 10	277
May .....	316	1	11	328	3	2	1	36	283	<sup>E</sup> 11	294
June .....	363	1	12	376	4	2	2	37	330	<sup>E</sup> 12	341
July .....	397	1	13	410	4	2	3	32	369	<sup>E</sup> 12	381
August .....	395	1	13	409	4	2	2	27	371	<sup>E</sup> 12	384
September .....	332	1	12	345	3	2	(s)	6	328	<sup>E</sup> 11	340
October .....	295	1	11	307	3	2	(s)	10	287	<sup>E</sup> 11	298
November .....	294	1	11	305	3	2	1	22	274	<sup>E</sup> 11	285
December .....	348	1	12	361	4	1	3	33	319	<sup>E</sup> 12	330
<b>Total .....</b>	<b>3,971</b>	<b>8</b>	<b>140</b>	<b>4,120</b>	<b>45</b>	<b>19</b>	<b>26</b>	<b>261</b>	<b>3,750</b>	<b><sup>E</sup> 134</b>	<b>3,884</b>
<b>2011</b> January .....	351	1	12	363	4	2	3	21	334	<sup>E</sup> 11	345
February .....	302	1	10	312	4	2	2	7	297	<sup>E</sup> 10	307
<b>2-Month Total .....</b>	<b>652</b>	<b>1</b>	<b>22</b>	<b>676</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>28</b>	<b>631</b>	<b><sup>E</sup> 21</b>	<b>652</b>
<b>2010 2-Month Total .....</b>	<b>655</b>	<b>1</b>	<b>23</b>	<b>679</b>	<b>10</b>	<b>2</b>	<b>8</b>	<b>35</b>	<b>630</b>	<b><sup>E</sup> 22</b>	<b>652</b>
<b>2009 2-Month Total .....</b>	<b>634</b>	<b>1</b>	<b>21</b>	<b>656</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>32</b>	<b>608</b>	<b><sup>E</sup> 20</b>	<b>628</b>

<sup>a</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

<sup>b</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>c</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants. Through 1988, data are for industrial hydroelectric power only.

<sup>d</sup> Electricity transmitted across U.S. borders. Net imports equal imports minus exports.

<sup>e</sup> Transmission and distribution losses (electricity losses that occur between the point of generation and delivery to the customer). See Note 2, "Electrical System Energy Losses," at end of Section 2.

<sup>f</sup> Data collection frame differences and nonsampling error.

<sup>g</sup> Electricity retail sales to ultimate customers by electric utilities and, beginning in 1996, other energy service providers.

<sup>h</sup> Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

E=Estimate. NA=Not available. (s)=Less than 0.5 billion kilowatthours.

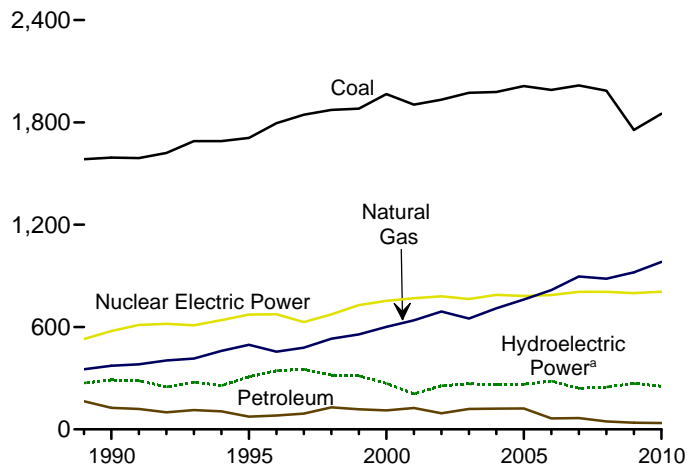
Notes: • See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1973.

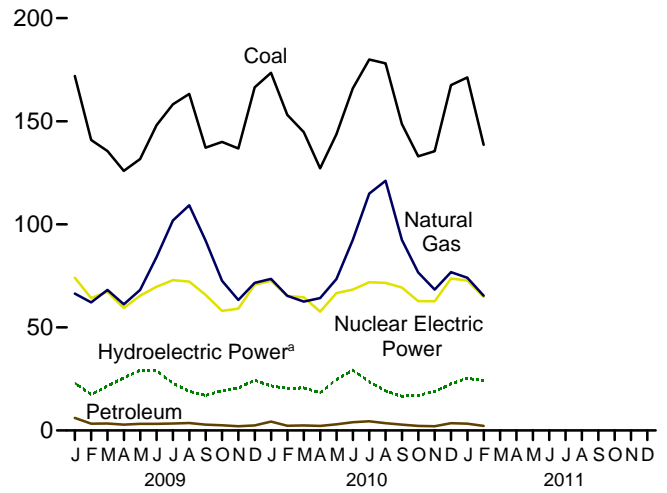
Sources: See end of section.

**Figure 7.2 Electricity Net Generation**  
(Billion Kilowatt-hours)

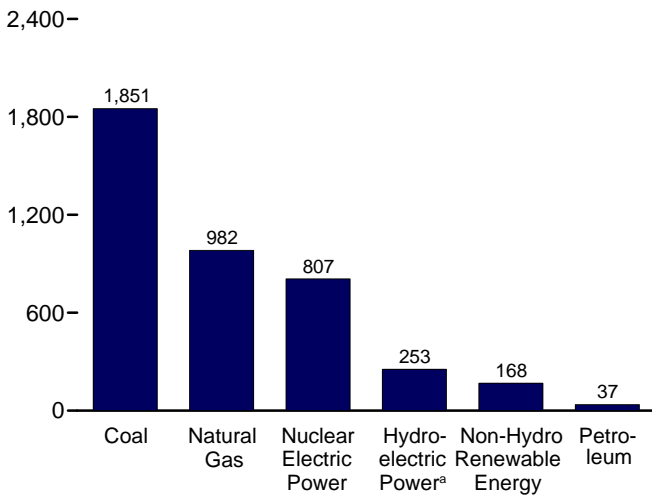
Total (All Sectors), Major Sources, 1989-2010



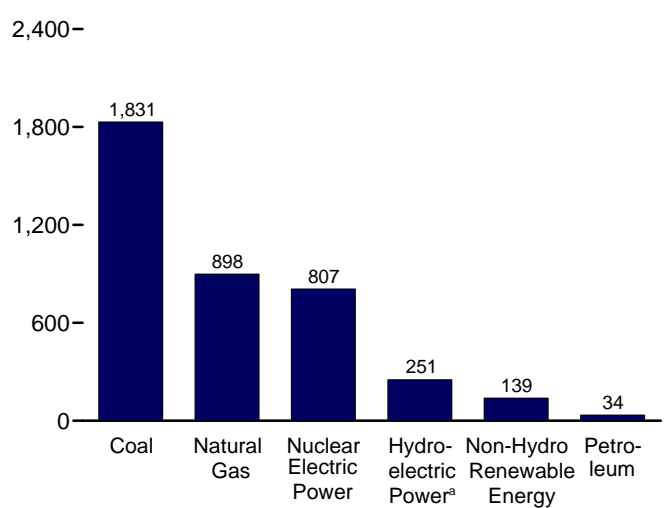
Total (All Sectors), Major Sources, Monthly



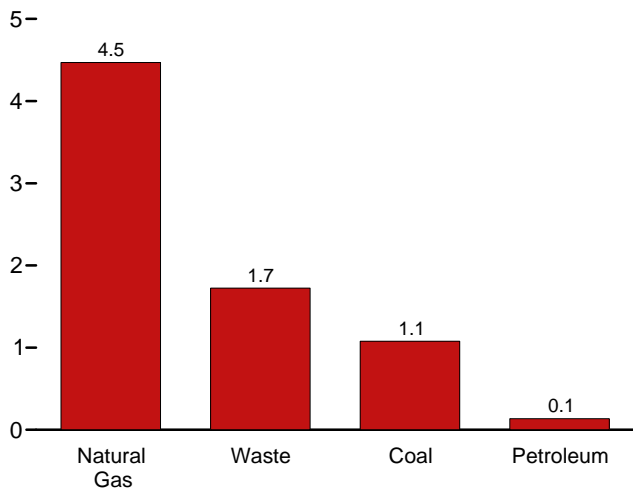
Total (All Sectors), Major Sources, 2010



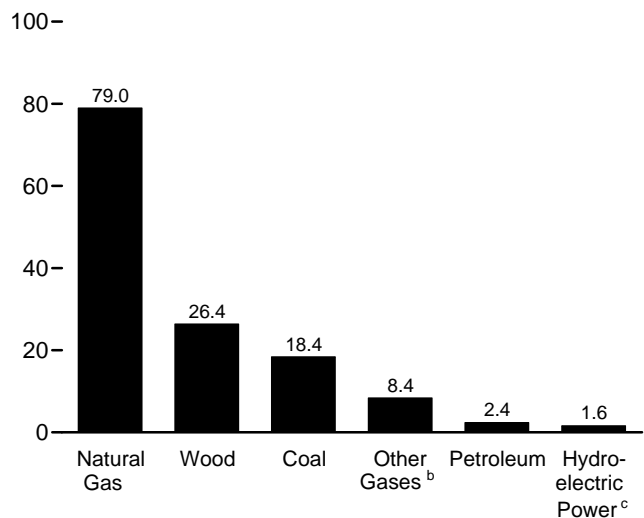
Electric Power Sector, Major Sources, 2010



Commercial Sector, Major Sources, 2010



Industrial Sector, Major Sources, 2010



<sup>a</sup> Conventional and pumped storage hydroelectric power.

<sup>b</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>c</sup> Conventional hydroelectric power.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.  
Sources: Tables 7.2a-7.2c.



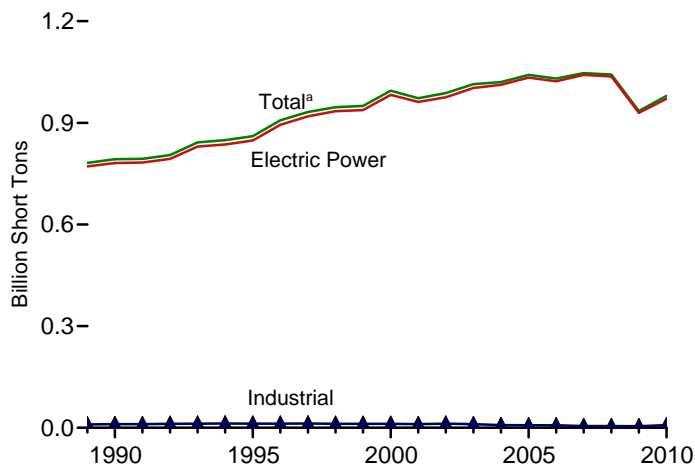




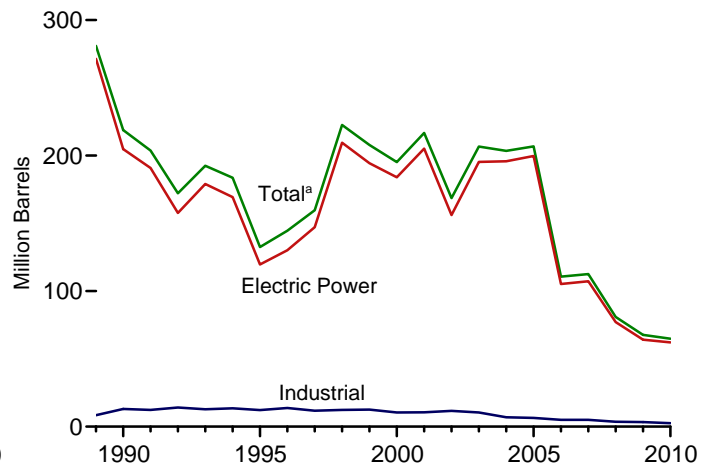


**Figure 7.3 Consumption of Selected Combustible Fuels for Electricity Generation**

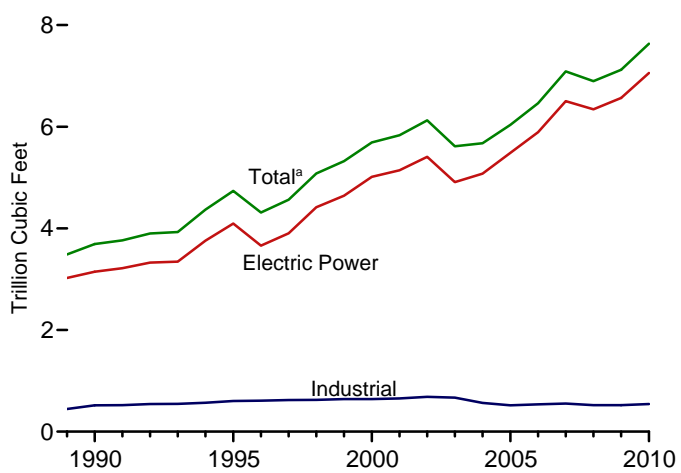
Coal by Sector, 1989-2010



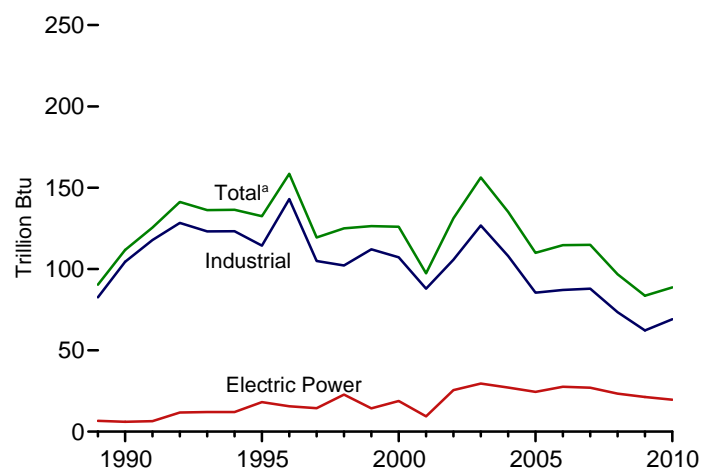
Petroleum by Sector, 1989-2010



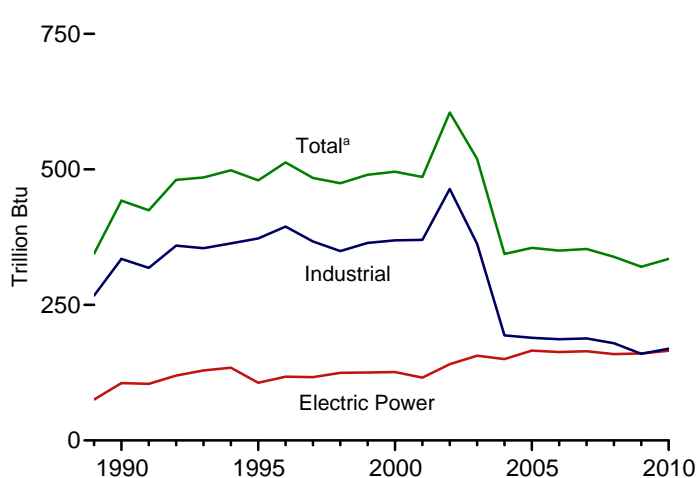
Natural Gas by Sector, 1989-2010



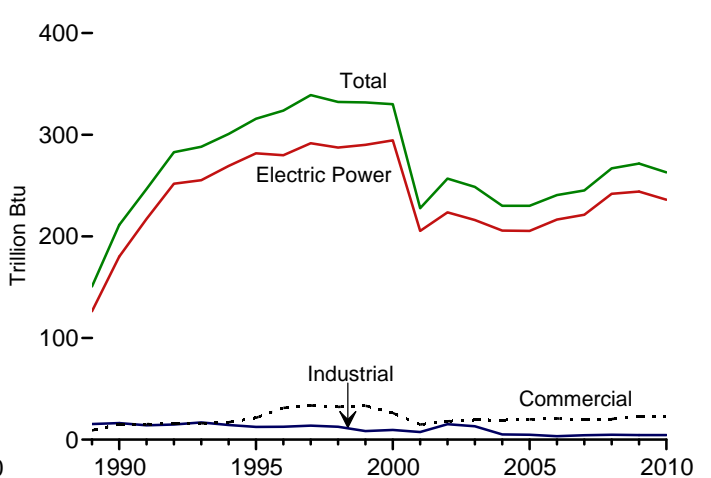
Other Gases<sup>b</sup> by Sector, 1989-2010



Wood by Sector, 1989-2010



Waste by Sector, 1989-2010



<sup>a</sup> Includes commercial sector.

<sup>b</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.  
Sources: Tables 7.3a-7.3c.





**Table 7.3c Consumption of Selected Combustible Fuels for Electricity Generation: Commercial and Industrial Sectors** (Subset of Table 7.3a)

	Commercial Sector <sup>a</sup>				Industrial Sector <sup>b</sup>						
	Coal <sup>c</sup>	Petroleum <sup>d</sup>	Natural Gas <sup>e</sup>	Biomass	Coal <sup>c</sup>	Petroleum <sup>d</sup>	Natural Gas <sup>e</sup>	Other Gases <sup>g</sup>	Biomass		Other <sup>i</sup>
				Waste <sup>f</sup>					Wood <sup>h</sup>	Waste <sup>f</sup>	
Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu	Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu				
<b>1989 Total</b> .....	414	1,165	18	9	9,707	8,482	444	83	267	15	37
<b>1990 Total</b> .....	417	953	28	15	10,740	13,103	517	104	335	16	36
<b>1995 Total</b> .....	569	649	43	21	12,171	12,265	601	114	373	13	40
<b>1996 Total</b> .....	656	645	42	31	12,153	13,813	610	143	394	13	35
<b>1997 Total</b> .....	630	790	39	34	12,311	11,723	623	105	367	14	36
<b>1998 Total</b> .....	440	802	41	32	11,728	12,392	625	102	349	13	35
<b>1999 Total</b> .....	481	931	39	33	11,432	12,595	639	112	364	8	39
<b>2000 Total</b> .....	514	823	37	26	11,706	10,459	640	107	369	10	45
<b>2001 Total</b> .....	532	1,023	36	15	10,636	10,530	654	88	370	7	44
<b>2002 Total</b> .....	477	834	33	18	11,855	11,608	685	106	464	15	43
<b>2003 Total</b> .....	582	894	38	19	10,440	10,424	668	127	362	13	46
<b>2004 Total</b> .....	377	766	33	19	7,687	6,919	566	108	194	5	41
<b>2005 Total</b> .....	377	585	34	20	7,504	6,440	518	85	189	5	46
<b>2006 Total</b> .....	347	333	35	21	7,408	5,066	536	87	187	3	45
<b>2007 Total</b> .....	361	258	34	19	5,089	5,041	554	88	188	4	41
<b>2008 Total</b> .....	369	166	33	20	5,075	3,617	520	73	179	5	39
<b>2009</b>											
January .....	32	54	3	2	384	374	42	5	13	(s)	3
February .....	28	22	3	2	334	356	38	5	12	(s)	3
March .....	25	12	3	2	382	299	41	5	13	(s)	3
April .....	22	12	3	2	356	259	38	4	12	(s)	3
May .....	22	11	3	2	381	282	39	4	13	(s)	4
June .....	24	7	3	2	412	265	43	5	13	(s)	4
July .....	28	9	3	2	415	273	48	6	14	(s)	4
August .....	30	15	3	2	437	267	50	6	15	(s)	4
September .....	26	10	3	2	391	263	47	6	14	(s)	3
October .....	24	10	3	2	430	223	44	6	14	(s)	3
November .....	26	11	3	2	357	232	43	5	14	(s)	4
December .....	30	16	3	2	396	236	47	6	14	(s)	4
<b>Total</b> .....	<b>317</b>	<b>190</b>	<b>34</b>	<b>23</b>	<b>4,674</b>	<b>3,328</b>	<b>520</b>	<b>62</b>	<b>160</b>	<b>4</b>	<b>42</b>
<b>2010</b>											
January .....	34	12	3	2	647	248	47	5	14	(s)	2
February .....	30	12	3	2	633	203	42	5	13	(s)	2
March .....	26	11	3	2	730	181	44	6	14	(s)	3
April .....	22	10	3	2	417	182	42	6	14	(s)	3
May .....	24	14	3	2	714	214	43	6	14	(s)	3
June .....	28	17	3	2	678	245	46	6	14	(s)	3
July .....	30	20	3	2	757	250	49	6	15	(s)	3
August .....	30	16	3	2	819	217	49	7	15	(s)	3
September .....	26	14	3	2	641	189	47	6	14	(s)	3
October .....	24	11	3	2	648	172	42	5	14	(s)	3
November .....	21	8	3	2	487	159	43	6	14	(s)	3
December .....	27	12	3	2	739	234	48	6	15	(s)	2
<b>Total</b> .....	<b>322</b>	<b>157</b>	<b>36</b>	<b>22</b>	<b>7,911</b>	<b>2,494</b>	<b>542</b>	<b>69</b>	<b>169</b>	<b>5</b>	<b>33</b>
<b>2011</b>											
January .....	30	12	3	2	752	220	46	6	14	(s)	2
February .....	29	9	3	2	650	166	43	5	13	(s)	2
<b>2-Month Total</b> .....	<b>59</b>	<b>21</b>	<b>6</b>	<b>4</b>	<b>1,402</b>	<b>386</b>	<b>90</b>	<b>11</b>	<b>27</b>	<b>1</b>	<b>5</b>
<b>2010 2-Month Total</b> .....	<b>65</b>	<b>24</b>	<b>6</b>	<b>4</b>	<b>1,280</b>	<b>451</b>	<b>89</b>	<b>10</b>	<b>27</b>	<b>1</b>	<b>5</b>
<b>2009 2-Month Total</b> .....	<b>60</b>	<b>77</b>	<b>6</b>	<b>3</b>	<b>718</b>	<b>730</b>	<b>80</b>	<b>10</b>	<b>25</b>	<b>1</b>	<b>6</b>

<sup>a</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>b</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

<sup>c</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>d</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>e</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>f</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>g</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>h</sup> Wood and wood-derived fuels.

<sup>i</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous

technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

(s)=Less than 0.5 trillion Btu.

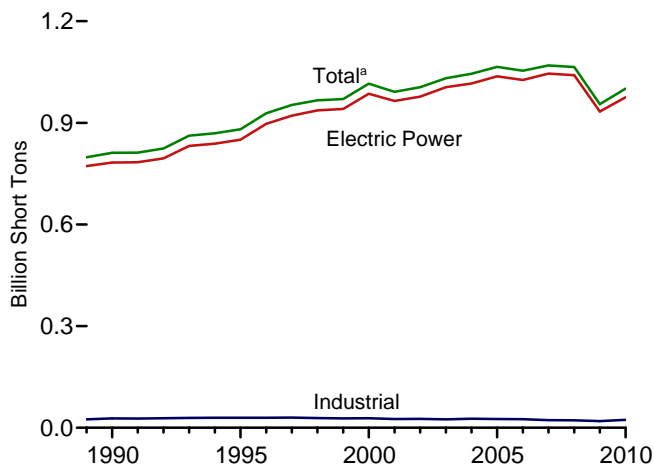
Notes: • Data are for fuels consumed to produce electricity. Through 1988, data are not available. • See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1989.

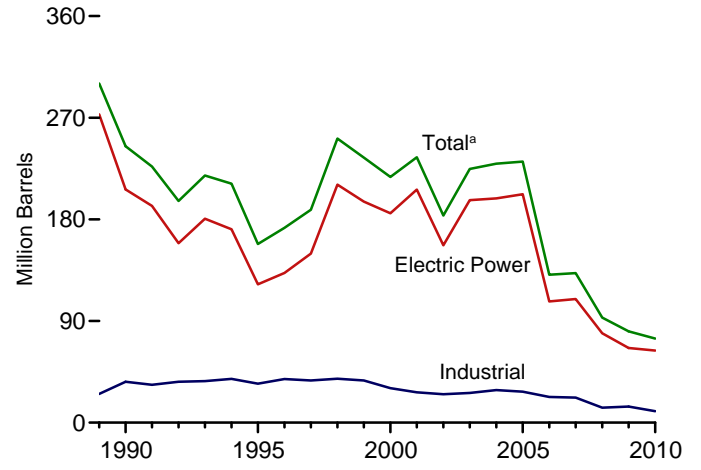
Sources: • **1989-1997:** U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • **1998-2000:** EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • **2001-2003:** EIA, Form EIA-906, "Power Plant Report." • **2004-2007:** EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • **2008 forward:** EIA, Form EIA-923, "Power Plant Operations Report."

**Figure 7.4 Consumption of Selected Combustible Fuels for Electricity Generation and Useful Thermal Output**

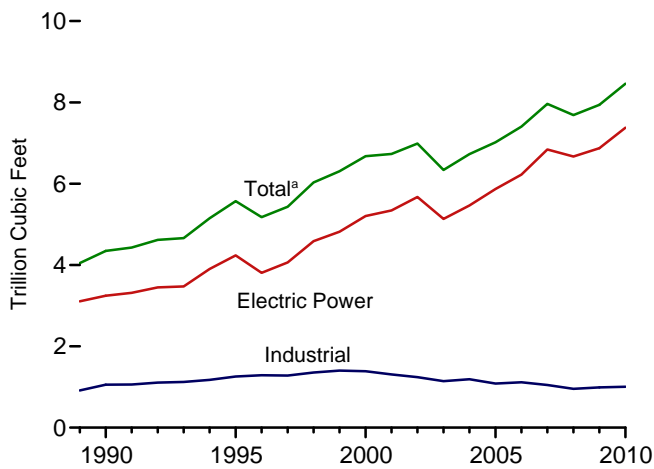
Coal by Sector, 1989-2010



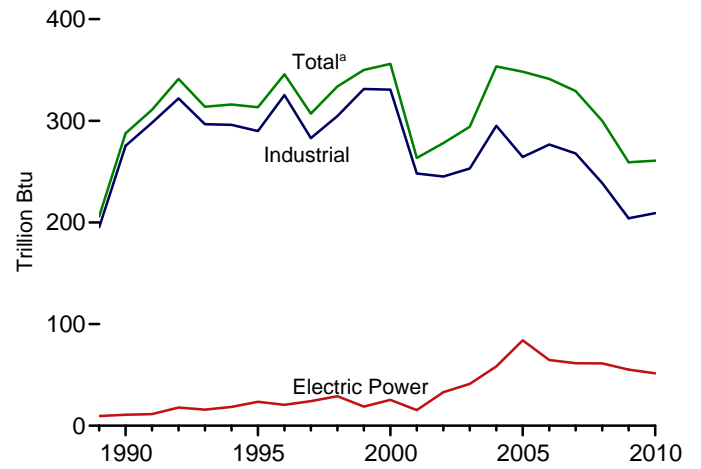
Petroleum by Sector, 1989-2010



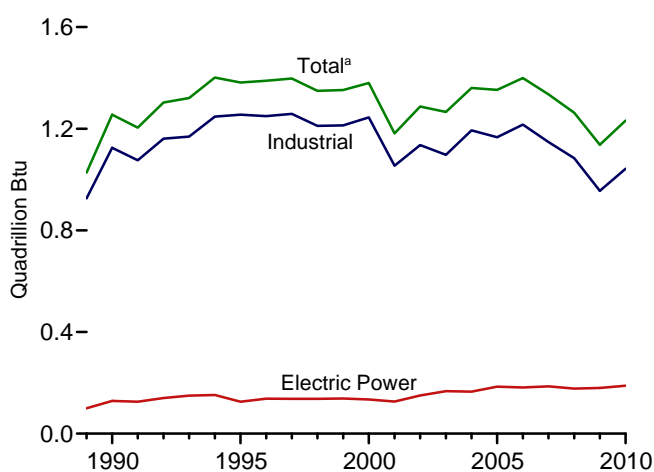
Natural Gas by Sector, 1989-2010



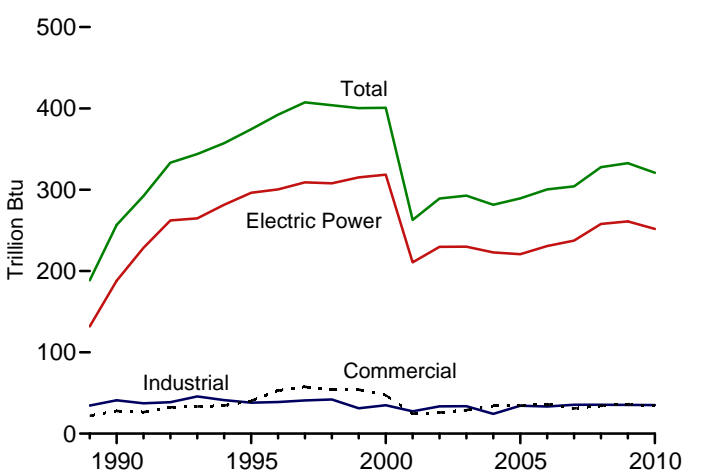
Other Gases<sup>b</sup> by Sector, 1989-2010



Wood by Sector, 1989-2010



Waste by Sector, 1989-2010



<sup>a</sup> Includes commercial sector.

<sup>b</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.  
Sources: Tables 7.4a-7.4c.



**Table 7.4a Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output: Total (All Sectors)** (Sum of Tables 7.4b and 7.4c)

	Coal <sup>a</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>f</sup> Billion Cubic Feet	Other Gases <sup>g</sup>	Biomass		Other <sup>i</sup>
		Distillate Fuel Oil <sup>b</sup> Thousand Barrels	Residual Fuel Oil <sup>c</sup> Thousand Barrels	Other Liquids <sup>d</sup> Thousand Barrels	Petroleum Coke <sup>e</sup> Thousand Short Tons	Total <sup>e</sup> Thousand Barrels			Wood <sup>h</sup> Trillion Btu	Waste <sup>i</sup> Trillion Btu	
<b>1973 Total</b> .....	389,212	47,058	513,190	NA	507	562,781	3,660	NA	1	2	NA
<b>1975 Total</b> .....	405,962	38,907	467,221	NA	70	506,479	3,158	NA	0	2	NA
<b>1980 Total</b> .....	569,274	29,051	391,163	NA	179	421,110	3,682	NA	3	2	NA
<b>1985 Total</b> .....	693,841	14,635	158,779	NA	231	174,571	3,044	NA	8	7	NA
<b>1990 Total</b> <sup>k</sup> .....	811,538	20,194	209,081	1,332	2,832	244,765	4,346	288	1,256	257	86
<b>1995 Total</b> .....	881,012	21,697	112,168	1,322	4,590	158,140	5,572	313	1,382	374	97
<b>1996 Total</b> .....	928,015	22,444	124,607	2,468	4,596	172,499	5,178	346	1,389	392	91
<b>1997 Total</b> .....	952,955	22,893	134,623	526	6,095	188,517	5,433	307	1,397	407	103
<b>1998 Total</b> .....	966,615	30,006	189,267	1,230	6,196	251,486	6,030	334	1,349	404	95
<b>1999 Total</b> .....	970,175	30,616	172,319	1,812	5,989	234,694	6,305	350	1,352	400	101
<b>2000 Total</b> .....	1,015,398	34,572	156,673	2,904	4,669	217,494	6,677	356	1,380	401	109
<b>2001 Total</b> .....	991,635	33,724	177,137	1,418	4,532	234,940	6,731	263	1,182	263	229
<b>2002 Total</b> .....	1,005,144	24,749	118,637	3,257	7,353	183,409	6,986	278	1,287	289	252
<b>2003 Total</b> .....	1,031,778	31,825	152,859	4,576	7,067	224,593	6,337	294	1,266	293	262
<b>2004 Total</b> .....	1,044,798	23,520	157,478	4,764	8,721	229,364	6,727	353	1,360	282	254
<b>2005 Total</b> .....	1,065,281	24,446	156,915	4,270	9,113	231,193	7,021	348	1,353	289	237
<b>2006 Total</b> .....	1,053,783	14,655	69,846	3,396	8,622	131,005	7,404	341	1,399	300	247
<b>2007 Total</b> .....	1,069,606	17,042	74,616	4,237	7,299	132,389	7,962	329	1,336	304	239
<b>2008 Total</b> .....	1,064,503	14,137	43,477	3,765	6,314	92,948	7,689	300	1,263	328	212
<b>2009</b>											
January .....	92,641	2,157	6,799	536	509	12,037	575	21	95	27	18
February .....	76,038	1,432	2,913	354	474	7,069	531	20	89	25	17
March .....	73,810	1,449	2,473	350	559	7,068	584	21	92	30	18
April .....	68,738	994	2,054	275	494	5,794	531	19	86	27	19
May .....	72,092	1,238	2,817	270	501	6,827	597	20	89	27	20
June .....	80,689	1,174	2,706	205	514	6,652	731	21	93	27	20
July .....	86,039	1,118	2,850	181	545	6,876	874	23	100	28	20
August .....	88,471	1,158	3,297	215	530	7,322	940	24	103	28	20
September .....	75,305	923	2,168	199	531	5,946	785	24	96	26	19
October .....	76,319	980	2,380	195	364	5,377	628	22	98	28	19
November .....	74,836	972	1,546	194	366	4,541	544	22	97	29	19
December .....	90,212	1,204	1,671	242	441	5,320	618	22	101	29	19
<b>Total</b> .....	<b>955,190</b>	<b>14,800</b>	<b>33,672</b>	<b>3,218</b>	<b>5,828</b>	<b>80,830</b>	<b>7,938</b>	<b>259</b>	<b>1,137</b>	<b>333</b>	<b>228</b>
<b>2010</b>											
January .....	92,663	2,661	3,295	293	530	8,900	641	22	105	27	15
February .....	81,871	896	1,393	235	463	4,840	561	20	95	24	13
March .....	78,373	809	1,481	157	509	4,991	542	24	105	27	15
April .....	68,761	743	1,392	136	451	4,525	556	23	99	27	16
May .....	77,775	1,138	2,339	149	479	6,018	647	23	101	28	16
June .....	89,165	1,423	3,528	184	544	7,855	795	22	103	27	16
July .....	96,811	1,492	4,150	217	590	8,809	995	21	107	27	16
August .....	96,600	1,241	3,387	182	455	7,083	1,042	23	108	27	17
September .....	81,081	1,028	2,124	168	415	5,396	788	21	103	25	16
October .....	72,857	883	1,426	169	426	4,611	654	19	100	27	16
November .....	74,391	941	1,260	178	370	4,232	580	21	103	27	15
December .....	90,607	2,010	2,452	347	470	7,161	660	22	104	28	15
<b>Total</b> .....	<b>1,000,956</b>	<b>15,265</b>	<b>28,227</b>	<b>2,414</b>	<b>5,703</b>	<b>74,420</b>	<b>8,460</b>	<b>261</b>	<b>1,232</b>	<b>321</b>	<b>186</b>
<b>2011</b>											
January .....	92,207	1,317	2,131	271	581	6,627	642	22	103	27	15
February .....	75,344	939	1,257	155	462	4,661	567	20	93	25	14
<b>2-Month Total</b> .....	<b>167,551</b>	<b>2,256</b>	<b>3,388</b>	<b>427</b>	<b>1,043</b>	<b>11,288</b>	<b>1,209</b>	<b>42</b>	<b>196</b>	<b>51</b>	<b>28</b>
<b>2010 2-Month Total</b> .....	<b>174,535</b>	<b>3,557</b>	<b>4,688</b>	<b>527</b>	<b>993</b>	<b>13,740</b>	<b>1,201</b>	<b>42</b>	<b>200</b>	<b>50</b>	<b>28</b>
<b>2009 2-Month Total</b> .....	<b>168,679</b>	<b>3,590</b>	<b>9,712</b>	<b>890</b>	<b>983</b>	<b>19,106</b>	<b>1,105</b>	<b>41</b>	<b>184</b>	<b>52</b>	<b>35</b>

<sup>a</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>b</sup> Fuel oil nos. 1, 2, and 4. Through 2000, electric utility data also include small amounts of kerosene and jet fuel.

<sup>c</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.

<sup>d</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

<sup>e</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.

<sup>f</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>g</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>h</sup> Wood and wood-derived fuels.

<sup>i</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes

non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>j</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>k</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1973.

Sources: See sources for Tables 7.4b and 7.4c.

**Table 7.4b Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output: Electric Power Sector (Subset of Table 7.4a)**

	Coal <sup>a</sup>	Petroleum					Natural Gas <sup>f</sup>	Other Gases <sup>g</sup>	Biomass		Other <sup>i</sup>
		Distillate Fuel Oil <sup>b</sup>	Residual Fuel Oil <sup>c</sup>	Other Liquids <sup>d</sup>	Petroleum Coke <sup>e</sup>	Total <sup>e</sup>			Wood <sup>h</sup>	Waste <sup>i</sup>	
		Thousand Short Tons	Thousand Barrels			Thousand Short Tons			Thousand Barrels	Billion Cubic Feet	
<b>1973 Total</b> .....	389,212	47,058	513,190	NA	507	562,781	3,660	NA	1	2	NA
<b>1975 Total</b> .....	405,962	38,907	467,221	NA	70	506,479	3,158	NA	(s)	2	NA
<b>1980 Total</b> .....	569,274	29,051	391,163	NA	179	421,110	3,682	NA	3	2	NA
<b>1985 Total</b> .....	693,841	14,635	158,779	NA	231	174,571	3,044	NA	8	7	NA
<b>1990 Total</b> <sup>k</sup> .....	782,567	16,567	184,915	26	1,008	206,550	3,245	11	129	188	(s)
<b>1995 Total</b> .....	850,230	18,553	90,023	499	2,674	122,447	4,237	24	125	296	2
<b>1996 Total</b> .....	896,921	18,780	99,951	653	2,642	132,593	3,807	20	138	300	2
<b>1997 Total</b> .....	921,364	18,989	113,669	152	3,372	149,668	4,065	24	137	309	1
<b>1998 Total</b> .....	936,619	23,300	166,528	431	4,102	210,769	4,588	29	137	308	2
<b>1999 Total</b> .....	940,922	24,058	152,493	544	3,735	195,769	4,820	19	138	315	1
<b>2000 Total</b> .....	985,821	30,016	138,513	454	3,275	185,358	5,206	25	134	318	1
<b>2001 Total</b> .....	964,433	29,274	159,504	377	3,427	206,291	5,342	15	126	211	113
<b>2002 Total</b> .....	977,507	21,876	104,773	1,267	5,816	156,996	5,672	33	150	230	143
<b>2003 Total</b> .....	1,005,116	27,632	138,279	2,026	5,799	196,932	5,135	41	167	230	140
<b>2004 Total</b> .....	1,016,268	19,107	139,816	2,713	7,372	198,498	5,464	58	165	223	138
<b>2005 Total</b> .....	1,037,485	19,675	139,409	2,685	8,083	202,184	5,869	84	185	221	123
<b>2006 Total</b> .....	1,026,636	12,646	57,345	1,870	7,101	107,365	6,222	65	182	231	125
<b>2007 Total</b> .....	1,045,141	15,327	63,086	2,594	5,685	109,431	6,841	61	186	237	124
<b>2008 Total</b> .....	1,040,580	12,547	38,241	2,670	5,119	79,056	6,668	61	177	258	131
<b>2009</b> January .....	90,640	1,865	5,974	424	410	10,311	487	4	17	21	10
February .....	74,254	1,106	2,385	256	374	5,614	453	4	15	19	9
March .....	71,948	1,227	2,023	214	464	5,785	500	4	14	24	10
April .....	67,123	776	1,709	159	414	4,712	451	4	12	21	10
May .....	70,425	987	2,230	192	418	5,497	515	5	13	22	11
June .....	78,954	935	2,345	132	418	5,501	643	5	15	22	11
July .....	84,243	868	2,558	127	434	5,721	778	5	16	23	11
August .....	86,635	930	3,021	151	419	6,199	840	5	17	23	11
September .....	73,566	709	1,885	123	416	4,799	690	5	14	21	10
October .....	74,520	813	2,123	132	256	4,349	537	5	14	21	10
November .....	73,063	797	1,260	138	252	3,457	457	4	15	22	10
December .....	88,255	1,023	1,270	162	336	4,137	520	5	17	22	10
<b>Total</b> .....	933,627	12,035	28,782	2,210	4,611	66,081	6,873	55	180	261	124
<b>2010</b> January .....	90,418	2,451	2,865	204	423	7,636	544	5	17	20	10
February .....	79,754	806	1,069	186	388	4,001	477	4	16	18	9
March .....	76,139	725	1,271	111	428	4,247	452	5	16	22	10
April .....	66,976	661	1,223	102	369	3,830	472	5	14	21	10
May .....	75,721	988	2,067	96	400	5,151	560	5	14	21	11
June .....	87,097	1,218	3,177	132	467	6,864	707	4	16	21	11
July .....	94,576	1,299	3,752	181	507	7,768	900	4	17	22	11
August .....	94,281	1,061	3,077	139	386	6,210	948	4	18	21	11
September .....	79,032	909	1,874	124	361	4,712	696	4	15	20	10
October .....	70,838	796	1,175	107	344	3,799	566	3	14	21	10
November .....	72,479	876	1,061	126	295	3,536	493	4	16	21	10
December .....	88,277	1,860	2,085	246	389	6,137	562	4	17	22	10
<b>Total</b> .....	975,588	13,650	24,696	1,755	4,758	63,891	7,378	52	189	252	124
<b>2011</b> January .....	89,839	1,236	1,796	217	501	5,755	547	4	16	21	10
February .....	73,253	861	1,041	114	375	3,891	483	4	15	19	9
<b>2-Month Total</b> .....	163,092	2,097	2,837	331	876	9,646	1,030	8	31	40	19
<b>2010 2-Month Total</b> .....	170,172	3,257	3,934	391	811	11,637	1,021	9	33	39	18
<b>2009 2-Month Total</b> .....	164,894	2,971	8,359	679	783	15,925	941	8	32	40	19

<sup>a</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>b</sup> Fuel oil nos. 1, 2, and 4. Through 2000, electric utility data also include small amounts of kerosene and jet fuel.

<sup>c</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.

<sup>d</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

<sup>e</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.

<sup>f</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>g</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>h</sup> Wood and wood-derived fuels.

<sup>i</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and

tire-derived fuels).

<sup>j</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>k</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

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

Notes: • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1973.

Sources: See end of section.

**Table 7.4c Consumption of Selected Combustible Fuels for Electricity Generation and Useful Thermal Output: Commercial and Industrial Sectors** (Subset of Table 7.4a)

	Commercial Sector <sup>a</sup>				Industrial Sector <sup>b</sup>						
	Coal <sup>c</sup>	Petroleum <sup>d</sup>	Natural Gas <sup>e</sup>	Biomass	Coal <sup>c</sup>	Petroleum <sup>d</sup>	Natural Gas <sup>e</sup>	Other Gases <sup>g</sup>	Biomass		Other <sup>i</sup>
				Waste <sup>f</sup>					Wood <sup>h</sup>	Waste <sup>f</sup>	
Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu	Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu				
<b>1989 Total</b> .....	1,125	1,967	30	22	24,867	25,444	914	195	926	35	85
<b>1990 Total</b> .....	1,191	2,056	46	28	27,781	36,159	1,055	275	1,125	41	86
<b>1995 Total</b> .....	1,419	1,245	78	40	29,363	34,448	1,258	290	1,255	38	95
<b>1996 Total</b> .....	1,660	1,246	82	53	29,434	38,661	1,289	325	1,249	39	89
<b>1997 Total</b> .....	1,738	1,584	87	58	29,853	37,265	1,282	283	1,259	41	102
<b>1998 Total</b> .....	1,443	1,807	87	54	28,553	38,910	1,355	305	1,211	42	93
<b>1999 Total</b> .....	1,490	1,613	84	54	27,763	37,312	1,401	331	1,213	31	99
<b>2000 Total</b> .....	1,547	1,615	85	47	28,031	30,520	1,386	331	1,244	35	108
<b>2001 Total</b> .....	1,448	1,832	79	25	25,755	26,817	1,310	248	1,054	27	101
<b>2002 Total</b> .....	1,405	1,250	74	26	26,232	25,163	1,240	245	1,136	34	92
<b>2003 Total</b> .....	1,816	1,449	58	29	24,846	26,212	1,144	253	1,097	34	103
<b>2004 Total</b> .....	1,917	2,009	72	34	26,613	28,857	1,191	295	1,193	24	94
<b>2005 Total</b> .....	1,922	1,630	68	34	25,875	27,380	1,084	264	1,166	34	94
<b>2006 Total</b> .....	1,886	935	68	36	25,262	22,706	1,115	277	1,216	33	102
<b>2007 Total</b> .....	1,927	752	70	31	22,537	22,207	1,050	268	1,148	36	98
<b>2008 Total</b> .....	2,021	671	66	34	21,902	13,222	955	239	1,084	35	60
<b>2009</b>											
January .....	208	176	7	3	1,793	1,550	81	17	78	4	6
February .....	178	70	6	3	1,605	1,385	71	16	74	3	6
March .....	170	35	6	3	1,692	1,248	79	17	77	4	6
April .....	128	26	5	3	1,487	1,056	74	15	73	3	6
May .....	117	19	5	3	1,550	1,311	77	15	76	2	7
June .....	135	14	6	3	1,600	1,138	82	16	77	2	7
July .....	137	19	7	3	1,659	1,136	89	18	83	2	7
August .....	143	38	7	3	1,694	1,086	92	19	86	2	7
September .....	127	20	7	3	1,611	1,128	88	19	81	2	7
October .....	129	17	6	3	1,671	1,010	85	17	84	4	7
November .....	151	35	6	3	1,622	1,049	81	17	82	4	7
December .....	174	53	7	3	1,783	1,130	91	17	84	4	7
<b>Total</b> .....	<b>1,798</b>	<b>521</b>	<b>76</b>	<b>36</b>	<b>19,766</b>	<b>14,228</b>	<b>990</b>	<b>204</b>	<b>955</b>	<b>35</b>	<b>82</b>
<b>2010</b>											
January .....	195	41	7	3	2,051	1,222	90	17	88	3	3
February .....	170	33	6	3	1,947	807	78	15	79	3	3
March .....	156	32	6	3	2,079	712	84	19	89	3	3
April .....	126	26	6	3	1,659	669	79	18	84	3	3
May .....	125	36	6	3	1,929	831	81	18	86	3	3
June .....	138	41	6	3	1,930	950	83	18	87	3	4
July .....	143	56	7	3	2,092	985	88	17	90	3	4
August .....	156	51	7	3	2,163	823	87	19	90	3	4
September .....	142	36	6	3	1,907	648	85	17	88	3	4
October .....	132	30	6	3	1,887	782	82	16	86	3	4
November .....	136	29	7	3	1,776	667	81	17	87	3	3
December .....	169	47	7	3	2,161	977	91	18	87	3	3
<b>Total</b> .....	<b>1,787</b>	<b>458</b>	<b>75</b>	<b>34</b>	<b>23,581</b>	<b>10,071</b>	<b>1,007</b>	<b>209</b>	<b>1,042</b>	<b>35</b>	<b>41</b>
<b>2011</b>											
January .....	184	46	7	3	2,184	825	88	18	87	3	3
February .....	171	27	6	3	1,919	743	78	16	78	3	3
<b>2-Month Total</b> .....	<b>355</b>	<b>74</b>	<b>13</b>	<b>6</b>	<b>4,104</b>	<b>1,568</b>	<b>167</b>	<b>34</b>	<b>165</b>	<b>6</b>	<b>6</b>
<b>2010 2-Month Total</b> .....	<b>365</b>	<b>74</b>	<b>13</b>	<b>6</b>	<b>3,998</b>	<b>2,029</b>	<b>168</b>	<b>33</b>	<b>167</b>	<b>6</b>	<b>6</b>
<b>2009 2-Month Total</b> .....	<b>387</b>	<b>246</b>	<b>12</b>	<b>6</b>	<b>3,398</b>	<b>2,935</b>	<b>152</b>	<b>33</b>	<b>152</b>	<b>7</b>	<b>12</b>

<sup>a</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>b</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

<sup>c</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>d</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>e</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>f</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>g</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>h</sup> Wood and wood-derived fuels.

<sup>i</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

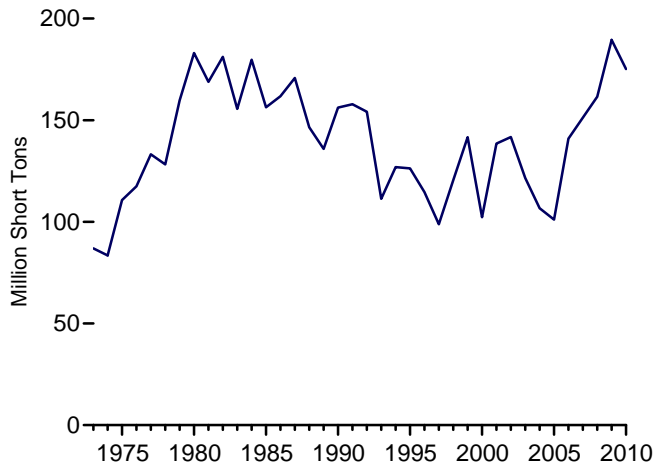
Notes: • See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1989.

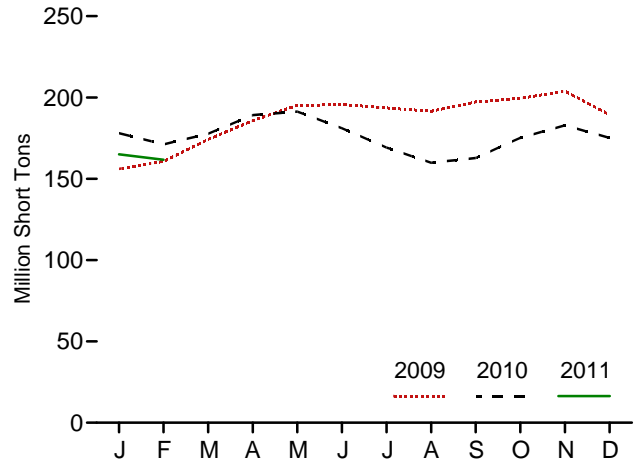
Sources: • **1989-1997:** U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • **1998-2000:** EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • **2001-2003:** EIA, Form EIA-906, "Power Plant Report." • **2004-2007:** EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • **2008 forward:** EIA, Form EIA-923, "Power Plant Operations Report."

**Figure 7.5 Stocks of Coal and Petroleum: Electric Power Sector**

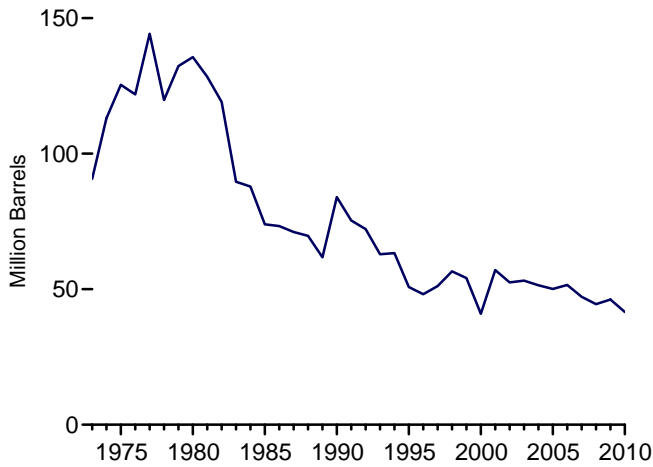
Coal, 1973-2010



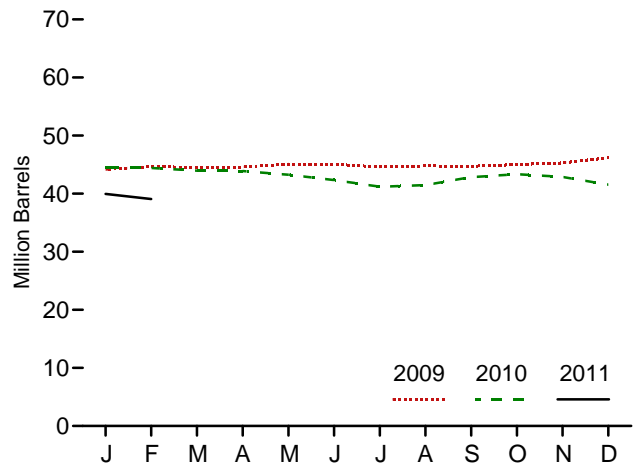
Coal, Monthly



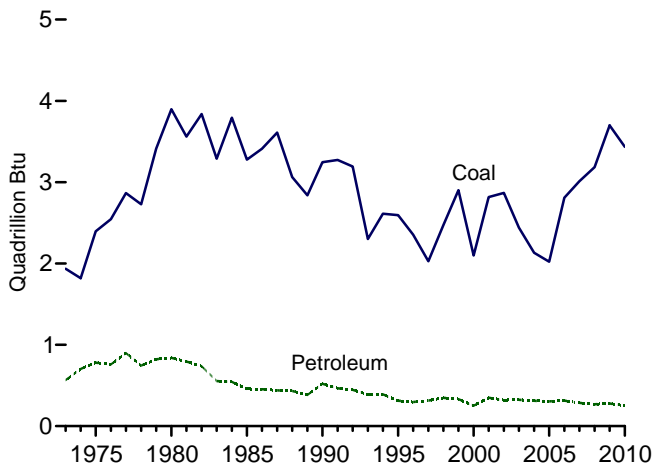
Total Petroleum, 1973-2010



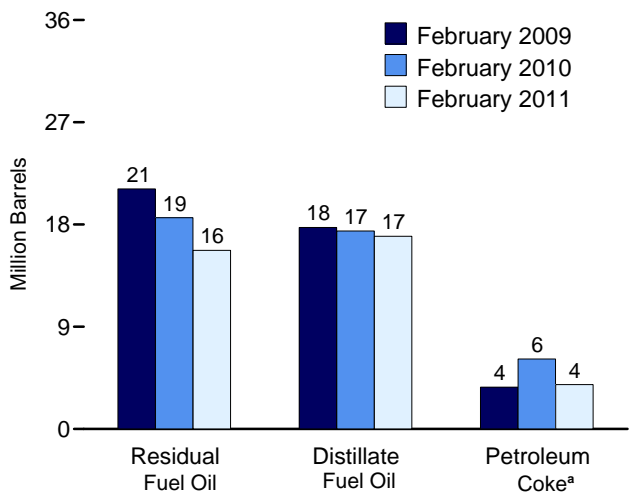
Total Petroleum, Monthly



Coal and Petroleum Stocks, 1973-2010



Petroleum by Major Type, End of Month



<sup>a</sup> Converted from short tons to barrels by multiplying by 5.  
 Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.  
 Sources: Tables 7.5, A1, and A5 (column 6).

**Table 7.5 Stocks of Coal and Petroleum: Electric Power Sector**

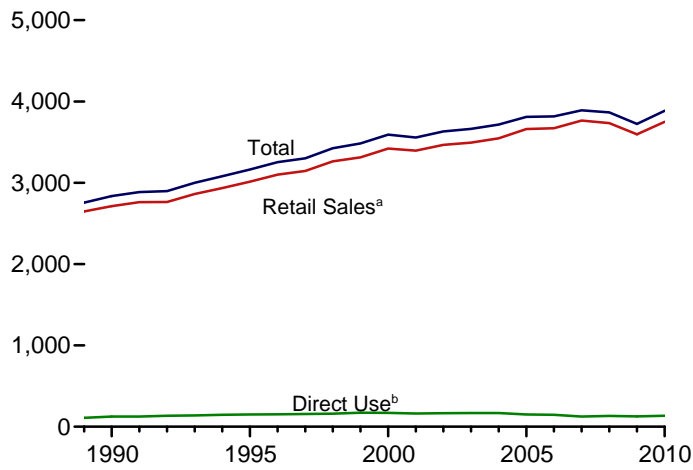
	Coal <sup>a</sup>	Petroleum				Total <sup>e</sup>
		Distillate Fuel Oil <sup>b</sup>	Residual Fuel Oil <sup>c</sup>	Other Liquids <sup>d</sup>	Petroleum Coke <sup>e</sup>	
	Thousand Short Tons	Thousand Barrels			Thousand Short Tons	Thousand Barrels
1973 Year .....	86,967	10,095	79,121	NA	312	90,776
1975 Year .....	110,724	16,432	108,825	NA	31	125,413
1980 Year .....	183,010	30,023	105,351	NA	52	135,635
1985 Year .....	156,376	16,386	57,304	NA	49	73,933
1990 Year .....	156,166	16,471	67,030	NA	94	83,970
1995 Year .....	126,304	15,392	35,102	NA	65	50,821
1996 Year .....	114,623	15,216	32,473	NA	91	48,146
1997 Year .....	98,826	15,456	33,336	NA	469	51,138
1998 Year .....	120,501	16,343	37,451	NA	559	56,591
1999 Year <sup>f</sup> .....	141,604	17,995	34,256	NA	372	54,109
2000 Year .....	102,296	15,127	24,748	NA	211	40,932
2001 Year .....	138,496	20,486	34,594	NA	390	57,031
2002 Year .....	141,714	17,413	25,723	800	1,711	52,490
2003 Year .....	121,567	19,153	25,820	779	1,484	53,170
2004 Year .....	106,669	19,275	26,596	879	937	51,434
2005 Year .....	101,137	18,778	27,624	1,012	530	50,062
2006 Year .....	140,964	18,013	28,823	1,380	674	51,583
2007 Year .....	151,221	18,395	24,136	1,902	554	47,203
2008 Year .....	161,589	17,761	21,088	1,955	739	44,498
<b>2009</b> January .....	156,075	17,882	20,501	2,061	746	44,175
February .....	160,601	17,737	21,141	2,102	738	44,668
March .....	174,223	17,691	21,160	2,118	715	44,544
April .....	185,790	18,055	20,890	2,129	705	44,598
May .....	195,103	17,958	21,022	2,195	779	45,072
June .....	195,656	17,866	21,131	2,234	763	45,048
July .....	193,563	17,971	20,734	2,252	729	44,604
August .....	191,532	18,040	20,093	2,265	876	44,777
September .....	197,208	18,162	19,454	2,292	963	44,726
October .....	199,477	18,009	18,931	2,307	1,152	45,007
November .....	203,765	17,880	18,806	2,316	1,258	45,294
<b>December .....</b>	<b>189,467</b>	<b>17,886</b>	<b>19,068</b>	<b>2,257</b>	<b>1,394</b>	<b>46,181</b>
<b>2010</b> January .....	178,063	17,190	18,159	2,208	1,380	44,455
February .....	171,123	17,427	18,605	2,232	1,233	44,430
March .....	177,763	17,342	18,692	2,109	1,164	43,962
April .....	189,196	17,341	18,356	2,240	1,190	43,890
May .....	191,295	17,306	17,953	2,266	1,148	43,266
June .....	181,062	17,230	17,450	2,211	1,095	42,367
July .....	169,215	17,156	16,473	2,297	1,055	41,202
August .....	159,805	16,993	16,386	2,316	1,155	41,471
September .....	162,798	17,012	17,415	2,346	1,213	42,839
October .....	175,147	16,904	17,839	2,377	1,273	43,357
November .....	182,848	17,283	17,498	2,416	1,137	42,883
<b>December .....</b>	<b>175,160</b>	<b>17,052</b>	<b>16,702</b>	<b>2,371</b>	<b>1,087</b>	<b>41,563</b>
<b>2011</b> January .....	165,059	16,982	16,160	2,436	876	39,957
February .....	161,705	16,966	15,723	2,487	781	39,083

<sup>a</sup> Anthracite, bituminous coal, subbituminous coal, and lignite.  
<sup>b</sup> Fuel oil nos. 1, 2 and 4. For 1973-1979, data are for gas turbine and internal combustion plant stocks of petroleum. For 1980-2000, electric utility data also include small amounts of kerosene and jet fuel.  
<sup>c</sup> Fuel oil nos. 5 and 6. For 1973-1979, data are for steam plant stocks of petroleum. For 1980-2000, electric utility data also include a small amount of fuel oil no. 4.  
<sup>d</sup> Jet fuel and kerosene. Through 2003, data also include a small amount of waste oil.  
<sup>e</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.  
<sup>f</sup> Through 1998, data are for electric utilities only. Beginning in 1999, data are for electric utilities and independent power producers.  
 NA=Not available.  
 Notes: • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • Stocks

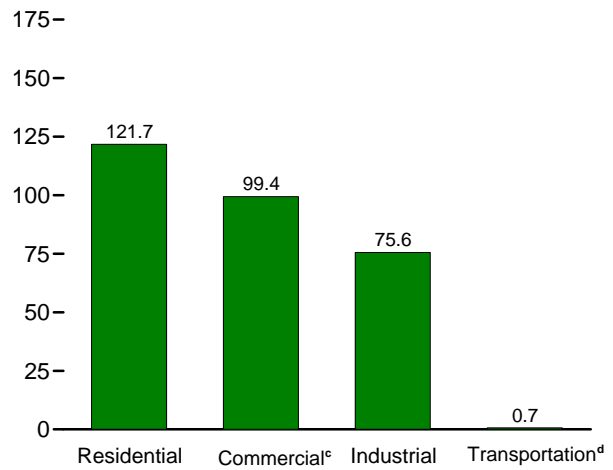
are at end of period. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1973.  
 Sources: • **1973-September 1977:** Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • **October 1977-1981:** Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • **1982-1988:** U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." • **1989-1997:** EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • **1998-2000:** EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • **2001-2003:** EIA, Form EIA-906, "Power Plant Report." • **2004-2007:** EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • **2008 forward:** EIA, Form EIA-923, "Power Plant Operations Report."

**Figure 7.6 Electricity End Use**  
(Billion Kilowatthours)

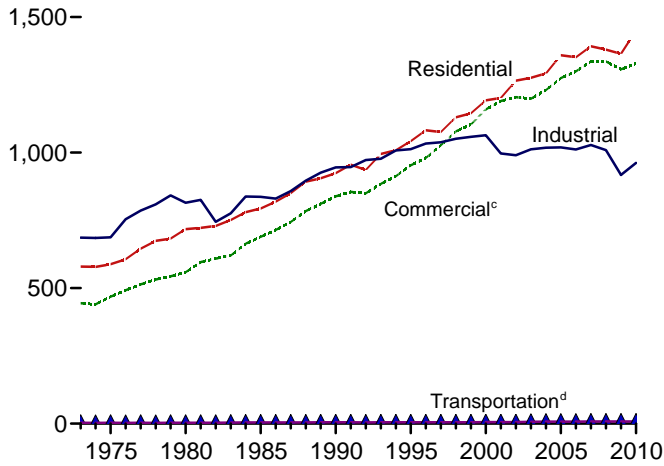
Electricity End Use Overview, 1989-2010



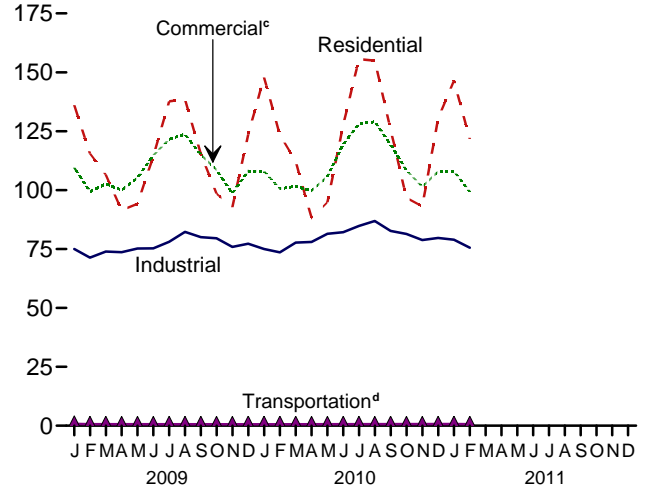
Retail Sales<sup>a</sup> by Sector, February 2011



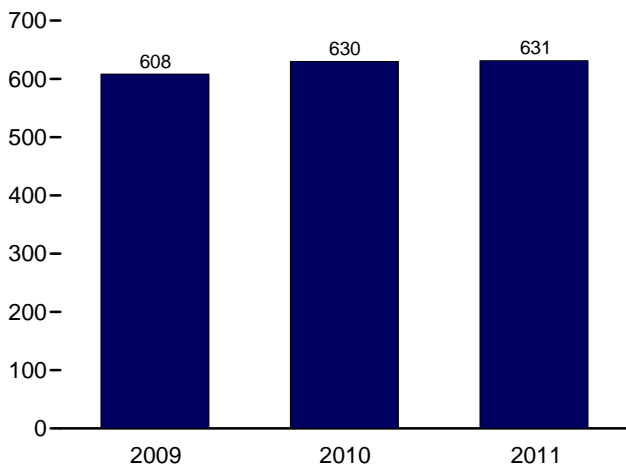
Retail Sales<sup>a</sup> by Sector, 1973-2010



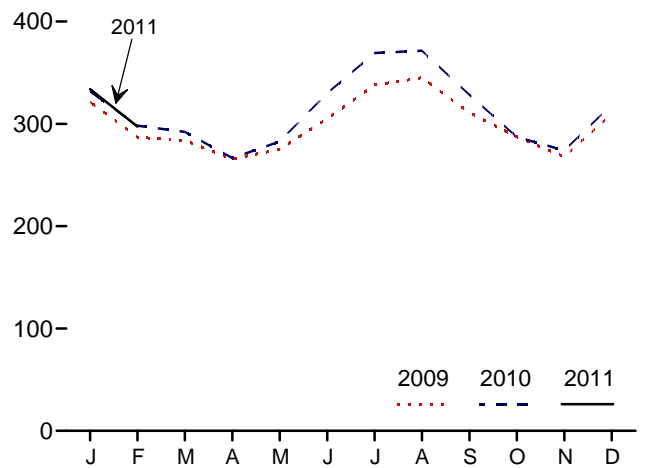
Retail Sales<sup>a</sup> by Sector, Monthly



Retail Sales<sup>a</sup> Total, January-February



Retail Sales<sup>a</sup> Total, Monthly



**Table 7.6 Electricity End Use**  
(Million Kilowatthours)

	Retail Sales <sup>a</sup>					Direct Use <sup>f</sup>	Total End Use <sup>g</sup>	Discontinued Retail Sales Series	
	Residential	Commercial <sup>b</sup>	Industrial <sup>c</sup>	Transportation <sup>d</sup>	Total Retail Sales <sup>e</sup>			Commercial (Old) <sup>h</sup>	Other (Old) <sup>i</sup>
<b>1973 Total</b> .....	579,231	E 444,505	686,085	E 3,087	1,712,909	NA	1,712,909	388,266	59,326
<b>1975 Total</b> .....	588,140	E 468,296	687,680	E 2,974	1,747,091	NA	1,747,091	403,049	68,222
<b>1980 Total</b> .....	717,495	558,643	815,067	3,244	2,094,449	NA	2,094,449	488,155	73,732
<b>1985 Total</b> .....	793,934	689,121	836,772	4,147	2,323,974	NA	2,323,974	605,989	87,279
<b>1990 Total</b> .....	924,019	838,263	945,522	4,751	2,712,555	124,529	2,837,084	751,027	91,988
<b>1995 Total</b> .....	1,042,501	953,117	1,012,693	4,975	3,013,287	150,677	3,163,963	862,685	95,407
<b>1996 Total</b> .....	1,082,512	980,061	1,033,631	4,923	3,101,127	152,638	3,253,765	887,445	97,539
<b>1997 Total</b> .....	1,075,880	1,026,626	1,038,197	4,907	3,145,610	156,239	3,301,849	928,633	102,901
<b>1998 Total</b> .....	1,130,109	1,077,957	1,051,203	4,962	3,264,231	160,866	3,425,097	979,401	103,518
<b>1999 Total</b> .....	1,144,923	1,103,821	1,058,217	5,126	3,312,087	171,629	3,483,716	1,001,996	106,952
<b>2000 Total</b> .....	1,192,446	1,159,347	1,064,239	5,382	3,421,414	170,943	3,592,357	1,055,232	109,496
<b>2001 Total</b> .....	1,201,607	1,190,518	996,609	5,724	3,394,458	162,649	3,557,107	1,083,069	113,174
<b>2002 Total</b> .....	1,265,180	1,204,531	990,238	5,517	3,465,466	166,184	3,631,650	1,104,497	105,552
<b>2003 Total</b> .....	1,275,824	1,198,728	1,012,373	6,810	3,493,734	168,295	3,662,029	--	--
<b>2004 Total</b> .....	1,291,982	1,230,425	1,017,850	7,224	3,547,479	168,470	3,715,949	--	--
<b>2005 Total</b> .....	1,359,227	1,275,079	1,019,156	7,506	3,660,969	150,016	3,810,984	--	--
<b>2006 Total</b> .....	1,351,520	1,299,744	1,011,298	7,358	3,669,919	146,927	3,816,845	--	--
<b>2007 Total</b> .....	1,392,241	1,336,315	1,027,832	8,173	3,764,561	125,670	3,890,231	--	--
<b>2008 Total</b> .....	1,379,981	1,335,981	1,009,300	7,700	3,732,962	132,197	3,865,159	--	--
<b>2009</b> January .....	136,080	109,523	75,003	774	321,379	E 10,369	331,749	--	--
February .....	115,536	99,358	71,304	672	286,869	E 9,637	296,507	--	--
March .....	106,544	102,646	73,913	671	283,773	E 10,251	294,025	--	--
April .....	91,473	100,020	73,662	611	265,766	E 9,526	275,292	--	--
May .....	94,180	105,215	75,198	599	275,193	E 9,767	284,960	--	--
June .....	114,347	114,752	75,246	611	304,956	E 10,524	315,480	--	--
July .....	137,681	121,608	78,045	674	338,009	E 11,475	349,484	--	--
August .....	138,447	123,662	82,298	644	345,051	E 11,820	356,871	--	--
September .....	115,372	115,027	80,022	638	311,059	E 11,057	322,116	--	--
October .....	98,522	108,635	79,584	607	287,348	E 10,795	298,143	--	--
November .....	92,722	98,646	75,917	592	267,877	E 10,501	278,378	--	--
December .....	123,570	108,076	77,251	688	309,585	E 11,214	320,800	--	--
<b>Total</b> .....	<b>1,364,474</b>	<b>1,307,168</b>	<b>917,442</b>	<b>7,781</b>	<b>3,596,865</b>	<b>126,938</b>	<b>3,723,803</b>	--	--
<b>2010</b> January .....	147,895	108,031	74,972	738	331,635	E 11,476	343,111	--	--
February .....	123,425	100,588	73,602	722	298,337	E 10,319	308,656	--	--
March .....	112,151	101,603	77,726	657	292,137	E 11,219	303,356	--	--
April .....	88,175	99,709	77,977	604	266,465	E 10,382	276,846	--	--
May .....	94,838	105,813	81,482	595	282,728	E 10,943	293,671	--	--
June .....	127,692	119,394	82,166	654	329,906	E 11,504	341,411	--	--
July .....	155,554	128,192	84,809	658	369,214	E 12,039	381,253	--	--
August .....	154,954	128,967	86,889	608	371,418	E 12,208	383,625	--	--
September .....	125,770	119,324	82,677	628	328,399	E 11,430	339,829	--	--
October .....	96,755	108,437	81,373	607	287,172	E 10,584	297,757	--	--
November .....	93,170	101,399	78,805	595	273,969	E 10,544	284,514	--	--
December .....	130,380	107,864	79,688	672	318,605	E 11,789	330,394	--	--
<b>Total</b> .....	<b>1,450,758</b>	<b>1,329,322</b>	<b>962,165</b>	<b>7,740</b>	<b>3,749,985</b>	<b>E 134,438</b>	<b>3,884,423</b>	--	--
<b>2011</b> January .....	146,431	107,908	78,934	697	333,969	E 11,395	345,364	--	--
February .....	121,729	99,357	75,566	650	297,302	E 9,784	307,086	--	--
<b>2-Month Total</b> .....	<b>268,160</b>	<b>207,265</b>	<b>154,500</b>	<b>1,347</b>	<b>631,271</b>	<b>E 21,179</b>	<b>652,450</b>	--	--
<b>2010 2-Month Total</b> .....	<b>271,320</b>	<b>208,618</b>	<b>148,573</b>	<b>1,460</b>	<b>629,972</b>	<b>E 21,795</b>	<b>651,767</b>	--	--
<b>2009 2-Month Total</b> .....	<b>251,615</b>	<b>208,880</b>	<b>146,307</b>	<b>1,446</b>	<b>608,249</b>	<b>E 20,007</b>	<b>628,255</b>	--	--

<sup>a</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

<sup>b</sup> Commercial sector, including public street and highway lighting, interdepartmental sales, and other sales to public authorities.

<sup>c</sup> Industrial sector. Through 2002, excludes agriculture and irrigation; beginning in 2003, includes agriculture and irrigation.

<sup>d</sup> Transportation sector, including sales to railroads and railways.

<sup>e</sup> The sum of "Residential," "Commercial," "Industrial," and "Transportation."

<sup>f</sup> Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

<sup>g</sup> The sum of "Total Retail Sales" and "Direct Use."

<sup>h</sup> "Commercial (Old)" is a discontinued series—data are for the commercial sector, excluding public street and highway lighting, interdepartmental sales, and other sales to public authorities.

<sup>i</sup> "Other (Old)" is a discontinued series—data are for public street and highway lighting, interdepartmental sales, other sales to public authorities, agriculture and irrigation, and transportation including railroads and railways.

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

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

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for all available data beginning in 1973.

Sources: See end of section.

## Electricity

### Note. Classification of Power Plants Into Energy-Use Sectors.

The U.S. Energy Information Administration (EIA) classifies power plants (both electricity-only and combined-heat-and-power plants) into energy-use sectors based on the North American Industry Classification System (NAICS), which replaced the Standard Industrial Classification (SIC) system in 1997. Plants with a NAICS code of 22 are assigned to the Electric Power Sector. Those with NAICS codes beginning with 11 (agriculture, forestry, fishing, and hunting); 21 (mining, including oil and gas extraction); 23 (construction); 31–33 (manufacturing); 2212 (natural gas distribution); and 22131 (water supply and irrigation systems) are assigned to the Industrial Sector. Those with all other codes are assigned to the Commercial Sector. Form EIA-860, “Annual Electric Generator Report,” asks respondents to indicate the primary purpose of the facility by assigning a NAICS code from the list at <http://www.eia.gov/cneaf/electricity/forms/eia860/eia860.doc>.

### Table 7.1 Sources

#### Net Generation, Electric Power Sector

Table 7.2b.

#### Net Generation, Commercial and Industrial Sectors

Table 7.2c.

#### Imports and Exports, Electricity Trade With Canada and Mexico, 1973–1989

1973–September 1977: Unpublished Federal Power Commission data.

October 1977–1980: Unpublished Economic Regulatory Administration (ERA) data.

1981: U.S. Department of Energy (DOE), Office of Energy Emergency Operations, “Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981,” April 1982 (revised June 1982).

1982 and 1983: DOE, ERA, *Electricity Exchanges Across International Borders*.

1984–1986: DOE, ERA, *Electricity Transactions Across International Borders*.

1987 and 1988: DOE, ERA, Form ERA-781R, “Annual Report of International Electrical Export/Import Data.”

1989: DOE, Fossil Energy, Form FE-781R, “Annual Report of International Electrical Export/Import Data.”

#### Imports and Exports, Electricity Trade with Canada, 1990 Forward

National Energy Board of Canada, data for total sales (firm and interruptible; which exclude non-revenue, inadvertent, and service) from Canada to the United States, and data for total purchases (which exclude non-revenue, inadvertent,

and service) by Canada from the United States.

#### Imports and Exports, Electricity Trade with Mexico, 1990 Forward

DOE, Fossil Energy, Office of Fuels Programs, Form FE-781R, “Annual Report of International Electrical Export/Import Data.” For 2001 forward, data from the California Independent System Operator were used in combination with the Form FE-781R values to estimate electricity trade with Mexico.

#### T&D Losses and Unaccounted for

Calculated as the sum of total net generation and imports minus end use and exports.

#### End Use

Table 7.6.

### Table 7.2b Sources

1973–September 1977: Federal Power Commission, Form FPC-4, “Monthly Power Plant Report.”

October 1977–1981: Federal Energy Regulatory Commission, Form FPC-4, “Monthly Power Plant Report.”

1982–1988: U.S. Energy Information Administration (EIA), Form EIA-759, “Monthly Power Plant Report.”

1989–1997: EIA, Form EIA-759, “Monthly Power Plant Report,” and Form EIA-867, “Annual Nonutility Power Producer Report.”

1998–2000: EIA, Form EIA-759, “Monthly Power Plant Report,” and Form EIA-860B, “Annual Electric Generator Report–Nonutility.”

2001–2003: EIA, Form EIA-906, “Power Plant Report.”

2004–2007: EIA, Form EIA-906, “Power Plant Report,” and Form EIA-920, “Combined Heat and Power Plant Report.”

2008 forward: EIA, Form EIA-923, “Power Plant Operations Report.”

### Table 7.2c Sources

#### Industrial Sector, Hydroelectric Power, 1973–1988

1973–September 1977: Federal Power Commission (FPC), Form FPC-4, “Monthly Power Plant Report,” for plants with generating capacity exceeding 10 megawatts, and FPC, Form FPC-12C, “Industrial Electric Generating Capacity,” for all other plants.

October 1977–1978: Federal Energy Regulatory Commission (FERC), Form FPC-4, “Monthly Power Plant Report,” for plants with generating capacity exceeding 10 megawatts, and FERC, Form FPC-12C, “Industrial Electric Generating Capacity,” for all other plants.

1979: FERC, Form FPC-4, “Monthly Power Plant Report,” for plants with generating capacity exceeding 10 megawatts, and U.S. Energy Information Administration (EIA) estimates for all other plants.



1980–1988: Estimated by EIA as the average generation over the 6-year period of 1974–1979.

### All Data, 1989 Forward

1989–1997: EIA, Form EIA-867, “Annual Nonutility Power Producer Report.”

1998–2000: EIA, Form EIA-860B, “Annual Electric Generator Report—Nonutility.”

2001–2003: EIA, Form EIA-906, “Power Plant Report.”

2004–2007: EIA, Form EIA-906, “Power Plant Report,” and Form EIA-920, “Combined Heat and Power Plant Report.”

2008 forward: EIA, Form EIA-923, “Power Plant Operations Report.”

### Table 7.3b Sources

1973–September 1977: Federal Power Commission, Form FPC-4, “Monthly Power Plant Report.”

October 1977–1981: Federal Energy Regulatory Commission, Form FPC-4, “Monthly Power Plant Report.”

1982–1988: U.S. Energy Information Administration (EIA), Form EIA-759, “Monthly Power Plant Report.”

1989–1997: EIA, Form EIA-759, “Monthly Power Plant Report,” and Form EIA-867, “Annual Nonutility Power Producer Report.”

1998–2000: EIA, Form EIA-759, “Monthly Power Plant Report,” and Form EIA-860B, “Annual Electric Generator Report—Nonutility.”

2001–2003: EIA, Form EIA-906, “Power Plant Report.”

2004–2007: EIA, Form EIA-906, “Power Plant Report,” and Form EIA-920, “Combined Heat and Power Plant Report.”

2008 forward: EIA, Form EIA-923, “Power Plant Operations Report.”

### Table 7.4b Sources

1973–September 1977: Federal Power Commission, Form FPC-4, “Monthly Power Plant Report.”

October 1977–1981: Federal Energy Regulatory Commission, Form FPC-4, “Monthly Power Plant Report.”

1982–1988: U.S. Energy Information Administration (EIA), Form EIA-759, “Monthly Power Plant Report.”

1989–1997: EIA, Form EIA-759, “Monthly Power Plant Report,” and Form EIA-867, “Annual Nonutility Power Producer Report.”

1998–2000: EIA, Form EIA-759, “Monthly Power Plant Report,” and Form EIA-860B, “Annual Electric Generator Report—Nonutility.”

2001–2003: EIA, Form EIA-906, “Power Plant Report.”

2004–2007: EIA, Form EIA-906, “Power Plant Report,” and Form EIA-920, “Combined Heat and Power Plant Report.”

2008 forward: EIA, Form EIA-923, “Power Plant Operations Report.”

### Table 7.6 Sources

#### Retail Sales, Residential and Industrial

1973–September 1977: Federal Power Commission, 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: U.S. Energy Information Administration (EIA), Form EIA-826, “Electric Utility Company Monthly Statement.”

1984–1993: EIA, Form EIA-861, “Annual Electric Utility Report.”

1994 forward: EIA, *Electric Power Monthly*, May 2011, Table 5.1.

#### Retail Sales, Commercial

1973–2002: Estimated by EIA as the sum of “Commercial (Old)” and the non-transportation portion of “Other (Old).” See estimation methodology at

[http://www.eia.gov/states/sep\\_use/notes/use\\_elec.pdf](http://www.eia.gov/states/sep_use/notes/use_elec.pdf).

2003 forward: EIA, *Electric Power Monthly*, May 2011, Table 5.1.

#### Retail Sales, Transportation

1973–2002: Estimated by EIA as the transportation portion of “Other (Old).” See estimation methodology at

[http://www.eia.gov/states/sep\\_use/notes/use\\_elec.pdf](http://www.eia.gov/states/sep_use/notes/use_elec.pdf).

2003 forward: EIA, *Electric Power Monthly*, May 2011, Table 5.1.

#### Direct Use, Annual

1989–1996: EIA, Form EIA-867, “Annual Nonutility Power Producer Report.”

1997–2009: EIA, *Electric Power Annual 2009*, November 2010, Table 7.2.

2010: Sum of monthly estimates.

#### Direct Use, Monthly

Annual shares are calculated as annual direct use divided by annual commercial and industrial net generation (on Table 7.1). Then monthly direct use estimates are calculated as the annual share multiplied by the monthly commercial and industrial net generation values. For 2010 and 2011, the 2009 annual share is used.

#### Discontinued Retail Sales Series Commercial (Old) and Other (Old)

1973–2002: See sources for “Residential” and “Industrial.”



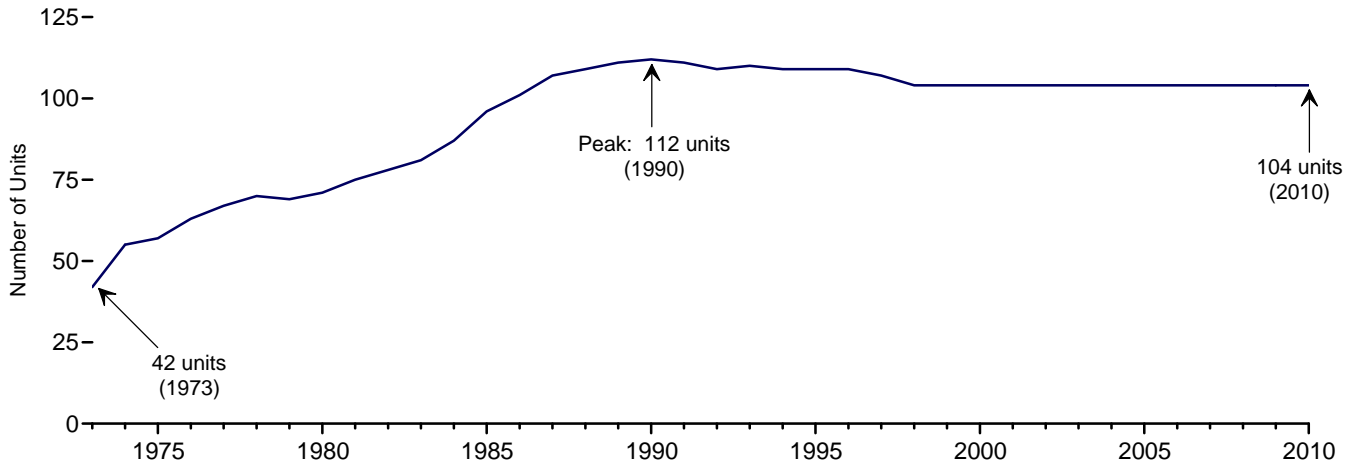
# Nuclear Energy



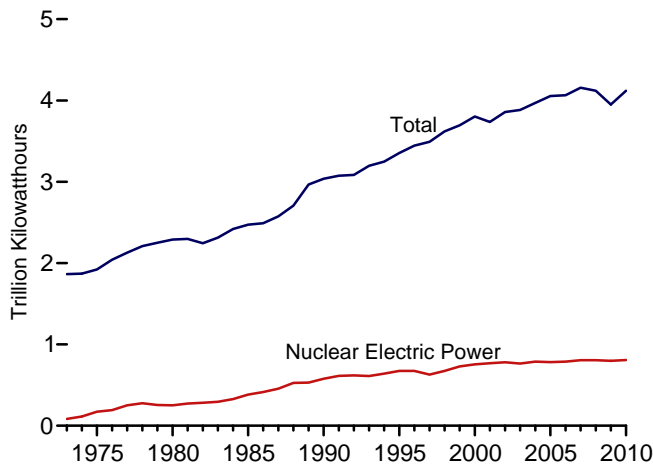
Site of Shippingport atomic power station, the first commercial nuclear power plant in the United States (rectangular reactor building and foreground); background, Beaver Valley 1 and 2 nuclear power plants and Bruce Mansfield coal-fired power plant (southwestern Pennsylvania). Source: U.S. Department of Energy.

## Figure 8.1 Nuclear Energy Overview

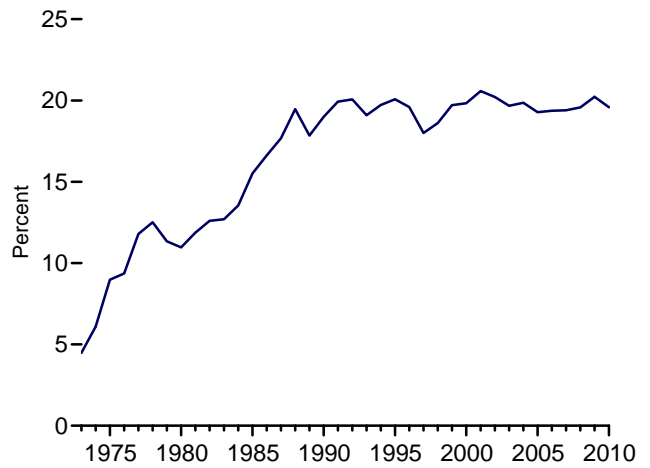
Operable Units, End of Year, 1973-2010



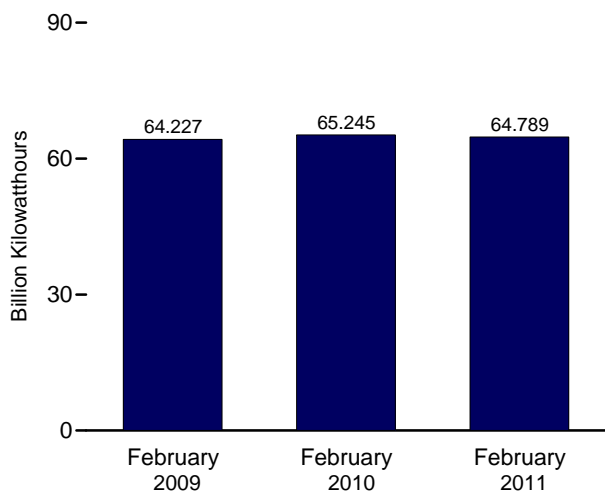
Electricity Net Generation, 1973-2010



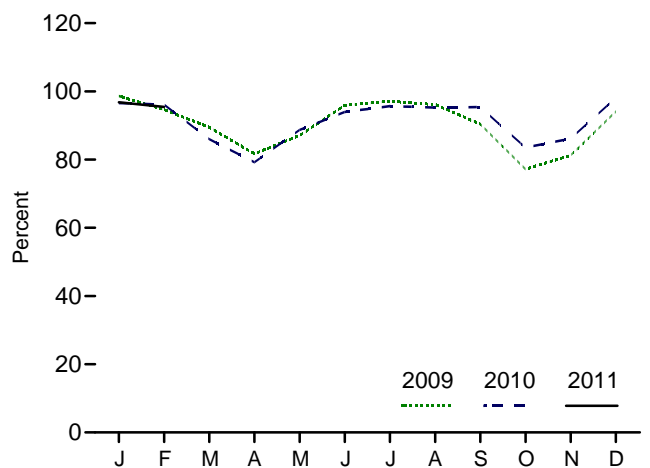
Nuclear Share of Electricity Net Generation, 1973-2010



Nuclear Electricity Net Generation



Capacity Factor, Monthly



Web Page: <http://www.eia.gov/aer/nuclear.html>.  
Sources: Tables 7.2a and 8.1.

**Table 8.1 Nuclear Energy Overview**

	Total Operable Units <sup>a,b</sup>	Net Summer Capacity of Operable Units <sup>b,c</sup>	Nuclear Electricity Net Generation	Nuclear Share of Electricity Net Generation	Capacity Factor <sup>d</sup>
	Number	Million Kilowatts	Million Kilowatthours	Percent	
<b>1973 Total</b> .....	42	22.683	83,479	4.5	53.5
<b>1975 Total</b> .....	57	37.267	172,505	9.0	55.9
<b>1980 Total</b> .....	71	51.810	251,116	11.0	56.3
<b>1985 Total</b> .....	96	79.397	383,691	15.5	58.0
<b>1990 Total</b> .....	112	99.624	576,862	19.0	66.0
<b>1995 Total</b> .....	109	99.515	673,402	20.1	77.4
<b>1996 Total</b> .....	109	100.784	674,729	19.6	76.2
<b>1997 Total</b> .....	107	99.716	628,644	18.0	71.1
<b>1998 Total</b> .....	104	97.070	673,702	18.6	78.2
<b>1999 Total</b> .....	104	97.411	728,254	19.7	85.3
<b>2000 Total</b> .....	104	97.860	753,893	19.8	88.1
<b>2001 Total</b> .....	104	98.159	768,826	20.6	89.4
<b>2002 Total</b> .....	104	98.657	780,064	20.2	90.3
<b>2003 Total</b> .....	104	99.209	763,733	19.7	87.9
<b>2004 Total</b> .....	104	99.628	788,528	19.9	90.1
<b>2005 Total</b> .....	104	99.988	781,986	19.3	89.3
<b>2006 Total</b> .....	104	100.334	787,219	19.4	89.6
<b>2007 Total</b> .....	104	100.266	806,425	19.4	91.8
<b>2008 Total</b> .....	104	100.755	806,208	19.6	91.1
<b>2009 January</b> .....	104	101.004	74,102	20.9	98.6
February .....	104	101.004	64,227	21.3	94.6
March .....	104	101.004	67,241	21.6	89.5
April .....	104	101.004	59,408	20.5	81.7
May .....	104	101.004	65,395	21.0	87.0
June .....	104	101.004	69,735	20.1	95.9
July .....	104	101.004	72,949	19.6	97.1
August .....	104	101.004	72,245	19.0	96.1
September .....	104	101.004	65,752	20.1	90.4
October .....	104	101.004	58,021	18.9	77.2
November .....	104	101.004	59,069	19.9	81.2
December .....	104	101.004	70,710	20.2	94.1
<b>Total</b> .....	<b>104</b>	<b>101.004</b>	<b>798,855</b>	<b>20.2</b>	<b>90.3</b>
<b>2010 January</b> .....	104	101.004	72,569	20.1	96.6
February .....	104	101.004	65,245	20.5	96.1
March .....	104	101.004	64,635	20.7	86.0
April .....	104	101.004	57,611	20.1	79.2
May .....	104	101.004	66,658	20.3	88.7
June .....	104	101.004	68,301	18.2	93.9
July .....	104	101.004	71,913	17.5	95.7
August .....	104	101.004	71,574	17.5	95.2
September .....	104	101.004	69,371	20.1	95.4
October .....	104	101.004	62,751	20.4	83.5
November .....	104	101.004	62,655	20.5	86.2
December .....	104	101.004	73,683	20.4	98.1
<b>Total</b> .....	<b>104</b>	<b>101.004</b>	<b>806,968</b>	<b>19.6</b>	<b>91.2</b>
<b>2011 January</b> .....	104	101.004	72,743	20.0	96.8
February .....	104	101.004	64,789	20.7	95.5
<b>2-Month Total</b> .....	<b>104</b>	<b>101.004</b>	<b>137,532</b>	<b>20.4</b>	<b>96.2</b>
<b>2010 2-Month Total</b> .....	<b>104</b>	<b>101.004</b>	<b>137,815</b>	<b>20.3</b>	<b>96.4</b>
<b>2009 2-Month Total</b> .....	<b>104</b>	<b>101.004</b>	<b>138,330</b>	<b>21.1</b>	<b>96.7</b>

<sup>a</sup> Total of nuclear generating units holding full-power licenses, or equivalent permission to operate, at end of period. See Note 1, "Operable Nuclear Reactors," at end of section. For additional information on nuclear generating units, see *Annual Energy Review 2009*, August 2010, Table 9.1, <http://www.eia.gov/aer/nuclear.html>.

<sup>b</sup> At end of period.

<sup>c</sup> For the definition of "Net Summer Capacity," see Note 2, "Nuclear Capacity," at end of section.

<sup>d</sup> For an explanation of the method of calculating the capacity factor, see Note

2, "Nuclear Capacity," at end of section.

Notes: • For a discussion of nuclear reactor unit coverage, see Note 1, "Operable Nuclear Reactors," at end of section. • 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#nuclear> for all available data beginning in 1973.

Sources: See end of section.

## Nuclear Energy

**Note 1. Operable Nuclear Reactors.** A reactor is generally defined as operable while it possessed a full-power license from the Nuclear Regulatory Commission or its predecessor the Atomic Energy Commission, or equivalent permission to operate, at the end of the year or month shown. The definition is liberal in that it does not exclude units retaining full-power licenses during long, non-routine shutdowns that for a time rendered them unable to generate electricity. Examples are:

(a) In 1985 the five then-active Tennessee Valley Authority (TVA) units (Browns Ferry 1, 2, and 3, and Sequoyah 1 and 2) were shut down under a regulatory forced outage. All five units were idle for several years, restarting in 2007, 1991, 1995, 1988, and 1988, respectively and were counted as operable during the shutdowns.

(b) Shippingport was shut down from 1974 through 1976 for conversion to a light-water breeder reactor, but is counted as operable from 1957 until its retirement in 1982.

(c) Calvert Cliffs 2 was shut down in 1989 and 1990 for replacement of pressurizer heater sleeves but is counted as operable during those years.

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

**Note 2. Nuclear Capacity.** Nuclear generating units may have more than one type of net capacity rating, including the following:

(a) Net Summer Capacity—The steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by test at the

time of summer peak demand. Auxiliary power of a typical nuclear power plant is about 5 percent of gross generation.

(b) Net Design Capacity or Net Design Electrical Rating (DER)—The nominal net electrical output of a unit, specified by the utility and used for plant design.

The monthly capacity factors are calculated as the monthly nuclear electricity net generation divided by the maximum possible nuclear electricity net generation for that month. The maximum possible nuclear electricity net generation is the number of hours in the month (assuming 24-hour days, with no adjustment for changes to or from Daylight Savings Time) multiplied by the net summer capacity of operable nuclear generating units at the end of the month. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are calculated as the annual nuclear electricity net generation divided by the annual maximum possible nuclear electricity net generation (the sum of the monthly values for maximum possible nuclear electricity net generation).

### Table 8.1 Sources

#### Total Operable Units and Net Summer Capacity of Operable Units

1973-1982: Compiled from various sources, primarily U.S. Department of Energy, Office of Nuclear Reactor Programs, "U.S. Central Station Nuclear Electric Generating Units: Significant Milestones."

1983 forward: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report," and monthly updates as appropriate. For a list of currently operable units, see [http://www.eia.gov/cneaf/nuclear/page/nuc\\_reactors/operational.xls](http://www.eia.gov/cneaf/nuclear/page/nuc_reactors/operational.xls).

#### Nuclear Electricity Net Generation and Nuclear Share of Electricity Net Generation

See Table 7.2a.

#### Capacity Factor

Calculated by EIA using the method described above in Note 2.

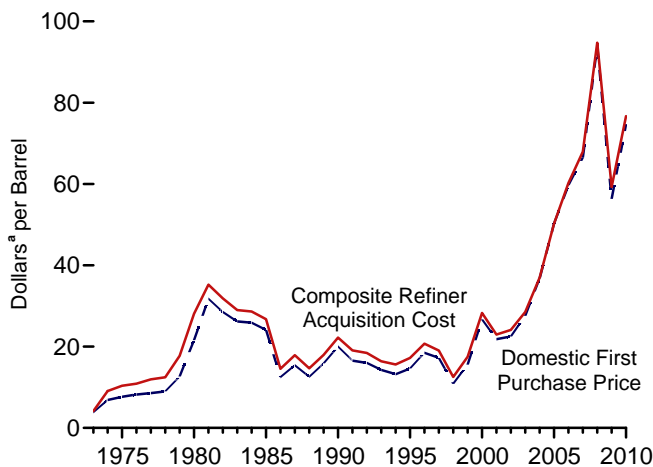
9

# Energy Prices

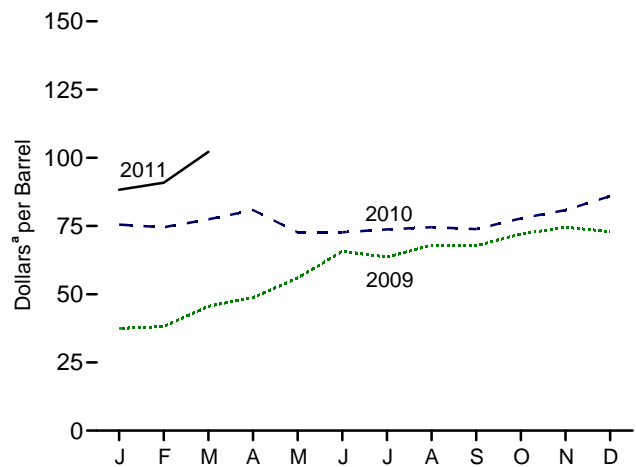


**Figure 9.1 Petroleum Prices**

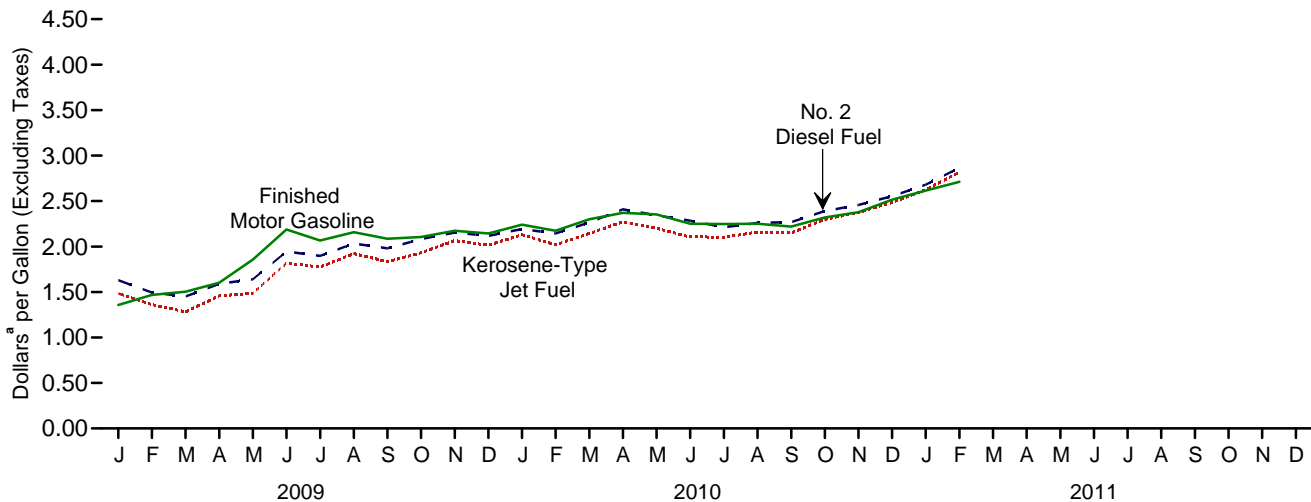
**Crude Oil Prices, 1973-2010**



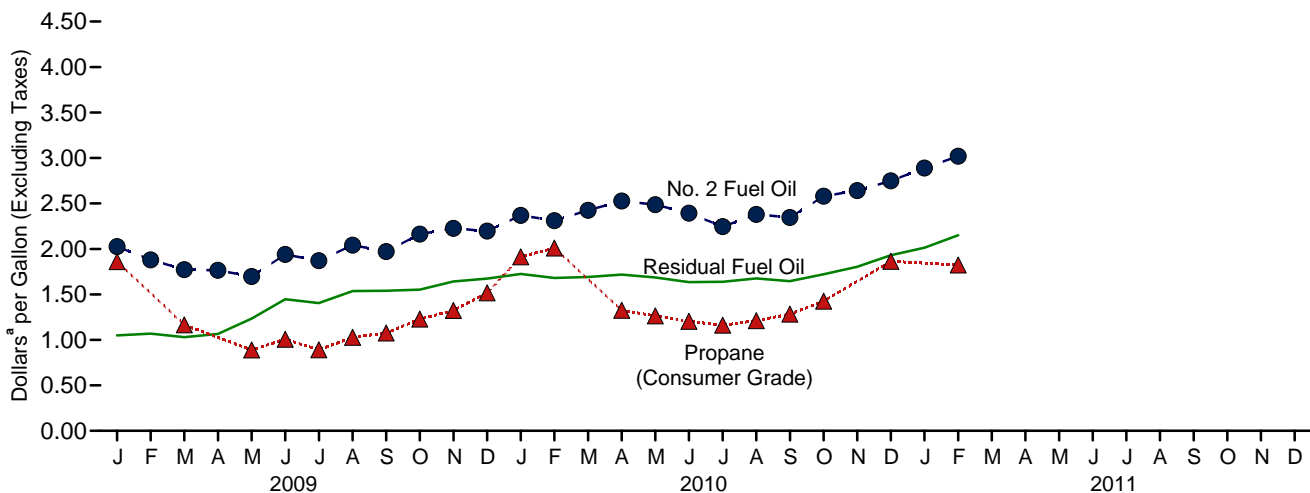
**Composite Refiner Acquisition Cost, Monthly**



**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**



<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.

Sources: Tables 9.1, 9.5, and 9.7.



**Table 9.1 Crude Oil Price Summary**

(Dollars<sup>a</sup> per Barrel)

	Domestic First Purchase Price <sup>c</sup>	F.O.B. Cost of Imports <sup>d</sup>	Landed Cost of Imports <sup>e</sup>	Refiner Acquisition Cost <sup>b</sup>		
				Domestic	Imported	Composite
<b>1973 Average</b> .....	3.89	<sup>f</sup> 5.21	<sup>f</sup> 6.41	<sup>E</sup> 4.17	<sup>E</sup> 4.08	<sup>E</sup> 4.15
<b>1975 Average</b> .....	7.67	11.18	12.70	8.39	13.93	10.38
<b>1980 Average</b> .....	21.59	32.37	33.67	24.23	33.89	28.07
<b>1985 Average</b> .....	24.09	25.84	26.67	26.66	26.99	26.75
<b>1990 Average</b> .....	20.03	20.37	21.13	22.59	21.76	22.22
<b>1995 Average</b> .....	14.62	15.69	16.78	17.33	17.14	17.23
<b>1996 Average</b> .....	18.46	19.32	20.31	20.77	20.64	20.71
<b>1997 Average</b> .....	17.23	16.94	18.11	19.61	18.53	19.04
<b>1998 Average</b> .....	10.87	10.76	11.84	13.18	12.04	12.52
<b>1999 Average</b> .....	15.56	16.47	17.23	17.90	17.26	17.51
<b>2000 Average</b> .....	26.72	26.27	27.53	29.11	27.70	28.26
<b>2001 Average</b> .....	21.84	20.46	21.82	24.33	22.00	22.95
<b>2002 Average</b> .....	22.51	22.63	23.91	24.65	23.71	24.10
<b>2003 Average</b> .....	27.56	25.86	27.69	29.82	27.71	28.53
<b>2004 Average</b> .....	36.77	33.75	36.07	38.97	35.90	36.98
<b>2005 Average</b> .....	50.28	47.60	49.29	52.94	48.86	50.24
<b>2006 Average</b> .....	59.69	57.03	59.11	62.62	59.02	60.24
<b>2007 Average</b> .....	66.52	66.36	67.97	69.65	67.04	67.94
<b>2008 Average</b> .....	94.04	90.32	93.33	98.47	92.77	94.74
<b>2009</b>						
January .....	35.00	36.87	38.74	38.67	36.84	37.45
February .....	34.14	38.08	40.27	37.51	38.56	38.15
March .....	42.45	44.34	46.74	44.92	45.96	45.57
April .....	45.19	47.67	51.43	47.52	49.58	48.78
May .....	52.67	55.61	58.27	54.58	56.77	55.96
June .....	63.09	64.82	65.89	64.65	66.37	65.72
July .....	60.44	62.32	64.78	63.79	63.46	63.58
August .....	65.28	67.47	68.53	67.81	68.09	67.99
September .....	65.28	65.41	68.50	67.87	67.65	67.74
October .....	69.82	70.45	72.58	72.09	72.06	72.08
November .....	71.99	73.16	74.41	74.60	74.40	74.48
December .....	70.42	71.24	73.50	73.35	72.67	72.95
<b>Average</b> .....	<b>56.35</b>	<b>57.78</b>	<b>60.23</b>	<b>59.49</b>	<b>59.17</b>	<b>59.29</b>
<b>2010</b>						
January .....	72.89	72.96	74.78	76.04	75.07	75.48
February .....	72.74	71.50	75.01	75.91	73.73	74.58
March .....	75.77	75.41	77.65	78.52	76.77	77.43
April .....	78.80	78.27	79.34	82.12	80.03	80.83
May .....	70.90	69.21	72.00	75.23	71.15	72.66
June .....	70.77	70.17	72.62	73.93	71.91	72.66
July .....	71.37	71.01	73.43	74.54	73.25	73.73
August .....	72.07	71.27	73.63	76.21	73.50	74.58
September .....	71.23	71.72	74.25	74.87	73.20	73.85
October .....	76.02	75.52	77.26	78.88	77.02	77.77
November .....	79.20	79.56	81.56	82.05	80.07	80.85
December .....	83.98	<sup>R</sup> 83.95	<sup>R</sup> 86.64	86.48	85.59	85.95
<b>Average</b> .....	<b>74.71</b>	<b>74.20</b>	<sup>R</sup> <b>76.49</b>	<b>77.96</b>	<b>75.88</b>	<b>76.69</b>
<b>2011</b>						
January .....	85.66	<sup>R</sup> 86.64	<sup>R</sup> 88.64	<sup>R</sup> 88.73	<sup>R</sup> 87.99	88.28
February .....	<sup>R</sup> 86.69	<sup>R</sup> 91.23	<sup>R</sup> 91.51	<sup>R</sup> 89.46	<sup>R</sup> 91.72	<sup>R</sup> 90.84
March .....	NA	NA	NA	<sup>E</sup> 99.35	<sup>E</sup> 104.91	<sup>E</sup> 102.16

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> See Note 1, "Crude Oil Refinery Acquisition Costs," at end of section.

<sup>c</sup> See Note 2, "Crude Oil Domestic First Purchase Prices," at end of section.

<sup>d</sup> See Note 3, "Crude Oil F.O.B. Costs," at end of section.

<sup>e</sup> See Note 4, "Crude Oil Landed Costs," at end of section.

<sup>f</sup> Based on October, November, and December data only.

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

Notes: • Values for Domestic First Purchase Price and Refiner Acquisition Cost for the current two months and for F.O.B. and Landed Costs of Imports for the

current three 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1973.

Sources: See end of section.

**Table 9.2 F.O.B. Costs of Crude Oil Imports From Selected Countries**  
(Dollars<sup>a</sup> per Barrel)

	Selected Countries							Persian Gulf Nations <sup>b</sup>	Total OPEC <sup>c</sup>	Total Non-OPEC <sup>c</sup>
	Angola	Colombia	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela			
1973 Average <sup>d</sup>	W	W	–	7.81	3.25	–	5.39	3.68	5.43	4.80
1975 Average	10.97	–	11.44	11.82	10.87	–	11.04	10.88	11.34	10.62
1980 Average	33.45	W	31.06	35.93	28.17	34.36	24.81	28.92	32.21	32.85
1985 Average	26.30	–	25.33	28.04	22.04	27.64	23.64	23.31	25.67	25.96
1990 Average	20.23	20.75	19.26	22.46	20.36	23.43	19.55	18.54	20.40	20.32
1995 Average	16.58	16.73	15.64	17.40	W	16.94	13.86	W	15.36	16.02
1996 Average	20.71	21.33	19.14	21.27	19.28	19.43	17.73	19.22	18.94	19.65
1997 Average	18.81	18.85	16.72	19.43	15.16	18.59	15.33	15.24	16.26	17.51
1998 Average	12.11	12.56	10.49	12.97	8.87	12.52	9.31	9.09	10.20	11.21
1999 Average	17.46	17.20	15.89	17.32	17.65	19.14	14.33	17.15	15.90	16.84
2000 Average	27.90	29.04	25.39	28.70	24.62	27.21	24.45	24.72	25.56	26.77
2001 Average	23.25	24.25	18.89	24.85	18.98	23.30	18.01	18.89	19.73	21.04
2002 Average	24.09	24.64	21.60	25.38	23.92	24.50	20.13	23.38	22.18	22.93
2003 Average	28.22	28.89	24.83	29.40	25.03	28.76	23.81	25.17	25.36	26.21
2004 Average	37.26	37.73	31.55	38.71	34.08	37.30	31.78	33.08	33.95	33.58
2005 Average	52.48	51.89	43.00	55.95	47.96	54.48	46.39	47.21	49.60	45.79
2006 Average	62.23	59.77	52.91	65.69	56.09	66.03	55.80	56.02	59.18	55.35
2007 Average	67.80	67.93	61.35	76.64	W	69.96	64.10	69.93	69.58	62.69
2008 Average	95.66	91.17	84.61	102.06	93.03	96.33	88.06	91.44	93.15	87.15
<b>2009</b> January	39.50	26.24	36.96	46.26	W	W	36.68	35.24	37.61	36.15
February	40.60	32.55	37.59	45.02	W	–	38.03	36.38	39.71	36.81
March	44.56	46.69	40.94	50.34	48.31	W	41.78	47.66	45.75	42.96
April	50.59	W	46.71	54.00	W	–	45.98	51.05	48.82	46.87
May	55.23	54.17	55.49	59.02	W	–	54.91	58.05	56.30	55.12
June	66.96	62.94	63.83	69.00	W	–	63.16	64.26	65.37	64.34
July	63.34	58.58	60.42	69.73	W	–	60.16	63.42	63.25	61.39
August	72.25	64.41	67.20	72.37	66.37	W	65.42	66.14	67.65	67.31
September	67.49	63.68	64.51	69.65	W	–	64.18	67.25	65.91	65.04
October	71.19	69.59	68.71	76.01	W	W	66.95	73.45	70.54	70.38
November	76.89	70.96	72.71	77.58	W	W	69.43	72.99	73.60	72.81
December	74.56	66.72	69.75	76.06	W	–	68.32	72.85	72.48	70.01
<b>Average</b>	<b>57.07</b>	<b>57.90</b>	<b>56.47</b>	<b>64.61</b>	<b>57.87</b>	<b>65.63</b>	<b>55.58</b>	<b>59.53</b>	<b>58.53</b>	<b>57.16</b>
<b>2010</b> January	74.62	70.08	72.96	75.91	W	–	70.86	W	73.42	72.49
February	W	68.70	69.16	76.07	W	–	68.83	71.89	71.77	71.14
March	78.11	73.90	72.76	81.27	W	–	70.88	76.10	75.83	74.91
April	84.40	74.85	75.57	85.94	W	W	72.59	80.01	78.88	77.73
May	71.86	64.32	68.30	74.28	W	–	66.37	73.60	70.45	68.24
June	72.90	67.19	67.64	75.61	W	–	66.19	72.49	71.39	69.20
July	74.77	70.00	68.53	79.63	W	–	67.25	71.76	72.16	69.87
August	77.11	69.88	69.53	75.70	W	W	68.27	72.79	72.38	70.35
September	W	69.71	69.90	80.93	74.06	–	67.59	73.34	73.24	70.24
October	W	76.06	73.93	84.59	W	–	72.10	78.28	77.55	73.80
November	85.99	78.92	77.14	86.61	W	–	75.03	80.99	80.95	78.49
December	W	81.62	81.75	93.68	W	–	77.78	W	85.72	<sup>R</sup> 82.40
<b>Average</b>	<b>78.18</b>	<b>72.56</b>	<b>72.46</b>	<b>80.83</b>	<b>76.44</b>	<b>W</b>	<b>70.30</b>	<b>75.65</b>	<b>75.23</b>	<sup>R</sup> <b>73.24</b>
<b>2011</b> January	<sup>R</sup> 95.97	83.36	<sup>R</sup> 84.36	<sup>R</sup> 99.76	W	–	<sup>R</sup> 81.24	W	<sup>R</sup> 89.54	<sup>R</sup> 83.74
February	W	86.29	88.72	109.41	W	–	85.71	97.29	95.84	87.30

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and the Neutral Zone (between Kuwait and Saudi Arabia).

<sup>c</sup> See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary.

On this table, "Total OPEC" for all years includes Algeria, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela; for 1973-2008, also includes Indonesia; for 1973-1992 and again beginning in 2008, also includes Ecuador (although Ecuador rejoined OPEC in November 2007, on this table Ecuador is included in "Total Non-OPEC" for 2007); for 1974-1995, also includes Gabon (although Gabon was a member of OPEC for only 1975-1994); and beginning in 2007, also includes Angola. Data for all countries not included in "Total OPEC" are included in "Total Non-OPEC."

<sup>d</sup> Based on October, November, and December data only.

<sup>R</sup>=Revised. – =No data reported. 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 "F.O.B." in Glossary, and Note 3, "Crude Oil F.O.B. Costs," at end of section. • Values for the current two 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1973.

Sources: See end of section.



**Table 9.4 Motor Gasoline Retail Prices, U.S. City Average**  
(Dollars<sup>a</sup> per Gallon, Including Taxes)

	Leaded Regular	Unleaded Regular	Unleaded Premium <sup>b</sup>	All Types <sup>c</sup>
1973 Average .....	0.388	NA	NA	NA
1975 Average .....	0.567	NA	NA	NA
1980 Average .....	1.191	1.245	NA	1.221
1985 Average .....	1.115	1.202	1.340	1.196
1990 Average .....	1.149	1.164	1.349	1.217
1995 Average .....	NA	1.147	1.336	1.205
1996 Average .....	NA	1.231	1.413	1.288
1997 Average .....	NA	1.234	1.416	1.291
1998 Average .....	NA	1.059	1.250	1.115
1999 Average .....	NA	1.165	1.357	1.221
2000 Average .....	NA	1.510	1.693	1.563
2001 Average .....	NA	1.461	1.657	1.531
2002 Average .....	NA	1.358	1.556	1.441
2003 Average .....	NA	1.591	1.777	1.638
2004 Average .....	NA	1.880	2.068	1.923
2005 Average .....	NA	2.295	2.491	2.338
2006 Average .....	NA	2.589	2.805	2.635
2007 Average .....	NA	2.801	3.033	2.849
2008 Average .....	NA	3.266	3.519	3.317
<b>2009</b> January .....	NA	1.787	2.036	1.838
February .....	NA	1.928	2.182	1.979
March .....	NA	1.949	2.197	2.000
April .....	NA	2.056	2.309	2.107
May .....	NA	2.265	2.511	2.314
June .....	NA	2.631	2.883	2.681
July .....	NA	2.543	2.806	2.594
August .....	NA	2.627	2.887	2.677
September .....	NA	2.574	2.845	2.626
October .....	NA	2.561	2.826	2.613
November .....	NA	2.660	2.917	2.709
December .....	NA	2.621	2.882	2.671
<b>Average</b> .....	<b>NA</b>	<b>2.350</b>	<b>2.607</b>	<b>2.401</b>
<b>2010</b> January .....	NA	2.731	2.987	2.779
February .....	NA	2.659	2.922	2.709
March .....	NA	2.780	3.035	2.829
April .....	NA	2.858	3.113	2.906
May .....	NA	2.869	3.124	2.915
June .....	NA	2.736	3.000	2.783
July .....	NA	2.736	2.997	2.783
August .....	NA	2.745	3.015	2.795
September .....	NA	2.704	2.968	2.754
October .....	NA	2.795	3.055	2.843
November .....	NA	2.852	3.109	2.899
December .....	NA	2.985	3.234	3.031
<b>Average</b> .....	<b>NA</b>	<b>2.788</b>	<b>3.047</b>	<b>2.836</b>
<b>2011</b> January .....	NA	3.091	3.345	3.139
February .....	NA	3.167	3.424	3.215
March .....	NA	3.546	3.807	3.594
April .....	NA	3.816	4.074	3.863

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> The 1981 average (available in Web file) is based on September through December data only.

<sup>c</sup> Also includes types of motor gasoline not shown separately.

NA=Not available.

Notes: • See Note 5, "Motor Gasoline Prices," at end of section. • 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. • Geographic coverage for 1973-1977 is 56 urban areas. Geographic coverage for 1978 forward is 85 urban areas.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1973.

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 U.S. Energy Information Administration as the simple averages of monthly data.

**Table 9.5 Refiner Prices of Residual Fuel Oil**

(Dollars<sup>a</sup> 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
<b>1978 Average</b> .....	0.293	0.314	0.245	0.275	0.263	0.298
<b>1980 Average</b> .....	0.608	0.675	0.479	0.523	0.528	0.607
<b>1985 Average</b> .....	0.610	0.644	0.560	0.582	0.577	0.610
<b>1990 Average</b> .....	0.472	0.505	0.372	0.400	0.413	0.444
<b>1995 Average</b> .....	0.383	0.436	0.338	0.377	0.363	0.392
<b>1996 Average</b> .....	0.456	0.526	0.389	0.433	0.420	0.455
<b>1997 Average</b> .....	0.415	0.488	0.366	0.403	0.387	0.423
<b>1998 Average</b> .....	0.299	0.354	0.269	0.287	0.280	0.305
<b>1999 Average</b> .....	0.382	0.405	0.329	0.362	0.354	0.374
<b>2000 Average</b> .....	0.627	0.708	0.512	0.566	0.566	0.602
<b>2001 Average</b> .....	0.523	0.642	0.428	0.492	0.476	0.531
<b>2002 Average</b> .....	0.546	0.640	0.508	0.544	0.530	0.569
<b>2003 Average</b> .....	0.728	0.804	0.588	0.651	0.661	0.698
<b>2004 Average</b> .....	0.764	0.835	0.601	0.692	0.681	0.739
<b>2005 Average</b> .....	1.115	1.168	0.842	0.974	0.971	1.048
<b>2006 Average</b> .....	1.202	1.342	1.085	1.173	1.136	1.218
<b>2007 Average</b> .....	1.406	1.436	1.314	1.350	1.350	1.374
<b>2008 Average</b> .....	1.918	2.144	1.843	1.889	1.866	1.964
<b>2009</b> January .....	1.035	1.164	0.861	0.953	0.926	1.049
February .....	1.011	1.200	0.918	0.974	0.954	1.068
March .....	1.019	1.183	0.917	0.952	0.952	1.030
April .....	1.077	1.174	0.992	1.027	1.017	1.066
May .....	1.205	1.213	1.191	1.245	1.195	1.234
June .....	1.401	1.440	1.373	1.451	1.381	1.447
July .....	1.417	1.488	1.400	1.369	1.405	1.404
August .....	1.584	1.641	1.567	1.488	1.572	1.536
September .....	1.531	1.689	1.556	1.491	1.549	1.540
October .....	1.619	1.717	1.549	1.501	1.560	1.552
November .....	1.743	1.739	1.700	1.602	1.711	1.642
December .....	1.723	1.813	1.673	1.614	1.685	1.674
<b>Average</b> .....	<b>1.337</b>	<b>1.413</b>	<b>1.344</b>	<b>1.306</b>	<b>1.342</b>	<b>1.341</b>
<b>2010</b> January .....	1.767	1.852	1.705	1.660	1.721	1.725
February .....	1.725	1.862	1.650	1.574	1.666	1.681
March .....	1.739	1.862	1.700	1.609	1.711	1.692
April .....	1.827	1.887	1.725	1.655	1.748	1.718
May .....	1.675	1.898	1.675	1.601	1.675	1.686
June .....	1.629	1.874	1.604	1.555	1.612	1.636
July .....	1.686	1.858	1.604	1.536	1.629	1.639
August .....	1.705	1.895	1.625	1.571	1.642	1.676
September .....	1.716	1.883	1.612	1.558	1.632	1.645
October .....	1.793	1.913	1.688	1.637	1.712	1.721
November .....	1.865	2.025	1.741	1.701	1.768	1.804
December .....	2.036	2.215	1.814	1.784	1.865	1.931
<b>Average</b> .....	<b>1.756</b>	<b>1.920</b>	<b>1.679</b>	<b>1.619</b>	<b>1.697</b>	<b>1.713</b>
<b>2011</b> January .....	NA	2.302	1.896	1.870	<sup>R</sup> 1.918	2.013
February .....	2.100	2.451	2.079	2.019	2.086	2.150

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

R=Revised. NA=Not available.

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 U.S. Energy Information Administration (EIA) estimates. See Note

6, "Historical Petroleum Prices," at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1978.

Sources: • **1978-2009:** EIA, *Petroleum Marketing Annual 2009*, Table 16. • **2010 and 2011:** EIA, *Petroleum Marketing Monthly*, May 2011, Table 16.

**Table 9.6 Refiner Prices of Petroleum Products for Resale**  
(Dollars<sup>a</sup> per Gallon, Excluding Taxes)

	Finished Motor Gasoline <sup>b</sup>	Finished Aviation Gasoline	Kerosene-Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
1978 Average .....	0.434	0.537	0.386	0.404	0.369	0.365	0.237
1980 Average .....	0.941	1.128	0.868	0.864	0.803	0.801	0.415
1985 Average .....	0.835	1.130	0.794	0.874	0.776	0.772	0.398
1990 Average .....	0.786	1.063	0.773	0.839	0.697	0.694	0.386
1995 Average .....	0.626	0.975	0.539	0.580	0.511	0.538	0.344
1996 Average .....	0.713	1.055	0.646	0.714	0.639	0.659	0.461
1997 Average .....	0.700	1.065	0.613	0.653	0.590	0.606	0.416
1998 Average .....	0.526	0.912	0.450	0.465	0.422	0.444	0.288
1999 Average .....	0.645	1.007	0.533	0.550	0.493	0.546	0.342
2000 Average .....	0.963	1.330	0.880	0.969	0.886	0.898	0.595
2001 Average .....	0.886	1.256	0.763	0.821	0.756	0.784	0.540
2002 Average .....	0.828	1.146	0.716	0.752	0.694	0.724	0.431
2003 Average .....	1.002	1.288	0.871	0.955	0.881	0.883	0.607
2004 Average .....	1.288	1.627	1.208	1.271	1.125	1.187	0.751
2005 Average .....	1.670	2.076	1.723	1.757	1.623	1.737	0.933
2006 Average .....	1.969	2.490	1.961	2.007	1.834	2.012	1.031
2007 Average .....	2.182	2.758	2.171	2.249	2.072	2.203	1.194
2008 Average .....	2.586	3.342	3.020	2.851	2.745	2.994	1.437
<b>2009</b> January .....	1.246	1.851	1.472	1.810	1.548	1.480	0.974
February .....	1.333	2.040	1.352	1.607	1.427	1.326	0.890
March .....	1.397	2.031	1.266	1.456	1.358	1.315	0.805
April .....	1.482	2.225	1.425	1.480	1.397	1.456	0.719
May .....	1.763	2.478	1.460	1.540	1.468	1.531	0.728
June .....	2.022	2.743	1.780	1.849	1.744	1.828	0.838
July .....	1.867	2.548	1.759	1.773	1.658	1.745	0.760
August .....	2.026	2.759	1.894	1.951	1.804	1.937	0.837
September .....	1.915	2.592	1.822	1.857	1.774	1.848	0.923
October .....	1.975	2.611	1.917	2.053	1.918	1.978	1.004
November .....	2.039	2.701	2.060	2.067	2.004	2.037	1.088
December .....	1.999	2.655	2.012	2.148	1.989	1.997	1.178
<b>Average</b> .....	<b>1.767</b>	<b>2.480</b>	<b>1.719</b>	<b>1.844</b>	<b>1.657</b>	<b>1.713</b>	<b>0.921</b>
<b>2010</b> January .....	2.097	2.759	2.121	2.282	2.075	2.078	1.332
February .....	2.033	2.662	1.999	2.216	1.986	2.025	1.324
March .....	2.197	2.906	2.129	2.219	2.100	2.163	1.179
April .....	2.265	2.999	2.247	2.281	2.214	2.312	1.144
May .....	2.152	2.945	2.186	2.110	2.129	2.177	1.098
June .....	2.113	2.835	2.094	2.103	2.037	2.120	1.049
July .....	2.113	2.891	2.100	2.046	2.001	2.098	1.012
August .....	2.095	2.842	2.138	2.125	2.041	2.161	1.084
September .....	2.088	2.805	2.131	2.163	2.093	2.190	1.151
October .....	2.198	2.890	2.263	2.384	2.221	2.325	1.253
November .....	2.243	2.868	2.342	NA	2.308	2.392	1.277
December .....	2.383	3.024	2.459	2.744	2.435	2.486	1.322
<b>Average</b> .....	<b>2.165</b>	<b>2.874</b>	<b>2.185</b>	<b>2.299</b>	<b>2.147</b>	<b>2.214</b>	<b>1.212</b>
<b>2011</b> January .....	<sup>R</sup> 2.472	3.161	2.585	2.804	2.585	2.621	1.380
February .....	2.584	3.248	2.783	2.931	2.741	2.819	1.401

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> See Note 5, "Motor Gasoline Prices," at end of section.

R=Revised. NA=Not available.

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 U.S. Energy

Information Administration (EIA) estimates. See Note 6, "Historical Petroleum Prices," at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1978.

Sources: • **1978-2009:** EIA, *Petroleum Marketing Annual 2009*, Table 4.  
• **2010 and 2011:** EIA, *Petroleum Marketing Monthly*, May 2011, Table 4.

**Table 9.7 Refiner Prices of Petroleum Products to End Users**

(Dollars<sup>a</sup> per Gallon, Excluding Taxes)

	Finished Motor Gasoline <sup>b</sup>	Finished Aviation Gasoline	Kerosene-Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
<b>1978 Average</b> .....	<b>0.484</b>	<b>0.516</b>	<b>0.387</b>	<b>0.421</b>	<b>0.400</b>	<b>0.377</b>	<b>0.335</b>
<b>1980 Average</b> .....	<b>1.035</b>	<b>1.084</b>	<b>0.868</b>	<b>0.902</b>	<b>0.788</b>	<b>0.818</b>	<b>0.482</b>
<b>1985 Average</b> .....	<b>0.912</b>	<b>1.201</b>	<b>0.796</b>	<b>1.030</b>	<b>0.849</b>	<b>0.789</b>	<b>0.717</b>
<b>1990 Average</b> .....	<b>0.883</b>	<b>1.120</b>	<b>0.766</b>	<b>0.923</b>	<b>0.734</b>	<b>0.725</b>	<b>0.745</b>
<b>1995 Average</b> .....	<b>0.765</b>	<b>1.005</b>	<b>0.540</b>	<b>0.589</b>	<b>0.562</b>	<b>0.560</b>	<b>0.492</b>
<b>1996 Average</b> .....	<b>0.847</b>	<b>1.116</b>	<b>0.651</b>	<b>0.740</b>	<b>0.673</b>	<b>0.681</b>	<b>0.605</b>
<b>1997 Average</b> .....	<b>0.839</b>	<b>1.128</b>	<b>0.613</b>	<b>0.745</b>	<b>0.636</b>	<b>0.642</b>	<b>0.552</b>
<b>1998 Average</b> .....	<b>0.673</b>	<b>0.975</b>	<b>0.452</b>	<b>0.501</b>	<b>0.482</b>	<b>0.494</b>	<b>0.405</b>
<b>1999 Average</b> .....	<b>0.781</b>	<b>1.059</b>	<b>0.543</b>	<b>0.605</b>	<b>0.558</b>	<b>0.584</b>	<b>0.458</b>
<b>2000 Average</b> .....	<b>1.106</b>	<b>1.306</b>	<b>0.899</b>	<b>1.123</b>	<b>0.927</b>	<b>0.935</b>	<b>0.603</b>
<b>2001 Average</b> .....	<b>1.032</b>	<b>1.323</b>	<b>0.775</b>	<b>1.045</b>	<b>0.829</b>	<b>0.842</b>	<b>0.506</b>
<b>2002 Average</b> .....	<b>0.947</b>	<b>1.288</b>	<b>0.721</b>	<b>0.990</b>	<b>0.737</b>	<b>0.762</b>	<b>0.419</b>
<b>2003 Average</b> .....	<b>1.156</b>	<b>1.493</b>	<b>0.872</b>	<b>1.224</b>	<b>0.933</b>	<b>0.944</b>	<b>0.577</b>
<b>2004 Average</b> .....	<b>1.435</b>	<b>1.819</b>	<b>1.207</b>	<b>1.160</b>	<b>1.173</b>	<b>1.243</b>	<b>0.839</b>
<b>2005 Average</b> .....	<b>1.829</b>	<b>2.231</b>	<b>1.735</b>	<b>1.957</b>	<b>1.705</b>	<b>1.786</b>	<b>1.089</b>
<b>2006 Average</b> .....	<b>2.128</b>	<b>2.682</b>	<b>1.998</b>	<b>2.244</b>	<b>1.982</b>	<b>2.096</b>	<b>1.358</b>
<b>2007 Average</b> .....	<b>2.345</b>	<b>2.849</b>	<b>2.165</b>	<b>2.263</b>	<b>2.241</b>	<b>2.267</b>	<b>1.489</b>
<b>2008 Average</b> .....	<b>2.775</b>	<b>3.273</b>	<b>3.052</b>	<b>3.283</b>	<b>2.986</b>	<b>3.150</b>	<b>1.892</b>
<b>2009</b> January .....	1.358	1.857	1.483	2.626	2.026	1.630	1.861
February .....	1.468	1.974	1.360	2.627	1.879	1.495	1.505
March .....	1.503	1.977	1.281	2.565	1.772	1.450	1.166
April .....	1.601	2.150	1.458	2.540	1.765	1.589	1.065
May .....	1.856	2.423	1.486	2.497	1.697	1.640	0.889
June .....	2.187	2.707	1.818	2.490	1.939	1.945	1.008
July .....	2.067	2.607	1.774	2.462	1.871	1.897	0.891
August .....	2.157	2.764	1.922	2.545	2.041	2.032	1.029
September .....	2.086	2.684	1.834	NA	1.972	1.980	1.075
October .....	2.104	2.693	1.930	2.738	2.163	2.082	1.229
November .....	2.173	2.845	2.064	2.875	2.227	2.155	1.323
December .....	2.144	2.799	2.016	2.894	2.197	2.117	1.517
<b>Average</b> .....	<b>1.888</b>	<b>2.442</b>	<b>1.704</b>	<b>2.675</b>	<b>1.962</b>	<b>1.834</b>	<b>1.220</b>
<b>2010</b> January .....	2.240	2.914	2.129	2.986	2.369	2.192	1.913
February .....	2.173	2.855	2.018	2.974	2.310	2.144	2.009
March .....	2.301	3.103	2.144	2.978	2.425	2.265	NA
April .....	2.370	3.201	2.272	3.040	2.527	2.410	1.326
May .....	2.353	3.129	2.199	2.938	2.487	2.343	1.264
June .....	2.251	2.981	2.105	2.965	2.393	2.284	1.204
July .....	2.247	3.028	2.103	NA	2.246	2.212	1.162
August .....	2.250	2.967	2.158	2.772	2.379	2.260	1.211
September .....	2.219	2.893	2.148	2.898	2.346	2.269	1.283
October .....	2.319	3.000	2.298	3.058	2.580	2.389	1.425
November .....	2.378	3.095	2.374	3.130	2.641	2.457	NA
December .....	2.514	3.218	2.484	3.276	2.749	2.554	1.863
<b>Average</b> .....	<b>2.301</b>	<b>3.028</b>	<b>2.201</b>	<b>3.063</b>	<b>2.462</b>	<b>2.314</b>	<b>1.481</b>
<b>2011</b> January .....	2.615	3.323	<sup>R</sup> 2.623	3.358	<sup>R</sup> 2.889	2.681	NA
February .....	2.712	3.374	2.818	3.506	3.020	2.867	1.823

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> See Note 5, "Motor Gasoline Prices," at end of section.

R=Revised. NA=Not available.

Notes: • Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Sales for resale are shown in Table 9.6; they are sales made to purchasers other than ultimate consumers. • Values for the current month are preliminary. • Prices prior to 1983 are U.S. Energy

Information Administration (EIA) estimates. See Note 6, "Historical Petroleum Prices," at end of section. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1978.

Sources: • **1978-2009:** EIA, *Petroleum Marketing Annual 2009*, Table 2. • **2010 and 2011:** EIA, *Petroleum Marketing Monthly*, May 2011, Table 2.

**Table 9.8a No. 2 Distillate Prices to Residences: Northeastern States**

(Dollars<sup>a</sup> per Gallon, Excluding Taxes)

	Maine	New Hampshire	Vermont	Massachusetts	Rhode Island	Connecticut	New York	New Jersey	Pennsylvania
<b>1978 Average</b> .....	0.486	0.503	0.508	0.488	0.507	0.501	0.501	0.496	0.488
<b>1980 Average</b> .....	0.963	1.004	1.015	0.978	1.011	0.983	0.982	0.979	0.964
<b>1985 Average</b> .....	0.997	1.024	1.077	1.070	1.067	1.080	1.113	1.059	1.023
<b>1990 Average</b> .....	0.989	1.028	1.070	1.084	1.086	1.098	1.125	1.087	1.026
<b>1995 Average</b> .....	0.787	0.779	0.853	0.844	0.874	0.864	0.955	0.888	0.826
<b>1996 Average</b> .....	0.972	0.940	0.969	0.976	0.986	0.986	1.063	1.024	0.953
<b>1997 Average</b> .....	0.942	0.942	0.987	0.960	0.989	0.963	1.065	1.033	0.950
<b>1998 Average</b> .....	0.788	0.788	0.873	0.818	0.868	0.831	0.948	0.892	0.814
<b>1999 Average</b> .....	0.813	0.770	0.854	0.836	0.858	0.852	0.969	0.913	0.815
<b>2000 Average</b> .....	1.297	1.281	1.255	1.273	1.259	1.291	1.442	1.404	1.224
<b>2001 Average</b> .....	1.217	1.256	1.261	1.221	1.236	1.239	1.363	1.314	1.159
<b>2002 Average</b> .....	1.129	1.119	1.172	1.141	1.124	1.118	1.218	1.220	1.064
<b>2003 Average</b> .....	1.314	1.312	1.309	1.386	1.344	1.355	1.436	1.489	1.304
<b>2004 Average</b> .....	1.511	1.497	1.505	1.559	1.511	1.518	1.627	1.662	1.489
<b>2005 Average</b> .....	1.986	1.972	1.987	2.064	2.000	2.012	2.105	2.166	1.974
<b>2006 Average</b> .....	2.294	2.283	2.408	2.355	2.360	2.357	2.458	2.467	2.286
<b>2007 Average</b> .....	2.540	2.535	2.679	2.576	2.602	2.615	2.674	2.664	2.508
<b>2008 Average</b> .....	3.199	3.207	3.323	3.197	3.210	3.195	3.293	3.267	3.157
<b>2009</b> January .....	2.506	2.537	2.774	2.356	2.346	2.576	2.543	2.389	2.427
February .....	2.404	2.426	2.693	2.226	2.209	2.429	2.447	2.288	2.268
March .....	2.237	2.283	2.545	2.166	2.127	2.362	2.334	2.166	2.202
April .....	2.250	2.246	2.437	2.192	2.143	2.314	2.338	2.187	2.177
May .....	2.175	2.151	2.370	2.142	2.169	2.225	2.300	2.187	2.190
June .....	2.295	2.201	2.376	2.371	2.385	2.413	2.428	2.381	2.211
July .....	2.268	2.077	2.324	2.312	2.285	2.354	2.291	2.322	2.137
August .....	2.350	2.243	2.378	2.432	2.454	2.490	2.523	2.454	2.257
September .....	2.333	2.272	2.403	2.386	2.357	2.349	2.455	2.437	2.196
October .....	2.391	2.373	2.484	2.470	2.537	2.516	2.574	2.541	2.315
November .....	2.461	2.484	2.604	2.619	2.685	2.645	2.747	2.710	2.520
December .....	2.486	2.523	2.640	2.634	2.718	2.665	2.733	2.731	2.536
<b>Average</b> .....	<b>2.382</b>	<b>2.377</b>	<b>2.593</b>	<b>2.358</b>	<b>2.376</b>	<b>2.487</b>	<b>2.504</b>	<b>2.404</b>	<b>2.330</b>
<b>2010</b> January .....	2.583	2.611	2.753	2.762	2.856	2.764	2.893	2.928	2.692
February .....	2.536	2.600	2.705	2.729	2.777	2.730	2.845	2.871	2.697
March .....	2.560	2.632	2.747	2.795	2.800	2.758	2.801	2.929	2.755
April .....	2.565	2.651	2.771	2.868	2.959	2.815	2.845	2.946	2.752
May .....	2.511	2.636	2.710	2.811	2.921	2.736	2.781	2.873	2.680
June .....	2.479	2.574	2.649	2.716	2.829	2.705	2.691	2.747	2.561
July .....	2.478	2.532	2.614	2.656	2.728	2.653	2.651	2.715	2.519
August .....	2.469	2.513	2.619	2.651	2.735	2.634	2.668	2.701	2.543
September .....	2.539	2.543	2.657	2.686	2.745	2.647	2.721	2.754	2.583
October .....	2.677	2.642	2.784	2.860	2.942	2.822	2.848	2.912	2.759
November .....	2.774	2.772	2.924	2.969	3.044	2.946	2.969	3.077	2.892
December .....	2.910	2.904	3.032	3.126	3.197	3.106	3.147	3.278	3.061
<b>Average</b> .....	<b>2.639</b>	<b>2.680</b>	<b>2.795</b>	<b>2.850</b>	<b>2.927</b>	<b>2.835</b>	<b>2.894</b>	<b>2.973</b>	<b>2.780</b>
<b>2011</b> January .....	<sup>R</sup> 3.071	3.102	<sup>R</sup> 3.186	<sup>R</sup> 3.313	<sup>R</sup> 3.368	<sup>R</sup> 3.268	3.281	3.458	<sup>R</sup> 3.237
February .....	3.188	3.269	3.330	3.493	3.536	3.477	3.428	3.624	3.369

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
R=Revised.

Notes: • States are grouped in Tables 9.8a–9.8c by geographic region of the country. • Values for the current month are preliminary. • Prices prior to 1983 are U.S. Energy Information Administration (EIA) estimates. See Note 6, "Historical

Petroleum Prices," at end of section.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1978.

Sources: • **1978-2009:** EIA, *Petroleum Marketing Annual 2009*, Table 15.  
• **2010 and 2011:** EIA, *Petroleum Marketing Monthly*, May 2011, Table 15.



**Table 9.8b No. 2 Distillate Prices to Residences: Selected South Atlantic and Midwestern States** (Dollars<sup>a</sup> per Gallon, Excluding Taxes)

	Delaware	District of Columbia	Maryland	Virginia	West Virginia	Ohio	Michigan	Indiana	Illinois	Wisconsin	Minnesota
1978 Average .....	0.478	0.507	0.492	0.491	0.462	0.474	0.479	0.485	0.465	0.447	0.478
1980 Average .....	0.954	1.026	0.979	0.985	0.922	0.919	0.978	0.996	0.958	0.915	0.999
1985 Average .....	1.046	1.143	1.088	1.063	0.980	0.997	1.021	0.991	0.975	0.983	1.019
1990 Average .....	1.058	1.078	1.119	1.106	0.991	0.981	1.009	0.993	0.961	0.942	1.014
1995 Average .....	0.870	1.010	0.936	0.844	0.815	0.808	0.860	0.816	0.785	0.812	0.801
1996 Average .....	0.984	1.178	1.063	0.952	0.960	0.921	0.977	0.912	0.893	0.899	0.909
1997 Average .....	0.984	1.174	1.057	0.948	0.962	0.913	0.942	0.865	0.870	0.933	0.899
1998 Average .....	0.858	1.022	0.902	0.856	0.818	0.767	0.804	0.748	0.735	0.801	0.738
1999 Average .....	0.884	1.011	0.907	0.870	0.789	0.820	0.883	0.793	0.716	0.847	0.774
2000 Average .....	1.270	W	1.351	1.269	1.251	1.220	NA	1.207	1.095	1.171	1.156
2001 Average .....	1.234	1.431	1.342	1.202	1.139	1.160	NA	1.133	1.121	1.180	1.122
2002 Average .....	1.164	W	1.201	1.057	1.054	1.058	1.109	1.025	0.975	1.073	1.051
2003 Average .....	1.433	W	1.455	1.311	1.304	1.284	1.321	1.202	1.198	1.269	1.218
2004 Average .....	1.570	W	1.632	1.462	1.493	1.475	1.539	1.537	1.405	1.465	1.433
2005 Average .....	2.075	W	2.127	2.044	2.043	2.009	2.053	2.017	2.021	1.993	1.987
2006 Average .....	2.381	W	2.398	2.268	2.261	2.244	2.329	2.317	2.312	2.297	2.268
2007 Average .....	2.584	W	2.668	2.407	2.478	2.494	2.588	2.557	2.528	2.571	2.587
2008 Average .....	3.187	W	3.273	3.124	3.221	3.147	3.067	3.105	3.152	3.088	3.065
<b>2009</b> January .....	2.428	W	2.470	2.225	2.329	2.041	1.991	2.062	2.069	2.004	1.974
February .....	2.310	W	2.407	2.145	2.188	1.888	1.866	1.912	1.869	1.854	1.813
March .....	2.253	W	2.275	1.999	2.042	1.826	1.806	1.822	1.836	1.781	1.735
April .....	2.267	W	2.263	NA	2.035	1.917	1.810	1.922	1.983	1.870	1.890
May .....	2.253	W	2.224	1.824	2.008	1.941	1.807	1.972	NA	1.975	1.872
June .....	2.289	W	2.320	2.037	2.119	2.180	2.095	2.176	2.060	2.200	2.156
July .....	2.253	W	2.307	2.055	2.122	2.103	1.964	2.181	NA	2.166	2.092
August .....	2.340	W	2.397	2.140	2.217	2.279	2.153	2.321	2.147	2.284	2.297
September .....	2.309	W	2.396	2.118	2.253	2.205	2.179	2.318	NA	2.262	2.232
October .....	2.505	W	2.561	2.322	2.397	2.364	2.336	2.391	2.386	2.331	2.301
November .....	2.683	W	2.707	2.408	2.504	2.479	2.485	2.520	2.483	2.421	2.388
December .....	2.724	W	2.763	2.495	2.496	2.493	2.447	2.507	2.427	2.395	2.394
<b>Average</b> .....	<b>2.421</b>	<b>W</b>	<b>2.473</b>	<b>2.193</b>	<b>2.265</b>	<b>2.130</b>	<b>2.096</b>	<b>2.189</b>	<b>2.155</b>	<b>2.105</b>	<b>2.124</b>
<b>2010</b> January .....	2.878	W	2.861	2.594	2.681	2.572	2.526	2.565	2.526	2.466	2.505
February .....	2.857	W	2.833	2.561	2.714	2.533	2.501	2.510	2.516	2.421	W
March .....	2.988	W	2.894	2.587	2.712	2.585	2.640	2.614	2.660	2.537	2.580
April .....	NA	W	2.858	NA	2.676	2.566	2.731	2.679	2.777	2.640	2.668
May .....	2.853	W	2.808	2.435	2.583	2.574	2.669	NA	2.783	2.567	2.581
June .....	2.695	W	2.705	2.356	2.501	2.436	2.505	2.482	NA	2.478	2.557
July .....	2.655	W	2.636	2.345	2.499	2.436	2.481	2.510	2.582	2.508	2.466
August .....	2.617	W	2.669	2.351	2.547	2.511	2.508	2.550	W	2.514	2.559
September .....	2.678	W	2.692	2.397	2.577	2.554	2.596	2.607	2.732	2.562	2.596
October .....	2.847	W	2.822	2.567	2.720	2.695	2.734	2.701	NA	2.702	2.719
November .....	NA	W	2.985	2.754	2.834	2.802	2.830	2.864	2.915	2.788	2.866
December .....	3.223	W	3.195	2.920	3.024	2.923	2.933	2.979	3.030	2.894	2.965
<b>Average</b> .....	<b>2.951</b>	<b>W</b>	<b>2.925</b>	<b>2.621</b>	<b>2.724</b>	<b>2.653</b>	<b>2.657</b>	<b>2.670</b>	<b>2.749</b>	<b>2.610</b>	<b>2.470</b>
<b>2011</b> January .....	<sup>R</sup> 3.431	W	3.377	<sup>R</sup> 3.093	<sup>R</sup> 3.204	3.039	<sup>R</sup> 3.041	3.109	<sup>R</sup> 3.098	<sup>R</sup> 3.008	<sup>R</sup> 3.031
February .....	3.560	W	3.508	3.223	3.365	3.190	3.196	3.246	3.286	3.169	3.187

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
R=Revised. NA=Not available. W=Value withheld to avoid disclosure of individual company data.  
Notes: • States are grouped in Tables 9.8a–9.8c by geographic region of the country. • Values for the current month are preliminary. • Prices prior to 1983 are U.S. Energy Information Administration (EIA) estimates. See Note 6, "Historical

Petroleum Prices," at end of section.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1978.  
Sources: • 1978-2009: EIA, *Petroleum Marketing Annual 2009*, Table 15.  
• 2010 and 2011: EIA, *Petroleum Marketing Monthly*, May 2011, Table 15.

**Table 9.8c No. 2 Distillate Prices to Residences: Selected Western States and U.S. Average** (Dollars<sup>a</sup> per Gallon, Excluding Taxes)

	Idaho	Washington	Oregon	Alaska	U.S. Average
1978 Average .....	0.436	0.486	0.458	0.532	0.490
1980 Average .....	0.916	1.008	0.973	0.978	0.974
1985 Average .....	0.972	1.011	0.971	1.083	1.053
1990 Average .....	0.974	1.029	0.970	1.101	1.063
1995 Average .....	0.839	0.962	0.894	0.834	0.867
1996 Average .....	0.933	1.080	0.989	0.909	0.989
1997 Average .....	0.953	1.139	1.031	0.973	0.984
1998 Average .....	0.784	0.978	0.861	0.852	0.852
1999 Average .....	0.762	1.065	0.938	0.966	0.876
2000 Average .....	1.170	1.445	1.368	1.337	1.311
2001 Average .....	1.038	1.336	1.211	1.377	1.250
2002 Average .....	0.919	1.204	1.060	1.087	1.129
2003 Average .....	1.188	1.487	1.303	1.243	1.355
2004 Average .....	1.495	1.749	1.594	1.524	1.548
2005 Average .....	2.123	2.385	2.146	2.061	2.052
2006 Average .....	2.391	2.681	2.411	2.395	2.365
2007 Average .....	2.598	2.909	2.500	2.518	2.592
2008 Average .....	3.078	3.401	3.060	3.485	3.219
2009 January .....	1.879	2.388	1.939	2.160	2.426
February .....	1.762	2.253	1.819	NA	2.309
March .....	1.674	2.124	1.727	1.946	2.210
April .....	1.863	2.414	1.986	2.140	2.211
May .....	1.878	2.473	2.050	2.256	2.167
June .....	2.148	2.544	2.278	2.506	2.307
July .....	2.123	2.335	2.149	2.362	2.219
August .....	2.158	2.489	2.326	2.554	2.369
September .....	2.273	2.658	2.357	NA	2.334
October .....	2.333	2.737	2.469	NA	2.458
November .....	2.459	2.871	2.551	NA	2.608
December .....	2.354	2.830	2.475	NA	2.628
Average .....	2.048	2.491	2.132	2.503	2.386
2010 January .....	2.392	2.918	2.583	NA	2.763
February .....	2.412	2.817	2.536	2.790	2.658
March .....	2.569	2.924	2.664	2.884	2.757
April .....	2.747	3.105	2.817	2.965	2.787
May .....	2.675	3.053	2.685	2.958	2.723
June .....	NA	2.892	2.653	2.891	2.623
July .....	2.540	NA	NA	2.878	2.584
August .....	2.598	2.757	2.625	2.901	2.597
September .....	2.676	NA	2.760	2.944	2.641
October .....	2.853	3.174	2.871	3.041	2.795
November .....	2.937	3.195	2.935	3.070	2.926
December .....	2.980	3.242	2.991	3.134	3.089
Average .....	2.716	3.039	2.776	2.951	2.798
2011 January .....	<sup>R</sup> 3.005	<sup>R</sup> 3.350	<sup>R</sup> 3.079	<sup>R</sup> 3.210	<sup>R</sup> 3.251
February .....	<sup>R</sup> 3.173	<sup>R</sup> 3.537	<sup>R</sup> 3.295	<sup>R</sup> 3.366	<sup>R</sup> 3.409
March .....	NA	NA	NA	NA	<sup>E</sup> 3.580

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
<sup>R</sup>=Revised. <sup>NA</sup>=Not available. <sup>E</sup>=Estimate.

Notes: • States are grouped in Tables 9.8a–9.8c by geographic region of the country. • Values for the current month are preliminary. • Prices prior to 1983 are U.S. Energy Information Administration (EIA) estimates. See Note 6, "Historical

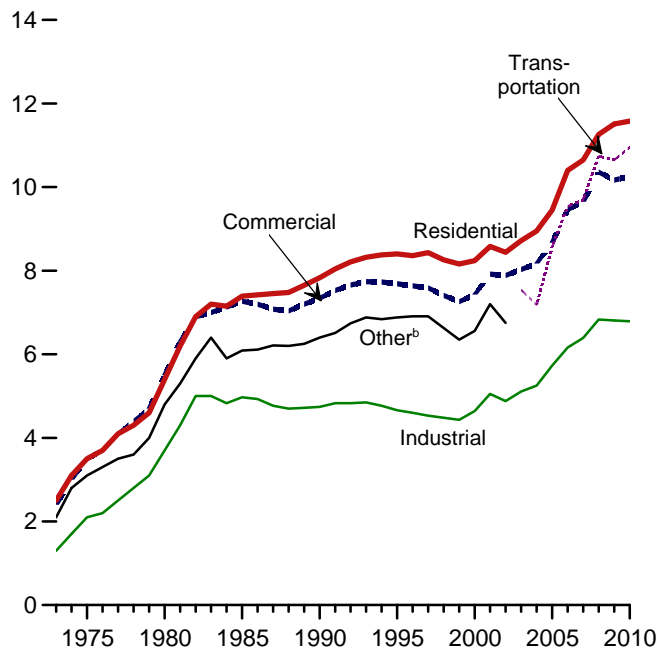
Petroleum Prices," at end of section.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1978.

Sources: • 1978-2009: EIA, *Petroleum Marketing Annual 2009*, Table 15.  
• 2010 and 2011: EIA, *Petroleum Marketing Monthly*, May 2011, Table 15.

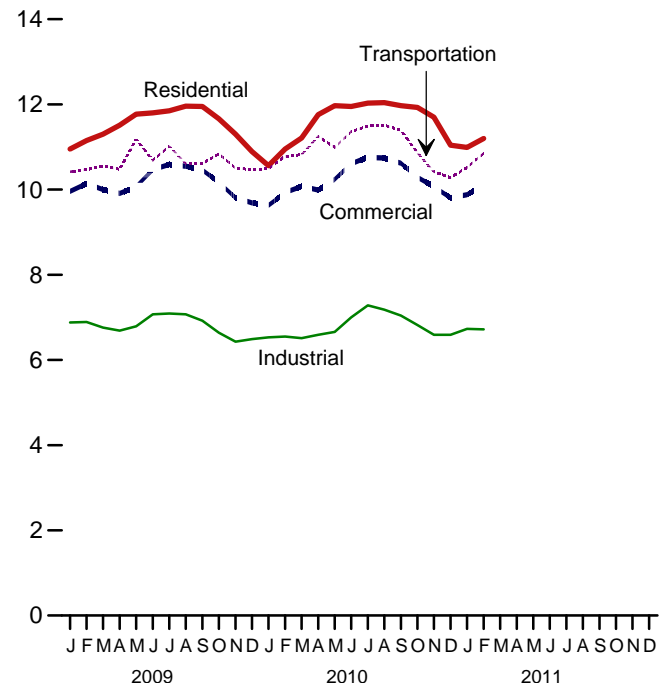
**Figure 9.2 Average Retail Prices of Electricity**  
(Cents<sup>a</sup> per Kilowatt-hour)

By Sector, 1973-2010



<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Price" in Glossary.  
<sup>b</sup> Public street and highway lighting, interdepartmental sales, other sales to public authorities, agricultural and irrigation, and transportation including railroads and railways.

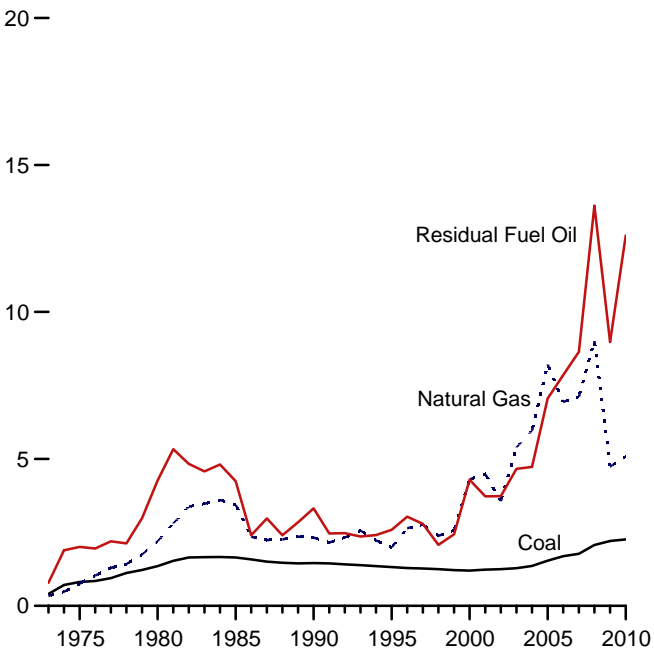
By Sector, Monthly



Note: Includes taxes.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.  
Source: Table 9.9.

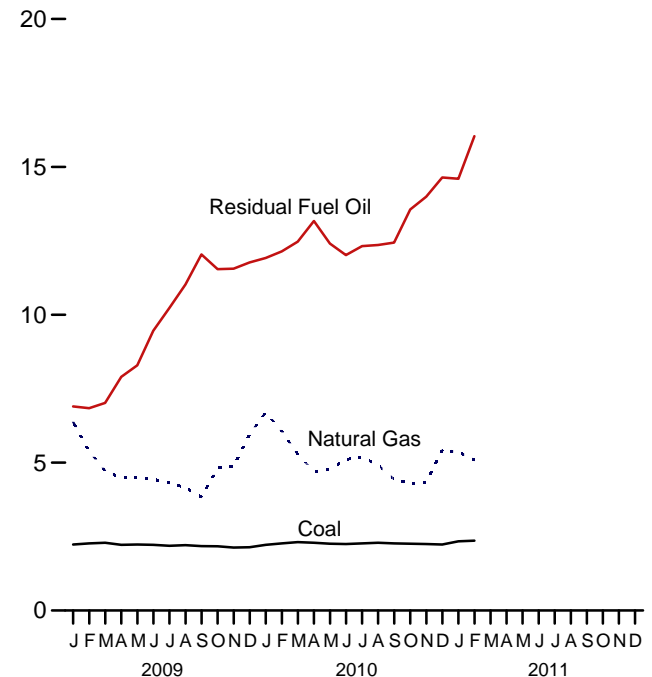
**Figure 9.3 Cost of Fossil-Fuel Receipts at Electric Generating Plants**  
(Dollars<sup>a</sup> per Million Btu, Including Taxes)

Costs, 1973-2010



<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

Costs, Monthly



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.  
Source: Table 9.10.

**Table 9.9 Average Retail Prices of Electricity**  
(Cents<sup>a</sup> per Kilowatthour, Including Taxes)

	Residential	Commercial <sup>b</sup>	Industrial <sup>c</sup>	Transportation <sup>d</sup>	Other <sup>e</sup>	Total
<b>1973 Average</b> .....	2.5	2.4	1.3	NA	2.1	2.0
<b>1975 Average</b> .....	3.5	3.5	2.1	NA	3.1	2.9
<b>1980 Average</b> .....	5.4	5.5	3.7	NA	4.8	4.7
<b>1985 Average</b> .....	7.39	7.27	4.97	NA	6.09	6.44
<b>1990 Average</b> .....	7.83	7.34	4.74	NA	6.40	6.57
<b>1995 Average</b> .....	8.40	7.69	4.66	NA	6.88	6.89
<b>1996 Average</b> .....	8.36	7.64	4.60	NA	6.91	6.86
<b>1997 Average</b> .....	8.43	7.59	4.53	NA	6.91	6.85
<b>1998 Average</b> .....	8.26	7.41	4.48	NA	6.63	6.74
<b>1999 Average</b> .....	8.16	7.26	4.43	NA	6.35	6.64
<b>2000 Average</b> .....	8.24	7.43	4.64	NA	6.56	6.81
<b>2001 Average</b> .....	8.58	7.92	5.05	NA	7.20	7.29
<b>2002 Average</b> .....	8.44	7.89	4.88	NA	6.75	7.20
<b>2003 Average</b> .....	8.72	8.03	5.11	7.54	--	7.44
<b>2004 Average</b> .....	8.95	8.17	5.25	7.18	--	7.61
<b>2005 Average</b> .....	9.45	8.67	5.73	8.57	--	8.14
<b>2006 Average</b> .....	10.40	9.46	6.16	9.54	--	8.90
<b>2007 Average</b> .....	10.65	9.65	6.39	9.70	--	9.13
<b>2008 Average</b> .....	11.26	10.36	6.83	10.74	--	9.74
<b>2009</b> January .....	10.95	9.96	6.88	10.42	--	9.66
February .....	11.15	10.14	6.89	10.47	--	9.74
March .....	11.30	10.00	6.76	10.55	--	9.65
April .....	11.51	9.91	6.69	10.48	--	9.57
May .....	11.77	10.07	6.79	11.18	--	9.76
June .....	11.80	10.47	7.07	10.69	--	10.13
July .....	11.85	10.59	7.09	11.02	--	10.30
August .....	11.96	10.55	7.07	10.61	--	10.28
September .....	11.95	10.46	6.92	10.61	--	10.10
October .....	11.66	10.17	6.64	10.84	--	9.70
November .....	11.30	9.81	6.43	10.50	--	9.37
December .....	10.89	9.69	6.49	10.47	--	9.38
<b>Average</b> .....	<b>11.51</b>	<b>10.17</b>	<b>6.81</b>	<b>10.65</b>	--	<b>9.82</b>
<b>2010</b> January .....	10.56	9.63	6.53	10.49	--	9.34
February .....	10.95	9.93	6.55	10.78	--	9.52
March .....	11.21	10.08	6.51	10.82	--	9.57
April .....	11.76	9.99	6.59	11.25	--	9.58
May .....	11.97	10.24	6.66	10.99	--	9.79
June .....	11.95	10.61	7.00	11.36	--	10.23
July .....	12.03	10.76	7.28	11.49	--	10.50
August .....	12.04	10.74	7.18	11.51	--	10.45
September .....	11.97	10.62	7.04	11.39	--	10.24
October .....	11.93	10.29	6.82	10.86	--	9.86
November .....	11.70	10.07	6.59	10.42	--	9.62
December .....	11.04	9.81	6.59	10.28	--	9.51
<b>Average</b> .....	<b>11.58</b>	<b>10.26</b>	<b>6.79</b>	<b>10.96</b>	--	<b>9.88</b>
<b>2011</b> January .....	10.99	9.88	6.73	10.52	--	9.62
February .....	11.20	10.11	6.72	10.85	--	9.70
<b>2-Month Average</b> .....	<b>11.09</b>	<b>9.99</b>	<b>6.72</b>	<b>10.68</b>	--	<b>9.66</b>
<b>2010 2-Month Average</b> .....	<b>10.74</b>	<b>9.77</b>	<b>6.54</b>	<b>10.63</b>	--	<b>9.43</b>
<b>2009 2-Month Average</b> .....	<b>11.04</b>	<b>10.05</b>	<b>6.89</b>	<b>10.44</b>	--	<b>9.70</b>

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Price" in Glossary.

<sup>b</sup> Commercial sector. For 1973-2002, prices exclude public street and highway lighting, interdepartmental sales, and other sales to public authorities.

<sup>c</sup> Industrial sector. For 1973-2002, prices exclude agriculture and irrigation.

<sup>d</sup> Transportation sector, including railroads and railways.

<sup>e</sup> Public street and highway lighting, interdepartmental sales, other sales to public authorities, agriculture and irrigation, and transportation including railroads and railways.

NA=Not available. -- =Not applicable.

Notes: • Beginning in 2003, the category "Other" has been replaced by "Transportation," and the categories "Commercial" and "Industrial" have been redefined. • Prices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of energy service provider billing and accounting procedures. That lack of correspondence could result in uncharacteristic increases or decreases in the monthly prices. • Prices include State and local taxes, energy or demand charges, customer service charges, environmental surcharges, franchise fees, fuel adjustments, and other

miscellaneous charges applied to end-use customers during normal billing operations. Prices do not include deferred charges, credits, or other adjustments, such as fuel or revenue from purchased power, from previous reporting periods.

• See Note 7, "Electricity Retail Prices," at end of section for plant coverage, and for information on preliminary and final values. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1973.

Sources: • **1973-September 1977:** Federal Power Commission, 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:** U.S. Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement." • **1984-1992:** EIA, Form EIA-861, "Annual Electric Utility Report." • **1993 forward:** EIA, *Electric Power Monthly*, May 2011, Table 5.3.

**Table 9.10 Cost of Fossil-Fuel Receipts at Electric Generating Plants**  
(Dollars<sup>a</sup> per Million Btu, Including Taxes)

	Coal	Petroleum				Natural Gas <sup>e</sup>	All Fossil Fuels <sup>f</sup>
		Residual Fuel Oil <sup>b</sup>	Distillate Fuel Oil <sup>c</sup>	Petroleum Coke	Total <sup>d</sup>		
<b>1973 Average</b> .....	0.41	0.79	NA	NA	0.80	0.34	0.48
<b>1975 Average</b> .....	.81	2.01	NA	NA	2.02	.75	1.04
<b>1980 Average</b> .....	1.35	4.27	NA	NA	4.35	2.20	1.93
<b>1985 Average</b> .....	1.65	4.24	NA	NA	4.32	3.44	2.09
<b>1990 Average</b> .....	1.45	3.32	5.38	.80	3.35	2.32	1.69
<b>1995 Average</b> .....	1.32	2.59	3.99	.65	2.57	1.98	1.45
<b>1996 Average</b> .....	1.29	3.03	4.87	.78	3.03	2.64	1.52
<b>1997 Average</b> .....	1.27	2.79	4.49	.91	2.73	2.76	1.52
<b>1998 Average</b> .....	1.25	2.08	3.30	.71	2.02	2.38	1.44
<b>1999 Average</b> .....	1.22	2.44	4.03	.65	2.36	2.57	1.44
<b>2000 Average</b> .....	1.20	4.29	6.65	.58	4.18	4.30	1.74
<b>2001 Average</b> .....	1.23	3.73	6.30	.78	3.69	4.49	1.73
<b>2002 Average</b> <sup>9</sup> .....	1.25	3.73	5.34	.78	3.34	3.56	1.86
<b>2003 Average</b> .....	1.28	4.66	6.82	.72	4.33	5.39	2.28
<b>2004 Average</b> .....	1.36	4.73	8.02	.83	4.29	5.96	2.48
<b>2005 Average</b> .....	1.54	7.06	11.72	1.11	6.44	8.21	3.25
<b>2006 Average</b> .....	1.69	7.85	13.28	1.33	6.23	6.94	3.02
<b>2007 Average</b> .....	1.77	8.64	14.85	1.51	7.17	7.11	3.23
<b>2008 Average</b> .....	2.07	13.62	21.46	2.11	10.87	9.01	4.12
<b>2009</b> January .....	2.23	6.90	11.67	2.06	6.76	6.38	3.42
February .....	2.27	6.84	11.36	1.82	6.28	5.38	3.14
March .....	2.29	7.02	10.75	1.63	5.83	4.73	2.98
April .....	2.22	7.90	11.54	1.20	5.82	4.48	2.85
May .....	2.23	8.29	12.00	1.68	6.30	4.48	2.93
June .....	2.22	9.46	13.66	1.58	7.43	4.44	3.01
July .....	2.19	10.23	14.00	1.63	7.59	4.32	3.02
August .....	2.21	11.02	14.94	1.81	7.83	4.15	2.99
September .....	2.18	12.04	15.22	1.36	6.81	3.84	2.80
October .....	2.17	11.54	15.79	1.55	7.50	4.82	3.04
November .....	2.13	11.56	15.50	1.30	8.01	4.87	2.96
December .....	2.14	11.77	15.88	1.61	8.37	5.96	3.40
<b>Average</b> .....	<b>2.21</b>	<b>8.98</b>	<b>13.22</b>	<b>1.61</b>	<b>7.02</b>	<b>4.74</b>	<b>3.04</b>
<b>2010</b> January .....	2.22	11.92	15.71	1.69	9.87	6.70	3.73
February .....	2.27	12.14	15.60	1.79	9.61	6.06	3.43
March .....	2.31	12.47	16.52	2.05	8.87	5.28	3.14
April .....	2.29	13.17	17.05	2.13	7.76	4.70	3.00
May .....	2.26	12.41	16.54	2.17	9.57	4.77	3.12
June .....	2.25	12.02	16.13	2.09	9.36	5.11	3.35
July .....	2.27	12.32	15.89	2.36	9.68	5.18	3.51
August .....	2.29	12.36	16.22	2.59	9.32	4.92	3.40
September .....	2.27	12.44	16.53	2.61	9.62	4.44	3.11
October .....	2.26	13.56	17.09	2.36	9.14	4.29	2.94
November .....	2.25	13.99	17.50	2.14	11.11	4.34	2.94
December .....	2.23	14.64	18.51	2.50	11.30	5.41	3.31
<b>Average</b> .....	<b>2.26</b>	<b>12.60</b>	<b>16.59</b>	<b>2.23</b>	<b>9.62</b>	<b>5.08</b>	<b>3.25</b>
<b>2011</b> January .....	2.34	14.60	19.48	2.85	11.74	5.37	3.37
February .....	2.36	16.04	20.92	2.61	12.18	5.09	3.27
<b>2-Month Average</b> .....	<b>2.35</b>	<b>15.18</b>	<b>20.08</b>	<b>2.74</b>	<b>11.92</b>	<b>5.24</b>	<b>3.32</b>
<b>2010 2-Month Average</b> .....	<b>2.24</b>	<b>11.99</b>	<b>15.67</b>	<b>1.73</b>	<b>9.78</b>	<b>6.40</b>	<b>3.59</b>
<b>2009 2-Month Average</b> .....	<b>2.25</b>	<b>6.88</b>	<b>11.54</b>	<b>1.95</b>	<b>6.57</b>	<b>5.90</b>	<b>3.29</b>

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

<sup>b</sup> For 1973-2001, electric utility data are for heavy oil (fuel oil nos. 5 and 6, and small amounts of fuel oil no. 4).

<sup>c</sup> For 1973-2001, electric utility data are for light oil (fuel oil nos. 1 and 2).

<sup>d</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil. For 1973-1982, data do not include refined motor oil, bunker oil, and liquefied petroleum gases. For 1973-1989, data do not include petroleum coke.

<sup>e</sup> Natural gas, plus a small amount of supplemental gaseous fuels. For 1973-2000, data also include a small amount of blast furnace gas and other gases derived from fossil fuels.

<sup>f</sup> Weighted average of costs shown under "Coal," "Petroleum," and "Natural Gas."

Gas."

<sup>9</sup> Through 2001, data are for electric utilities only. Beginning in 2002, data also include independent power producers, and electric generating plants in the commercial and industrial sectors. See Note 8, "Costs of Fossil-Fuel Receipts at Electric Generating Plants," at end of section for plant coverage.

NA=Not available.

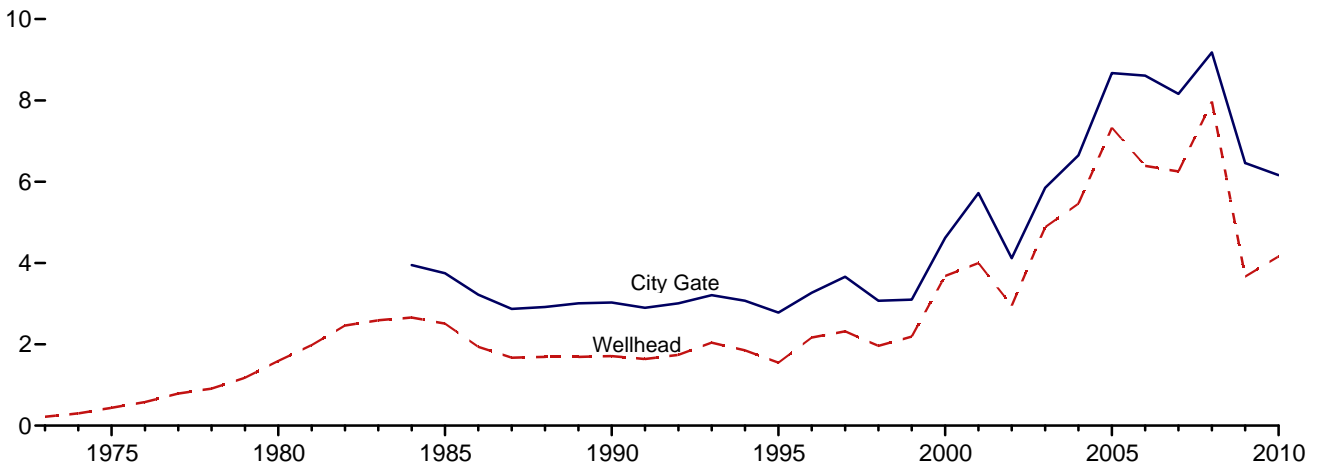
Notes: • Receipts are purchases of fuel. • Yearly costs are averages of monthly values, weighted by quantities in Btu. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1973.

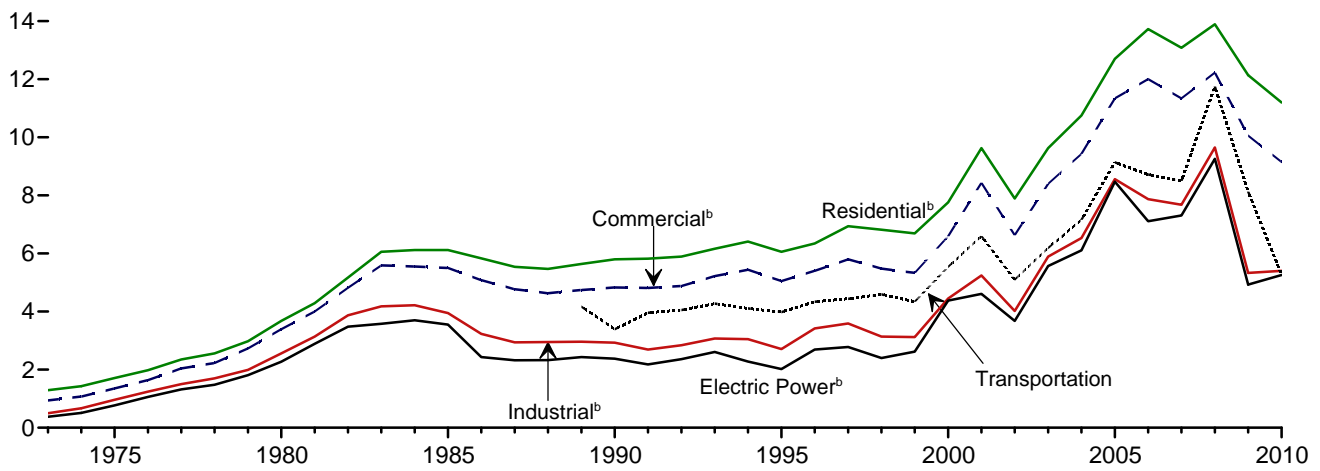
Sources: See end of section.

**Figure 9.4 Natural Gas Prices**  
(Dollars<sup>a</sup> per Thousand Cubic Feet)

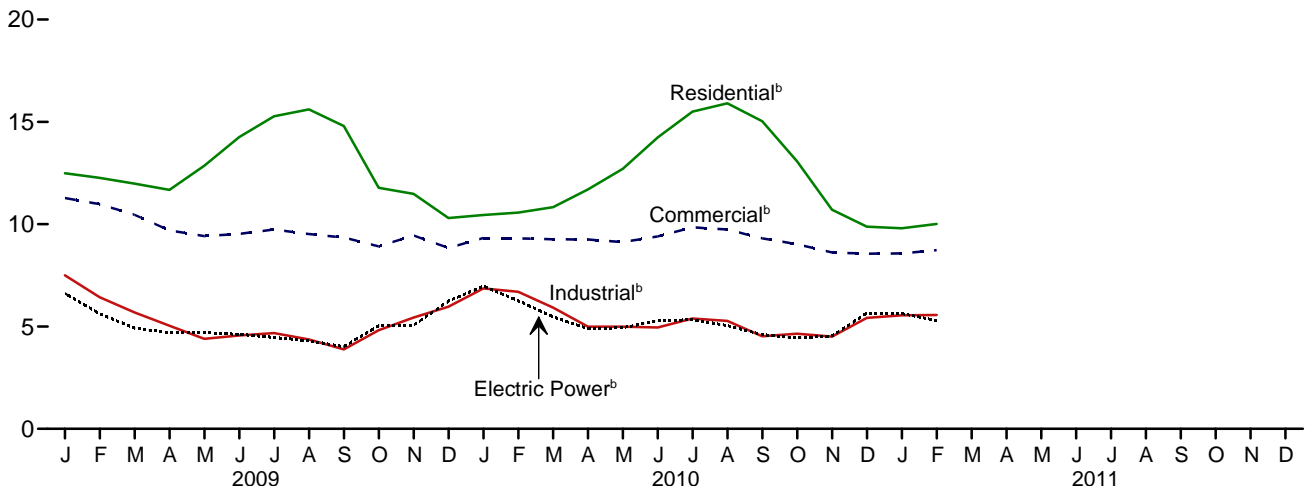
Selected Prices, 1973-2010



Consuming Sectors, 1973-2010



Consuming Sectors, Monthly



<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
<sup>b</sup> Includes taxes.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.  
Source: Table 9.11.

**Table 9.11 Natural Gas Prices**  
(Dollars<sup>a</sup> per Thousand Cubic Feet)

	Wellhead Price	City Gate Price	Consuming Sectors <sup>b</sup>								
			Residential		Commercial <sup>c</sup>		Industrial <sup>d</sup>		Transportation	Electric Power <sup>e</sup>	
			Price <sup>f</sup>	Percentage of Sector <sup>g</sup>	Price <sup>f</sup>	Percentage of Sector <sup>g</sup>	Price <sup>f</sup>	Percentage of Sector <sup>g</sup>	Vehicle Fuel <sup>h</sup> Price <sup>i</sup>	Price <sup>f</sup>	Percentage of Sector <sup>g,j</sup>
<b>1973 Average</b> .....	0.22	NA	1.29	NA	0.94	NA	0.50	NA	NA	0.38	92.1
<b>1975 Average</b> .....	.44	NA	1.71	NA	1.35	NA	.96	NA	NA	.77	96.1
<b>1980 Average</b> .....	1.59	NA	3.68	NA	3.39	NA	2.56	NA	NA	2.27	96.9
<b>1985 Average</b> .....	2.51	3.75	6.12	NA	5.50	NA	3.95	68.8	NA	3.55	94.0
<b>1990 Average</b> .....	1.71	3.03	5.80	99.2	4.83	86.6	2.93	35.2	3.39	2.38	76.8
<b>1995 Average</b> .....	1.55	2.78	6.06	99.0	5.05	76.7	2.71	24.5	3.98	2.02	71.4
<b>1996 Average</b> .....	2.17	3.27	6.34	99.0	5.40	77.6	3.42	19.4	4.34	2.69	68.4
<b>1997 Average</b> .....	2.32	3.66	6.94	98.8	5.80	70.8	3.59	18.1	4.44	2.78	68.0
<b>1998 Average</b> .....	1.96	3.07	6.82	97.7	5.48	67.0	3.14	16.1	4.59	2.40	63.7
<b>1999 Average</b> .....	2.19	3.10	6.69	95.2	5.33	66.1	3.12	18.8	4.34	2.62	58.3
<b>2000 Average</b> .....	3.68	4.62	7.76	92.6	6.59	63.9	4.45	19.8	5.54	4.38	50.5
<b>2001 Average</b> .....	4.00	5.72	9.63	92.4	8.43	66.0	5.24	20.8	6.60	4.61	40.2
<b>2002 Average</b> .....	2.95	4.12	7.89	97.9	6.63	77.4	4.02	22.7	5.10	<sup>e</sup> 3.68	83.9
<b>2003 Average</b> .....	4.88	5.85	9.63	97.5	8.40	78.2	5.89	22.1	6.19	5.57	91.2
<b>2004 Average</b> .....	5.46	6.65	10.75	97.7	9.43	78.0	6.53	23.7	7.16	6.11	89.8
<b>2005 Average</b> .....	7.33	8.67	12.70	98.2	11.34	82.1	8.56	24.1	9.14	8.47	91.3
<b>2006 Average</b> .....	6.39	8.61	13.73	98.1	12.00	80.8	7.87	23.4	8.72	7.11	93.4
<b>2007 Average</b> .....	6.25	8.16	13.08	98.0	11.34	80.4	7.68	22.2	8.50	7.31	92.2
<b>2008 Average</b> .....	7.97	9.18	13.89	97.5	12.23	79.9	9.65	20.5	11.75	9.26	101.1
<b>2009</b>											
January .....	4.60	7.98	12.49	NA	11.28	82.4	7.50	20.1	NA	6.62	100.9
February .....	3.70	7.25	12.26	NA	10.98	81.1	6.43	19.9	NA	5.62	101.1
March .....	3.38	6.83	11.98	NA	10.46	80.7	5.69	19.4	NA	4.92	101.8
April .....	3.18	5.68	11.68	NA	9.70	77.7	5.04	18.6	NA	4.70	101.6
May .....	3.23	5.47	12.86	NA	9.42	74.4	4.40	19.0	NA	4.70	101.5
June .....	3.38	5.53	14.26	NA	9.53	73.3	4.56	18.7	NA	4.62	101.0
July .....	3.45	5.67	15.27	NA	9.74	70.5	4.68	18.6	NA	4.47	100.8
August .....	3.37	5.58	15.61	NA	9.52	68.5	4.37	18.3	NA	4.30	100.7
September .....	2.98	5.32	14.80	NA	9.35	69.3	3.88	18.0	NA	4.02	100.6
October .....	3.83	5.62	11.78	NA	8.92	73.3	4.82	17.8	NA	5.04	102.4
November .....	4.20	6.31	11.48	NA	9.45	75.8	5.44	17.8	NA	5.06	101.0
December .....	4.66	6.23	10.30	NA	8.84	80.1	5.97	18.9	NA	6.24	100.7
<b>Average</b> .....	<b>3.67</b>	<b>6.46</b>	<b>12.14</b>	<b>97.4</b>	<b>10.06</b>	<b>77.8</b>	<b>5.33</b>	<b>18.8</b>	<b>8.13</b>	<b>4.93</b>	<b>101.1</b>
<b>2010</b>											
January .....	<sup>E</sup> 5.14	6.82	10.45	NA	9.32	76.0	6.86	17.6	NA	6.97	100.8
February .....	<sup>E</sup> 4.89	6.61	10.57	NA	9.31	76.6	6.70	17.2	NA	6.26	100.5
March .....	<sup>E</sup> 4.36	6.41	10.83	NA	9.26	73.8	5.92	17.0	NA	5.47	101.0
April .....	<sup>E</sup> 3.92	5.85	11.70	NA	9.25	68.4	4.99	16.9	NA	4.89	100.8
May .....	<sup>E</sup> 4.04	5.81	12.71	NA	9.13	65.4	4.99	17.0	NA	4.94	100.9
June .....	<sup>E</sup> 4.25	6.07	14.24	NA	9.40	63.9	4.95	16.8	NA	5.29	100.6
July .....	<sup>E</sup> 4.36	6.30	15.50	NA	9.85	62.2	5.39	17.6	NA	5.33	100.5
August .....	<sup>E</sup> 4.22	6.21	15.91	NA	9.74	60.9	5.27	17.1	NA	5.05	100.3
September .....	<sup>E</sup> 3.76	5.71	15.03	NA	9.31	60.0	4.52	16.6	NA	4.60	100.6
October .....	<sup>E</sup> 3.69	5.74	<sup>R</sup> 13.07	NA	<sup>R</sup> 9.02	63.9	4.65	15.8	NA	4.44	101.3
November .....	<sup>E</sup> 3.34	5.49	10.71	NA	8.62	71.2	4.51	16.6	NA	4.54	100.9
December .....	<sup>E</sup> 3.96	5.74	9.88	NA	8.56	74.3	5.42	16.7	NA	5.66	101.2
<b>Average</b> .....	<sup>E</sup> <b>4.16</b>	<b>6.16</b>	<b>11.20</b>	<b>96.6</b>	<b>9.15</b>	<b>71.1</b>	<b>5.40</b>	<b>16.9</b>	<b>NA</b>	<b>5.26</b>	<b>100.7</b>
<b>2011</b>											
January .....	<sup>E</sup> 4.08	5.70	9.80	NA	8.57	76.0	5.55	<sup>R</sup> 16.3	NA	5.63	101.4
February .....	<sup>E</sup> 4.23	5.66	10.01	NA	8.73	74.6	5.56	16.3	NA	5.29	102.0
<b>2-Month Average</b> ...	<sup>E</sup> <b>4.16</b>	<b>5.68</b>	<b>9.90</b>	<b>NA</b>	<b>8.64</b>	<b>75.3</b>	<b>5.55</b>	<b>16.3</b>	<b>NA</b>	<b>5.47</b>	<b>101.7</b>
<b>2010 2-Month Average</b> ...	<sup>E</sup> <b>5.02</b>	<b>6.72</b>	<b>10.51</b>	<b>NA</b>	<b>9.32</b>	<b>76.3</b>	<b>6.78</b>	<b>17.4</b>	<b>NA</b>	<b>6.64</b>	<b>100.6</b>
<b>2009 2-Month Average</b> ...	<b>4.15</b>	<b>7.67</b>	<b>12.39</b>	<b>NA</b>	<b>11.15</b>	<b>81.8</b>	<b>7.00</b>	<b>20.0</b>	<b>NA</b>	<b>6.14</b>	<b>101.0</b>

<sup>a</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.  
<sup>b</sup> See Note 9, "Natural Gas Prices," at end of section.  
<sup>c</sup> Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.  
<sup>d</sup> Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.  
<sup>e</sup> The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 2001, data are for electric utilities only; beginning in 2002, data also include independent power producers. See Note 8, "Costs of Fossil-Fuel Receipts at Electric Generating Plants," at end of section for plant coverage.  
<sup>f</sup> Includes taxes.  
<sup>g</sup> The percentage of the sector's consumption in Table 4.3 for which price data are available. For details on how the percentages are derived, see Table 9.11 Sources at end of section.  
<sup>h</sup> Much of the natural gas delivered for vehicle fuel represents deliveries to fueling stations that are used primarily or exclusively by fleet vehicles. Thus, the prices are often those associated with the cost of gas in the operation of fleet vehicles.  
<sup>i</sup> Percentages exceed 100 percent when reported natural gas receipts are greater than reported natural gas consumption—this can occur when combined-heat-and-power plants report fuel receipts related to non-electric generating activities.  
<sup>j</sup> R=Revised. NA=Not available. E=Estimate.  
Notes: • Prices are for natural gas, plus a small amount of supplemental gaseous fuels. • Prices are intended to include all taxes. See Note 9, "Natural Gas Prices," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> for all available data beginning in 1973.  
Sources: See end of section.

## Energy Prices

**Note 1. Crude Oil Refinery Acquisition Costs.** Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on U.S. Energy Information Administration (EIA) Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Economic Regulatory Administration (ERA) Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. The respondents for the two forms are also essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken when comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

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

**Note 2. Crude Oil Domestic First Purchase Prices.** 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."

**Note 3. Crude Oil F.O.B. Costs.** 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.

**Note 4. Crude Oil Landed Costs.** 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 April 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

**Note 5. Motor Gasoline Prices.** 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 are 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 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 consumers of the product, including bulk consumers (such as agriculture, industry, and utilities) and residential and commercial consumers.

**Note 6. Historical Petroleum Prices.** 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 include 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 by Paula Weir, printed in the December 1983 [3] *Petroleum Marketing Monthly*, published by EIA.

**Note 7. Electricity Retail Prices.** Average annual retail prices of electricity have the following plant coverage: Through 1979, annual data are for Classes A and B privately owned electric utilities only. For 1980–1982, annual data are for selected Class A utilities whose electric operating revenues were \$100 million or more during the previous year. For 1983, annual data are for a selected sample of electric utilities. Beginning in 1984, data are for a census of electric utilities. Beginning in 1996, annual data also include energy service providers selling to retail customers.

Average monthly retail prices of electricity have the following plant coverage: Through 1985, monthly data are derived from selected privately owned electric utilities and, therefore, are not national averages. Beginning in 1986, monthly data are based on a sample of publicly and privately owned electric utilities. Beginning in 1996, monthly data also include energy service providers selling to retail customers.

Preliminary monthly data are from Form EIA-826, "Monthly Electric Sales and Revenue Report With State Distributions Report," which is a monthly collection of data from approximately 450 of the largest publicly and privately owned electric utilities as well as a census of energy service providers with retail sales in deregulated States; a model is then applied to the collected data to estimate for the entire universe of U.S. electric utilities. Preliminary annual data are the sum of the monthly revenues divided by the sum of the monthly sales. When final annual data become available each year from Form EIA-861, "Annual Electric Power Industry Report," their ratios to the preliminary Form EIA-826 values are used to derive adjusted final monthly values.

**Note 8. Costs of Fossil-Fuel Receipts at Electric Generating Plants.** Data for 1973–1982 cover all regulated 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 regulated electric generating plants at which the generator nameplate capacity of all steam-electric units combined totaled 50 megawatts or greater. Data for 1991–2001 cover all regulated electric generating plants at which the generator nameplate capacity of all steam-electric units and combined-cycle units together totaled 50

megawatts or greater. Data for 2002 forward cover the aforementioned regulated generating plants plus unregulated generating plants (independent power producers, as well as combined-heat-and-power generating plants and electricity-only plants in the commercial and industrial sector) whose total facility fossil-fueled nameplate generating capacity is 50 or more megawatts, regardless of unit type.

**Note 9. Natural Gas Prices.** 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, vehicle fuel, and electric power consumers. They do not include the price of natural gas delivered on behalf of third parties to residential, commercial, industrial, and vehicle fuel customers except for certain States in the residential and commercial sectors for 2002 forward. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.3. Additional information is available in EIA *Natural Gas Monthly*, Appendix C.

## Table 9.1 Sources

### 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."

1978–2009: U.S. Energy Information Administration (EIA), *Petroleum Marketing Annual 2009 (PMA)*, Table 1.

2010 and 2011: EIA, *Petroleum Marketing Monthly (PMM)*, May 2011, Table 1.

### F.O.B. and Landed Cost of Imports

October 1973–September 1977: FEA, Form FEA-F701-M-0, "Transfer Pricing Report."

October–December 1977: EIA, Form FEA-F701-M-0, "Transfer Pricing Report."

1978–2009: EIA, PMA 2009, Table 1.

2010 and 2011: EIA, PMM, May 2011, 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.”  
1978–2009: EIA, PMA 2009, Table 1.  
2010 and 2011: EIA, PMM, May 2011, Table 1.

## Table 9.2 Sources

October 1973–September 1977: Federal Energy Administration, Form FEA-F701-M-0, “Transfer Pricing Report.”  
October 1977–December 1977: U.S. Energy Information Administration (EIA), Form FEA-F701-M-0, “Transfer Pricing Report.”  
1978–2009: EIA, *Petroleum Marketing Annual 2009*, Table 21.  
2010 and 2011: EIA, *Petroleum Marketing Monthly*, May 2011, Table 21.

## Table 9.10 Sources

1973–September 1977: Federal Power Commission, Form FPC-423, “Monthly Report of Cost and Quality of Fuels for Electric Utility Plants.”  
October 1977–December 1977: Federal Energy Regulatory Commission (FERC), Form FERC-423, “Monthly Report of Cost and Quality of Fuels for Electric Utility Plants.”  
1978 and 1979: U.S. Energy Information Administration (EIA), Form FERC-423, “Monthly Report of Cost and Quality of Fuels for Electric Utility Plants.”  
1980–1989: EIA, *Electric Power Monthly (EPM)*, May issues.  
1990–2000: EIA, EPM, March 2003, Table 26.  
2001–2007: EIA, *Electric Power Monthly*, October 2008, Table 4.1; FERC, Form FERC-423, “Monthly Report of Cost and Quality of Fuels for Electric Utility Plants”; and EIA, Form EIA-423, “Monthly Cost and Quality of Fuels for Electric Plants Report.”  
2008 forward: EIA, EPM, May 2011, Table 4.1; and Form EIA-923, “Power Plant Operations Report.”

## Table 9.11 Sources

### All Prices Except Vehicle Fuel and Electric Power

1973–2002: U.S. Energy Information Administration (EIA), *Natural Gas Annual (NGA)*, annual reports.  
2003 forward: EIA, *Natural Gas Monthly (NGM)*, May 2011, Table 3.

### Vehicle Fuel Price

EIA, NGA, annual reports.

### Electric Power Sector Price

1973–1998: EIA, NGA 2000, Table 96.  
1999–2002: EIA, NGM, October 2004, Table 4.  
2003–2007: Federal Energy Regulatory Commission, Form FERC-423, “Monthly Report of Cost and Quality of Fuels for Electric Utility Plants,” and EIA, Form EIA-423 “Monthly Cost and Quality of Fuels for Electric Plants Report.”  
2008 forward: Form EIA-923, “Power Plant Operations Report.”

### Percentage of Residential Sector

1989–2009: EIA, Form EIA-176, “Annual Report of Natural and Supplemental Gas Supply and Disposition.”  
2010: EIA, Form EIA-857, “Monthly Report of Natural Gas Purchases and Deliveries to Consumers.”

### Percentage of Commercial Sector

1987–2002: EIA, NGA, annual reports. Calculated as the total amount of natural gas delivered to commercial consumers minus the amount delivered for the account of others, and then divided by the total amount delivered to commercial consumers.  
2003 forward: EIA, NGM, April 2011, Table 3.

### Percentage of Industrial Sector

1982–2002: EIA, NGA, annual reports. Calculated as the total amount of natural gas delivered to industrial consumers minus the amount delivered for the account of others, and then divided by the total amount delivered to industrial consumers.  
2003 forward: EIA, NGM, April 2011, Table 3.

### Percentage of Electric Power Sector

1973–2001: Calculated by EIA as the quantity of natural gas receipts by electric utilities reported on Form FERC-423, “Monthly Report of Cost and Quantity of Fuels for Electric Utility Plants” (and predecessor forms) divided by the quantity of natural gas consumed by the electric power sector (for 1973–1988, see *Monthly Energy Review (MER)*, Table 7.3b; for 1989–2001, see MER, Table 7.4b).  
2002–2007: Calculated by EIA as the quantity of natural gas receipts by electric utilities and independent power producers reported on Form FERC-423, “Monthly Report of Cost and Quantity of Fuels for Electric Utility Plants,” and EIA-423, “Monthly Cost and Quality of Fuels for Electric Plants Report,” divided by the quantity of natural gas consumed by the electric power sector (see MER, Table 7.4b).  
2008 forward: Calculated by EIA as the quantity of natural gas receipts by electric utilities and independent power producers reported on Form EIA-923, “Power Plant Operations Report,” divided by the quantity of natural gas consumed by the electric power sector (see MER, Table 7.4b).

# 10

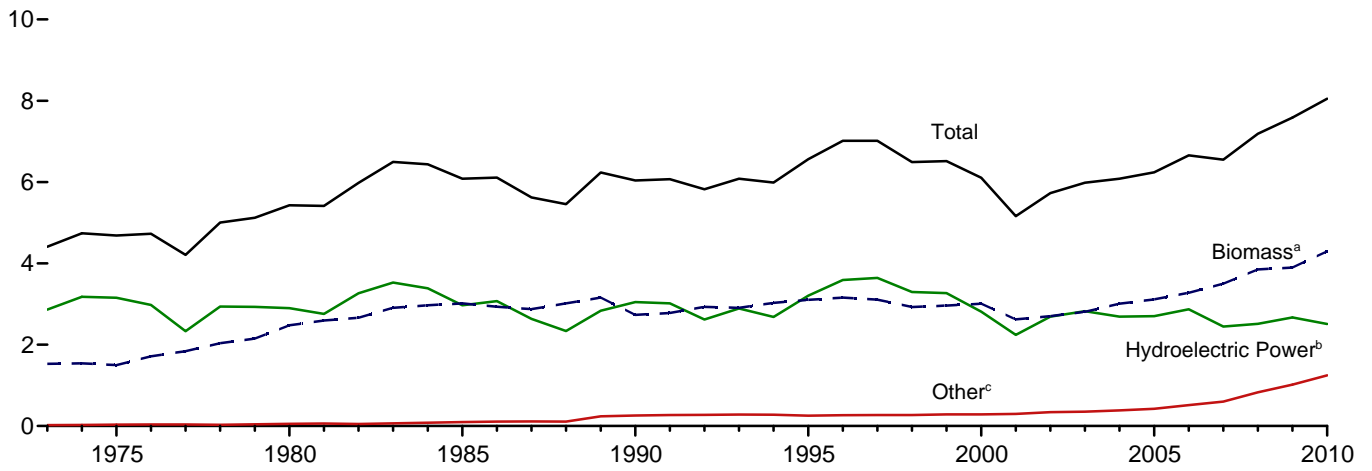
# Renewable Energy



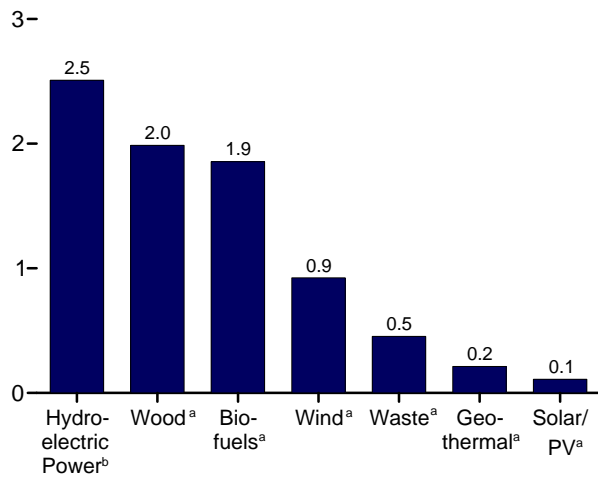
Grand Coulee Dam, Washington State. Source: U.S. Bureau of Reclamation.

**Figure 10.1 Renewable Energy Consumption**  
(Quadrillion Btu)

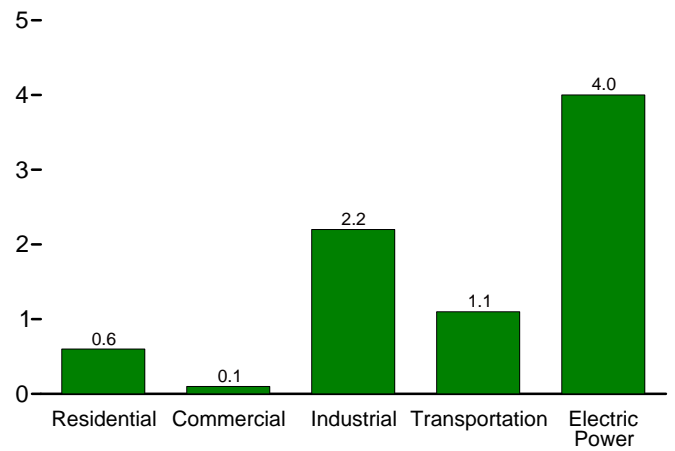
Total and Major Sources, 1973-2010



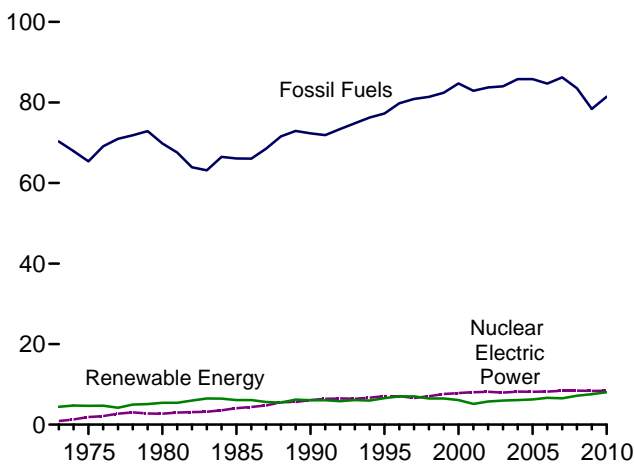
By Source, 2010



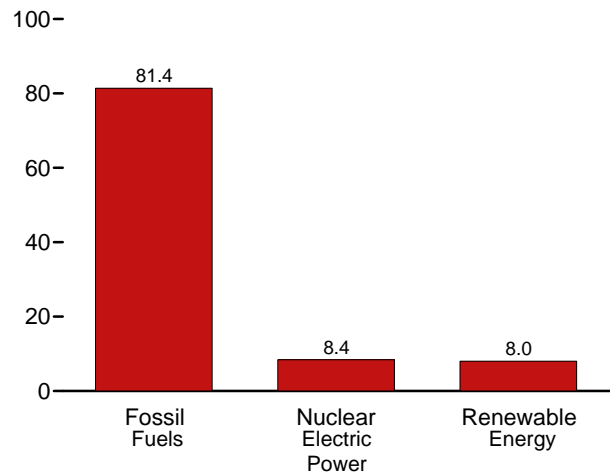
By Sector, 2010



Compared With Other Resources, 1973-2010



Compared With Other Resources, 2010



<sup>a</sup> See Table 10.1 for definition.  
<sup>b</sup> Conventional hydroelectric power.  
<sup>c</sup> Geothermal, solar/PV, and wind.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#renewable>.  
Sources: Tables 1.3 and 10.1-10.2c.

**Table 10.1 Renewable Energy Production and Consumption by Source**  
(Trillion Btu)

	Production <sup>a</sup>			Consumption								
	Biomass		Total Renewable Energy <sup>d</sup>	Hydroelectric Power <sup>e</sup>	Geothermal <sup>f</sup>	Solar/PV <sup>g</sup>	Wind <sup>h</sup>	Biomass				Total Renewable Energy
	Bio-fuels <sup>b</sup>	Total <sup>c</sup>						Wood <sup>i</sup>	Waste <sup>j</sup>	Bio-fuels <sup>k</sup>	Total	
<b>1973 Total</b> .....	NA	1,529	4,411	2,861	20	NA	NA	1,527	2	NA	1,529	4,411
<b>1975 Total</b> .....	NA	1,499	4,687	3,155	34	NA	NA	1,497	2	NA	1,499	4,687
<b>1980 Total</b> .....	NA	2,475	5,428	2,900	53	NA	NA	2,474	2	NA	2,475	5,428
<b>1985 Total</b> .....	93	3,016	6,084	2,970	97	(s)	(s)	2,687	236	93	3,016	6,084
<b>1990 Total</b> .....	111	2,735	6,041	3,046	171	59	29	2,216	408	111	2,735	6,041
<b>1995 Total</b> .....	198	3,099	6,558	3,205	152	69	33	2,370	531	200	3,101	<sup>R</sup> 6,560
<b>1996 Total</b> .....	141	3,155	7,012	3,590	163	70	33	2,437	577	143	3,157	7,014
<b>1997 Total</b> .....	186	3,108	7,018	3,640	167	70	34	2,371	551	184	3,105	7,016
<b>1998 Total</b> .....	202	2,929	6,494	3,297	168	69	31	2,184	542	201	<sup>R</sup> 2,927	6,493
<b>1999 Total</b> .....	211	2,965	6,517	3,268	171	68	46	2,214	540	209	2,963	6,516
<b>2000 Total</b> .....	233	3,006	6,104	2,811	164	65	57	2,262	511	236	3,008	6,106
<b>2001 Total</b> .....	254	2,624	5,164	2,242	164	64	70	2,006	364	253	2,622	5,163
<b>2002 Total</b> .....	308	2,705	5,734	2,689	171	63	105	1,995	402	303	2,701	5,729
<b>2003 Total</b> .....	402	2,805	5,982	2,825	175	62	115	2,002	401	404	2,807	5,983
<b>2004 Total</b> .....	487	2,998	6,070	2,690	178	63	142	2,121	389	<sup>R</sup> 499	<sup>R</sup> 3,010	6,082
<b>2005 Total</b> .....	564	3,104	6,229	2,703	181	63	178	2,136	403	577	<sup>R</sup> 3,116	6,242
<b>2006 Total</b> .....	720	3,226	6,608	2,869	181	68	264	2,109	397	771	<sup>R</sup> 3,276	6,659
<b>2007 Total</b> .....	978	3,489	6,537	2,446	186	76	341	2,098	413	991	<sup>R</sup> 3,502	6,551
<b>2008 Total</b> .....	1,387	3,867	7,205	2,511	192	89	546	2,044	436	1,372	3,852	7,190
<b>2009</b> January .....	120	315	627	229	17	8	58	158	37	115	310	622
February .....	111	291	545	174	16	7	57	146	34	102	283	537
March .....	120	316	624	213	17	8	69	155	40	118	314	621
April .....	116	300	649	252	16	8	73	147	37	120	304	653
May .....	126	315	690	289	17	9	61	152	37	131	319	694
June .....	127	318	683	285	16	8	55	154	37	129	320	685
July .....	139	340	643	228	17	9	48	163	39	139	340	643
August .....	141	345	615	191	17	9	53	166	38	141	346	<sup>R</sup> 615
September .....	136	329	568	169	16	8	45	157	36	134	327	567
October .....	144	343	627	192	16	8	67	161	38	145	344	627
November .....	149	345	642	205	17	8	67	158	39	144	340	637
December .....	154	357	692	241	18	8	67	164	39	148	352	686
<b>Total</b> .....	1,583	3,915	7,603	2,669	200	98	721	1,881	452	1,567	3,899	7,587
<b>2010</b> January .....	151	358	669	216	18	8	68	169	38	145	<sup>R</sup> 352	662
February .....	140	326	604	200	16	8	54	153	34	135	322	600
March .....	157	364	677	201	18	9	85	169	38	152	359	672
April .....	149	348	652	182	17	9	96	161	38	148	347	652
May .....	156	360	716	243	18	10	85	165	39	155	358	714
June .....	152	355	748	288	18	10	78	165	38	155	358	752
July .....	158	368	696	236	18	10	65	171	39	161	371	699
August .....	160	371	656	193	18	10	65	172	39	161	372	657
September .....	154	355	616	165	17	9	69	165	36	154	355	616
October .....	162	364	637	170	17	9	78	164	38	162	364	637
November .....	163	366	678	190	18	9	96	165	38	160	363	675
December .....	167	375	714	226	19	9	86	168	39	167	375	714
<b>Total</b> .....	1,870	4,310	8,064	2,509	212	109	924	1,986	454	1,855	4,295	8,049
<b>2011</b> January .....	169	374	740	251	19	9	87	167	38	154	359	724
February .....	151	336	700	238	17	8	101	150	35	144	329	693
<b>2-Month Total</b> .....	320	710	1,440	489	36	17	187	318	73	298	688	1,418
<b>2010 2-Month Total</b> .....	291	685	1,274	416	35	16	122	322	72	280	674	1,263
<b>2009 2-Month Total</b> .....	230	606	1,172	403	33	15	115	304	72	217	593	1,159

<sup>a</sup> Production equals consumption for all renewable energy sources except biofuels.

<sup>b</sup> Total biomass inputs to the production of fuel ethanol and biodiesel.

<sup>c</sup> Wood and wood-derived fuels, biomass waste, and total biomass inputs to the production of fuel ethanol and biodiesel.

<sup>d</sup> Hydroelectric power, geothermal, solar thermal/photovoltaic, wind, and biomass.

<sup>e</sup> Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>f</sup> Geothermal electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and geothermal heat pump and direct use energy.

<sup>g</sup> Solar thermal and photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and solar thermal direct use energy.

<sup>h</sup> Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>i</sup> Wood and wood-derived fuels.

<sup>j</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>k</sup> Fuel ethanol (minus denaturant) and biodiesel consumption, plus losses and co-products from the production of fuel ethanol and biodiesel.

<sup>R</sup> Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Most data for the residential, commercial, industrial, and transportation sectors are estimates. See notes and sources for Tables 10.2a and 10.2b. • See Note, "Renewable Energy Production and Consumption," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> for all available data beginning in 1973.

Sources: Tables 10.2a–10.4.

Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rate is used as the thermal conversion factor for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources—hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.** See Table A6.

**Table 10.2a Renewable Energy Consumption: Residential and Commercial Sectors**  
(Trillion Btu)

	Residential Sector				Commercial Sector <sup>a</sup>								
	Geo-thermal <sup>b</sup>	Solar/ PV <sup>c</sup>	Biomass	Total	Hydro- electric Power <sup>e</sup>	Geo- thermal <sup>b</sup>	Solar/ PV <sup>f</sup>	Wind <sup>g</sup>	Biomass				Total
			Wood <sup>d</sup>						Wood <sup>d</sup>	Waste <sup>h</sup>	Fuel Ethanol <sup>i</sup>	Total	
<b>1973 Total</b> .....	NA	NA	354	354	NA	NA	NA	NA	7	NA	NA	7	7
<b>1975 Total</b> .....	NA	NA	425	425	NA	NA	NA	NA	8	NA	NA	8	8
<b>1980 Total</b> .....	NA	NA	850	850	NA	NA	NA	NA	21	NA	NA	21	21
<b>1985 Total</b> .....	NA	NA	1,010	1,010	NA	NA	NA	NA	24	NA	(s)	24	24
<b>1990 Total</b> .....	6	56	580	641	1	3	—	—	66	28	(s)	94	98
<b>1995 Total</b> .....	7	64	520	591	1	5	—	—	72	40	(s)	113	118
<b>1996 Total</b> .....	7	65	540	612	1	5	—	—	76	53	(s)	129	135
<b>1997 Total</b> .....	8	64	430	502	1	6	—	—	73	58	(s)	131	138
<b>1998 Total</b> .....	8	64	380	452	1	7	—	—	64	54	(s)	118	127
<b>1999 Total</b> .....	9	63	390	461	1	7	—	—	67	54	(s)	121	129
<b>2000 Total</b> .....	9	60	420	489	1	8	—	—	71	47	(s)	119	128
<b>2001 Total</b> .....	9	59	370	438	1	8	—	—	67	25	(s)	92	101
<b>2002 Total</b> .....	10	57	380	448	(s)	9	—	—	69	26	(s)	95	104
<b>2003 Total</b> .....	13	57	400	470	1	11	—	—	71	29	1	101	113
<b>2004 Total</b> .....	14	57	410	481	1	12	—	—	70	34	1	105	118
<b>2005 Total</b> .....	16	58	430	504	1	14	—	—	70	34	1	105	119
<b>2006 Total</b> .....	18	63	390	472	1	14	—	—	65	36	1	102	117
<b>2007 Total</b> .....	22	70	430	522	1	14	—	—	69	31	2	102	118
<b>2008 Total</b> .....	26	80	450	556	1	15	(s)	—	73	34	2	109	125
<b>2009</b> January .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	9	11
February .....	3	7	33	42	(s)	1	(s)	(s)	6	3	(s)	8	10
March .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	9	11
April .....	3	7	35	45	(s)	1	(s)	(s)	6	3	(s)	9	11
May .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	10	11
June .....	3	7	35	45	(s)	1	(s)	(s)	6	3	(s)	9	11
July .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	10	11
August .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	10	11
September .....	3	7	35	45	(s)	1	(s)	(s)	6	3	(s)	9	10
October .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	9	11
November .....	3	7	35	45	(s)	1	(s)	(s)	6	3	(s)	9	11
December .....	3	8	37	47	(s)	1	(s)	(s)	6	3	(s)	9	11
<b>Total</b> .....	<b>33</b>	<b>89</b>	<b>430</b>	<b>552</b>	<b>1</b>	<b>17</b>	<b>(s)</b>	<b>(s)</b>	<b>72</b>	<b>36</b>	<b>3</b>	<b>112</b>	<b>129</b>
<b>2010</b> January .....	3	8	36	47	(s)	2	(s)	(s)	6	3	(s)	9	11
February .....	3	7	32	42	(s)	1	(s)	(s)	5	3	(s)	8	10
March .....	3	8	36	47	(s)	2	(s)	(s)	6	3	(s)	9	11
April .....	3	8	35	45	(s)	2	(s)	(s)	6	3	(s)	9	11
May .....	3	8	36	47	(s)	2	(s)	(s)	6	3	(s)	10	11
June .....	3	8	35	45	(s)	2	(s)	(s)	6	3	(s)	9	11
July .....	3	8	36	47	(s)	2	(s)	(s)	6	3	(s)	9	11
August .....	3	8	36	47	(s)	2	(s)	(s)	6	3	(s)	9	11
September .....	3	8	35	45	(s)	2	(s)	(s)	6	3	(s)	9	10
October .....	3	8	36	47	(s)	2	(s)	(s)	6	3	(s)	9	11
November .....	3	8	35	45	(s)	2	(s)	—	6	3	(s)	9	10
December .....	3	8	36	47	(s)	2	(s)	—	6	3	(s)	9	11
<b>Total</b> .....	<b>37</b>	<b>97</b>	<b>420</b>	<b>554</b>	<b>1</b>	<b>19</b>	<b>(s)</b>	<b>(s)</b>	<b>70</b>	<b>34</b>	<b>3</b>	<b>108</b>	<b>127</b>
<b>2011</b> January .....	3	8	36	47	(s)	2	(s)	—	6	3	(s)	9	11
February .....	3	7	32	42	(s)	1	(s)	—	5	3	(s)	8	10
<b>2-Month Total</b> .....	<b>6</b>	<b>16</b>	<b>68</b>	<b>89</b>	<b>(s)</b>	<b>3</b>	<b>(s)</b>	<b>—</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>17</b>	<b>21</b>
<b>2010 2-Month Total</b> .....	<b>6</b>	<b>16</b>	<b>68</b>	<b>89</b>	<b>(s)</b>	<b>3</b>	<b>(s)</b>	<b>(s)</b>	<b>11</b>	<b>6</b>	<b>1</b>	<b>18</b>	<b>21</b>
<b>2009 2-Month Total</b> .....	<b>5</b>	<b>14</b>	<b>70</b>	<b>89</b>	<b>(s)</b>	<b>3</b>	<b>(s)</b>	<b>(s)</b>	<b>12</b>	<b>6</b>	<b>(s)</b>	<b>18</b>	<b>20</b>

<sup>a</sup> Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

<sup>b</sup> Geothermal heat pump and direct use energy.

<sup>c</sup> Solar thermal direct use energy, and photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6). Includes small amounts of distributed solar thermal and PV energy used in the commercial, industrial, and electric power sectors.

<sup>d</sup> Wood and wood-derived fuels.

<sup>e</sup> Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>f</sup> Photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6) at commercial plants with capacity of 1 megawatt or greater.

<sup>g</sup> Wind electricity net generation (converted to Btu using the fossil-fuels heat

rate—see Table A6).

<sup>h</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>i</sup> The fuel ethanol (minus denaturant) portion of motor fuels, such as E10, consumed by the commercial sector.

NA=Not available. —=No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • Data are estimates, except for commercial sector solar/PV, hydroelectric power, wind, and waste. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> for all available data beginning in 1973.

Sources: See end of section.

**Table 10.2b Renewable Energy Consumption: Industrial and Transportation Sectors**  
(Trillion Btu)

	Industrial Sector <sup>a</sup>									Transportation Sector		
	Hydro-electric Power <sup>b</sup>	Geo-thermal <sup>c</sup>	Solar/PV <sup>d</sup>	Biomass					Total	Biomass		
				Wood <sup>e</sup>	Waste <sup>f</sup>	Fuel Ethanol <sup>g</sup>	Losses and Co-products <sup>h</sup>	Total		Fuel Ethanol <sup>i</sup>	Bio-diesel	Total
<b>1973 Total</b> .....	35	NA	NA	1,165	NA	NA	NA	1,165	1,200	NA	NA	NA
<b>1975 Total</b> .....	32	NA	NA	1,063	NA	NA	NA	1,063	1,096	NA	NA	NA
<b>1980 Total</b> .....	33	NA	NA	1,600	NA	NA	NA	1,600	1,633	NA	NA	NA
<b>1985 Total</b> .....	33	NA	NA	1,645	230	1	42	1,918	1,951	50	NA	50
<b>1990 Total</b> .....	31	2	-	1,442	192	1	49	1,684	1,717	60	NA	60
<b>1995 Total</b> .....	55	3	-	1,652	195	2	86	1,934	1,992	<sup>R</sup> 112	NA	<sup>R</sup> 112
<b>1996 Total</b> .....	61	3	-	1,683	224	1	61	1,969	2,033	81	NA	81
<b>1997 Total</b> .....	58	3	-	1,731	184	1	80	1,996	2,057	102	NA	102
<b>1998 Total</b> .....	55	3	-	1,603	180	1	86	1,872	1,929	113	NA	113
<b>1999 Total</b> .....	49	4	-	1,620	171	1	90	1,882	1,934	118	NA	118
<b>2000 Total</b> .....	42	4	-	1,636	145	1	99	1,881	1,928	135	NA	135
<b>2001 Total</b> .....	33	5	-	1,443	129	3	108	1,681	1,719	141	1	142
<b>2002 Total</b> .....	39	5	-	1,396	146	3	130	1,676	1,720	168	2	170
<b>2003 Total</b> .....	43	3	-	1,363	142	4	169	1,679	1,726	228	2	230
<b>2004 Total</b> .....	33	4	-	1,476	132	6	203	1,817	1,853	286	3	290
<b>2005 Total</b> .....	32	4	-	1,452	148	7	230	1,837	1,873	<sup>R</sup> 327	12	339
<b>2006 Total</b> .....	29	4	-	1,472	130	10	285	1,897	1,930	442	33	475
<b>2007 Total</b> .....	16	5	-	1,413	144	10	377	1,944	1,964	557	46	<sup>R</sup> 602
<b>2008 Total</b> .....	17	5	-	1,344	144	12	532	2,031	2,053	786	40	<sup>R</sup> 826
<b>2009</b> January .....	2	(s)	-	98	14	1	46	159	161	67	(s)	67
February .....	1	(s)	-	93	12	1	43	149	151	58	(s)	58
March .....	2	(s)	-	98	14	1	48	160	162	67	3	70
April .....	2	(s)	-	93	12	1	46	153	155	70	3	73
May .....	2	(s)	-	96	12	1	50	160	162	77	2	79
June .....	2	(s)	-	97	12	1	50	160	162	75	3	78
July .....	1	(s)	-	104	12	1	54	172	173	80	3	83
August .....	1	(s)	-	107	12	1	55	175	177	81	4	85
September .....	1	(s)	-	101	12	1	53	167	168	75	6	80
October .....	1	(s)	-	104	14	1	56	175	177	82	6	88
November .....	1	(s)	-	101	14	1	57	174	175	81	4	85
December .....	2	(s)	-	104	14	1	60	179	181	82	5	87
<b>Total</b> .....	18	4	-	1,198	154	13	617	1,982	2,005	894	40	934
<b>2010</b> January .....	2	(s)	(s)	110	14	1	59	185	187	83	1	84
February .....	2	(s)	(s)	100	13	1	55	168	170	76	4	79
March .....	2	(s)	(s)	111	14	1	62	188	190	87	2	89
April .....	2	(s)	(s)	106	14	1	59	180	182	85	3	88
May .....	2	(s)	(s)	109	14	1	62	186	188	89	2	91
June .....	1	(s)	(s)	109	14	1	60	184	186	91	2	93
July .....	1	(s)	(s)	113	14	1	62	191	192	93	3	97
August .....	1	(s)	(s)	113	14	1	63	192	193	93	2	96
September .....	1	(s)	(s)	109	13	1	61	185	186	89	3	92
October .....	1	(s)	(s)	108	14	1	64	188	189	94	2	96
November .....	1	(s)	(s)	109	14	1	65	189	191	92	2	94
December .....	1	(s)	(s)	109	14	1	67	192	194	97	2	99
<b>Total</b> .....	16	4	(s)	1,307	168	16	738	2,229	2,249	1,070	28	1,098
<b>2011</b> January .....	1	(s)	(s)	110	14	1	66	191	193	83	3	86
February .....	2	(s)	(s)	98	13	1	59	171	173	81	3	84
<b>2-Month Total</b> .....	3	1	(s)	208	27	2	125	363	366	164	6	170
<b>2010 2-Month Total</b> .....	3	1	(s)	210	27	2	114	354	358	159	5	163
<b>2009 2-Month Total</b> .....	3	1	-	191	26	2	90	309	312	125	1	126

<sup>a</sup> Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

<sup>b</sup> Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>c</sup> Geothermal heat pump and direct use energy.

<sup>d</sup> Photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6) at industrial plants with capacity of 1 megawatt or greater.

<sup>e</sup> Wood and wood-derived fuels.

<sup>f</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>g</sup> The fuel ethanol (minus denaturant) portion of motor fuels, such as E10, consumed by the industrial sector.

<sup>h</sup> Losses and co-products from the production of fuel ethanol and biodiesel. Does not include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol and biodiesel—these are included in the industrial sector consumption statistics for the appropriate energy source.

<sup>i</sup> The fuel ethanol (minus denaturant) portion of motor fuels, such as E10 and E85, consumed by the transportation sector.

R=Revised. NA=Not available. - =No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • Data are estimates, except for industrial sector hydroelectric power in 1973-1978 and 1989 forward, and solar/PV. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> for all available data beginning in 1973.

Sources: See end of section.

**Table 10.2c Renewable Energy Consumption: Electric Power Sector**  
(Trillion Btu)

	Hydro-electric Power <sup>a</sup>	Geo-thermal <sup>b</sup>	Solar/PV <sup>c</sup>	Wind <sup>d</sup>	Biomass			Total
					Wood <sup>e</sup>	Waste <sup>f</sup>	Total	
1973 Total .....	2,827	20	NA	NA	1	2	3	2,851
1975 Total .....	3,122	34	NA	NA	(s)	2	2	3,158
1980 Total .....	2,867	53	NA	NA	3	2	4	2,925
1985 Total .....	2,937	97	(s)	(s)	8	7	14	3,049
1990 Total <sup>g</sup> .....	3,014	161	4	29	129	188	317	3,524
1995 Total .....	3,149	138	5	33	125	296	422	3,747
1996 Total .....	3,528	148	5	33	138	300	438	4,153
1997 Total .....	3,581	150	5	34	137	309	446	4,216
1998 Total .....	3,241	151	5	31	137	308	444	3,872
1999 Total .....	3,218	152	5	46	138	315	453	3,874
2000 Total .....	2,768	144	5	57	134	318	453	3,427
2001 Total .....	2,209	142	6	70	126	211	337	2,763
2002 Total .....	2,650	147	6	105	150	230	380	3,288
2003 Total .....	2,781	148	5	115	167	230	397	3,445
2004 Total .....	2,656	148	6	142	165	223	388	3,340
2005 Total .....	2,670	147	6	178	185	221	406	3,406
2006 Total .....	2,839	145	5	264	182	231	412	3,665
2007 Total .....	2,430	145	6	341	186	237	423	3,345
2008 Total .....	2,494	146	9	546	177	258	435	3,630
<b>2009</b> January .....	228	13	(s)	58	17	21	37	336
February .....	172	11	(s)	57	15	19	34	276
March .....	211	13	1	69	14	24	38	332
April .....	250	12	1	73	12	21	33	369
May .....	287	12	1	61	13	22	34	395
June .....	284	12	1	55	15	22	37	388
July .....	227	12	1	48	16	23	39	328
August .....	190	12	1	53	17	23	39	296
September .....	168	12	1	45	14	21	36	262
October .....	191	12	1	67	14	21	35	305
November .....	204	12	(s)	67	15	22	37	320
December .....	240	13	(s)	67	17	22	40	360
<b>Total</b> .....	<b>2,650</b>	<b>146</b>	<b>9</b>	<b>721</b>	<b>180</b>	<b>261</b>	<b>441</b>	<b>3,967</b>
<b>2010</b> January .....	214	13	(s)	68	17	20	37	333
February .....	198	12	(s)	54	16	18	34	298
March .....	199	13	1	85	16	22	37	335
April .....	180	12	1	96	14	21	36	325
May .....	241	13	2	85	14	21	35	376
June .....	286	13	2	78	16	21	37	416
July .....	234	13	2	65	17	22	38	352
August .....	192	13	2	65	18	21	39	310
September .....	164	12	1	69	15	20	35	283
October .....	169	12	1	78	14	21	35	294
November .....	188	13	1	96	16	21	37	335
December .....	224	14	(s)	86	17	22	39	363
<b>Total</b> .....	<b>2,492</b>	<b>153</b>	<b>13</b>	<b>924</b>	<b>189</b>	<b>252</b>	<b>440</b>	<b>4,022</b>
<b>2011</b> January .....	250	14	(s)	87	16	21	37	388
February .....	236	13	1	101	15	19	34	384
<b>2-Month Total</b> .....	<b>486</b>	<b>27</b>	<b>1</b>	<b>187</b>	<b>31</b>	<b>40</b>	<b>70</b>	<b>772</b>
<b>2010 2-Month Total</b> .....	<b>413</b>	<b>25</b>	<b>(s)</b>	<b>122</b>	<b>33</b>	<b>39</b>	<b>71</b>	<b>632</b>
<b>2009 2-Month Total</b> .....	<b>400</b>	<b>24</b>	<b>(s)</b>	<b>115</b>	<b>32</b>	<b>40</b>	<b>72</b>	<b>611</b>

<sup>a</sup> Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>b</sup> Geothermal electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>c</sup> Solar thermal and photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>d</sup> Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

<sup>e</sup> Wood and wood-derived fuels.

<sup>f</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and

tire-derived fuels).

<sup>g</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

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

Notes: • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> for all available data beginning in 1973.

Sources: • Biomass: Table 7.4b. • All Other Data: Tables 7.2b and A6.

Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rate is used as the thermal conversion factor for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources—hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.** See Table A6.



**Table 10.3 Fuel Ethanol Overview**

	Feedstock <sup>a</sup>	Losses and Co-products <sup>b</sup>	Denaturant <sup>c</sup>	Production <sup>d</sup>			Trade <sup>d</sup>	Stocks <sup>d,f</sup>	Stock Change <sup>d,g</sup>	Consumption <sup>d</sup>			Consumption Minus Denaturant <sup>h</sup>
							Net Imports <sup>e</sup>						TBtu
				MBbl	MMgal	MBbl	MBbl			MMgal	TBtu	TBtu	
1981 Total	13	6	40	1,978	83	7	NA	NA	NA	1,978	83	7	
1985 Total	93	42	294	14,693	617	52	NA	NA	NA	14,693	617	52	51
1990 Total	111	49	356	17,802	748	63	NA	NA	NA	17,802	748	63	62
1995 Total	198	86	647	32,325	1,358	115	387	2,186	-207	32,919	1,383	117	114
1996 Total	141	61	464	23,178	973	83	313	2,065	-121	23,612	992	84	82
1997 Total	186	80	613	30,674	1,288	109	85	2,925	860	29,899	1,256	107	104
1998 Total	202	86	669	33,453	1,405	119	66	3,406	481	33,038	1,388	118	115
1999 Total	211	90	698	34,881	1,465	124	87	4,024	618	34,350	1,443	122	119
2000 Total	233	99	773	38,627	1,622	138	116	3,400	-624	39,367	1,653	140	137
2001 Total	253	108	841	42,028	1,765	150	315	4,298	898	41,445	1,741	148	144
2002 Total	307	130	1,019	50,956	2,140	182	306	6,200	1,902	49,360	2,073	176	171
2003 Total	400	169	1,335	66,772	2,804	238	292	5,978	-222	67,286	2,826	240	233
2004 Total	484	203	1,621	81,058	3,404	289	3,542	6,002	24	84,576	3,552	301	293
2005 Total	552	230	1,859	92,961	3,904	331	3,234	5,563	-439	96,634	4,059	344	335
2006 Total	688	285	2,326	116,294	4,884	414	17,408	8,760	3,197	130,505	5,481	465	453
2007 Total	914	376	3,105	155,263	6,521	553	10,457	10,535	1,775	163,945	6,886	584	569
2008 Total	1,300	531	4,433	221,637	9,309	790	12,610	14,226	3,691	230,556	9,683	821	800
2009 January	114	46	403	19,561	822	70	388	14,514	288	19,661	826	70	68
February	106	43	409	18,255	767	65	56	15,834	1,320	16,991	714	61	59
March	117	48	452	20,121	845	72	79	16,411	577	19,623	824	70	68
April	113	46	427	19,374	814	69	166	15,322	-1,089	20,629	866	74	71
May	123	50	459	21,024	883	75	507	14,173	-1,149	22,680	953	81	79
June	123	50	455	21,125	887	75	705	13,974	-199	22,029	925	78	76
July	133	54	503	22,887	961	82	960	14,223	249	23,598	991	84	82
August	135	55	494	23,136	972	82	983	14,671	448	23,671	994	84	82
September	129	53	479	22,218	933	79	310	15,283	612	21,916	920	78	76
October	137	55	515	23,467	986	84	269	14,933	-350	24,086	1,012	86	83
November	141	57	523	24,122	1,013	86	285	15,578	645	23,762	998	85	82
December	146	59	569	25,134	1,056	90	12	16,594	1,016	24,130	1,013	86	83
<b>Total</b>	<b>1,517</b>	<b>616</b>	<b>5,688</b>	<b>260,424</b>	<b>10,938</b>	<b>928</b>	<b>4,720</b>	<b>16,594</b>	<b>2,368</b>	<b>262,776</b>	<b>11,037</b>	<b>936</b>	<b>910</b>
2010 January	147	59	533	25,366	1,065	90	34	17,800	<sup>i</sup> 1,089	24,311	1,021	87	84
February	135	55	488	23,328	980	83	27	18,897	1,097	22,258	935	79	77
March	153	62	527	26,270	1,103	94	27	19,691	794	25,503	1,071	91	88
April	145	58	512	24,962	1,048	89	36	19,682	-9	25,007	1,050	89	87
May	152	61	534	26,244	1,102	93	39	19,721	39	26,244	1,102	93	91
June	149	60	521	25,631	1,077	91	40	18,610	-1,111	26,782	1,125	95	93
July	154	62	540	26,581	1,116	95	18	17,784	-826	27,425	1,152	98	95
August	157	63	538	26,963	1,132	96	10	17,340	-444	27,417	1,152	98	95
September	151	61	530	26,061	1,095	93	5	17,408	68	25,998	1,092	93	90
October	159	64	563	27,410	1,151	98	1	17,295	-113	27,524	1,156	98	95
November	161	65	586	27,745	1,165	99	-	18,029	734	27,011	1,134	96	94
December	165	67	592	28,457	1,195	101	6	17,940	-89	28,552	1,199	102	99
<b>Total</b>	<b>1,830</b>	<b>738</b>	<b>6,464</b>	<b>315,018</b>	<b>13,231</b>	<b>1,122</b>	<b>243</b>	<b>17,940</b>	<sup>i</sup> <b>1,229</b>	<b>314,032</b>	<b>13,189</b>	<b>1,118</b>	<sup>R</sup> <b>1,089</b>
2011 January	165	66	581	28,524	1,198	102	-1,359	20,672	2,732	24,433	1,026	87	85
February	147	59	535	25,400	1,067	90	-1,425	20,809	137	23,838	1,001	85	83
<b>2-Month Total ...</b>	<b>312</b>	<b>125</b>	<b>1,116</b>	<b>53,924</b>	<b>2,265</b>	<b>192</b>	<b>-2,784</b>	<b>20,809</b>	<b>2,869</b>	<b>48,271</b>	<b>2,027</b>	<b>172</b>	<b>167</b>
<b>2010 2-Month Total ...</b>	<b>283</b>	<b>114</b>	<b>1,021</b>	<b>48,694</b>	<b>2,045</b>	<b>173</b>	<b>61</b>	<b>18,897</b>	<b>2,186</b>	<b>46,569</b>	<b>1,956</b>	<b>166</b>	<b>161</b>
<b>2009 2-Month Total ...</b>	<b>220</b>	<b>89</b>	<b>812</b>	<b>37,816</b>	<b>1,588</b>	<b>135</b>	<b>444</b>	<b>15,834</b>	<b>1,608</b>	<b>36,652</b>	<b>1,539</b>	<b>131</b>	<b>127</b>

<sup>a</sup> Total corn and other biomass inputs to the production of undenatured ethanol used for fuel ethanol.  
<sup>b</sup> Losses and co-products from the production of fuel ethanol. Does not include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol—these are included in the industrial sector consumption statistics for the appropriate energy source.  
<sup>c</sup> The amount of denaturant in fuel ethanol produced.  
<sup>d</sup> Minus denaturant.  
<sup>e</sup> Through 2010, data are for fuel ethanol imports only; data for fuel ethanol exports are not available. Beginning in 2011, data are for fuel ethanol imports minus fuel ethanol exports.  
<sup>f</sup> Stocks are at end of period.  
<sup>g</sup> A negative value indicates a decrease in stocks and a positive value indicates an increase.  
<sup>h</sup> Consumption of fuel ethanol minus denaturant. Data for fuel ethanol minus denaturant are used to develop data for "Renewable Energy/Biomass" in Tables 10.1–10.2b, as well as in Sections 1 and 2.  
<sup>i</sup> Derived from the preliminary December 2009 stocks value (16,711 thousand

barrels), not the final December 2009 value (16,594 thousand barrels) that is shown under "Stocks."  
 R=Revised. NA=Not available. –=No data reported.  
 Notes: • Mdbl = thousand barrels. MMgal = million U.S. gallons. TBtu = trillion Btu. • Fuel ethanol data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by the approximate heat content of fuel ethanol—see Table A3. • Through 1980, data are not available. For 1981-1992, data are estimates. For 1993-2008, only data for feedstock, losses and co-products, and denaturant are estimates. Beginning in 2009, only data for feedstock, and losses and co-products, are estimates. • See "Denaturant," "Ethanol," "Fuel Ethanol," and "Fuel Ethanol Minus Denaturant" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> for all available data beginning in 1981.  
 Sources: See end of section.

**Table 10.4 Biodiesel Overview**

	Feed-stock <sup>a</sup>	Losses and Co-products <sup>b</sup>	Production			Trade			Stocks <sup>d</sup>	Stock Change <sup>e</sup>	Balancing Item <sup>f</sup>	Consumption		
						Imports	Exports	Net Imports <sup>c</sup>						
			TBtu	TBtu	Mbbl	MMgal	TBtu	Mbbl				Mbbl	Mbbl	Mbbl
<b>2001 Total</b> .....	<b>1</b>	<b>(s)</b>	<b>204</b>	<b>9</b>	<b>1</b>	<b>78</b>	<b>39</b>	<b>39</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>243</b>	<b>10</b>	<b>1</b>
<b>2002 Total</b> .....	<b>1</b>	<b>(s)</b>	<b>250</b>	<b>10</b>	<b>1</b>	<b>191</b>	<b>56</b>	<b>135</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>385</b>	<b>16</b>	<b>2</b>
<b>2003 Total</b> .....	<b>2</b>	<b>(s)</b>	<b>338</b>	<b>14</b>	<b>2</b>	<b>94</b>	<b>110</b>	<b>-16</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>322</b>	<b>14</b>	<b>2</b>
<b>2004 Total</b> .....	<b>4</b>	<b>(s)</b>	<b>666</b>	<b>28</b>	<b>4</b>	<b>97</b>	<b>124</b>	<b>-26</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>640</b>	<b>27</b>	<b>3</b>
<b>2005 Total</b> .....	<b>12</b>	<b>(s)</b>	<b>2,162</b>	<b>91</b>	<b>12</b>	<b>207</b>	<b>206</b>	<b>1</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>2,163</b>	<b>91</b>	<b>12</b>
<b>2006 Total</b> .....	<b>32</b>	<b>(s)</b>	<b>5,963</b>	<b>250</b>	<b>32</b>	<b>1,069</b>	<b>828</b>	<b>242</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>6,204</b>	<b>261</b>	<b>33</b>
<b>2007 Total</b> .....	<b>63</b>	<b>1</b>	<b>11,662</b>	<b>490</b>	<b>62</b>	<b>3,342</b>	<b>6,477</b>	<b>-3,135</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>8,528</b>	<b>358</b>	<b>46</b>
<b>2008 Total</b> .....	<b>88</b>	<b>1</b>	<b>16,145</b>	<b>678</b>	<b>87</b>	<b>7,502</b>	<b>16,128</b>	<b>-8,626</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>7,519</b>	<b>316</b>	<b>40</b>
<b>2009</b>														
January .....	5	(s)	1,011	42	5	261	1,150	-889	664	664	621	79	3	(s)
February .....	4	(s)	780	33	4	158	1,166	-1,009	424	-240	61	73	3	(s)
March .....	3	(s)	599	25	3	383	203	180	665	241	0	538	23	3
April .....	3	(s)	624	26	3	52	154	-102	632	-33	0	554	23	3
May .....	4	(s)	689	29	4	117	417	-300	600	-32	0	421	18	2
June .....	4	(s)	761	32	4	138	366	-228	581	-19	0	552	23	3
July .....	6	(s)	1,030	43	6	58	581	-523	511	-70	0	576	24	3
August .....	6	(s)	1,070	45	6	126	397	-271	511	0	0	799	34	4
September .....	6	(s)	1,158	49	6	123	224	-101	527	16	0	1,041	44	6
October .....	7	(s)	1,364	57	7	159	424	-265	553	26	0	1,074	45	6
November .....	8	(s)	1,511	63	8	105	819	-714	531	-22	0	819	34	4
December .....	8	(s)	1,455	61	8	165	431	-265	711	180	0	1,010	42	5
<b>Total</b> .....	<b>65</b>	<b>1</b>	<b>12,054</b>	<b>506</b>	<b>65</b>	<b>1,844</b>	<b>6,332</b>	<b>-4,489</b>	<b>711</b>	<b>711</b>	<b>682</b>	<b>7,537</b>	<b>317</b>	<b>40</b>
<b>2010</b>														
January .....	4	(s)	764	32	4	41	296	-256	834	9328	0	181	8	1
February .....	4	(s)	797	33	4	31	139	-108	844	10	0	679	29	4
March .....	4	(s)	812	34	4	60	433	-374	969	125	0	314	13	2
April .....	4	(s)	735	31	4	45	227	-182	931	-38	0	591	25	3
May .....	4	(s)	688	29	4	80	251	-171	1,060	129	0	387	16	2
June .....	3	(s)	554	23	3	54	304	-249	968	-92	0	397	17	2
July .....	4	(s)	670	28	4	32	199	-167	830	-138	0	641	27	3
August .....	3	(s)	543	23	3	52	225	-173	771	-59	0	429	18	2
September .....	3	(s)	556	23	3	69	131	-62	682	-89	0	582	24	3
October .....	3	(s)	497	21	3	18	132	-114	650	-32	0	415	17	2
November .....	2	(s)	376	16	2	30	57	-27	676	26	0	323	14	2
December .....	2	(s)	409	17	2	34	109	-75	662	-14	0	348	15	2
<b>Total</b> .....	<b>40</b>	<b>1</b>	<b>7,401</b>	<b>311</b>	<b>40</b>	<b>546</b>	<b>2,503</b>	<b>-1,958</b>	<b>662</b>	<b>9156</b>	<b>0</b>	<b>5,288</b>	<b>222</b>	<b>28</b>
<b>2011</b>														
January .....	4	(s)	740	31	4	49	217	-169	738	76	0	496	21	3
February .....	4	(s)	718	30	4	37	88	-51	869	131	0	536	23	3
<b>2-Month Total</b> .....	<b>8</b>	<b>(s)</b>	<b>1,458</b>	<b>61</b>	<b>8</b>	<b>86</b>	<b>305</b>	<b>-220</b>	<b>869</b>	<b>207</b>	<b>0</b>	<b>1,032</b>	<b>43</b>	<b>6</b>
<b>2010 2-Month Total</b> .....	<b>8</b>	<b>(s)</b>	<b>1,561</b>	<b>66</b>	<b>8</b>	<b>72</b>	<b>435</b>	<b>-363</b>	<b>844</b>	<b>338</b>	<b>0</b>	<b>860</b>	<b>36</b>	<b>5</b>
<b>2009 2-Month Total</b> .....	<b>10</b>	<b>(s)</b>	<b>1,792</b>	<b>75</b>	<b>10</b>	<b>418</b>	<b>2,316</b>	<b>-1,898</b>	<b>424</b>	<b>424</b>	<b>682</b>	<b>152</b>	<b>6</b>	<b>1</b>

<sup>a</sup> Total vegetable oil and other biomass inputs to the production of biodiesel.  
<sup>b</sup> Losses and co-products from the production of biodiesel. Does not include natural gas, electricity, and other non-biomass energy used in the production of biodiesel—these are included in the industrial sector consumption statistics for the appropriate energy source.  
<sup>c</sup> Net imports equal imports minus exports.  
<sup>d</sup> Stocks are at end of period.  
<sup>e</sup> A negative value indicates a decrease in stocks and a positive value indicates an increase.  
<sup>f</sup> Beginning in 2009, because of incomplete data coverage and different data sources, "Balancing Item" is used to balance biodiesel supply and disposition.  
<sup>g</sup> Derived from the preliminary December 2009 stocks value (506 thousand barrels), not the final December 2009 value (711 thousand barrels) that is shown

under "Stocks."  
 NA=Not available. (s)=Less than 0.5 trillion Btu.  
 Notes: • Mbbl = thousand barrels. MMgal = million U.S. gallons. TBtu = trillion Btu. • Biodiesel data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by 5.359 million Btu per barrel (the approximate heat content of biodiesel—see Table A3). • Through 2000, data are not available. Beginning in 2001, data not from U.S. Energy Information Administration (EIA) surveys are estimates. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.  
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> for all available data beginning in 2001.  
 Sources: See end of section.

## Renewable Energy

**Note. Renewable Energy Production and Consumption.** In Tables 1.1, 1.3, and 10.1, renewable energy consumption consists of: conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6); geothermal electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and geothermal heat pump and geothermal direct use energy; solar thermal and photovoltaic electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6), and solar thermal direct use energy; wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6); wood and wood-derived fuels consumption; biomass waste (municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass) consumption; fuel ethanol (minus denaturant) and biodiesel consumption; and losses and co-products from the production of fuel ethanol and biodiesel. In Tables 1.1, 1.2, and 10.1, renewable production is assumed to equal consumption for all renewable energy sources except biofuels (biofuels production comprises biomass inputs to the production of fuel ethanol and biodiesel).

### Table 10.2a Sources

#### Residential Sector, Geothermal

Oregon Institute of Technology, Geo-Heat Center. Monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. (The annual estimate for the current year is set equal to that of the previous year.)

#### Residential Sector, Solar/PV

U.S. Energy Information Administration (EIA) estimates based on Form EIA-63A, “Annual Solar Thermal Collector Manufacturers Survey,” and Form EIA-63B, “Annual Photovoltaic Module/Cell Manufacturers Survey.” Monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. (The annual estimate for the current year is set equal to that of the previous year.)

#### Residential Sector, Wood

1973–1979: EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981*, Table A2.

1980 forward: EIA, Form EIA-457, “Residential Energy Consumption Survey”; and EIA estimates based on Form EIA-457 and regional heating degree-day data. Monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. (The annual estimate for the current year is set equal to that of the previous year.)

#### Commercial Sector, Hydroelectric Power

1989 forward: Commercial sector conventional hydroelectricity net generation data from EIA, Form EIA-923, “Power Plant Operations Report,” and predecessor forms, are converted to Btu by multiplying by the fossil-fuels heat rate—see Table A6.

#### Commercial Sector, Geothermal

Oregon Institute of Technology, Geo-Heat Center. Monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. (The annual estimate for the current year is set equal to that of the previous year.)

#### Commercial Sector, Solar/PV

2008 forward: Commercial sector solar thermal and photovoltaic (PV) electricity net generation data from EIA, Form EIA-923, “Power Plant Operations Report,” are converted to Btu by multiplying by the fossil-fuels heat rate—see Table A6.

#### Commercial Sector, Wind

2009 forward: Commercial sector wind electricity net generation data from EIA, Form EIA-923, “Power Plant Operations Report,” are converted to Btu by multiplying by the fossil-fuels heat rate—see Table A6.

#### Commercial Sector, Wood

1973–1979: EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981*, Table A2.

1980–1983: EIA, *Estimates of U.S. Wood Energy Consumption 1980-1983*, Table ES1.

1984: EIA estimate based on the 1983 value.

1985–1988: Values interpolated.

1989 forward: EIA, *Monthly Energy Review (MER)*, Tables 7.4a–7.4c; and EIA estimates based on Form EIA-871, “Commercial Buildings Energy Consumption Survey.” Data for wood consumption at commercial combined-heat-and-power (CHP) plants are calculated as total wood consumption at electricity-only and CHP plants (MER, Table 7.4a) minus wood consumption in the electric power sector (MER, Table 7.4b) and at industrial CHP plants (MER, Table 7.4c). Annual estimates for wood consumption at other commercial plants are based on Form EIA-871 (the annual estimate for the current year is set equal to that of the previous year); monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.

#### Commercial Sector, Biomass Waste

EIA, MER, Table 7.4c.

### **Commercial Sector, Fuel Ethanol (Minus Denaturant)**

EIA, MER, Tables 3.5, 3.7a, and 10.3. Calculated as commercial sector motor gasoline consumption (Table 3.7a) divided by total motor gasoline product supplied (Table 3.5), and then multiplied by fuel ethanol (minus denaturant) consumption (Table 10.3).

## **Table 10.2b Sources**

### **Industrial Sector, Hydroelectric Power**

Industrial sector conventional hydroelectricity net generation data from Table 7.2c are converted to Btu by multiplying by the fossil-fuels heat rate—see Table A6.

### **Industrial Sector, Geothermal**

Oregon Institute of Technology, Geo-Heat Center. Monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. (The annual estimate for the current year is set equal to that of the previous year.)

### **Industrial Sector, Solar/PV**

2010 forward: Industrial sector solar thermal and photovoltaic (PV) electricity net generation data from the U.S. Energy Information Administration (EIA), Form EIA-923, “Power Plant Operations Report,” are converted to Btu by multiplying by the fossil-fuels heat rate—see Table A6.

### **Industrial Sector, Wood**

1973–1979: EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981*, Table A2.

1980–1983: EIA, *Estimates of U.S. Wood Energy Consumption 1980-1983*, Table ES1.

1984: EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 1.

1985 and 1986: Values interpolated.

1987: EIA, *Estimates of Biofuels Consumption in the United States During 1987*, Table 2.

1988: Value interpolated.

1989 forward: EIA, *Monthly Energy Review (MER)*, Table 7.4c; and EIA estimates based on Form EIA-846, “Manufacturing Energy Consumption Survey.” Data for wood consumption at industrial combined-heat-and-power (CHP) plants are from MER, Table 7.4c. Annual estimates for wood consumption at other industrial plants are based on Form EIA-846 (the annual estimate for the current year is set equal to that of the previous year); monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.

### **Industrial Sector, Biomass Waste**

1981: EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8; and EIA, MER, Table 10.2c. Estimates are calculated as total waste consumption minus electric power sector waste consumption.

1982 and 1983: EIA estimates for total waste consumption based on *Estimates of U.S. Biofuels Consumption 1990*, Table 8; and EIA, MER, Table 10.2c. Estimates are calculated as total waste consumption minus electric power sector waste consumption.

1984: EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8; and EIA, MER, Table 10.2c. Estimates are calculated as total waste consumption minus electric power sector waste consumption.

1985 and 1986: Values interpolated.

1987: EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8; and EIA, MER, Table 10.2c. Estimates are calculated as total waste consumption minus electric power sector waste consumption.

1988: Value interpolated.

1989 forward: EIA, MER, Table 7.4c; and EIA estimates based on information presented in Government Advisory Associates, *Resource Recovery Yearbook* and *Methane Recovery Yearbook*, and information provided by the U.S. Environmental Protection Agency, Landfill Methane Outreach Program. Data for waste consumption at industrial CHP plants are from MER, Table 7.4c. Annual estimates for waste consumption at other industrial plants are based on the non-EIA sources listed above (the annual estimate for the current year is set equal to that of the previous year); monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.

### **Industrial Sector, Fuel Ethanol (Minus Denaturant)**

EIA, MER, Tables 3.5, 3.7b, and 10.3. Calculated as industrial sector motor gasoline consumption (Table 3.7b) divided by total motor gasoline product supplied (Table 3.5), and then multiplied by fuel ethanol (minus denaturant) consumption (Table 10.3).

### **Industrial Sector, Losses and Co-products**

Calculated as fuel ethanol losses and co-products (Table 10.3) plus biodiesel losses and co-products (Table 10.4).

### **Transportation Sector, Fuel Ethanol (Minus Denaturant)**

EIA, MER, Tables 3.5, 3.7c, and 10.3. Calculated as transportation sector motor gasoline consumption (Table 3.7c) divided by total motor gasoline product supplied (Table 3.5), and then multiplied by fuel ethanol (minus denaturant) consumption (Table 10.3).

## Transportation Sector, Biodiesel

EIA, MER, Table 10.4. Transportation sector biodiesel consumption is assumed to equal total biodiesel consumption.

### Table 10.3 Sources

#### Feedstock

Calculated as fuel ethanol production (in thousand barrels) minus denaturant, and then multiplied by the fuel ethanol feedstock factor—see Table A3.

#### Losses and Co-products

Calculated as fuel ethanol feedstock plus denaturant minus fuel ethanol production.

#### Denaturant

1981–2008: Data in thousand barrels for petroleum denaturant in fuel ethanol produced are estimated as 2 percent of fuel ethanol production; these data are converted to Btu by multiplying by 4.645 million Btu per barrel (the estimated quantity-weighted factor of pentanes plus and conventional motor gasoline used as denaturant).

2009: U.S. Energy Information Administration (EIA), *Petroleum Supply Annual (PSA)*, Table 1. Data in thousand barrels for net production of pentanes plus at renewable fuels and oxygenate plants are multiplied by -1; these data are converted to Btu by multiplying by 4.620 million Btu per barrel (the approximate heat content of pentanes plus). Data in thousand barrels for net production of conventional motor gasoline at renewable fuels and oxygenate plants are multiplied by -1; these data are converted to Btu by multiplying by 5.253 million Btu per barrel (the approximate heat content of conventional motor gasoline). Total denaturant is the sum of the values for pentanes plus and conventional motor gasoline.

2010 and 2011: EIA, *Petroleum Supply Monthly (PSM)*, monthly reports, Table 1. Data in thousand barrels for net production of pentanes plus at renewable fuels and oxygenate plants are multiplied by -1; these data are converted to Btu by multiplying by 4.620 million Btu per barrel (the approximate heat content of pentanes plus). Data in thousand barrels for net production of conventional motor gasoline and motor gasoline blending components at renewable fuels and oxygenate plants are multiplied by -1; these data are converted to Btu by multiplying by 5.253 million Btu per barrel (the approximate heat content of conventional motor gasoline). Total denaturant is the sum of the values for pentanes plus, conventional motor gasoline, and motor gasoline blending components.

#### Production

1981–1992: Fuel ethanol production is assumed to equal fuel ethanol consumption—see sources for "Consumption."

1993–2004: Calculated as fuel ethanol consumption plus fuel ethanol stock change minus fuel ethanol net imports. These data differ slightly from the original production data from EIA, Form EIA-819, "Monthly Oxygenate Report," and predecessor form, which were not reconciled and updated to be consistent with the final balance.

2005–2008: EIA, Form EIA-819, "Monthly Oxygenate Report."

2009: EIA, PSA, Table 1, data for net production of fuel ethanol at renewable fuels and oxygenate plants.

2010 and 2011: EIA, PSM, monthly reports, Table 1, data for net production of fuel ethanol at renewable fuels and oxygenate plants.

#### Trade, Stocks, and Stock Change

1992–2009: EIA, PSA, annual reports, Table 1.

2010 and 2011: EIA, PSM, monthly reports, Table 1.

#### Consumption

1981–1989: EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 10; and interpolated values for 1982, 1983, 1985, 1986, and 1988.

1990–1992: EIA, *Estimates of U.S. Biomass Energy Consumption 1992*, Table D2; and interpolated value for 1991.

1993–2004: EIA, PSA, annual reports, Tables 2 and 16. Calculated as 10 percent of oxygenated finished motor gasoline field production (Table 2), plus fuel ethanol refinery input (Table 16).

2005–2008: EIA, PSA, annual reports, Tables 1 and 15. Calculated as motor gasoline blending components adjustments (Table 1), plus finished motor gasoline adjustments (Table 1), plus fuel ethanol refinery and blender net inputs (Table 15).

2009: EIA, PSA, Table 1. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments.

2010 and 2011: EIA, PSM, monthly reports, Table 1. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments.

#### Consumption Minus Denaturant

Calculated as fuel ethanol consumption minus the amount of denaturant in fuel ethanol consumed. Denaturant in fuel ethanol consumed is estimated by multiplying denaturant in fuel ethanol produced by the fuel ethanol consumption-to-production ratio.

## Table 10.4 Sources

### Feedstock

Calculated as biodiesel production in thousand barrels multiplied by 5.433 million Btu per barrel (the biodiesel feedstock factor—see Table A3).

### Losses and Co-products

Calculated as biodiesel feedstock minus biodiesel production.

### Production

2001–2005: U.S. Department of Agriculture, Commodity Credit Corporation, Bioenergy Program records. Annual data are derived from quarterly data. Monthly data are estimated by dividing the annual data by the number of days in the year and then multiplying by the number of days in the month.

2006: U.S. Department of Commerce, Bureau of the Census, “M311K—Fats and Oils: Production, Consumption, and Stocks,” data for soybean oil consumed in methyl esters (biodiesel). In addition, the U.S. Energy Information Administration (EIA) estimates that 14.4 million gallons of yellow grease were consumed in methyl esters (biodiesel).

2007 and January 2010 forward: U.S. Department of Commerce, Bureau of the Census, “M311K—Fats and Oils: Production, Consumption, and Stocks,” data for all fats and oils consumed in methyl esters (biodiesel).

January 2008–December 2009: EIA, *Monthly Biodiesel Production Report*, December 2009 (release date October 2010), Table 11. Monthly data for 2008 are estimated based on U.S. Department of Commerce, Bureau of the Census, M311K data, multiplied by the EIA 2008 annual value’s share of the M311K 2008 annual value.

### Trade

U.S. Department of Agriculture, imports data for Harmonized Tariff Schedule codes 3824.90.40.20, “Fatty Esters Animal/Vegetable/Mixture” (for data through June 2010), and 3824.90.40.30, “Biodiesel/Mixes” (for data beginning in July 2010); and exports data for Schedule B code 3824.90.40.00, “Fatty Substances Animal/Vegetable/Mixture” (for data through December 2010), and 3824.90.40.30, “Biodiesel <70%” (for data beginning in January 2011). Although these categories include products other than biodiesel (such as biodiesel coprocessed with petroleum feedstocks; and products destined for soaps, cosmetics, and other items), biodiesel is the largest component. In the absence of other reliable data for biodiesel trade, EIA sees these data as good substitutes.

### Stocks and Stock Change

2009: EIA, *Petroleum Supply Annual (PSA)*, Table 1, data for renewable fuels except fuel ethanol.

2010 and 2011: EIA, *Petroleum Supply Monthly*, Table 1, data for renewable fuels except fuel ethanol.

### Balancing Item

Calculated as biodiesel consumption and biodiesel stock change minus biodiesel production and biodiesel net imports.

### Consumption

2001–2008: Calculated as biodiesel production plus biodiesel net imports.

January and February 2009: EIA, PSA, Table 1, data for refinery and blender net inputs of renewable fuels except fuel ethanol.

March 2009 forward: Calculated as biodiesel production plus biodiesel net imports minus biodiesel stock change.

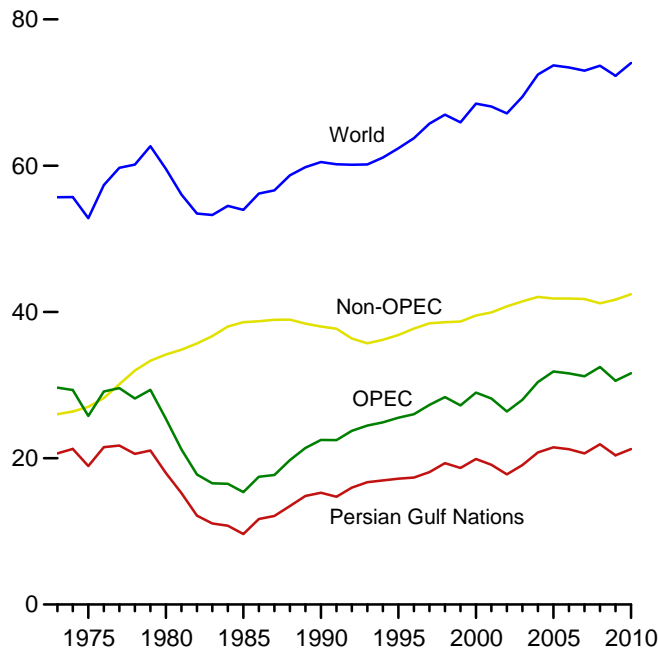
# International Petroleum



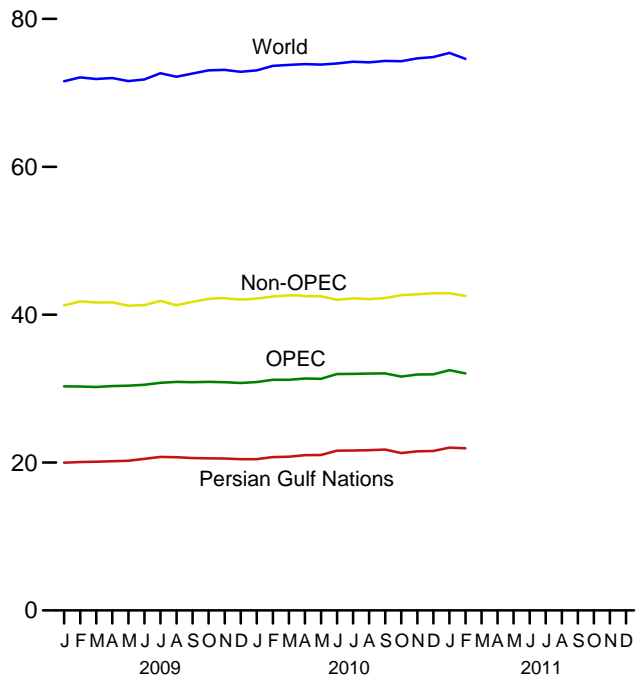
Drilling rig, Gansu Province, People's Republic of China. Source: U.S. Department of Energy.

**Figure 11.1a World Crude Oil Production Overview**  
(Million Barrels per Day)

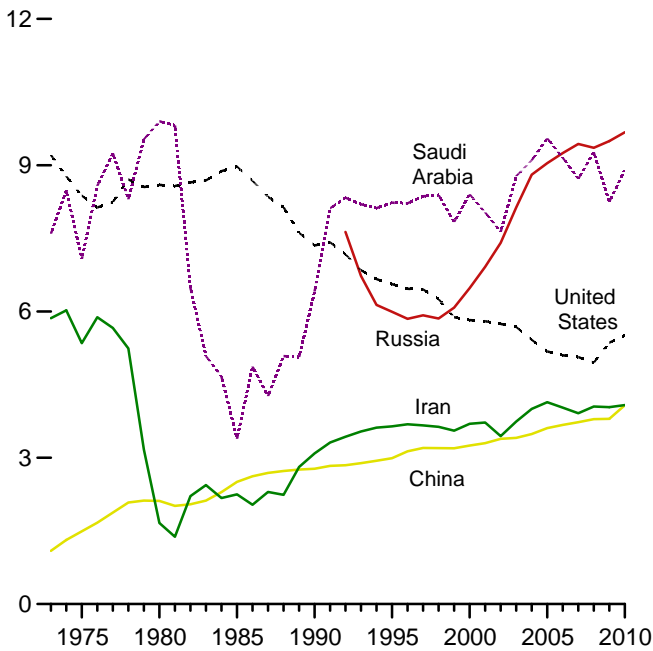
World Production, 1973-2010



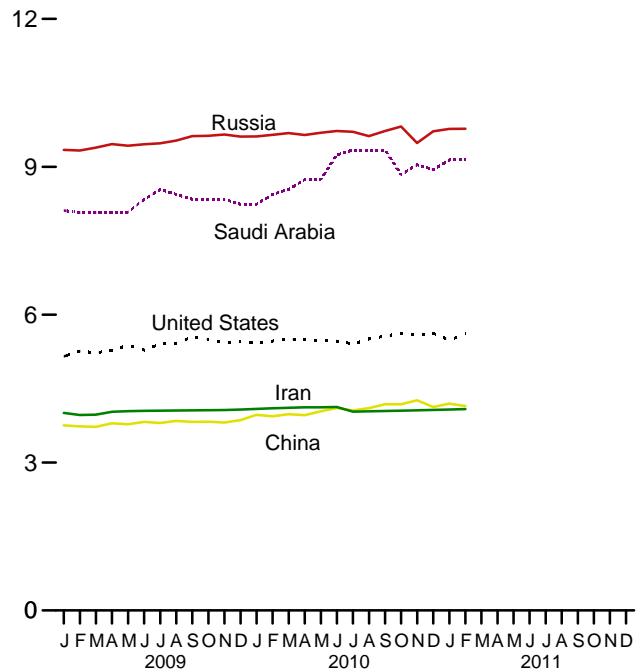
World Production, Monthly



Selected Producers, 1973-2010



Selected Producers, Monthly



Notes: • OPEC is the Organization of the Petroleum Exporting Countries. • 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 "Per-

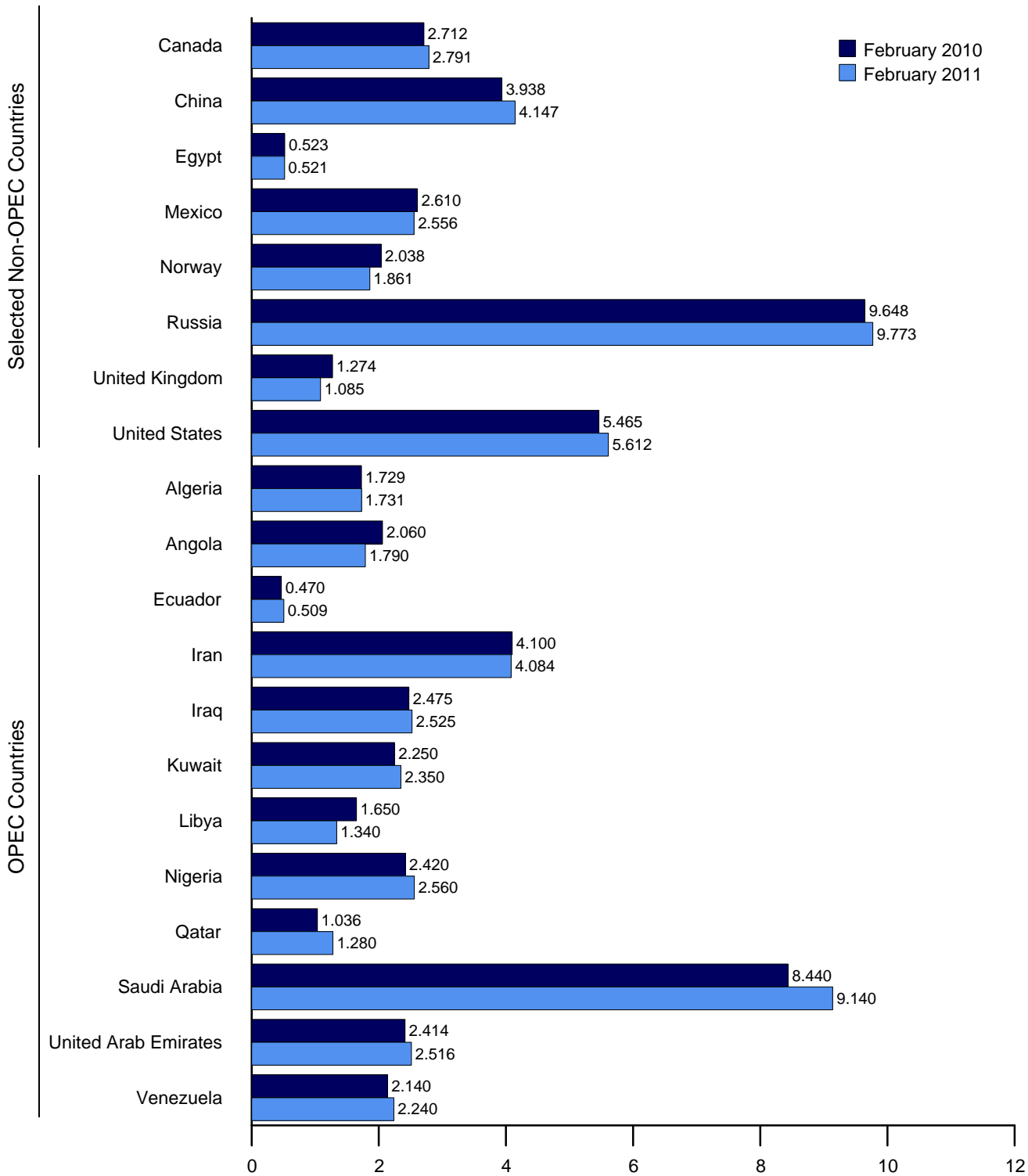
sian Gulf Nations."

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#international>.

Sources: Tables 11.1a and 11.1b.



**Figure 11.1b World Crude Oil Production by Selected Country**  
(Million Barrels per Day)



Note: OPEC is the Organization of the Petroleum Exporting Countries.  
 Web Page: <http://www.eia.gov/totalenergy/data/monthly/#international>.  
 Sources: Tables 11.1a and 11.1b.

**Table 11.1a World Crude Oil Production: OPEC Members**  
(Thousand Barrels per Day)

	Algeria	Angola	Ecuador	Iran	Iraq	Kuwait <sup>a</sup>	Libya	Nigeria	Qatar	Saudi Arabia <sup>a</sup>	United Arab Emirates	Venezuela	Total OPEC <sup>b</sup>
1973 Average	1,097	162	209	5,861	2,018	3,020	2,175	2,054	570	7,596	1,533	3,366	29,661
1975 Average	983	165	161	5,350	2,262	2,084	1,480	1,783	438	7,075	1,664	2,346	25,790
1980 Average	1,106	150	204	1,662	2,514	1,656	1,787	2,055	472	9,900	1,709	2,168	25,383
1985 Average	1,037	231	281	2,250	1,433	1,023	1,059	1,495	301	3,388	1,193	1,677	15,368
1990 Average	1,175	475	285	3,088	2,040	1,175	1,375	1,810	406	6,410	2,117	2,137	22,493
1995 Average	1,202	646	392	3,643	560	2,057	1,390	1,993	442	8,231	2,233	2,750	25,540
1996 Average	1,242	709	396	3,686	579	2,062	1,401	2,001	510	8,218	2,278	2,938	26,018
1997 Average	1,277	714	388	3,664	1,155	2,007	1,446	2,132	550	8,362	2,316	3,280	27,292
1998 Average	1,246	735	375	3,634	2,150	2,085	1,390	2,153	696	8,389	2,345	3,167	28,366
1999 Average	1,202	745	373	3,557	2,508	1,898	1,319	2,130	665	7,833	2,169	2,826	27,224
2000 Average	1,254	746	395	3,696	2,571	2,079	1,410	2,165	737	8,404	2,368	3,155	28,980
2001 Average	1,310	742	412	3,724	2,390	1,998	1,367	2,256	714	8,031	2,205	3,010	28,159
2002 Average	1,306	896	393	3,444	2,023	1,894	1,319	2,118	679	7,634	2,082	2,604	26,392
2003 Average	1,611	903	411	3,743	1,308	2,136	1,421	2,275	715	8,775	2,348	2,335	27,980
2004 Average	1,677	1,052	528	4,001	2,011	2,376	1,515	2,329	783	9,101	2,478	2,557	30,408
2005 Average	1,797	1,250	532	4,139	1,878	2,529	1,633	2,627	835	9,550	2,535	2,565	31,871
2006 Average	1,814	1,413	536	4,028	1,996	2,535	1,681	2,440	850	9,152	2,636	2,511	31,591
2007 Average	1,834	1,744	511	3,912	2,086	2,464	1,702	2,350	851	8,722	2,603	2,433	31,210
2008 Average	1,825	1,981	505	4,050	2,375	2,586	1,736	2,165	924	9,261	2,681	2,394	32,483
<b>2009</b> January	1,758	1,915	504	4,007	2,212	2,350	1,650	2,192	860	8,113	2,411	2,340	30,312
February	1,757	1,840	498	3,963	2,313	2,350	1,650	2,162	935	8,068	2,412	2,340	30,288
March	1,757	1,840	497	3,970	2,365	2,350	1,650	2,060	910	8,072	2,412	2,340	30,223
April	1,757	1,840	495	4,030	2,366	2,350	1,650	2,217	910	8,077	2,412	2,240	30,344
May	1,757	1,840	486	4,044	2,418	2,350	1,650	2,212	910	8,081	2,412	2,240	30,399
June	1,756	1,840	491	4,050	2,419	2,350	1,650	2,059	910	8,335	2,412	2,240	30,514
July	1,726	1,890	483	4,053	2,470	2,350	1,650	2,051	910	8,540	2,413	2,240	30,777
August	1,726	1,950	477	4,056	2,472	2,350	1,650	2,193	945	8,440	2,413	2,240	30,912
September	1,726	1,950	475	4,060	2,473	2,350	1,650	2,240	945	8,340	2,413	2,240	30,862
October	1,726	1,990	475	4,063	2,425	2,350	1,650	2,290	951	8,340	2,413	2,240	30,913
November	1,726	1,990	477	4,067	2,375	2,350	1,650	2,370	962	8,340	2,413	2,140	30,860
December	1,726	1,990	470	4,076	2,375	2,350	1,650	2,450	974	8,240	2,414	2,040	30,754
<b>Average</b>	<b>1,741</b>	<b>1,907</b>	<b>486</b>	<b>4,037</b>	<b>2,391</b>	<b>2,350</b>	<b>1,650</b>	<b>2,208</b>	<b>927</b>	<b>8,250</b>	<b>2,413</b>	<b>2,239</b>	<b>30,599</b>
<b>2010</b> January	1,730	2,040	464	4,088	2,475	2,250	1,650	2,480	969	8,240	2,414	2,090	30,889
February	1,729	2,060	470	4,100	2,475	2,250	1,650	2,420	1,036	8,440	2,414	2,140	31,184
March	1,729	2,070	478	4,112	2,375	2,250	1,650	2,430	1,055	8,540	2,414	2,090	31,193
April	1,729	2,070	480	4,120	2,375	2,250	1,650	2,360	1,072	8,740	2,414	2,110	31,371
May	1,729	2,030	478	4,120	2,375	2,250	1,650	2,310	1,091	8,740	2,415	2,140	31,327
June	1,728	1,980	491	4,127	2,425	2,250	1,650	2,410	1,113	9,240	2,415	2,140	31,968
July	1,728	1,970	492	4,033	2,325	2,350	1,650	2,410	1,136	9,340	2,415	2,140	31,989
August	1,728	1,890	485	4,040	2,325	2,350	1,650	2,510	1,164	9,340	2,415	2,140	32,037
September	1,728	1,790	490	4,047	2,375	2,350	1,650	2,550	1,193	9,340	2,415	2,140	32,068
October	1,728	1,790	497	4,053	2,375	2,350	1,650	2,580	1,216	8,840	2,415	2,140	31,634
November	1,728	1,790	508	4,060	2,375	2,350	1,650	2,510	1,235	9,040	2,415	2,240	31,901
December	1,728	1,790	499	4,068	2,525	2,350	1,650	2,490	1,235	8,940	2,415	2,240	31,930
<b>Average</b>	<b>1,729</b>	<b>1,939</b>	<b>486</b>	<b>4,080</b>	<b>2,399</b>	<b>2,300</b>	<b>1,650</b>	<b>2,455</b>	<b>1,127</b>	<b>8,900</b>	<b>2,415</b>	<b>2,146</b>	<b>31,626</b>
<b>2011</b> January	1,728	1,790	500	4,076	2,625	2,350	1,650	2,590	<sup>R</sup> 1,280	9,140	2,515	2,240	<sup>R</sup> 32,484
February	1,731	1,790	509	4,084	2,525	2,350	1,340	2,560	1,280	9,140	2,516	2,240	32,065
<b>2-Month Average</b>	<b>1,729</b>	<b>1,790</b>	<b>504</b>	<b>4,080</b>	<b>2,578</b>	<b>2,350</b>	<b>1,503</b>	<b>2,576</b>	<b>1,280</b>	<b>9,140</b>	<b>2,515</b>	<b>2,240</b>	<b>32,285</b>
<b>2010 2-Month Average</b>	<b>1,730</b>	<b>2,049</b>	<b>467</b>	<b>4,094</b>	<b>2,475</b>	<b>2,250</b>	<b>1,650</b>	<b>2,452</b>	<b>1,001</b>	<b>8,335</b>	<b>2,414</b>	<b>2,114</b>	<b>31,029</b>
<b>2009 2-Month Average</b>	<b>1,758</b>	<b>1,879</b>	<b>501</b>	<b>3,986</b>	<b>2,260</b>	<b>2,350</b>	<b>1,650</b>	<b>2,178</b>	<b>895</b>	<b>8,092</b>	<b>2,412</b>	<b>2,340</b>	<b>30,301</b>

<sup>a</sup> Except for the period from August 1990 through May 1991, includes about one-half of the production in the Kuwait-Saudi Arabia Neutral Zone. Kuwaiti Neutral Zone output was discontinued following Iraq's invasion of Kuwait on August 2, 1990, but was resumed in June 1991. In February 2011, Neutral Zone production by both Kuwait and Saudi Arabia totaled about 560 thousand barrels per day. Data for Saudi Arabia include approximately 150 thousand barrels per day from the Abu Safah field produced on behalf of Bahrain.

<sup>b</sup> See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary. On Tables 11.1a and 11.1b, countries are classified as "OPEC" or "Non-OPEC" in all years based on their status in the most current year. For example, Ecuador rejoined OPEC in 2007, and is thus included in "Total OPEC"

for all years; and Indonesia left OPEC at the end of 2008, and is thus included in "Total Non-OPEC" for all years.

R=Revised.

Notes: • Data are for crude oil and lease condensate; they exclude 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#international> for all available data beginning in 1973.

Sources: See end of section.

**Table 11.1b World Crude Oil Production: Persian Gulf Nations, Non-OPEC, and World** (Thousand Barrels per Day)

	Persian Gulf Nations <sup>b</sup>	Selected Non-OPEC <sup>a</sup> Producers								Total Non-OPEC <sup>a</sup>	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	26,018	55,679
1975 Average .....	18,934	1,430	1,490	235	705	189	9,523	NA	12	8,375	27,039	52,828
1980 Average .....	17,961	1,435	2,114	595	1,936	486	11,706	NA	1,622	8,597	34,175	59,558
1985 Average .....	9,630	1,471	2,505	887	2,745	773	11,585	NA	2,530	8,971	38,598	53,966
1990 Average .....	15,278	1,553	2,774	873	2,553	1,630	10,975	NA	1,820	7,355	37,999	60,492
1995 Average .....	17,208	1,805	2,990	920	2,618	2,766	--	5,995	2,489	6,560	36,845	62,385
1996 Average .....	17,367	1,837	3,131	922	2,855	3,091	--	5,850	2,568	6,465	37,733	63,752
1997 Average .....	18,095	1,922	3,200	856	3,023	3,142	--	5,920	2,518	6,452	38,452	65,744
1998 Average .....	19,337	1,981	3,198	834	3,070	3,011	--	5,854	2,616	6,252	38,599	66,966
1999 Average .....	18,667	1,907	3,195	852	2,906	3,019	--	6,079	2,684	5,881	38,698	65,923
2000 Average .....	19,892	1,977	3,249	768	3,012	3,222	--	6,479	2,275	5,822	39,513	68,492
2001 Average .....	19,098	2,029	3,300	720	3,127	3,226	--	6,917	2,282	5,801	39,936	68,095
2002 Average .....	17,794	2,171	3,390	715	3,177	3,131	--	7,408	2,292	5,746	40,764	67,156
2003 Average .....	19,063	2,306	3,409	713	3,371	3,042	--	8,132	2,093	5,681	41,450	69,430
2004 Average .....	20,787	2,398	3,485	673	3,383	2,954	--	8,805	1,845	5,419	42,063	72,471
2005 Average .....	21,501	2,369	3,609	658	3,334	2,698	--	9,043	1,649	5,178	41,842	73,712
2006 Average .....	21,232	2,525	3,673	633	3,256	2,491	--	9,247	1,490	5,102	41,837	73,428
2007 Average .....	20,672	2,628	3,729	637	3,076	2,270	--	9,437	1,498	5,064	41,775	72,985
2008 Average .....	21,913	2,579	3,790	581	2,792	2,182	--	9,357	1,391	4,950	41,187	73,670
<b>2009</b> January .....	19,989	2,592	3,755	553	2,685	2,195	--	9,343	1,425	5,154	R 41,250	R 71,563
February .....	20,076	2,684	3,733	550	2,663	2,260	--	9,331	1,449	5,260	R 41,796	R 72,085
March .....	20,114	2,579	3,726	547	2,652	2,238	--	9,388	1,451	5,227	R 41,655	R 71,878
April .....	20,179	2,459	3,795	547	2,642	2,072	--	9,459	1,468	5,273	R 41,663	R 72,007
May .....	20,249	2,436	3,775	544	2,609	1,890	--	9,429	1,390	5,379	R 41,204	R 71,603
June .....	20,511	2,559	3,824	541	2,519	1,850	--	9,457	1,359	5,281	R 41,302	R 71,815
July .....	20,771	2,667	3,801	538	2,561	2,147	--	9,476	1,342	5,402	R 41,871	R 72,648
August .....	20,711	2,575	3,844	535	2,542	1,970	--	9,532	993	5,418	R 41,271	R 72,183
September .....	20,616	2,528	3,826	532	2,599	1,923	--	9,623	1,119	5,547	R 41,739	R 72,601
October .....	20,577	2,594	3,828	529	2,602	2,077	--	9,629	1,266	5,501	R 42,137	R 73,050
November .....	20,542	2,725	3,813	526	2,553	2,123	--	9,654	1,372	5,427	R 42,243	R 73,103
December .....	20,464	2,564	3,863	523	2,593	2,073	--	9,614	1,310	5,451	R 42,084	R 72,838
<b>Average .....</b>	<b>20,402</b>	<b>2,579</b>	<b>3,799</b>	<b>539</b>	<b>2,601</b>	<b>2,067</b>	<b>--</b>	<b>9,495</b>	<b>1,328</b>	<b>5,361</b>	<b>R 41,683</b>	<b>R 72,282</b>
<b>2010</b> January .....	20,471	2,497	3,968	523	2,615	2,060	--	9,615	1,379	E 5,433	R 42,155	R 73,044
February .....	20,750	2,712	3,938	523	2,610	2,038	--	9,648	1,274	E 5,465	R 42,459	R 73,644
March .....	20,781	2,621	3,981	523	2,595	1,983	--	9,683	1,429	E 5,502	R 42,589	R 73,782
April .....	21,007	2,695	3,961	523	2,593	1,967	--	9,646	1,378	E 5,496	R 42,506	R 73,877
May .....	21,025	2,745	4,040	523	2,593	1,921	--	9,691	1,297	E 5,468	R 42,497	R 73,824
June .....	21,604	2,772	4,108	523	2,546	1,611	--	9,727	1,076	E 5,465	R 42,010	R 73,978
July .....	21,634	2,765	4,056	522	2,573	1,864	--	9,710	1,055	E 5,406	R 42,216	R 74,205
August .....	21,669	2,783	4,104	522	2,559	1,648	--	9,623	1,070	E 5,506	R 42,095	R 74,132
September .....	21,755	2,648	4,183	522	2,570	1,637	--	9,725	1,194	E 5,567	R 42,242	R 74,310
October .....	21,284	2,690	4,181	522	2,571	1,952	--	9,816	1,195	E 5,616	R 42,645	R 74,280
November .....	21,510	2,942	4,263	525	2,512	1,868	--	9,484	1,248	E 5,595	R 42,758	R 74,659
December .....	21,568	2,933	4,126	525	2,574	1,886	--	9,719	1,207	E 5,624	R 42,901	R 74,831
<b>Average .....</b>	<b>21,257</b>	<b>2,734</b>	<b>4,076</b>	<b>523</b>	<b>2,576</b>	<b>1,869</b>	<b>--</b>	<b>9,674</b>	<b>1,233</b>	<b>E 5,512</b>	<b>R 42,423</b>	<b>R 74,049</b>
<b>2011</b> January .....	R 22,021	2,850	4,195	522	2,584	1,905	--	9,769	R 1,316	E 5,483	R 42,909	R 75,393
February .....	21,930	2,791	4,147	521	2,556	1,861	--	9,773	1,085	E 5,612	R 42,539	R 74,604
<b>2-Month Average .....</b>	<b>21,978</b>	<b>2,822</b>	<b>4,172</b>	<b>522</b>	<b>2,571</b>	<b>1,884</b>	<b>--</b>	<b>9,771</b>	<b>1,206</b>	<b>E 5,544</b>	<b>42,734</b>	<b>75,019</b>
<b>2010 2-Month Average .....</b>	<b>20,603</b>	<b>2,599</b>	<b>3,954</b>	<b>523</b>	<b>2,613</b>	<b>2,050</b>	<b>--</b>	<b>9,631</b>	<b>1,329</b>	<b>E 5,448</b>	<b>42,300</b>	<b>73,329</b>
<b>2009 2-Month Average .....</b>	<b>20,030</b>	<b>2,635</b>	<b>3,745</b>	<b>552</b>	<b>2,675</b>	<b>2,226</b>	<b>--</b>	<b>9,337</b>	<b>1,436</b>	<b>E 5,204</b>	<b>41,509</b>	<b>71,810</b>

<sup>a</sup> See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary. On Tables 11.1a and 11.1b, countries are classified as "OPEC" or "Non-OPEC" in all years based on their status in the most current year. For example, Ecuador rejoined OPEC in 2007, and is thus included in "Total OPEC" for all years; and Indonesia left OPEC at the end of 2008, and is thus included in "Total Non-OPEC" for all years.

<sup>b</sup> Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and the Neutral Zone (between Kuwait and Saudi Arabia).

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

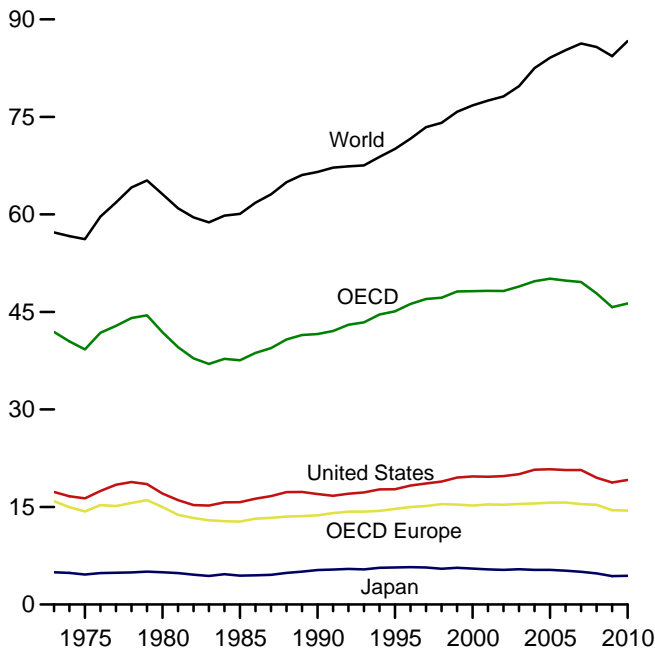
Notes: • Data are for crude oil and lease condensate; they exclude natural gas plant liquids. • Monthly data are often preliminary figures and may not average to the annual totals because of rounding or because updates to the preliminary monthly data are not available. • Data for countries may not sum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

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#international> for all available data beginning in 1973.

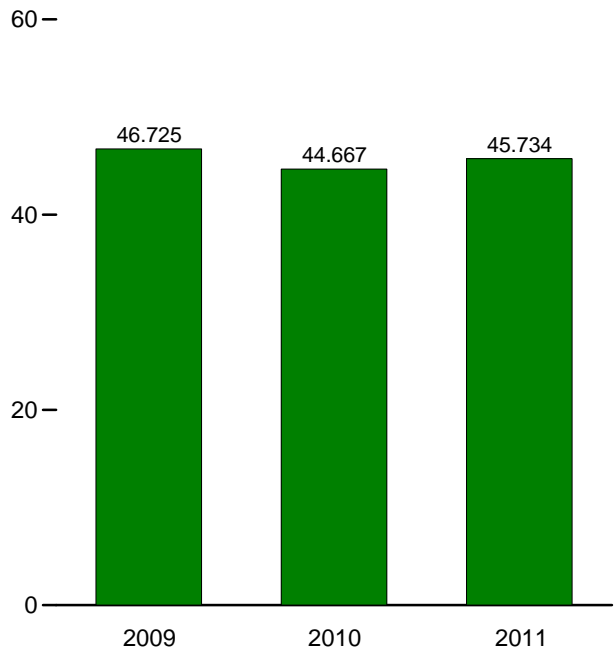
Sources: See end of section.

**Figure 11.2 Petroleum Consumption in OECD Countries**  
(Million Barrels per Day)

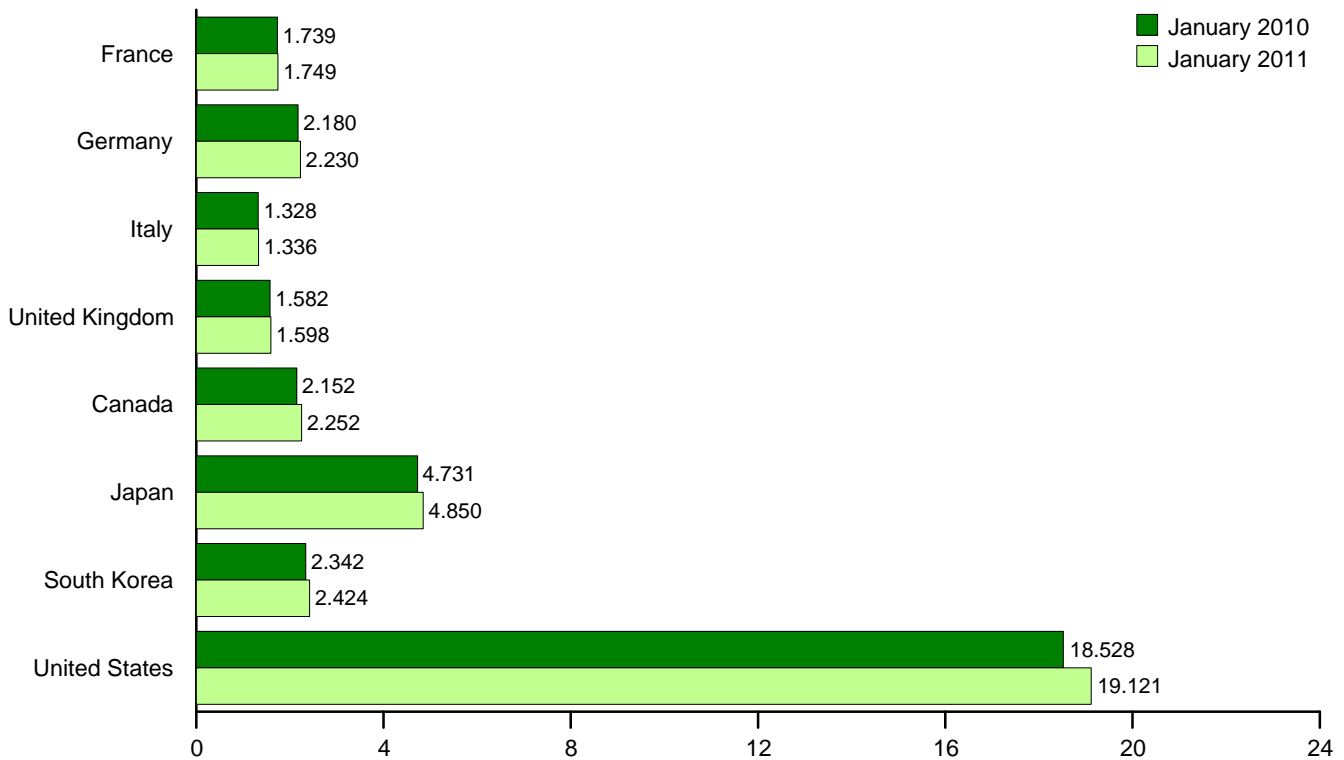
Overview, 1973-2010



OECD Total, January



By Selected OECD Country



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

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#international>.  
Source: Table 11.2.

**Table 11.2 Petroleum Consumption in OECD Countries**  
(Thousand Barrels per Day)

	France	Germany <sup>a</sup>	Italy	United Kingdom	OECD Europe <sup>b</sup>	Canada	Japan	South Korea	United States	Other OECD <sup>c</sup>	OECD <sup>d</sup>	World
<b>1973 Average</b>	2,601	3,324	2,068	2,341	15,879	1,729	4,949	281	17,308	1,768	41,913	57,237
<b>1975 Average</b>	2,252	2,957	1,855	1,911	14,314	1,779	4,621	311	16,322	1,885	39,232	56,198
<b>1980 Average</b>	2,256	3,082	1,934	1,725	14,995	1,873	4,960	537	17,056	2,449	41,870	63,113
<b>1985 Average</b>	1,753	2,651	1,705	1,617	12,770	1,526	4,436	552	15,726	2,564	37,575	60,083
<b>1990 Average</b>	1,826	2,682	1,868	1,776	13,729	1,737	5,315	1,048	16,988	2,784	41,601	66,533
<b>1995 Average</b>	1,920	2,882	1,942	1,816	14,714	1,817	5,693	2,008	17,725	3,135	45,092	70,067
<b>1996 Average</b>	1,949	2,922	1,920	1,852	14,998	1,871	5,739	2,101	18,309	3,206	46,224	71,665
<b>1997 Average</b>	1,969	2,917	1,934	1,810	15,140	1,959	5,702	2,255	18,620	3,322	46,999	73,436
<b>1998 Average</b>	2,043	2,923	1,943	1,792	15,447	1,949	5,507	1,917	18,917	3,443	47,180	74,079
<b>1999 Average</b>	2,031	2,838	1,891	1,811	15,364	2,036	5,642	2,084	19,519	3,512	48,157	75,791
<b>2000 Average</b>	2,000	2,772	1,854	1,765	15,219	2,035	5,515	2,135	19,701	3,591	48,197	76,772
<b>2001 Average</b>	2,054	2,815	1,832	1,747	15,393	2,066	5,412	2,132	19,649	3,605	48,257	77,512
<b>2002 Average</b>	1,985	2,722	1,870	1,739	15,342	2,087	5,319	2,149	19,761	3,558	48,217	78,160
<b>2003 Average</b>	2,001	2,679	1,860	1,759	15,461	2,217	5,429	2,175	20,034	3,598	48,913	79,722
<b>2004 Average</b>	2,009	2,665	1,794	1,785	15,531	2,310	5,319	2,155	20,731	3,687	49,733	82,511
<b>2005 Average</b>	1,991	2,647	1,755	1,823	15,667	2,341	5,328	2,191	20,802	3,800	50,129	84,105
<b>2006 Average</b>	1,991	2,692	1,743	1,804	15,684	2,253	5,198	2,180	20,687	3,816	49,818	85,255
<b>2007 Average</b>	1,979	2,468	1,688	1,738	15,453	2,307	5,037	2,241	20,680	3,874	49,593	86,288
<b>2008 Average</b>	1,945	R 2,550	1,633	1,729	R 15,336	2,242	4,788	2,142	19,498	3,846	R 47,853	R 85,754
<b>2009 January</b>	1,990	R 2,419	1,491	1,744	R 14,730	2,231	4,850	2,297	19,040	3,578	R 46,725	NA
February	1,998	R 2,648	1,568	1,698	R 15,103	2,220	4,721	2,455	18,828	3,729	R 47,050	NA
March	1,920	R 2,789	1,506	1,739	R 14,987	2,154	4,615	2,187	18,719	3,700	R 46,361	NA
April	1,799	R 2,509	1,510	1,708	R 14,485	2,049	4,231	2,209	18,672	3,657	R 45,302	NA
May	1,669	R 2,339	1,465	1,614	R 13,812	2,053	3,823	2,128	18,211	3,677	R 43,703	NA
June	1,817	R 2,376	1,525	1,692	R 14,564	2,142	4,068	2,077	18,828	3,788	R 45,466	NA
July	1,839	R 2,415	1,676	1,660	R 14,693	2,170	4,000	2,005	18,626	3,813	R 45,307	NA
August	1,577	R 2,267	1,400	1,656	R 13,755	2,157	4,176	2,066	18,949	3,773	R 44,876	NA
September	1,884	R 2,554	1,580	1,674	R 14,980	2,138	4,146	2,034	18,594	3,715	R 45,607	NA
October	1,845	R 2,510	1,583	1,654	R 14,766	2,103	4,302	2,188	18,803	3,827	R 45,990	NA
November	1,714	R 2,357	1,484	1,637	R 14,132	2,151	4,400	2,227	18,753	3,854	R 45,517	NA
December	1,894	R 2,303	1,547	1,532	R 14,167	2,242	5,089	2,367	19,237	3,981	R 47,083	NA
<b>Average</b>	<b>1,828</b>	<b>R 2,456</b>	<b>1,528</b>	<b>1,667</b>	<b>R 14,509</b>	<b>2,151</b>	<b>4,367</b>	<b>2,185</b>	<b>18,771</b>	<b>3,758</b>	<b>R 45,741</b>	<b>R 84,358</b>
<b>2010 January</b>	1,739	R 2,180	1,328	1,582	R 13,355	2,152	4,731	2,342	18,528	3,560	R 44,667	NA
February	1,936	R 2,475	1,491	1,683	R 14,551	2,276	4,950	2,362	18,860	3,900	R 46,899	NA
March	1,896	R 2,524	1,523	1,678	R 14,672	2,163	4,690	2,234	19,070	3,802	R 46,631	NA
April	1,827	R 2,280	1,478	1,642	R 14,093	2,160	4,324	2,229	18,910	3,854	R 45,570	NA
May	1,676	R 2,373	1,411	1,611	R 13,755	2,190	3,838	2,150	18,827	3,814	R 44,575	NA
June	1,818	R 2,529	1,536	1,594	R 14,525	2,329	3,964	2,157	19,314	3,918	R 46,207	NA
July	1,811	R 2,590	1,618	1,627	R 14,788	2,197	4,167	2,092	19,278	3,835	R 46,356	NA
August	1,724	R 2,566	1,466	1,639	R 14,365	2,301	4,385	2,201	19,692	3,679	R 46,624	NA
September	1,927	R 2,767	1,583	1,636	R 15,241	2,277	4,438	2,172	19,507	3,765	R 47,400	NA
October	1,735	R 2,641	1,492	1,663	R 14,765	R 2,224	4,032	2,206	18,939	3,727	R 45,894	NA
November	1,770	R 2,604	1,525	1,643	R 14,843	R 2,243	4,592	2,371	19,074	3,900	R 47,022	NA
December	1,922	R 2,343	1,590	1,522	R 14,479	R 2,275	4,997	2,476	19,758	3,930	R 47,915	NA
<b>Average</b>	<b>1,814</b>	<b>R 2,489</b>	<b>1,503</b>	<b>1,626</b>	<b>R 14,449</b>	<b>R 2,232</b>	<b>4,422</b>	<b>2,249</b>	<b>19,148</b>	<b>R 3,806</b>	<b>R 46,306</b>	<b>R 86,666</b>
<b>2011 January</b>	1,749	2,230	1,336	1,598	13,531	2,252	4,850	2,424	19,121	3,555	45,734	NA

<sup>a</sup> Data are for unified Germany, i.e., the former East Germany and West Germany.

<sup>b</sup> "OECD Europe" consists of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

<sup>c</sup> "Other OECD" consists of Australia, Chile, Mexico, New Zealand, and the U.S. Territories.

<sup>d</sup> The Organization for Economic Cooperation and Development (OECD) consists of "OECD Europe," Canada, Japan, South Korea, the United States, and "Other OECD."

R=Revised. NA=Not available.

Notes: • Totals may not equal sum of components due to independent

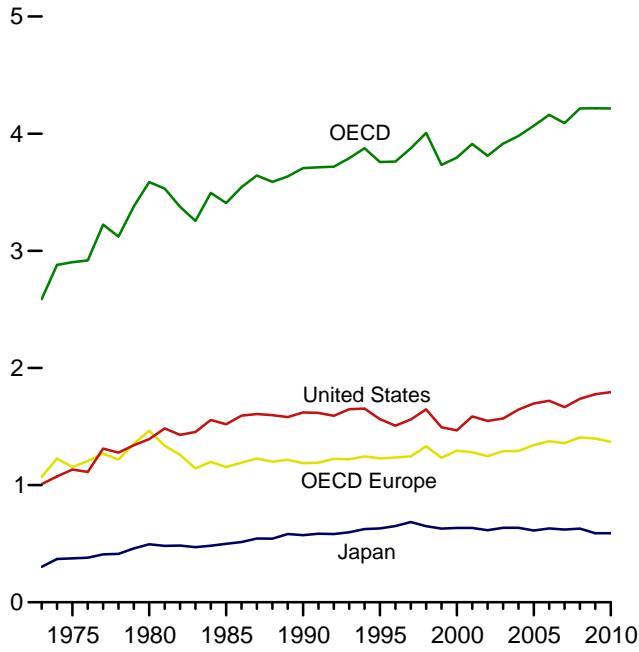
rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#international> for all available data beginning in 1973.

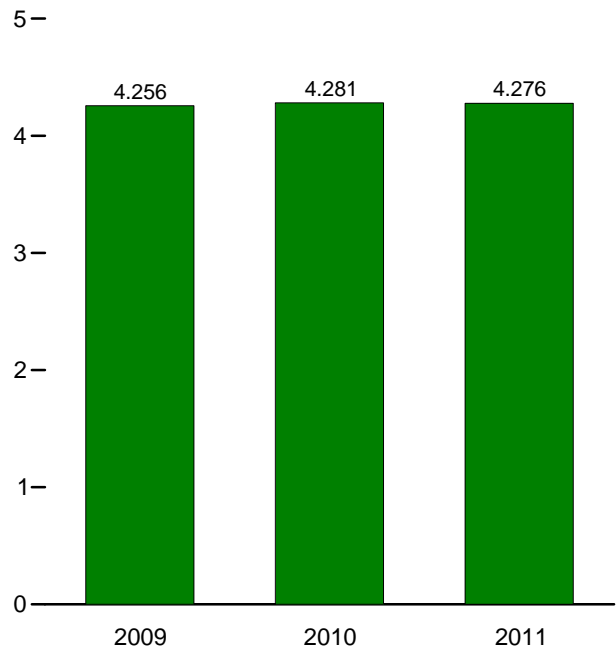
Sources: • **United States:** Table 3.1. • **Chile, East Germany, Former Czechoslovakia, Hungary, Mexico, Poland, South Korea, Non-OECD Countries, U.S. Territories, and World: 1973-1979**—U.S. Energy Information Administration (EIA), International Energy Database. • **Countries Other Than United States: 1980-2008**—EIA, International Energy Statistics (IES). • **OECD Countries, and U.S. Territories: 2009 forward**—EIA, IES. • **World: 2009**—EIA, *Short Term Energy Outlook*, May 10, 2011, Table 3a. • **All Other Data:**—International Energy Agency (IEA), *Quarterly Oil Statistics and Energy Balances in OECD Countries*, various issues.

**Figure 11.3 Petroleum Stocks in OECD Countries**  
(Billion Barrels)

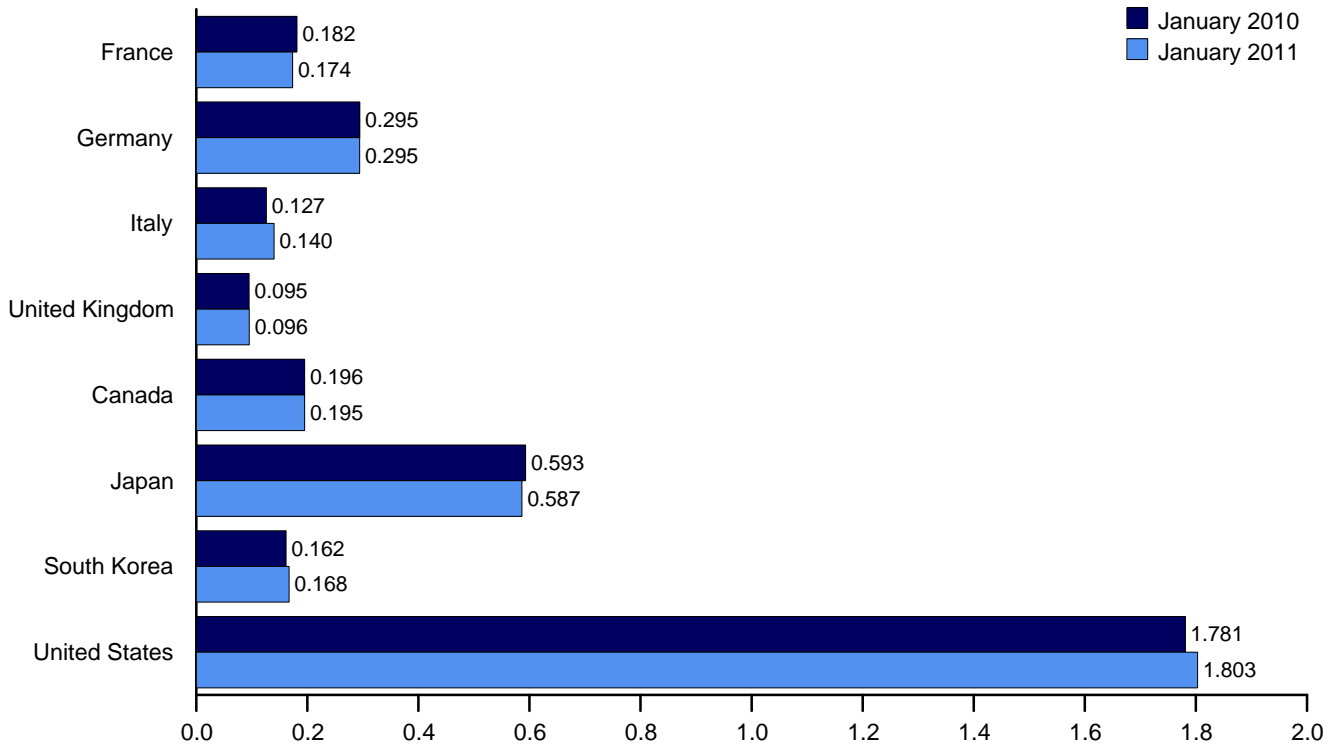
Overview, End of Year, 1973-2010



OECD Stocks, End of Month, January



By Selected OECD Country, End of Month



Note: OECD is the Organization for Economic Cooperation and Development.  
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#international>.  
Source: Table 11.3.

**Table 11.3 Petroleum Stocks in OECD Countries**  
(Million Barrels)

	France	Germany <sup>a</sup>	Italy	United Kingdom	OECD Europe <sup>b</sup>	Canada	Japan	South Korea	United States	Other OECD <sup>c</sup>	OECD <sup>d</sup>
1973 Year .....	201	181	152	156	1,070	140	303	NA	1,008	67	2,588
1975 Year .....	225	187	143	165	1,154	174	375	NA	1,133	67	2,903
1980 Year .....	243	319	170	168	1,464	164	495	NA	1,392	72	3,587
1985 Year .....	139	277	156	131	1,154	112	500	13	1,519	110	3,408
1990 Year .....	143	280	143	103	1,188	143	572	64	1,621	117	3,706
1995 Year .....	155	302	141	101	1,228	132	631	92	1,563	113	3,758
1996 Year .....	154	303	135	103	1,235	127	651	123	1,507	118	3,762
1997 Year .....	161	299	129	100	1,246	144	685	124	1,560	115	3,875
1998 Year .....	169	323	135	104	1,331	139	649	129	1,647	111	4,006
1999 Year .....	160	290	130	101	1,233	142	629	132	1,493	105	3,733
2000 Year .....	170	272	140	100	1,294	144	634	140	1,468	117	3,796
2001 Year .....	165	273	134	113	1,281	156	634	143	1,586	112	3,912
2002 Year .....	170	253	138	104	1,247	157	615	140	1,548	103	3,811
2003 Year .....	179	273	135	100	1,290	170	636	155	1,568	96	3,914
2004 Year .....	177	267	136	101	1,292	160	635	149	1,645	99	3,980
2005 Year .....	185	283	132	95	1,342	178	612	135	1,698	103	4,068
2006 Year .....	182	283	133	103	1,374	181	631	152	1,720	103	4,161
2007 Year .....	180	275	133	90	1,358	194	621	143	1,665	108	4,090
2008 Year .....	179	<sup>R</sup> 279	128	99	<sup>R</sup> 1,407	194	630	135	1,737	114	<sup>R</sup> 4,216
<b>2009</b> January .....	179	<sup>R</sup> 282	136	100	<sup>R</sup> 1,413	196	618	149	1,766	115	<sup>R</sup> 4,256
February .....	178	<sup>R</sup> 281	128	98	<sup>R</sup> 1,412	196	619	157	1,777	107	<sup>R</sup> 4,268
March .....	178	<sup>R</sup> 280	131	100	<sup>R</sup> 1,415	198	611	155	1,803	109	<sup>R</sup> 4,291
April .....	173	<sup>R</sup> 281	132	98	<sup>R</sup> 1,405	199	606	152	1,816	114	<sup>R</sup> 4,292
May .....	176	<sup>R</sup> 286	133	92	<sup>R</sup> 1,403	198	609	149	1,831	112	<sup>R</sup> 4,301
June .....	173	<sup>R</sup> 285	129	92	<sup>R</sup> 1,403	198	611	149	1,844	110	<sup>R</sup> 4,316
July .....	174	<sup>R</sup> 283	127	97	<sup>R</sup> 1,398	202	607	157	1,850	108	<sup>R</sup> 4,321
August .....	178	<sup>R</sup> 287	130	96	<sup>R</sup> 1,415	201	610	160	1,834	111	<sup>R</sup> 4,331
September .....	174	<sup>R</sup> 280	129	94	<sup>R</sup> 1,400	195	607	167	1,848	117	<sup>R</sup> 4,334
October .....	173	<sup>R</sup> 281	130	96	<sup>R</sup> 1,382	198	604	167	1,825	109	<sup>R</sup> 4,285
November .....	179	286	130	96	1,408	198	606	162	1,814	109	4,296
<b>December</b> .....	<b>175</b>	<b>284</b>	<b>126</b>	<b>94</b>	<b>1,398</b>	<b>193</b>	<b>589</b>	<b>155</b>	<b>1,776</b>	<b>105</b>	<b>4,216</b>
<b>2010</b> January .....	182	<sup>R</sup> 295	127	95	<sup>R</sup> 1,437	196	593	162	1,781	111	<sup>R</sup> 4,281
February .....	175	290	134	99	1,422	193	587	163	1,779	117	4,261
March .....	172	<sup>R</sup> 289	129	93	<sup>R</sup> 1,403	195	581	164	1,779	114	<sup>R</sup> 4,236
April .....	172	<sup>R</sup> 284	135	95	1,414	197	590	166	1,804	111	4,283
May .....	173	286	131	99	1,421	198	599	166	1,823	108	4,315
June .....	170	<sup>R</sup> 280	133	96	<sup>R</sup> 1,403	197	597	167	1,839	120	<sup>R</sup> 4,323
July .....	168	<sup>R</sup> 282	127	<sup>R</sup> 96	<sup>R</sup> 1,389	194	598	170	1,853	116	<sup>R</sup> 4,319
August .....	171	<sup>R</sup> 289	133	93	<sup>R</sup> 1,405	198	597	169	1,857	115	<sup>R</sup> 4,341
September .....	163	<sup>R</sup> 286	127	<sup>R</sup> 95	<sup>R</sup> 1,365	195	582	174	1,857	112	<sup>R</sup> 4,284
October .....	161	<sup>R</sup> 285	129	94	<sup>R</sup> 1,374	197	599	170	1,846	113	<sup>R</sup> 4,298
November .....	170	<sup>R</sup> 287	126	92	1,366	<sup>R</sup> 196	604	171	1,826	108	<sup>R</sup> 4,271
<b>December</b> .....	<b>168</b>	<b>287</b>	<b>133</b>	<b>89</b>	<b>1,370</b>	<sup>R</sup> <b>191</b>	<b>590</b>	<b>165</b>	<b>1,794</b>	<sup>R</sup> <b>105</b>	<sup>R</sup> <b>4,215</b>
<b>2011</b> January .....	174	295	140	96	1,418	195	587	168	1,803	105	4,276

<sup>a</sup> Through December 1983, the data for Germany are for the former West Germany only. Beginning with January 1984, the data for Germany are for the unified Germany, i.e., the former East Germany and West Germany.

<sup>b</sup> "OECD Europe" consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom, and, for 1984 forward, Czech Republic, Hungary, Poland, and Slovakia.

<sup>c</sup> "Other OECD" consists of Australia, New Zealand, and the U.S. Territories, and, for 1984 forward, Mexico.

<sup>d</sup> The Organization for Economic Cooperation and Development (OECD) consists of "OECD Europe," Canada, Japan, South Korea, the United States, and "Other OECD."

R=Revised. NA=Not available.

Notes: • Stocks are at end of period. • Petroleum stocks include crude oil (including strategic reserves), unfinished oils, natural gas plant liquids, and refined

products. • 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. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 States and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#international> for all available data beginning in 1973.

Sources: • **United States:** Table 3.4. • **U.S. Territories: 1983 forward**—U.S. Energy Information Administration, International Energy Database. • **All Other Data: 1973-1982**—International Energy Agency (IEA), *Quarterly Oil Statistics and Energy Balances*, various issues. **1983**—IEA, Monthly Oil and Gas Statistics Database. **1984 forward**—IEA, Monthly Oil Data Service, Apr. 12, 2011.

# International Petroleum

## Tables 11.1a and 11.1b Sources

### United States

Table 3.1.

### All Other Countries and World, Annual Data

1973–1979: U.S. Energy Information Administration (EIA), *International Energy Annual 1981*, Table 8.

1980 forward: EIA, International Energy Database, May 2011.

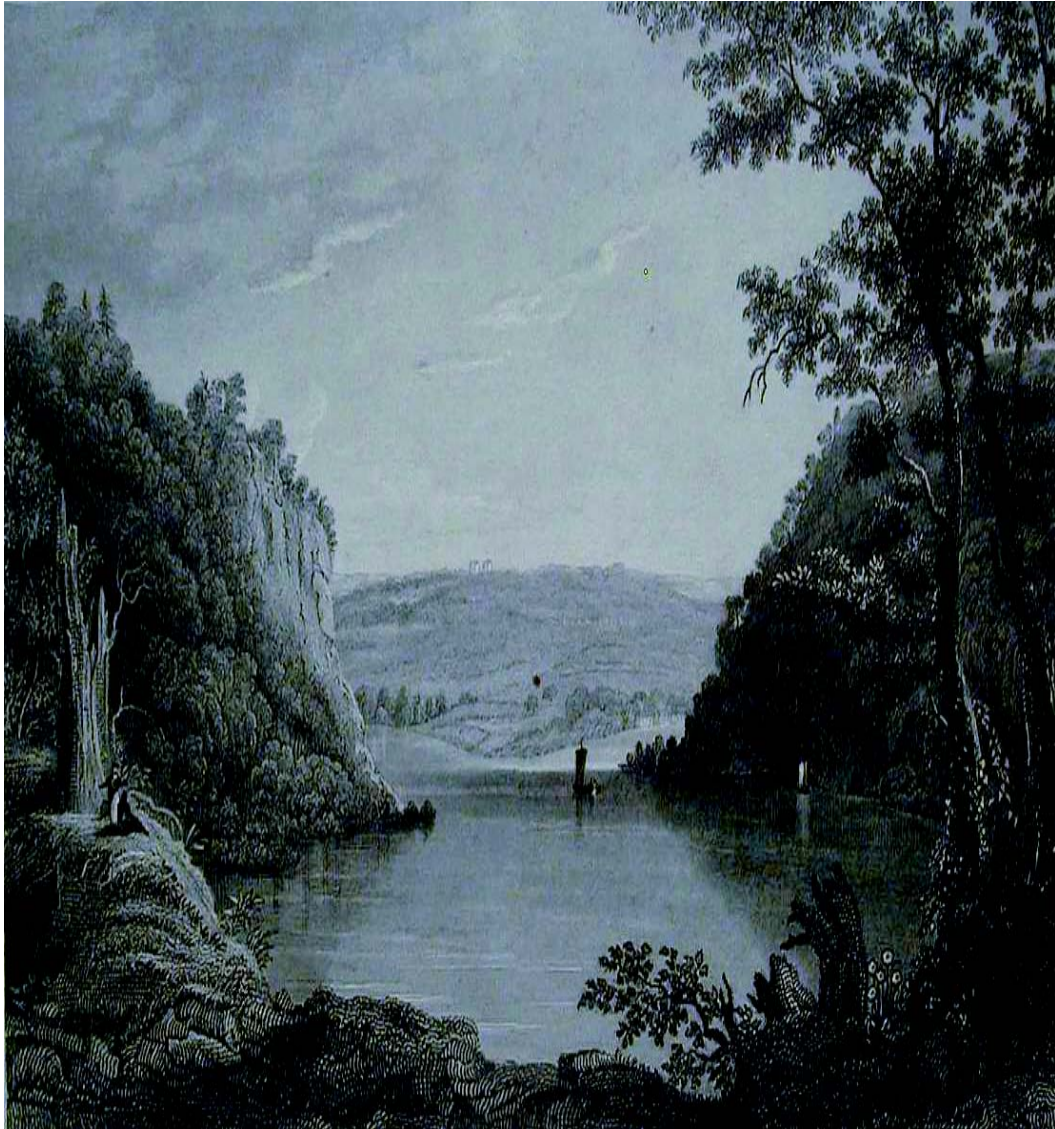
### All Other Countries and World, Monthly Data

1973–1980: *Petroleum Intelligence Weekly (PIW)*, *Oil & Gas Journal (OGJ)*, and EIA adjustments.

1981–1993: *PIW*, *OGJ*, and other industry sources.

1994 forward: EIA, *International Petroleum Monthly*, and International Energy Database, May 2011.

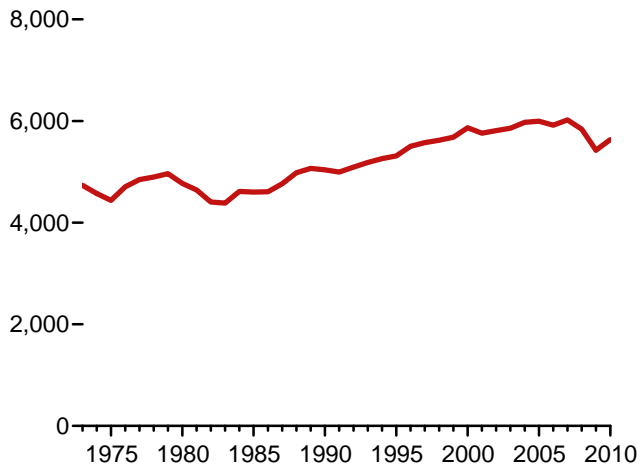




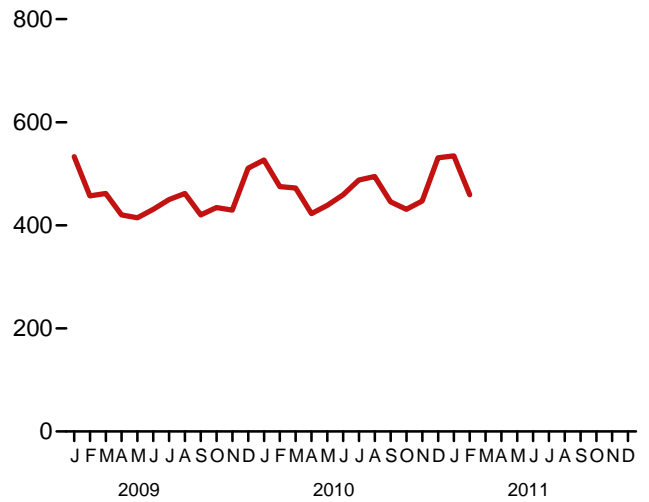
“Harpers Ferry, Junction of the Rivers Shenandoah and Potomac.” Engraving by W. Goodacre and James Archer, published in *The History and Topography of the United States of North America*, by John Howard Hinton, 1852. From the collection of the National Park Service, Harpers Ferry National Historical Park, Accession #1297.

**Figure 12.1 Carbon Dioxide Emissions From Energy Consumption by Source**  
(Million Metric Tons of Carbon Dioxide)

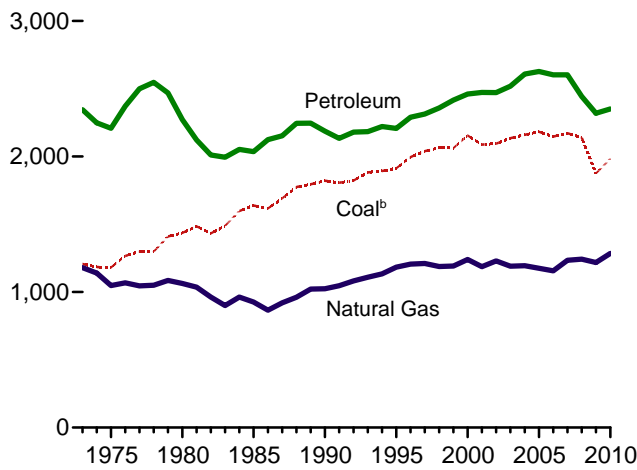
Total,<sup>a</sup> 1973-2010



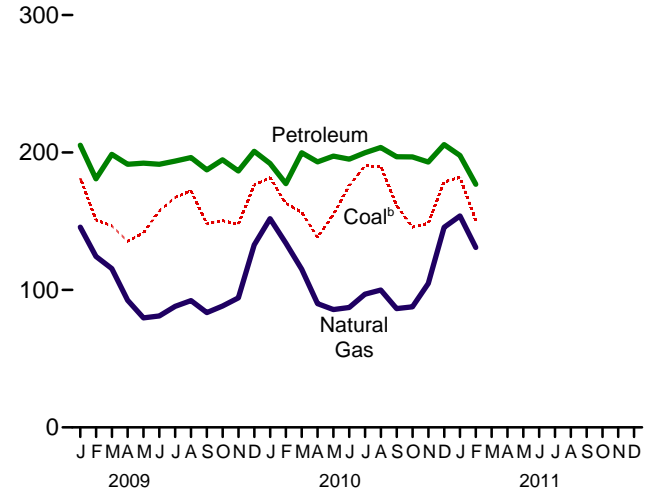
Total,<sup>a</sup> Monthly



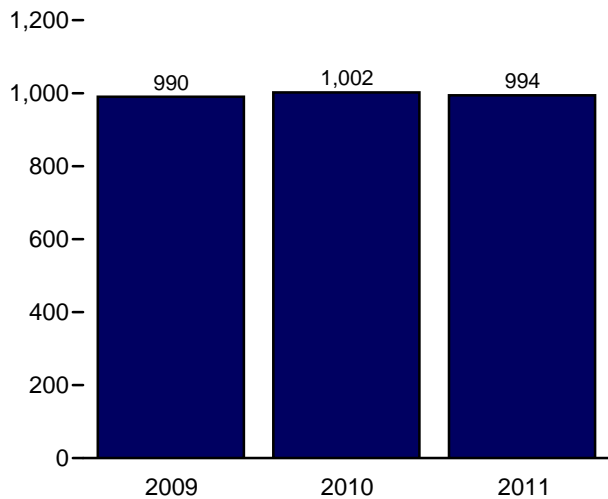
By Major Source, 1973-2010



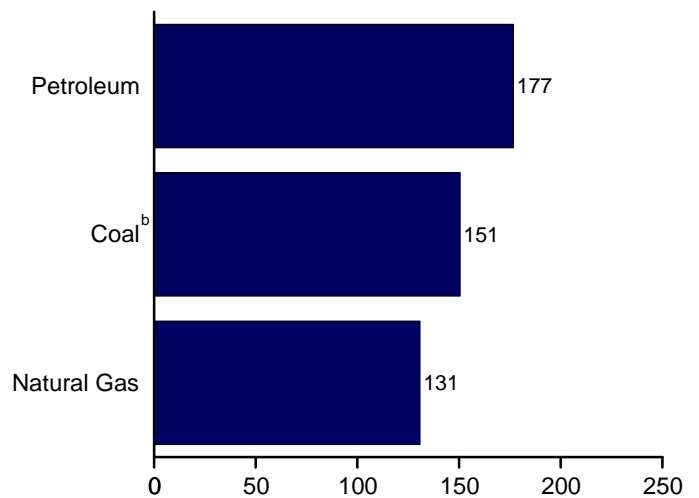
By Major Source, Monthly



Total,<sup>a</sup> January-February



By Major Source, February 2011



<sup>a</sup>Excludes emissions from biomass energy consumption.  
<sup>b</sup>Includes coal coke net imports.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#environment>.  
Source: Table 12.1.

**Table 12.1 Carbon Dioxide Emissions From Energy Consumption by Source**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

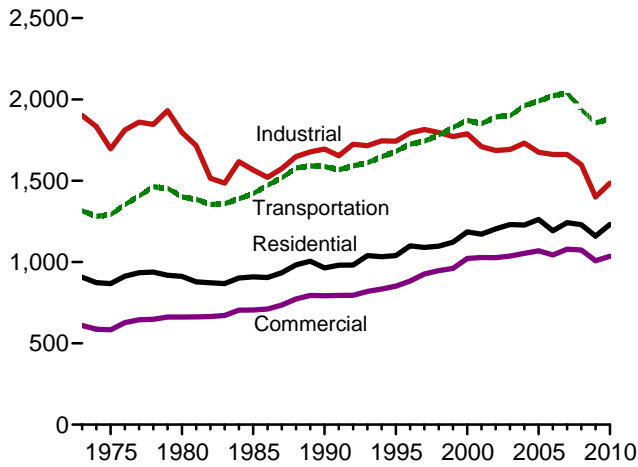
	Coal <sup>b</sup>	Natural Gas <sup>c</sup>	Petroleum										Total <sup>h,i</sup>	
			Aviation Gasoline	Distillate Fuel Oil <sup>d</sup>	Jet Fuel	Kero-sene	LPG <sup>e</sup>	Lubri-cants	Motor Gasoline <sup>f</sup>	Petroleum Coke	Residual Fuel Oil	Other <sup>g</sup>		
<b>1973 Total</b> .....	1,207	1,181	6	480	155	32	91	13	911	51	508	100	2,346	4,733
<b>1975 Total</b> .....	1,181	1,047	5	443	146	24	82	11	911	48	443	97	2,209	4,437
<b>1980 Total</b> .....	1,436	1,063	4	446	156	24	87	13	900	46	453	142	2,272	4,770
<b>1985 Total</b> .....	1,638	926	3	445	178	17	86	12	930	55	216	93	2,035	4,600
<b>1990 Total</b> .....	1,821	1,025	3	470	223	6	69	13	988	67	220	127	2,187	5,039
<b>1995 Total</b> .....	1,913	1,184	3	498	222	8	78	13	1,044	75	152	114	2,207	5,314
<b>1996 Total</b> .....	1,995	1,205	3	524	232	9	84	12	1,063	78	152	132	2,290	5,501
<b>1997 Total</b> .....	2,040	1,211	3	534	234	10	85	13	1,075	79	142	138	2,313	5,575
<b>1998 Total</b> .....	2,064	1,189	2	538	238	12	75	14	1,107	89	158	125	2,358	5,622
<b>1999 Total</b> .....	2,062	1,192	3	555	245	11	91	14	1,127	93	148	130	2,417	5,682
<b>2000 Total</b> .....	2,155	1,241	3	580	254	10	102	14	1,135	84	163	117	2,461	5,867
<b>2001 Total</b> .....	2,088	1,187	2	598	243	11	92	13	1,151	88	145	132	2,473	5,759
<b>2002 Total</b> .....	2,098	1,229	2	587	237	6	98	12	1,183	94	125	127	2,472	5,809
<b>2003 Total</b> .....	2,136	1,191	2	610	231	8	95	11	1,188	94	138	140	2,518	5,857
<b>2004 Total</b> .....	2,160	1,194	2	632	240	10	98	12	1,214	105	155	142	2,609	5,975
<b>2005 Total</b> .....	2,182	1,175	2	640	246	10	94	12	1,214	105	164	141	2,628	5,996
<b>2006 Total</b> .....	2,147	1,157	2	648	240	8	93	11	1,224	104	122	150	2,603	5,918
<b>2007 Total</b> .....	2,172	1,235	2	652	238	5	94	12	1,227	98	129	148	2,603	6,022
<b>2008 Total</b> .....	2,139	1,243	2	615	226	2	89	11	1,166	92	111	130	2,444	5,838
<b>2009</b> January .....	181	146	(s)	54	16	1	9	1	95	7	12	11	205	533
February .....	151	124	(s)	46	15	(s)	8	1	88	7	6	10	181	457
March .....	147	116	(s)	49	18	(s)	8	1	98	7	9	9	199	462
April .....	135	92	(s)	44	17	(s)	7	1	96	8	10	8	191	420
May .....	142	80	(s)	45	17	(s)	6	1	99	9	7	9	192	415
June .....	158	81	(s)	45	17	(s)	6	1	97	9	8	8	191	431
July .....	167	88	(s)	45	19	(s)	7	1	101	6	5	10	194	450
August .....	172	92	(s)	45	18	(s)	7	1	101	7	7	9	196	462
September .....	148	84	(s)	45	17	(s)	7	1	94	8	5	10	187	420
October .....	150	88	(s)	48	17	(s)	8	1	98	6	8	9	195	434
November .....	148	94	(s)	46	16	(s)	10	1	94	6	7	8	187	430
December .....	176	133	(s)	51	17	(s)	10	1	97	7	9	9	201	511
<b>Total</b> .....	1,876	1,218	2	564	204	3	91	10	1,157	87	91	111	2,320	5,425
<b>2010</b> January .....	182	152	(s)	48	17	(s)	10	1	92	5	9	9	192	527
February .....	163	134	(s)	46	15	(s)	9	1	85	5	7	9	177	475
March .....	156	115	(s)	51	18	(s)	8	1	95	7	8	11	200	472
April .....	138	90	(s)	47	17	(s)	6	1	95	7	8	11	193	423
May .....	155	86	(s)	48	18	(s)	6	1	100	6	8	10	197	439
June .....	176	87	(s)	48	18	(s)	6	1	97	7	7	10	195	459
July .....	190	97	(s)	47	18	(s)	7	1	101	7	9	10	200	488
August .....	190	100	(s)	50	19	(s)	7	1	101	8	7	11	204	495
September .....	161	86	(s)	50	17	(s)	7	1	96	7	8	10	197	446
October .....	146	88	(s)	50	18	(s)	7	1	98	6	8	9	197	431
November .....	148	105	(s)	49	17	1	7	1	93	7	9	9	193	447
December .....	179	146	(s)	55	17	1	10	1	96	6	9	10	206	531
<b>Total</b> .....	1,985	1,285	2	589	209	3	92	11	1,150	77	98	121	2,351	5,632
<b>2011</b> January .....	182	154	(s)	52	17	(s)	10	1	91	6	9	10	198	535
February .....	151	131	(s)	46	15	1	8	1	84	4	9	9	177	459
<b>2-Month Total</b> .....	333	285	(s)	98	32	1	19	2	175	11	18	19	375	994
<b>2010 2-Month Total</b> .....	345	286	(s)	94	32	1	19	2	177	10	16	18	369	1,002
<b>2009 2-Month Total</b> .....	332	270	(s)	100	32	1	16	1	183	14	18	21	386	990

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.  
<sup>b</sup> Includes coal coke net imports.  
<sup>c</sup> Natural gas, excluding supplemental gaseous fuels.  
<sup>d</sup> Distillate fuel oil, excluding biodiesel.  
<sup>e</sup> Liquefied petroleum gases.  
<sup>f</sup> Finished motor gasoline, excluding fuel ethanol.  
<sup>g</sup> Aviation gasoline blending components, crude oil, motor gasoline blending components, pentanes plus, petrochemical feedstocks, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products.  
<sup>h</sup> Includes electric power sector use of geothermal energy and non-biomass waste. See Table 12.6.  
<sup>i</sup> Excludes emissions from biomass energy consumption. See Table 12.7.

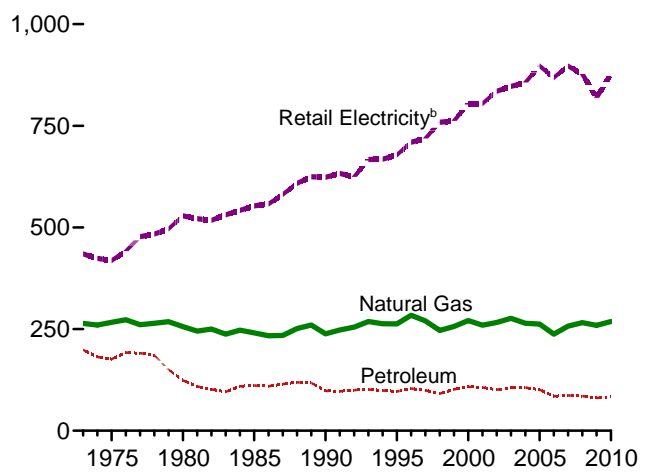
R=Revised. (s)=Less than 0.5 million metric tons.  
Notes: • Data are estimates for carbon dioxide emissions from energy consumption, including the nonfuel use of fossil fuels. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.  
Sources: See end of section.

**Figure 12.2 Carbon Dioxide Emissions From Energy Consumption by Sector**  
(Million Metric Tons of Carbon Dioxide)

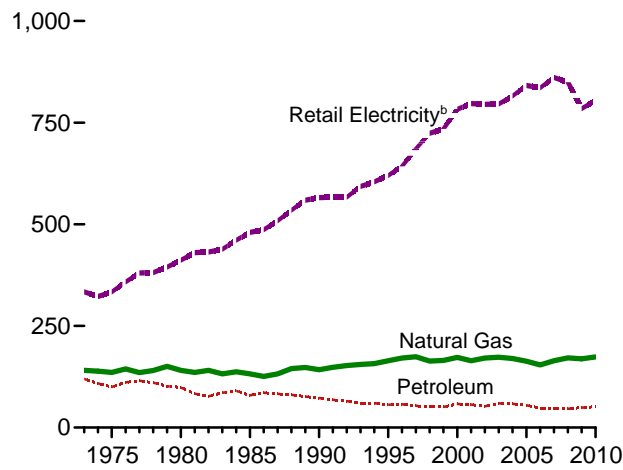
Total<sup>a</sup> by End-Use Sector,<sup>b</sup> 1973-2010



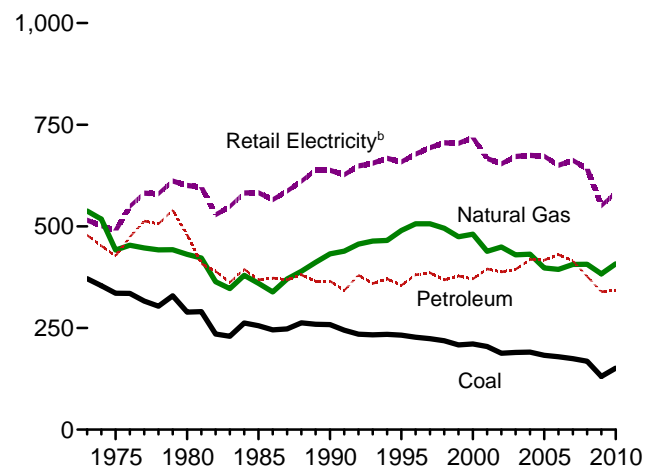
Residential Sector by Major Source, 1973-2010



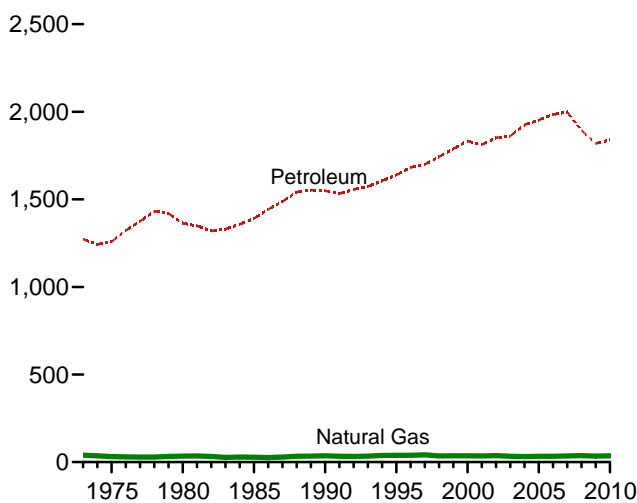
Commercial Sector by Major Source, 1973-2010



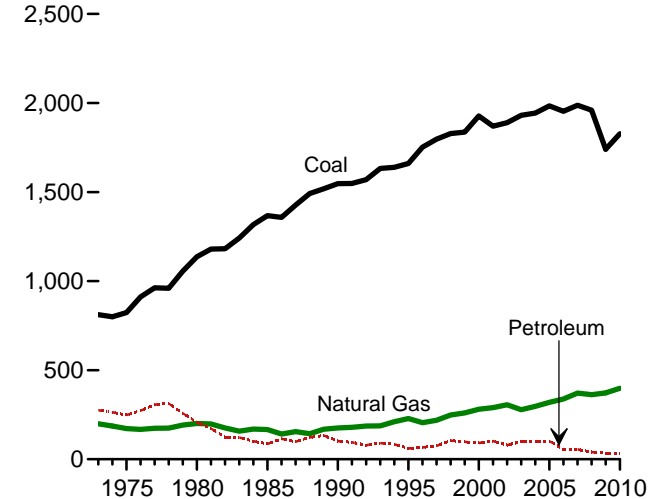
Industrial Sector by Major Source, 1973-2010



Transportation Sector by Major Source, 1973-2010



Electric Power Sector by Major Source, 1973-2010



<sup>a</sup> Excludes emissions from biomass energy consumption.

<sup>b</sup> Emissions from energy consumption in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of

total electricity retail sales.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#environment>.  
Sources: Tables 12.2-12.6.

**Table 12.2 Carbon Dioxide Emissions From Energy Consumption: Residential Sector**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

	Coal	Natural Gas <sup>b</sup>	Petroleum				Retail Electricity <sup>e</sup>	Total <sup>f</sup>
			Distillate Fuel Oil <sup>c</sup>	Kerosene	LPG <sup>d</sup>	Total		
<b>1973 Total</b> .....	9	264	147	16	36	199	435	907
<b>1975 Total</b> .....	6	266	132	12	32	176	419	867
<b>1980 Total</b> .....	3	256	96	8	20	124	529	911
<b>1985 Total</b> .....	4	241	80	11	20	111	553	909
<b>1990 Total</b> .....	3	238	72	5	22	98	624	963
<b>1995 Total</b> .....	2	263	66	5	25	96	678	1,039
<b>1996 Total</b> .....	2	284	68	6	30	104	710	1,099
<b>1997 Total</b> .....	2	270	64	7	29	99	719	1,090
<b>1998 Total</b> .....	1	247	56	8	27	91	759	1,097
<b>1999 Total</b> .....	1	257	61	8	33	102	762	1,122
<b>2000 Total</b> .....	1	271	66	7	35	108	805	1,185
<b>2001 Total</b> .....	1	259	66	7	33	106	805	1,172
<b>2002 Total</b> .....	1	266	63	4	34	101	835	1,204
<b>2003 Total</b> .....	1	276	66	5	34	106	847	1,230
<b>2004 Total</b> .....	1	264	68	6	32	106	856	1,228
<b>2005 Total</b> .....	1	262	62	6	32	101	897	1,261
<b>2006 Total</b> .....	1	237	52	5	28	85	869	1,192
<b>2007 Total</b> .....	1	257	53	3	31	87	897	1,242
<b>2008 Total</b> .....	1	266	49	2	35	85	878	1,229
<b>2009</b> January .....	(s)	51	6	(s)	3	9	85	146
February .....	(s)	41	5	(s)	3	8	67	116
March .....	(s)	33	5	(s)	3	8	62	102
April .....	(s)	21	4	(s)	3	6	53	80
May .....	(s)	11	3	(s)	3	5	56	72
June .....	(s)	8	2	(s)	2	5	70	82
July .....	(s)	6	3	(s)	3	5	83	95
August .....	(s)	6	3	(s)	3	6	85	97
September .....	(s)	6	3	(s)	3	6	66	78
October .....	(s)	14	3	(s)	3	6	59	79
November .....	(s)	20	3	(s)	3	7	57	84
December .....	(s)	41	5	(s)	4	9	78	129
<b>Total</b> .....	1	259	44	2	35	81	819	1,159
<b>2010</b> January .....	(s)	53	7	(s)	4	10	91	154
February .....	(s)	45	6	(s)	3	10	74	128
March .....	(s)	33	4	(s)	3	7	65	105
April .....	(s)	18	3	(s)	2	5	51	74
May .....	(s)	11	3	(s)	3	6	59	76
June .....	(s)	7	3	(s)	3	6	80	93
July .....	(s)	6	3	(s)	3	6	97	109
August .....	(s)	6	2	(s)	3	5	97	108
September .....	(s)	7	2	(s)	3	5	72	84
October .....	(s)	11	3	(s)	3	6	56	74
November .....	(s)	25	4	(s)	3	7	56	88
December .....	(s)	47	6	(s)	4	10	82	139
<b>Total</b> .....	1	R 268	46	2	35	84	878	1,231
<b>2011</b> January .....	(s)	53	5	(s)	4	9	88	150
February .....	(s)	42	5	(s)	3	8	68	119
<b>2-Month Total</b> .....	(s)	95	10	1	7	17	157	269
<b>2010 2-Month Total</b> .....	(s)	97	13	(s)	7	20	164	282
<b>2009 2-Month Total</b> .....	(s)	92	11	1	6	17	152	262

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

<sup>b</sup> Natural gas, excluding supplemental gaseous fuels.

<sup>c</sup> Distillate fuel oil, excluding biodiesel.

<sup>d</sup> Liquefied petroleum gases.

<sup>e</sup> Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.

<sup>f</sup> Excludes emissions from biomass energy consumption. See Table 12.7.

R=Revised. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.

Sources: See end of section.

**Table 12.3 Carbon Dioxide Emissions From Energy Consumption: Commercial Sector**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

	Coal	Natural Gas <sup>b</sup>	Petroleum							Retail Electricity <sup>f</sup>	Total <sup>g</sup>
			Distillate Fuel Oil <sup>c</sup>	Kerosene	LPG <sup>d</sup>	Motor Gasoline <sup>e</sup>	Petroleum Coke	Residual Fuel Oil	Total		
<b>1973 Total</b> .....	15	141	47	5	9	6	NA	52	120	334	609
<b>1975 Total</b> .....	14	136	43	4	8	6	NA	39	100	333	583
<b>1980 Total</b> .....	11	141	38	3	6	8	NA	44	98	412	662
<b>1985 Total</b> .....	13	132	46	2	6	7	NA	18	79	480	704
<b>1990 Total</b> .....	12	142	39	1	6	8	0	18	73	566	793
<b>1995 Total</b> .....	11	164	35	2	7	1	(s)	11	56	620	851
<b>1996 Total</b> .....	12	171	35	2	8	2	(s)	11	57	643	883
<b>1997 Total</b> .....	12	174	32	2	8	3	(s)	9	54	686	926
<b>1998 Total</b> .....	9	164	31	2	7	3	(s)	7	51	724	947
<b>1999 Total</b> .....	10	165	32	2	9	2	(s)	6	51	735	960
<b>2000 Total</b> .....	9	173	36	2	9	3	(s)	7	58	783	1,022
<b>2001 Total</b> .....	9	164	37	2	9	3	(s)	6	57	797	1,027
<b>2002 Total</b> .....	9	171	32	1	9	3	(s)	6	52	795	1,027
<b>2003 Total</b> .....	8	173	35	1	10	4	(s)	9	59	796	1,036
<b>2004 Total</b> .....	10	170	34	1	10	3	(s)	10	58	816	1,054
<b>2005 Total</b> .....	9	163	33	2	8	3	(s)	9	55	842	1,069
<b>2006 Total</b> .....	6	154	29	1	8	3	(s)	6	48	836	1,043
<b>2007 Total</b> .....	7	164	28	1	8	4	(s)	6	47	861	1,079
<b>2008 Total</b> .....	7	171	27	(s)	10	3	(s)	6	46	850	1,074
<b>2009</b> January .....	1	28	4	(s)	1	(s)	(s)	1	6	69	103
February .....	1	23	3	(s)	1	(s)	(s)	1	5	58	87
March .....	1	19	3	(s)	1	(s)	(s)	1	5	60	85
April .....	(s)	14	2	(s)	1	(s)	0	(s)	4	58	75
May .....	(s)	9	2	(s)	1	(s)	0	(s)	3	62	75
June .....	(s)	7	2	(s)	1	(s)	0	(s)	3	70	80
July .....	(s)	7	2	(s)	1	(s)	0	(s)	3	73	84
August .....	(s)	7	2	(s)	1	(s)	(s)	(s)	3	76	86
September .....	(s)	7	2	(s)	1	(s)	(s)	(s)	4	66	77
October .....	(s)	11	2	(s)	1	(s)	0	(s)	4	65	80
November .....	1	14	2	(s)	1	(s)	(s)	(s)	4	60	78
December .....	1	23	4	(s)	1	(s)	(s)	1	6	68	98
<b>Total</b> .....	<b>6</b>	<b>169</b>	<b>30</b>	<b>(s)</b>	<b>9</b>	<b>4</b>	<b>(s)</b>	<b>6</b>	<b>49</b>	<b>785</b>	<b>1,008</b>
<b>2010</b> January .....	1	28	4	(s)	1	(s)	(s)	1	7	66	102
February .....	1	25	4	(s)	1	(s)	(s)	1	6	60	92
March .....	1	19	3	(s)	1	(s)	(s)	1	4	59	83
April .....	(s)	12	2	(s)	1	(s)	(s)	(s)	3	58	73
May .....	(s)	9	2	(s)	1	(s)	0	(s)	3	66	79
June .....	(s)	7	2	(s)	1	(s)	0	(s)	4	74	86
July .....	(s)	7	2	(s)	1	(s)	0	(s)	3	80	90
August .....	(s)	7	2	(s)	1	(s)	(s)	(s)	3	81	91
September .....	(s)	7	1	(s)	1	(s)	(s)	(s)	3	69	79
October .....	(s)	10	2	(s)	1	(s)	(s)	(s)	4	63	77
November .....	(s)	16	3	(s)	1	(s)	(s)	1	4	61	82
December .....	1	26	4	(s)	1	(s)	(s)	1	6	68	101
<b>Total</b> .....	<b>5</b>	<b>174</b>	<b>32</b>	<b>(s)</b>	<b>9</b>	<b>4</b>	<b>(s)</b>	<b>7</b>	<b>51</b>	<b>805</b>	<b>1,035</b>
<b>2011</b> January .....	1	28	R 4	(s)	1	(s)	(s)	1	6	65	100
February .....	1	24	3	(s)	1	(s)	(s)	1	5	56	85
<b>2-Month Total</b> .....	<b>1</b>	<b>52</b>	<b>7</b>	<b>(s)</b>	<b>2</b>	<b>1</b>	<b>(s)</b>	<b>1</b>	<b>10</b>	<b>121</b>	<b>185</b>
<b>2010 2-Month Total</b> .....	<b>1</b>	<b>53</b>	<b>9</b>	<b>(s)</b>	<b>2</b>	<b>1</b>	<b>(s)</b>	<b>2</b>	<b>13</b>	<b>126</b>	<b>194</b>
<b>2009 2-Month Total</b> .....	<b>1</b>	<b>51</b>	<b>7</b>	<b>(s)</b>	<b>1</b>	<b>1</b>	<b>(s)</b>	<b>1</b>	<b>11</b>	<b>126</b>	<b>190</b>

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.  
<sup>b</sup> Natural gas, excluding supplemental gaseous fuels.  
<sup>c</sup> Distillate fuel oil, excluding biodiesel.  
<sup>d</sup> Liquefied petroleum gases.  
<sup>e</sup> Finished motor gasoline, excluding fuel ethanol.  
<sup>f</sup> Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.  
<sup>g</sup> Excludes emissions from biomass energy consumption. See Table 12.7.  
R=Revised. NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 12 Methodology and Sources" at end of section.  
• See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.  
Sources: See end of section.

**Table 12.4 Carbon Dioxide Emissions From Energy Consumption: Industrial Sector**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

	Coal	Coal Coke Net Imports	Natural Gas <sup>b</sup>	Petroleum								Retail Elec- tricity <sup>g</sup>	Total <sup>h</sup>	
				Distillate Fuel Oil <sup>c</sup>	Kero- sene	LPG <sup>d</sup>	Lubri- cants	Motor Gasoline <sup>e</sup>	Petroleum Coke	Residual Fuel Oil	Other <sup>f</sup>			Total
<b>1973 Total</b> .....	371	-1	538	106	11	43	7	18	49	144	100	478	515	1,902
<b>1975 Total</b> .....	336	2	442	97	9	39	6	16	48	117	97	427	490	1,696
<b>1980 Total</b> .....	289	-4	431	96	13	61	7	11	45	105	142	480	601	1,797
<b>1985 Total</b> .....	256	-2	360	81	3	58	6	15	54	57	93	369	583	1,566
<b>1990 Total</b> .....	258	1	432	84	1	39	7	13	64	31	127	366	638	1,695
<b>1995 Total</b> .....	233	7	490	82	1	45	7	14	67	24	114	355	659	1,743
<b>1996 Total</b> .....	227	3	506	86	1	46	6	14	70	24	132	381	678	1,795
<b>1997 Total</b> .....	224	5	506	88	1	48	7	15	68	21	138	386	694	1,815
<b>1998 Total</b> .....	219	8	495	88	2	39	7	14	77	16	125	368	706	1,796
<b>1999 Total</b> .....	208	7	474	86	1	48	7	11	81	14	130	378	704	1,772
<b>2000 Total</b> .....	211	7	481	87	1	56	7	11	74	17	117	370	719	1,788
<b>2001 Total</b> .....	204	3	439	95	2	49	6	21	77	14	132	395	667	1,709
<b>2002 Total</b> .....	188	7	449	88	1	54	6	22	76	13	127	388	654	1,686
<b>2003 Total</b> .....	190	6	430	83	2	50	6	23	76	15	140	394	672	1,692
<b>2004 Total</b> .....	191	16	431	88	2	55	6	26	82	17	142	419	675	1,731
<b>2005 Total</b> .....	183	5	398	92	3	51	6	25	80	20	141	417	673	1,675
<b>2006 Total</b> .....	179	7	394	92	2	56	6	26	82	16	150	430	650	1,661
<b>2007 Total</b> .....	175	3	406	92	1	54	6	21	80	13	148	415	662	1,662
<b>2008 Total</b> .....	168	5	407	93	(s)	42	6	17	76	14	130	377	642	1,598
<b>2009</b>														
January .....	12	(s)	36	11	(s)	5	(s)	1	6	1	11	36	47	130
February .....	12	(s)	32	8	(s)	4	(s)	1	6	1	10	30	41	115
March .....	12	(s)	33	8	(s)	4	(s)	1	6	1	9	29	43	117
April .....	10	(s)	31	5	(s)	3	(s)	1	7	1	8	26	42	109
May .....	10	(s)	30	6	(s)	3	(s)	1	7	1	9	27	45	111
June .....	10	(s)	29	6	(s)	3	(s)	1	8	1	8	27	46	111
July .....	10	(s)	30	4	(s)	3	(s)	1	5	(s)	10	25	47	112
August .....	11	(s)	31	4	(s)	3	(s)	1	6	1	9	25	50	117
September .....	11	(s)	30	6	(s)	3	(s)	1	7	(s)	10	28	46	115
October .....	11	(s)	32	7	(s)	4	(s)	1	5	1	9	28	47	119
November .....	11	(s)	33	8	(s)	5	(s)	1	5	1	8	28	46	118
December .....	11	(s)	36	8	(s)	5	(s)	1	6	1	9	31	49	127
<b>Total</b> .....	<b>131</b>	<b>-3</b>	<b>383</b>	<b>80</b>	<b>(s)</b>	<b>46</b>	<b>5</b>	<b>17</b>	<b>73</b>	<b>7</b>	<b>111</b>	<b>339</b>	<b>551</b>	<b>1,401</b>
<b>2010</b>														
January .....	12	(s)	38	6	(s)	5	(s)	1	3	1	9	26	46	121
February .....	12	(s)	35	6	(s)	5	(s)	1	4	1	9	26	44	118
March .....	13	(s)	35	9	(s)	4	(s)	1	6	1	11	33	45	127
April .....	12	(s)	32	7	(s)	3	(s)	1	5	1	11	30	45	119
May .....	12	(s)	33	6	(s)	3	1	1	5	1	10	27	51	123
June .....	12	(s)	32	5	(s)	3	1	1	6	1	10	27	51	122
July .....	13	(s)	33	4	(s)	3	1	1	5	1	10	26	53	124
August .....	13	(s)	33	7	(s)	3	(s)	1	6	1	11	30	54	130
September .....	13	(s)	32	9	(s)	3	(s)	1	6	1	10	31	48	124
October .....	13	(s)	33	7	(s)	4	(s)	1	5	1	9	27	47	120
November .....	13	-1	34	8	(s)	4	(s)	1	6	1	9	30	48	124
December .....	13	-1	38	9	(s)	5	(s)	1	5	1	10	32	50	133
<b>Total</b> .....	<b>151</b>	<b>-1</b>	<b>408</b>	<b>84</b>	<b>(s)</b>	<b>46</b>	<b>6</b>	<b>16</b>	<b>62</b>	<b>8</b>	<b>121</b>	<b>343</b>	<b>583</b>	<b>1,485</b>
<b>2011</b>														
January .....	13	(s)	39	10	(s)	5	(s)	1	5	1	10	33	48	133
February .....	13	(s)	35	8	(s)	4	(s)	1	3	1	9	26	42	117
<b>2-Month Total</b> .....	<b>26</b>	<b>(s)</b>	<b>74</b>	<b>18</b>	<b>(s)</b>	<b>10</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>2</b>	<b>19</b>	<b>60</b>	<b>90</b>	<b>250</b>
<b>2010 2-Month Total</b> .....	<b>24</b>	<b>(s)</b>	<b>72</b>	<b>12</b>	<b>(s)</b>	<b>10</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>18</b>	<b>52</b>	<b>90</b>	<b>239</b>
<b>2009 2-Month Total</b> .....	<b>24</b>	<b>(s)</b>	<b>68</b>	<b>19</b>	<b>(s)</b>	<b>9</b>	<b>1</b>	<b>3</b>	<b>12</b>	<b>1</b>	<b>21</b>	<b>66</b>	<b>88</b>	<b>245</b>

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

<sup>b</sup> Natural gas, excluding supplemental gaseous fuels.

<sup>c</sup> Distillate fuel oil, excluding biodiesel.

<sup>d</sup> Liquefied petroleum gases.

<sup>e</sup> Finished motor gasoline, excluding fuel ethanol.

<sup>f</sup> Aviation gasoline blending components, crude oil, motor gasoline blending components, pentanes plus, petrochemical feedstocks, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products.

<sup>g</sup> Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.

<sup>h</sup> Excludes emissions from biomass energy consumption. See Table 12.7.

(s)=Less than 0.5 million metric tons and greater than -0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption, including the nonfuel use of fossil fuels. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.

Sources: See end of section.

**Table 12.5 Carbon Dioxide Emissions From Energy Consumption: Transportation Sector**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

	Coal	Natural Gas <sup>b</sup>	Petroleum							Retail Electricity <sup>f</sup>	Total <sup>g</sup>	
			Aviation Gasoline	Distillate Fuel Oil <sup>c</sup>	Jet Fuel	LPG <sup>d</sup>	Lubricants	Motor Gasoline <sup>e</sup>	Residual Fuel Oil			Total
1973 Total	(s)	39	6	163	152	3	6	886	57	1,273	2	1,315
1975 Total	(s)	32	5	155	145	3	6	889	56	1,258	2	1,292
1980 Total	(h)	34	4	204	155	1	6	881	110	1,363	2	1,400
1985 Total	(h)	28	3	232	178	2	6	908	62	1,391	3	1,421
1990 Total	(h)	36	3	268	223	1	7	967	80	1,548	3	1,588
1995 Total	(h)	38	3	307	222	1	6	1,029	72	1,639	3	1,681
1996 Total	(h)	39	3	327	232	1	6	1,047	67	1,683	3	1,725
1997 Total	(h)	41	3	342	234	1	6	1,057	56	1,699	3	1,744
1998 Total	(h)	35	2	352	238	1	7	1,090	53	1,743	3	1,782
1999 Total	(h)	36	3	366	245	1	7	1,115	52	1,789	3	1,828
2000 Total	(h)	36	3	378	254	1	7	1,121	70	1,833	4	1,872
2001 Total	(h)	35	2	387	243	1	6	1,127	46	1,813	4	1,852
2002 Total	(h)	37	2	394	237	1	6	1,158	53	1,851	4	1,892
2003 Total	(h)	33	2	414	231	1	6	1,161	45	1,861	5	1,899
2004 Total	(h)	32	2	434	240	1	6	1,185	58	1,926	5	1,962
2005 Total	(h)	33	2	444	246	2	6	1,186	66	1,953	5	1,991
2006 Total	(h)	33	2	469	240	2	5	1,194	71	1,984	5	2,022
2007 Total	(h)	35	2	472	238	1	6	1,201	78	1,999	5	2,040
2008 Total	(h)	37	2	440	226	3	5	1,146	72	1,895	5	1,937
2009 January	(h)	4	(s)	32	16	(s)	(s)	93	7	149	(s)	153
February	(h)	3	(s)	29	15	(s)	(s)	86	4	135	(s)	139
March	(h)	3	(s)	33	18	(s)	(s)	96	7	154	(s)	158
April	(h)	3	(s)	33	17	(s)	(s)	94	8	152	(s)	155
May	(h)	2	(s)	35	17	(s)	(s)	98	4	154	(s)	157
June	(h)	2	(s)	35	17	(s)	(s)	95	6	154	(s)	157
July	(h)	2	(s)	36	19	(s)	(s)	99	3	157	(s)	160
August	(h)	3	(s)	36	18	(s)	(s)	100	5	159	(s)	162
September	(h)	2	(s)	34	17	(s)	(s)	92	3	147	(s)	150
October	(h)	2	(s)	35	17	(s)	(s)	96	6	155	(s)	158
November	(h)	3	(s)	33	16	(s)	(s)	92	5	147	(s)	150
December	(h)	4	(s)	33	17	(s)	(s)	95	7	153	(s)	158
Total	(h)	34	2	404	204	2	5	1,137	64	1,818	5	1,857
2010 January	(h)	4	(s)	31	17	(s)	(s)	91	6	145	(s)	150
February	(h)	4	(s)	29	15	(s)	(s)	83	5	133	(s)	138
March	(h)	3	(s)	35	18	(s)	(s)	93	6	154	(s)	157
April	(h)	3	(s)	35	17	(s)	(s)	94	7	153	(s)	156
May	(h)	2	(s)	36	18	(s)	(s)	98	6	159	(s)	162
June	(h)	2	(s)	36	18	(s)	1	95	5	155	(s)	158
July	(h)	3	(s)	37	18	(s)	(s)	99	6	161	(s)	164
August	(h)	3	(s)	39	19	(s)	(s)	100	5	162	(s)	166
September	(h)	2	(s)	37	17	(s)	(s)	94	6	156	(s)	158
October	(h)	3	(s)	37	18	(s)	(s)	96	6	157	(s)	160
November	(h)	3	(s)	34	17	(s)	(s)	91	7	150	(s)	154
December	(h)	4	(s)	35	17	(s)	(s)	95	6	154	(s)	158
Total	(h)	36	2	421	209	2	5	1,130	71	1,840	5	1,881
2011 January	(h)	4	(s)	33	17	(s)	(s)	89	7	147	(s)	152
February	(h)	4	(s)	30	15	(s)	(s)	83	7	135	(s)	139
2-Month Total	(h)	8	(s)	63	32	(s)	1	172	14	282	1	291
2010 2-Month Total	(h)	8	(s)	60	32	(s)	1	174	11	279	1	287
2009 2-Month Total	(h)	8	(s)	61	32	(s)	1	179	11	284	1	293

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.  
<sup>b</sup> Natural gas, excluding supplemental gaseous fuels.  
<sup>c</sup> Distillate fuel oil, excluding biodiesel.  
<sup>d</sup> Liquefied petroleum gases.  
<sup>e</sup> Finished motor gasoline, excluding fuel ethanol.  
<sup>f</sup> Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.  
<sup>g</sup> Excludes emissions from biomass energy consumption. See Table 12.7.  
<sup>h</sup> Beginning in 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

(s)=Less than 0.5 million metric tons.  
Notes: • Data are estimates for carbon dioxide emissions from energy consumption, including the nonfuel use of fossil fuels. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," 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.  
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.  
Sources: See end of section.



**Table 12.6 Carbon Dioxide Emissions From Energy Consumption: Electric Power Sector**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

	Coal	Natural Gas <sup>b</sup>	Petroleum				Geothermal	Non-Biomass Waste <sup>d</sup>	Total <sup>e</sup>
			Distillate Fuel Oil <sup>c</sup>	Petroleum Coke	Residual Fuel Oil	Total			
1973 Total .....	812	199	20	2	254	276	NA	NA	1,286
1975 Total .....	824	172	17	(s)	231	248	NA	NA	1,244
1980 Total .....	1,137	200	12	1	194	207	NA	NA	1,544
1985 Total .....	1,367	166	6	1	79	86	NA	NA	1,619
1990 Total .....	1,548	176	7	3	92	102	(s)	6	1,831
1995 Total .....	1,661	228	8	8	45	61	(s)	10	1,960
1996 Total .....	1,752	205	8	8	50	66	(s)	10	2,033
1997 Total .....	1,797	219	8	10	56	75	(s)	10	2,101
1998 Total .....	1,828	248	10	13	82	105	(s)	10	2,192
1999 Total .....	1,836	260	10	11	76	97	(s)	10	2,204
2000 Total .....	1,927	281	13	10	69	91	(s)	10	2,310
2001 Total .....	1,870	290	12	11	79	102	(s)	11	2,273
2002 Total .....	1,890	306	9	18	52	79	(s)	13	2,288
2003 Total .....	1,931	278	12	18	69	98	(s)	11	2,319
2004 Total .....	1,943	297	8	23	69	100	(s)	11	2,352
2005 Total .....	1,984	319	8	25	69	102	(s)	11	2,417
2006 Total .....	1,954	338	5	22	28	56	(s)	12	2,359
2007 Total .....	1,987	372	7	17	31	55	(s)	11	2,426
2008 Total .....	1,959	362	5	16	19	40	(s)	12	2,374
<b>2009</b> January .....	169	26	1	1	3	5	(s)	1	201
February .....	138	25	(s)	1	1	3	(s)	1	167
March .....	134	27	1	1	1	3	(s)	1	165
April .....	125	24	(s)	1	1	2	(s)	1	153
May .....	131	28	(s)	1	1	3	(s)	1	163
June .....	147	35	(s)	1	1	3	(s)	1	186
July .....	157	42	(s)	1	1	3	(s)	1	203
August .....	162	46	(s)	1	1	3	(s)	1	211
September .....	137	37	(s)	1	1	3	(s)	1	178
October .....	139	29	(s)	1	1	2	(s)	1	171
November .....	136	25	(s)	1	1	2	(s)	1	164
December .....	165	28	(s)	1	1	2	(s)	1	196
<b>Total</b> .....	<b>1,741</b>	<b>373</b>	<b>5</b>	<b>14</b>	<b>14</b>	<b>34</b>	<b>(s)</b>	<b>11</b>	<b>2,159</b>
<b>2010</b> January .....	169	29	1	1	1	4	(s)	1	204
February .....	149	26	(s)	1	1	2	(s)	1	178
March .....	143	24	(s)	1	1	2	(s)	1	170
April .....	125	25	(s)	1	1	2	(s)	1	154
May .....	142	30	(s)	1	1	3	(s)	1	176
June .....	163	38	1	1	2	4	(s)	1	206
July .....	177	49	1	2	2	4	(s)	1	231
August .....	177	51	(s)	1	2	3	(s)	1	232
September .....	148	38	(s)	1	1	2	(s)	1	189
October .....	133	31	(s)	1	1	2	(s)	1	166
November .....	136	27	(s)	1	1	2	(s)	1	165
December .....	165	30	1	1	1	3	(s)	1	200
<b>Total</b> .....	<b>1,828</b>	<b>399</b>	<b>6</b>	<b>15</b>	<b>12</b>	<b>33</b>	<b>(s)</b>	<b>11</b>	<b>2,271</b>
<b>2011</b> January .....	168	30	1	2	1	3	(s)	1	202
February .....	137	26	(s)	1	1	2	(s)	1	166
<b>2-Month Total</b> .....	<b>306</b>	<b>56</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>(s)</b>	<b>2</b>	<b>368</b>
<b>2010 2-Month Total</b> .....	<b>319</b>	<b>55</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>(s)</b>	<b>2</b>	<b>382</b>
<b>2009 2-Month Total</b> .....	<b>307</b>	<b>51</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>(s)</b>	<b>2</b>	<b>368</b>

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.  
<sup>b</sup> Natural gas, excluding supplemental gaseous fuels.  
<sup>c</sup> Distillate fuel oil, excluding biodiesel.  
<sup>d</sup> Municipal solid waste from non-biogenic sources, and tire-derived fuels.  
<sup>e</sup> Excludes emissions from biomass energy consumption. See Table 12.7.  
 NA=Not available. (s)=Less than 0.5 million metric tons.  
 Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 12 Methodology and Sources" at end of section.

• See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," 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.  
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.  
 Sources: See end of section.

**Table 12.7 Carbon Dioxide Emissions From Biomass Energy Consumption**  
(Million Metric Tons of Carbon Dioxide<sup>a</sup>)

	By Source					By Sector					
	Wood <sup>b</sup>	Biomass Waste <sup>c</sup>	Fuel Ethanol <sup>d</sup>	Bio-diesel	Total	Residential	Commercial <sup>e</sup>	Industrial <sup>f</sup>	Transportation	Electric Power <sup>g</sup>	Total
1973 Total .....	143	(s)	NA	NA	143	33	1	109	NA	(s)	143
1975 Total .....	140	(s)	NA	NA	141	40	1	100	NA	(s)	141
1980 Total .....	232	(s)	NA	NA	232	80	2	150	NA	(s)	232
1985 Total .....	252	14	3	NA	270	95	2	168	3	1	270
1990 Total .....	208	24	4	NA	237	54	8	147	4	23	237
1995 Total .....	222	30	8	NA	260	49	9	166	8	28	260
1996 Total .....	229	32	6	NA	266	51	10	170	6	30	266
1997 Total .....	222	30	7	NA	259	40	10	172	7	30	259
1998 Total .....	205	30	8	NA	242	36	9	160	8	30	242
1999 Total .....	208	29	8	NA	245	37	9	161	8	30	245
2000 Total .....	212	27	9	NA	248	39	9	161	9	29	248
2001 Total .....	188	33	10	(s)	231	35	9	147	10	31	231
2002 Total .....	187	36	12	(s)	235	36	9	144	12	35	235
2003 Total .....	188	36	16	(s)	240	38	9	141	16	37	240
2004 Total .....	199	35	20	(s)	255	38	10	151	20	36	255
2005 Total .....	200	37	23	1	261	40	10	150	23	37	261
2006 Total .....	198	36	31	2	267	37	9	151	33	38	267
2007 Total .....	197	37	39	3	277	40	9	146	<sup>R</sup> 41	39	277
2008 Total .....	192	40	55	3	289	42	10	140	57	40	289
<b>2009</b> January .....	15	3	5	(s)	23	3	1	11	5	3	23
February .....	14	3	4	(s)	21	3	1	10	4	3	21
March .....	15	4	5	(s)	23	3	1	10	5	3	23
April .....	14	3	5	(s)	22	3	1	10	5	3	22
May .....	14	3	5	(s)	23	3	1	10	5	3	23
June .....	14	3	5	(s)	23	3	1	10	5	3	23
July .....	15	4	6	(s)	25	3	1	11	6	4	25
August .....	16	3	6	(s)	25	3	1	11	6	4	25
September .....	15	3	5	(s)	24	3	1	11	6	3	24
October .....	15	3	6	(s)	25	3	1	11	6	3	25
November .....	15	4	6	(s)	24	3	1	11	6	3	24
December .....	15	4	6	(s)	25	3	1	11	6	4	25
<b>Total .....</b>	<b>176</b>	<b>41</b>	<b>62</b>	<b>3</b>	<b>283</b>	<b>40</b>	<b>10</b>	<b>127</b>	<b>64</b>	<b>41</b>	<b>283</b>
<b>2010</b> January .....	16	3	6	(s)	25	3	1	12	6	3	25
February .....	14	3	5	(s)	23	3	1	11	5	3	23
March .....	16	3	6	(s)	25	3	1	12	6	3	25
April .....	15	3	6	(s)	25	3	1	11	6	3	25
May .....	15	4	6	(s)	25	3	1	12	6	3	25
June .....	16	3	6	(s)	25	3	1	12	6	3	25
July .....	16	4	7	(s)	26	3	1	12	7	4	26
August .....	16	4	7	(s)	26	3	1	12	7	4	26
September .....	15	3	6	(s)	25	3	1	12	6	3	25
October .....	15	3	7	(s)	25	3	1	12	7	3	25
November .....	15	3	6	(s)	25	3	1	12	6	3	25
December .....	16	4	7	(s)	26	3	1	12	7	4	26
<b>Total .....</b>	<b>186</b>	<b>41</b>	<sup>R</sup> <b>75</b>	<b>2</b>	<b>304</b>	<b>39</b>	<b>10</b>	<b>139</b>	<b>75</b>	<b>41</b>	<b>304</b>
<b>2011</b> January .....	16	3	6	(s)	25	3	1	12	6	3	25
February .....	14	3	6	(s)	23	3	1	10	6	3	23
<b>2-Month Total .....</b>	<b>30</b>	<b>7</b>	<b>11</b>	<b>(s)</b>	<b>48</b>	<b>6</b>	<b>2</b>	<b>22</b>	<b>12</b>	<b>6</b>	<b>48</b>
<b>2010 2-Month Total .....</b>	<b>30</b>	<b>7</b>	<b>11</b>	<b>(s)</b>	<b>48</b>	<b>6</b>	<b>2</b>	<b>22</b>	<b>11</b>	<b>7</b>	<b>48</b>
<b>2009 2-Month Total .....</b>	<b>29</b>	<b>7</b>	<b>9</b>	<b>(s)</b>	<b>44</b>	<b>7</b>	<b>2</b>	<b>20</b>	<b>9</b>	<b>7</b>	<b>44</b>

<sup>a</sup> Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

<sup>b</sup> Wood and wood-derived fuels.

<sup>c</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

<sup>d</sup> Fuel ethanol minus denaturant.

<sup>e</sup> Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>f</sup> Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

<sup>g</sup> The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

R=Revised. NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Carbon dioxide emissions from biomass energy consumption are excluded from the energy-related carbon dioxide emissions reported in Tables 12.1–12.6. See Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Data are estimates. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," 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.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> for all available data beginning in 1973.

Sources: See end of section.

## Environment

**Note 1. Emissions of Carbon Dioxide and Other Greenhouse Gases.** Greenhouse gases are those gases—such as water vapor, carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride—that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.

Energy-related carbon dioxide emissions account for about 98 percent of U.S. CO<sub>2</sub> emissions. The vast majority of CO<sub>2</sub> emissions come from fossil fuel combustion, with smaller amounts from the nonfuel use of fossil fuels, as well as from electricity generation using geothermal energy and non-biomass waste. Other sources of CO<sub>2</sub> emissions include industrial processes, such as cement and limestone production. Data in the U.S. Energy Information Administration's (EIA) *Monthly Energy Review (MER)* Tables 12.1–12.6 are estimates for U.S. CO<sub>2</sub> emissions from energy consumption, including the nonfuel use of fossil fuels (excluded are estimates for CO<sub>2</sub> emissions from biomass energy consumption, which appear in Table 12.7).

For annual U.S. estimates for emissions of CO<sub>2</sub> from all sources, as well as for emissions of other greenhouse gases, see EIA's *Emissions of Greenhouse Gases Report* at [http://www.eia.gov/environment/emissions/ghg\\_report/](http://www.eia.gov/environment/emissions/ghg_report/).

**Note 2. Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion.** Carbon dioxide (eiaCO<sub>2</sub>) emissions from the combustion of biomass to produce energy are excluded from the energy-related CO<sub>2</sub> emissions reported in MER Tables 12.1–12.6, but appear in Table 12.7. According to current international convention (see the Intergovernmental Panel on Climate Change's "2006 IPCC Guidelines for National Greenhouse Gas Inventories"), carbon released through biomass combustion is excluded from reported energy-related emissions. The release of carbon from biomass combustion is assumed to be balanced by the uptake of carbon when the feedstock is grown, resulting in zero net emissions over some period of time. (This is not to say that biomass energy is carbon-neutral. Energy inputs are required in order to grow, fertilize, and harvest the feedstock and to produce and process the biomass into fuels.)

However, analysts have debated whether increased use of biomass energy may result in a decline in terrestrial carbon stocks, leading to a net positive release of carbon rather than the zero net release assumed by its exclusion from reported energy-related emissions. For example, the clearing of forests for biofuel crops could result in an initial release of carbon that is not fully recaptured in subsequent use of the land for agriculture.

To reflect the potential net emissions, the international convention for greenhouse gas inventories is to report biomass emissions in the category "agriculture, forestry, and other land use," usually based on estimates of net changes in carbon stocks over time.

This indirect accounting of CO<sub>2</sub> emissions from biomass can potentially lead to confusion in accounting for and understanding the flow of CO<sub>2</sub> emissions within energy and non-energy systems. In recognition of this issue, reporting of CO<sub>2</sub> emissions from biomass combustion alongside other energy-related CO<sub>2</sub> emissions offers an alternative accounting treatment. It is important, however, to avoid misinterpreting emissions from fossil energy and biomass energy sources as necessarily additive. Instead, the combined total of direct CO<sub>2</sub> emissions from biomass and energy-related CO<sub>2</sub> emissions implicitly assumes that none of the carbon emitted was previously or subsequently reabsorbed in terrestrial sinks or that other emissions sources offset any such sequestration.

## Section 12 Methodology and Sources

To estimate carbon dioxide emissions from energy consumption for the *Monthly Energy Review (MER)*, Tables 12.1–12.7, the U.S. Energy Information Administration (EIA) uses the following methodology and sources:

### Step 1. Determine Fuel Consumption

Coal—Coal sectoral (residential, commercial, coke plants, other industrial, transportation, electric power) consumption data in thousand short tons are from MER Table 6.2. Coal sectoral consumption data are converted to trillion Btu by multiplying by the coal heat content factors in MER Table A5.

Coal Coke Net Imports—Coal coke net imports data in trillion Btu are derived from coal coke imports and exports data in MER Tables 1.4a and 1.4b.

Natural Gas (excluding supplemental gaseous fuels)—Natural gas sectoral consumption data in trillion Btu are from MER Tables 2.2–2.6.

Petroleum—Total and sectoral consumption (product supplied) data in thousand barrels per day for asphalt and road oil, aviation gasoline, distillate fuel oil, jet fuel, kerosene, liquefied petroleum gases (LPG), lubricants, motor gasoline, petroleum coke, and residual fuel oil are from MER Tables 3.5 and 3.7a–3.7c. For the component products of LPG (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene) and "other petroleum" (aviation gasoline blending components, crude oil, motor gasoline blending components, naphthas for petrochemical feedstock use, other oils for petrochemical feedstock use, pentanes plus, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products), consumption (product supplied) data in thousand

barrels per day are from EIA's *Petroleum Supply Annual (PSA)*, *Petroleum Supply Monthly (PSM)*, and earlier publications (see sources for MER Table 3.5). Petroleum consumption data by product are converted to trillion Btu by multiplying by the petroleum heat content factors in MER Table A1 (Table A3 for motor gasoline).

Biomass—Sectoral consumption data in trillion Btu for wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel are from MER Tables 10.2a–10.2c.

## Step 2. Remove Biofuels From Petroleum

Distillate Fuel Oil—Beginning in 2009, the distillate fuel oil data (for total and transportation sector) in Step 1 include biodiesel, a non-fossil renewable fuel. To remove the biodiesel portion from distillate fuel oil, data in thousand barrels per day for refinery and blender net inputs of renewable diesel fuel (from the PSA/PSM) are converted to trillion Btu by multiplying by the biodiesel heat content factor in MER Table A3, and then subtracted from the distillate fuel oil consumption values.

Motor Gasoline—Beginning in 1993, the motor gasoline data (for total, commercial sector, industrial sector, and transportation sector) in Step 1 include fuel ethanol, a non-fossil renewable fuel. To remove the fuel ethanol portion from motor gasoline, data in trillion Btu for fuel ethanol consumption (from MER Tables 10.2a, 10.2b, and 10.3) are subtracted from the motor gasoline consumption values. (Note that about 2 percent of fuel ethanol is fossil-based petroleum denaturant, to make the fuel ethanol undrinkable. For 1993–2008, petroleum denaturant is double counted in the PSA product supplied statistics, in both the original product category—e.g., pentanes plus—and also in the finished motor gasoline category; for this time period for MER Section 12, petroleum denaturant is removed along with the fuel ethanol from motor gasoline, but left in the original product. Beginning in 2009, petroleum denaturant is counted only in the PSA/PSM product supplied statistics for motor gasoline; for this time period for MER Section 12, petroleum denaturant is left in motor gasoline.)

## Step 3. Remove Carbon Sequestered by Nonfuel Use

The following fuels have industrial nonfuel uses as chemical feedstocks and other products: coal, natural gas, asphalt and road oil, distillate fuel oil, liquefied petroleum gases (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene), lubricants (which have industrial and transportation nonfuel uses), naphthas for petrochemical feedstock use, other oils for petrochemical feedstock use, pentanes plus, petroleum coke, residual fuel oil, special naphthas, still gas, waxes, and miscellaneous petroleum products. In the nonfuel use of these fuels, some of the carbon is sequestered, and is thus subtracted from the fuel consumption values in Steps 1 and 2.

Estimates of annual nonfuel use and associated carbon sequestration are developed by EIA using the methodology

detailed in “Documentation for *Emissions of Greenhouse Gases in the United States 2008*” at [http://www.eia.gov/oiaf/1605/ggprt/documentation/pdf/0638\(2008\).pdf](http://www.eia.gov/oiaf/1605/ggprt/documentation/pdf/0638(2008).pdf).

To obtain monthly estimates of nonfuel use and associated carbon sequestration, monthly patterns for industrial consumption and product supplied data series are used. For coal nonfuel use, the monthly pattern for coke plants coal consumption from MER Table 6.2 is used. For natural gas, the monthly pattern for other industrial non-CHP natural gas consumption from MER Table 4.3 is used. For distillate fuel oil, petroleum coke, and residual fuel oil, the monthly patterns for industrial consumption from MER Table 3.7b are used. For the other petroleum products, the monthly patterns for product supplied from the PSA and PSM are used.

## Step 4. Determine Carbon Dioxide Emissions From Energy Consumption

Carbon dioxide (CO<sub>2</sub>) emissions data in million metric tons are calculated by multiplying consumption values in trillion Btu from Steps 1 and 2 (minus the carbon sequestered in nonfuel use in Step 3) by the CO<sub>2</sub> emissions factors at [http://www.eia.gov/oiaf/1605/ggprt/excel/CO2\\_coefs\\_09\\_v2.xls](http://www.eia.gov/oiaf/1605/ggprt/excel/CO2_coefs_09_v2.xls). Beginning in 2010, the 2009 factors are used.

Coal—CO<sub>2</sub> emissions for coal are calculated for each sector (residential, commercial, coke plants, other industrial, transportation, electric power). Total coal emissions are the sum of the sectoral coal emissions.

Coal Coke Net Imports—CO<sub>2</sub> emissions for coal coke net imports are calculated.

Natural Gas—CO<sub>2</sub> emissions for natural gas are calculated for each sector (residential, commercial, industrial, transportation, electric power). Total natural gas emissions are the sum of the sectoral natural gas emissions.

Petroleum—CO<sub>2</sub> emissions are calculated for each petroleum product. Total petroleum emissions are the sum of the product emissions. Total LPG emissions are the sum of the emissions for the component products (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene); residential, commercial, and transportation sector LPG emissions are estimated by multiplying consumption values in trillion Btu from MER Tables 3.8a and 3.8c by the propane emissions factor; industrial sector LPG emissions are estimated as total LPG emissions minus emissions by the other sectors.

Geothermal and Non-Biomass Waste—Annual CO<sub>2</sub> emissions data for geothermal and non-biomass waste are EIA estimates based on Form EIA-923, “Power Plant Operations Report” (and predecessor forms). Monthly estimates are created by dividing the annual data by the number of days in the year and then multiplying by the number of days in the month. (Annual estimates for the current year are set equal to those of the previous year.)

Biomass—CO<sub>2</sub> emissions for wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel are calculated for

each sector. Total emissions for each biomass fuel are the sum of the sectoral emissions. The following factors, in million metric tons CO<sub>2</sub> per quadrillion Btu, are used: wood—93.80; biomass waste—90.70; fuel ethanol—68.44; and biodiesel—73.84. For 1973–1988, the biomass portion of waste in MER Tables 10.2a–10.2c is estimated as 67

percent; for 1989–2000, the biomass portion of waste is estimated as 67 percent in 1989 to 58 percent in 2000, based on the biogenic shares of total municipal solid waste shown in EIA’s “Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy,” Table 1 at <http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw.pdf>.



## British Thermal Unit Conversion Factors

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

The heat content rates (i.e., thermal conversion factors) provided in this section represent the gross (or higher or upper) energy content of the fuels. Gross heat content rates are applied in all Btu calculations for the *Monthly Energy Review* and are commonly used in energy calculations in the United States; net (or lower) heat content rates are typically used in European energy calculations. The difference between the two rates is the amount of energy that is consumed to vaporize water that is created during the combustion process. Generally, the difference ranges from 2 percent to 10 percent, depending on the specific fuel and its hydrogen content. Some fuels, such as unseasoned wood, can be more than 40 percent different in their gross

and net heat content rates. See “Heat Content” and “British Thermal Unit (Btu)” in the Glossary for more information.

Thermal conversion factors for hydrocarbon mixes (Table A1) are weighted averages of the thermal conversion factors for each hydrocarbon included in the mix. For example, in calculating the thermal conversion factor for a 60-40 butane-propane mixture, the thermal conversion factor for butane is weighted 1.5 times the thermal conversion factor for propane.

In general, the annual thermal conversion factors presented in Tables A2 through A6 are computed from final annual data or from the best available data and labeled “preliminary.” Often, the previous year’s factor is used as a preliminary value until data become available to calculate the factor appropriate to the year. The source of each factor is described in the section entitled “Thermal Conversion Factor Source Documentation,” which follows Table A6 in this appendix.

**Table A1. Approximate Heat Content of Petroleum Products**  
(Million Btu per Barrel)

Petroleum Product	Heat Content	Petroleum Product	Heat Content
Asphalt	6.636	Pentanes Plus	4.620
Aviation Gasoline	5.048	Petrochemical Feedstocks	
Butane	4.326	Naphtha Less Than 401°F	5.248
Butane-Propane Mixture <sup>a</sup>	4.130	Other Oils Equal to or Greater Than 401°F	5.825
Distillate Fuel Oil <sup>b</sup>	5.825	Still Gas	6.000
Ethane	3.082	Petroleum Coke	6.024
Ethane-Propane Mixture <sup>c</sup>	3.308	Plant Condensate	5.418
Isobutane	3.974	Propane	3.836
Jet Fuel, Kerosene Type	5.670	Residual Fuel Oil	6.287
Jet Fuel, Naphtha Type	5.355	Road Oil	6.636
Kerosene	5.670	Special Naphthas	5.248
Lubricants	6.065	Still Gas	6.000
Motor Gasoline <sup>d</sup>		Unfinished Oils	5.825
Conventional	5.253	Unfractionated Stream	5.418
Reformulated	5.150	Waxes	5.537
Oxygenated	5.150	Miscellaneous	5.796
Natural Gasoline and Isopentane	4.620		

<sup>a</sup> 60 percent butane and 40 percent propane.

<sup>b</sup> Does not include biodiesel. See Table A3 for biodiesel heat contents.

<sup>c</sup> 70 percent ethane and 30 percent propane.

<sup>d</sup> See Table A3 for motor gasoline weighted heat contents beginning in 1994, and for fuel ethanol heat contents.

Note: The values in this table are for gross heat contents. See “Heat Content” in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See “Thermal Conversion Factor Source Documentation,” which follows Table A6.

**Table A2. Approximate Heat Content of Petroleum Production, Imports, and Exports**  
(Million Btu per Barrel)

	Production		Imports			Exports		
	Crude Oil <sup>a</sup>	Natural Gas Plant Liquids	Crude Oil <sup>a</sup>	Petroleum Products	Total	Crude Oil <sup>a</sup>	Petroleum Products	Total
1973 .....	5.800	4.049	5.817	5.983	5.897	5.800	5.752	5.752
1974 .....	5.800	4.011	5.827	5.959	5.884	5.800	5.773	5.774
1975 .....	5.800	3.984	5.821	5.935	5.858	5.800	5.747	5.748
1976 .....	5.800	3.964	5.808	5.980	5.856	5.800	5.743	5.745
1977 .....	5.800	3.941	5.810	5.908	5.834	5.800	5.796	5.797
1978 .....	5.800	3.925	5.802	5.955	5.839	5.800	5.814	5.808
1979 .....	5.800	3.955	5.810	5.811	5.810	5.800	5.864	5.832
1980 .....	5.800	3.914	5.812	5.748	5.796	5.800	5.841	5.820
1981 .....	5.800	3.930	5.818	5.659	5.775	5.800	5.837	5.821
1982 .....	5.800	3.872	5.826	5.664	5.775	5.800	5.829	5.820
1983 .....	5.800	3.839	5.825	5.677	5.774	5.800	5.800	5.800
1984 .....	5.800	3.812	5.823	5.613	5.745	5.800	5.867	5.850
1985 .....	5.800	3.815	5.832	5.572	5.736	5.800	5.819	5.814
1986 .....	5.800	3.797	5.903	5.624	5.808	5.800	5.839	5.832
1987 .....	5.800	3.804	5.901	5.599	5.820	5.800	5.860	5.858
1988 .....	5.800	3.800	5.900	5.618	5.820	5.800	5.842	5.840
1989 .....	5.800	3.826	5.906	5.641	5.833	5.800	5.869	5.857
1990 .....	5.800	3.822	5.934	5.614	5.849	5.800	5.838	5.833
1991 .....	5.800	3.807	5.948	5.636	5.873	5.800	5.827	5.823
1992 .....	5.800	3.804	5.953	5.623	5.877	5.800	5.774	5.777
1993 .....	5.800	3.801	5.954	5.620	5.883	5.800	5.777	5.779
1994 .....	5.800	3.794	5.950	5.534	5.861	5.800	5.777	5.779
1995 .....	5.800	3.796	5.938	5.483	5.855	5.800	5.740	5.746
1996 .....	5.800	3.777	5.947	5.468	5.847	5.800	5.728	5.736
1997 .....	5.800	3.762	5.954	5.469	5.862	5.800	5.726	5.734
1998 .....	5.800	3.769	5.953	5.462	5.861	5.800	5.710	5.720
1999 .....	5.800	3.744	5.942	5.421	5.840	5.800	5.684	5.699
2000 .....	5.800	3.733	5.959	5.432	5.849	5.800	5.651	5.658
2001 .....	5.800	3.735	5.976	5.443	5.862	5.800	5.751	5.752
2002 .....	5.800	3.729	5.971	5.451	5.863	5.800	5.687	5.688
2003 .....	5.800	3.739	5.970	5.438	5.857	5.800	5.739	5.740
2004 .....	5.800	3.724	5.981	5.475	5.863	5.800	5.753	5.754
2005 .....	5.800	3.724	5.977	5.474	5.845	5.800	5.741	5.743
2006 .....	5.800	3.712	5.980	5.454	5.842	5.800	5.723	5.724
2007 .....	5.800	3.701	5.985	5.503	5.862	5.800	5.749	5.750
2008 .....	5.800	3.706	5.990	5.479	5.866	5.800	5.762	5.762
2009 .....	5.800	3.692	5.988	5.525	5.882	5.800	5.737	5.738
2010 <sup>P</sup> .....	5.800	3.677	5.989	5.566	5.896	5.800	5.696	5.698
2011 <sup>E</sup> .....	5.800	3.677	5.989	5.566	5.896	5.800	5.696	5.698

<sup>a</sup> Includes lease condensate.

P=Preliminary. E=Estimate.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.



**Table A3. Approximate Heat Content of Petroleum Consumption and Biofuels Production**  
(Million Btu per Barrel)

	Total Petroleum <sup>a</sup> Consumption by Sector						Liquefied Petroleum Gases Consumption <sup>f</sup>	Motor Gasoline Consumption <sup>g</sup>	Fuel Ethanol <sup>h</sup>	Fuel Ethanol Feed-stock Factor <sup>i</sup>	Biodiesel	Biodiesel Feed-stock Factor <sup>i</sup>
	Residential	Commercial <sup>b</sup>	Industrial <sup>b</sup>	Transportation <sup>b,c</sup>	Electric Power <sup>d,e</sup>	Total <sup>b,c</sup>						
1973	5.258	5.689	5.557	5.396	6.245	5.515	3.746	5.253	NA	NA	NA	NA
1974	5.253	5.683	5.525	5.394	6.238	5.504	3.730	5.253	NA	NA	NA	NA
1975	5.253	5.649	5.513	5.392	6.250	5.494	3.715	5.253	NA	NA	NA	NA
1976	5.277	5.672	5.523	5.396	6.251	5.504	3.711	5.253	NA	NA	NA	NA
1977	5.285	5.682	5.539	5.401	6.249	5.518	3.677	5.253	NA	NA	NA	NA
1978	5.287	5.665	5.536	5.405	6.251	5.519	3.669	5.253	NA	NA	NA	NA
1979	5.365	5.717	5.409	5.429	6.258	5.494	3.680	5.253	NA	NA	NA	NA
1980	5.321	5.751	5.366	5.441	6.254	5.479	3.674	5.253	3.563	6.586	NA	NA
1981	5.283	5.693	5.299	5.433	6.258	5.448	3.643	5.253	3.563	6.562	NA	NA
1982	5.266	5.698	5.247	5.423	6.258	5.415	3.615	5.253	3.563	6.539	NA	NA
1983	5.140	5.591	5.254	5.416	6.255	5.406	3.614	5.253	3.563	6.515	NA	NA
1984	5.307	5.657	5.207	5.418	6.251	5.395	3.599	5.253	3.563	6.492	NA	NA
1985	5.263	5.598	5.199	5.423	6.247	5.387	3.603	5.253	3.563	6.469	NA	NA
1986	5.268	5.632	5.269	5.426	6.257	5.418	3.640	5.253	3.563	6.446	NA	NA
1987	5.239	5.594	5.233	5.429	6.249	5.403	3.659	5.253	3.563	6.423	NA	NA
1988	5.257	5.597	5.228	5.433	6.250	5.410	3.652	5.253	3.563	6.400	NA	NA
1989	5.194	5.549	5.219	5.438	<sup>d</sup> 6.240	5.410	3.683	5.253	3.563	6.377	NA	NA
1990	5.145	5.553	5.253	5.442	6.244	5.411	3.625	5.253	3.563	6.355	NA	NA
1991	5.094	5.528	5.167	5.441	6.246	5.384	3.614	5.253	3.563	6.332	NA	NA
1992	5.124	5.513	5.168	5.443	6.238	5.378	3.624	5.253	3.563	6.309	NA	NA
1993	5.102	<sup>b</sup> 5.505	<sup>b</sup> 5.178	<sup>b</sup> 5.436	6.230	<sup>b</sup> 5.379	3.606	5.253	3.563	6.287	NA	NA
1994	5.098	5.515	5.150	5.424	6.213	5.361	3.635	<sup>f</sup> 5.230	3.563	6.264	NA	NA
1995	5.063	5.478	5.121	5.417	6.188	5.341	3.623	5.215	3.563	6.242	NA	NA
1996	4.998	5.433	5.114	5.420	6.195	5.336	3.613	5.216	3.563	6.220	NA	NA
1997	4.989	5.391	5.120	5.416	6.199	5.336	3.616	5.213	3.563	6.198	NA	NA
1998	4.975	5.365	5.137	5.413	6.210	5.349	3.614	5.212	3.563	6.176	NA	NA
1999	4.902	5.291	5.092	5.413	6.205	5.328	3.616	5.211	3.563	6.167	NA	NA
2000	4.908	5.316	5.057	5.422	6.189	5.326	3.607	5.210	3.563	6.159	NA	NA
2001	4.937	5.325	5.142	5.412	6.199	5.345	3.614	5.210	3.563	6.151	5.359	5.433
2002	4.886	5.293	5.093	5.411	6.173	5.324	3.613	5.208	3.563	6.143	5.359	5.433
2003	4.907	5.307	5.142	5.409	6.182	5.340	3.629	5.207	3.563	6.116	5.359	5.433
2004	4.953	5.328	5.144	5.421	6.192	5.350	3.618	5.215	3.563	6.089	5.359	5.433
2005	4.916	5.364	5.178	5.427	6.188	5.365	3.620	5.218	3.563	6.063	5.359	5.433
2006	4.894	5.310	5.160	5.431	6.143	5.353	3.605	5.218	3.563	6.036	5.359	5.433
2007	4.850	5.298	5.127	5.434	6.151	5.346	3.591	5.219	3.563	6.009	5.359	5.433
2008	4.732	5.175	5.149	5.426	6.123	5.339	3.600	5.218	3.563	5.983	5.359	5.433
2009	4.691	5.266	5.018	<sup>c</sup> 5.414	6.105	<sup>c</sup> 5.301	3.558	5.218	3.563	5.957	5.359	5.433
2010	<sup>E</sup> 4.701	<sup>E</sup> 5.280	<sup>E</sup> 5.014	<sup>E</sup> 5.420	<sup>P</sup> 6.085	<sup>P</sup> 5.300	<sup>P</sup> 3.558	<sup>P</sup> 5.218	<sup>P</sup> 3.561	<sup>P</sup> 5.930	5.359	5.433
2011	<sup>E</sup> 4.701	<sup>E</sup> 5.280	<sup>E</sup> 5.014	<sup>E</sup> 5.420	<sup>E</sup> 6.085	<sup>E</sup> 5.300	<sup>E</sup> 3.558	<sup>E</sup> 5.218	<sup>E</sup> 3.561	<sup>E</sup> 5.904	5.359	5.433

<sup>a</sup> Petroleum products supplied, including natural gas plant liquids and crude oil burned directly as fuel. Quantity-weighted averages of the petroleum products included in each category are calculated by using heat content values shown in Table A1.

<sup>b</sup> Beginning in 1993, includes fuel ethanol blended into motor gasoline.

<sup>c</sup> Beginning in 2009, includes renewable diesel fuel (including biodiesel) blended into distillate fuel oil.

<sup>d</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

<sup>e</sup> Electric power sector factors are weighted average heat contents for distillate fuel oil, petroleum coke, and residual fuel oil; they exclude other liquids.

<sup>f</sup> Quantity-weighted averages of the major components of liquefied petroleum gases are calculated by using heat content values shown in Table A1.

<sup>g</sup> There is a discontinuity in this time series between 1993 and 1994; beginning in 1994, the single constant factor is replaced by a quantity-weighted factor—quantity-weighted averages of the major components of motor gasoline, including fuel ethanol, are calculated by using heat content values shown in Table A3.

<sup>h</sup> Includes denaturant (petroleum added to ethanol to make it undrinkable). Fuel ethanol factors are weighted average heat contents for undenatured ethanol (3.539 million Btu per barrel), pentanes plus used as denaturant (4.620 million Btu per barrel), and conventional motor gasoline and motor gasoline blending components used as denaturant (5.253 million Btu per barrel). The factor for 2009 is used as the estimated factor for 1980-2008.

<sup>i</sup> Corn input to the production of undenatured ethanol (million Btu corn per barrel undenatured ethanol), used as the factor to estimate total biomass inputs to the production of undenatured ethanol. Observed ethanol yields (gallons undenatured ethanol per bushel of corn) are 2.5 in 1980, 2.666 in 1998, 2.68 in 2002, and 2.764 in 2009; yields in other years are estimated. Corn is assumed to have a gross heat content of 0.392 million Btu per bushel. Undenatured ethanol is assumed to have a gross heat content of 3.539 million Btu per barrel.

<sup>j</sup> Soybean oil input to the production of biodiesel (million Btu soybean oil per barrel biodiesel), used as the factor to estimate total biomass inputs to the production of biodiesel. It is assumed that 7.65 pounds of soybean oil are needed to produce one gallon of biodiesel, and 5.433 million Btu of soybean oil are needed to produce one barrel of biodiesel. Soybean oil is assumed to have a gross heat content of 16,909 Btu per pound, or 5.483 million Btu per barrel. Biodiesel is assumed to have a gross heat content of 17,253 Btu per pound, or 5.359 million Btu per barrel.

P=Preliminary. E=Estimate. NA=Not available.

Note: The heat content values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

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

	Production		Consumption <sup>a</sup>			Imports	Exports
	Marketed	Dry	End-Use Sectors <sup>b</sup>	Electric Power Sector <sup>c</sup>	Total		
1973 .....	1,093	1,021	1,020	1,024	1,021	1,026	1,023
1974 .....	1,097	1,024	1,024	1,022	1,024	1,027	1,016
1975 .....	1,095	1,021	1,020	1,026	1,021	1,026	1,014
1976 .....	1,093	1,020	1,019	1,023	1,020	1,025	1,013
1977 .....	1,093	1,021	1,019	1,029	1,021	1,026	1,013
1978 .....	1,088	1,019	1,016	1,034	1,019	1,030	1,013
1979 .....	1,092	1,021	1,018	1,035	1,021	1,037	1,013
1980 .....	1,098	1,026	1,024	1,035	1,026	1,022	1,013
1981 .....	1,103	1,027	1,025	1,035	1,027	1,014	1,011
1982 .....	1,107	1,028	1,026	1,036	1,028	1,018	1,011
1983 .....	1,115	1,031	1,031	1,030	1,031	1,024	1,010
1984 .....	1,109	1,031	1,030	1,035	1,031	1,005	1,010
1985 .....	1,112	1,032	1,031	1,038	1,032	1,002	1,011
1986 .....	1,110	1,030	1,029	1,034	1,030	997	1,008
1987 .....	1,112	1,031	1,031	1,032	1,031	999	1,011
1988 .....	1,109	1,029	1,029	1,028	1,029	1,002	1,018
1989 .....	1,107	1,031	1,031	<sup>c</sup> 1,028	1,031	1,004	1,019
1990 .....	1,105	1,029	1,030	1,027	1,029	1,012	1,018
1991 .....	1,108	1,030	1,031	1,025	1,030	1,014	1,022
1992 .....	1,110	1,030	1,031	1,025	1,030	1,011	1,018
1993 .....	1,106	1,027	1,028	1,025	1,027	1,020	1,016
1994 .....	1,105	1,028	1,029	1,025	1,028	1,022	1,011
1995 .....	1,106	1,026	1,027	1,021	1,026	1,021	1,011
1996 .....	1,109	1,026	1,027	1,020	1,026	1,022	1,011
1997 .....	1,107	1,026	1,027	1,020	1,026	1,023	1,011
1998 .....	1,109	1,031	1,033	1,024	1,031	1,023	1,011
1999 .....	1,107	1,027	1,028	1,022	1,027	1,022	1,006
2000 .....	1,107	1,025	1,026	1,021	1,025	1,023	1,006
2001 .....	1,105	1,028	1,029	1,026	1,028	1,023	1,010
2002 .....	1,106	1,027	1,029	1,020	1,027	1,022	1,008
2003 .....	1,106	1,028	1,029	1,025	1,028	1,025	1,009
2004 .....	1,104	1,026	1,026	1,027	1,026	1,025	1,009
2005 .....	1,104	1,028	1,028	1,028	1,028	1,025	1,009
2006 .....	1,103	1,028	1,028	1,028	1,028	1,025	1,009
2007 .....	1,104	1,029	1,030	1,027	1,029	1,025	1,009
2008 .....	1,100	1,027	1,027	1,027	1,027	1,025	1,009
2009 .....	1,101	1,025	1,025	1,025	1,025	1,025	1,009
2010 .....	<sup>E</sup> 1,101	<sup>E</sup> 1,024	<sup>E</sup> 1,025	<sup>P</sup> 1,022	<sup>E</sup> 1,024	<sup>E</sup> 1,025	<sup>E</sup> 1,009
2011 .....	<sup>E</sup> 1,101	<sup>E</sup> 1,024	<sup>E</sup> 1,025	<sup>E</sup> 1,022	<sup>E</sup> 1,024	<sup>E</sup> 1,025	<sup>E</sup> 1,009

<sup>a</sup> Consumption factors are for natural gas, plus a small amount of supplemental gaseous fuels.

<sup>b</sup> Residential, commercial, industrial, and transportation sectors.

<sup>c</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

P=Preliminary. E=Estimate.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

**Table A5. Approximate Heat Content of Coal and Coal Coke**  
(Million Btu per Short Ton)

	Coal								Coal Coke	
	Production <sup>a</sup>	Waste Coal Supplied <sup>b</sup>	Consumption				Total	Imports	Exports	Imports and Exports
			Residential and Commercial Sectors	Industrial Sector		Electric Power Sector <sup>d,e</sup>				
				Coke Plants	Other <sup>c</sup>					
1973	23.376	NA	22.831	26.780	22.586	22.246	23.057	25.000	26.596	24.800
1974	23.072	NA	22.479	26.778	22.419	21.781	22.677	25.000	26.700	24.800
1975	22.897	NA	22.261	26.782	22.436	21.642	22.506	25.000	26.562	24.800
1976	22.855	NA	22.774	26.781	22.530	21.679	22.498	25.000	26.601	24.800
1977	22.597	NA	22.919	26.787	22.322	21.508	22.265	25.000	26.548	24.800
1978	22.248	NA	22.466	26.789	22.207	21.275	22.017	25.000	26.478	24.800
1979	22.454	NA	22.242	26.788	22.452	21.364	22.100	25.000	26.548	24.800
1980	22.415	NA	22.543	26.790	22.690	21.295	21.947	25.000	26.384	24.800
1981	22.308	NA	22.474	26.794	22.585	21.085	21.713	25.000	26.160	24.800
1982	22.239	NA	22.695	26.797	22.712	21.194	21.674	25.000	26.223	24.800
1983	22.052	NA	22.775	26.798	22.691	21.133	21.576	25.000	26.291	24.800
1984	22.010	NA	22.844	26.799	22.543	21.101	21.573	25.000	26.402	24.800
1985	21.870	NA	22.646	26.798	22.020	20.959	21.366	25.000	26.307	24.800
1986	21.913	NA	22.947	26.798	22.198	21.084	21.462	25.000	26.292	24.800
1987	21.922	NA	23.404	26.799	22.381	21.136	21.517	25.000	26.291	24.800
1988	21.823	NA	23.571	26.799	22.360	20.900	21.328	25.000	26.299	24.800
1989	21.765	<sup>b</sup> 10.391	23.650	26.800	22.347	<sup>d</sup> 20.898	21.307	25.000	26.160	24.800
1990	21.822	9.303	23.137	26.799	22.457	20.779	21.197	25.000	26.202	24.800
1991	21.681	10.758	23.114	26.799	22.460	20.730	21.120	25.000	26.188	24.800
1992	21.682	10.396	23.105	26.799	22.250	20.709	21.068	25.000	26.161	24.800
1993	21.418	10.638	22.994	26.800	22.123	20.677	21.010	25.000	26.335	24.800
1994	21.394	11.097	23.112	26.800	22.068	20.589	20.929	25.000	26.329	24.800
1995	21.326	11.722	23.118	26.800	21.950	20.543	20.880	25.000	26.180	24.800
1996	21.322	12.147	23.011	26.800	22.105	20.547	20.870	25.000	26.174	24.800
1997	21.296	12.158	22.494	26.800	22.172	20.518	20.830	25.000	26.251	24.800
1998	21.418	12.639	21.620	27.426	23.164	20.516	20.881	25.000	26.800	24.800
1999	21.070	12.552	23.880	27.426	22.489	20.490	20.818	25.000	26.081	24.800
2000	21.072	12.360	25.020	27.426	22.433	20.511	20.828	25.000	26.117	24.800
2001	<sup>a</sup> 20.772	12.169	24.909	27.426	22.622	20.337	20.671	25.000	25.998	24.800
2002	20.673	12.165	22.962	27.426	22.562	20.238	20.541	25.000	26.062	24.800
2003	20.499	12.360	22.242	27.425	22.468	20.082	20.387	25.000	25.972	24.800
2004	20.424	12.266	22.324	27.426	22.473	19.980	20.290	25.000	26.108	24.800
2005	20.348	12.093	22.342	26.279	22.178	19.988	20.246	25.000	25.494	24.800
2006	20.310	12.080	22.066	26.271	22.050	19.931	20.181	25.000	25.453	24.800
2007	20.340	12.090	22.069	26.329	22.371	19.909	20.168	25.000	25.466	24.800
2008	20.208	12.121	21.887	26.281	22.348	19.713	19.977	25.000	25.399	24.800
2009	19.969	11.862	22.059	26.334	21.893	19.521	19.742	25.000	25.633	24.800
2010 <sup>P</sup>	20.192	11.755	21.254	26.296	21.909	19.612	19.858	25.000	25.713	24.800
2011 <sup>E</sup>	20.192	11.755	21.254	26.296	21.909	19.612	19.858	25.000	25.713	24.800

<sup>a</sup> Beginning in 2001, includes a small amount of refuse recovery (coal recaptured from a refuse mine, and cleaned to reduce the concentration of noncombustible materials).

<sup>b</sup> Waste coal (including fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste) consumed by the electric power and industrial sectors. Beginning in 1989, waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in "Consumption."

<sup>c</sup> Includes transportation. Excludes coal synfuel plants.

<sup>d</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

<sup>e</sup> Electric power sector factors are for anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and, beginning in 1998, coal synfuel.

P=Preliminary. E=Estimate. NA=Not available.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

**Table A6. Approximate Heat Rates for Electricity, and Heat Content of Electricity**  
(Btu per Kilowatthour)

	Approximate Heat Rates <sup>a</sup> for Electricity Net Generation			Heat Content <sup>f</sup> of Electricity <sup>g</sup>
	Fossil Fuels <sup>b,c</sup>	Nuclear <sup>d</sup>	Geothermal <sup>e</sup>	
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	10,622	21,263	3,412
1986 .....	10,446	10,579	21,263	3,412
1987 .....	10,419	10,442	21,263	3,412
1988 .....	10,324	10,602	21,096	3,412
1989 .....	10,432	10,583	21,096	3,412
1990 .....	10,402	10,582	21,096	3,412
1991 .....	10,436	10,484	20,997	3,412
1992 .....	10,342	10,471	20,914	3,412
1993 .....	10,309	10,504	20,914	3,412
1994 .....	10,316	10,452	20,914	3,412
1995 .....	10,312	10,507	20,914	3,412
1996 .....	10,340	10,503	20,960	3,412
1997 .....	10,213	10,494	20,960	3,412
1998 .....	10,197	10,491	21,017	3,412
1999 .....	10,226	10,450	21,017	3,412
2000 .....	10,201	10,429	21,017	3,412
2001 .....	<sup>c</sup> 10,333	10,443	21,017	3,412
2002 .....	10,173	10,442	21,017	3,412
2003 .....	10,241	10,421	21,017	3,412
2004 .....	10,022	10,427	21,017	3,412
2005 .....	9,999	10,436	21,017	3,412
2006 .....	9,919	10,436	21,017	3,412
2007 .....	9,884	10,485	21,017	3,412
2008 .....	9,854	10,453	21,017	3,412
2009 .....	9,760	10,460	21,017	3,412
2010 .....	<sup>E</sup> 9,760	<sup>E</sup> 10,460	<sup>E</sup> 21,017	3,412
2011 .....	<sup>E</sup> 9,760	<sup>E</sup> 10,460	<sup>E</sup> 21,017	3,412

<sup>a</sup> The values in columns 1–3 of this table are for net heat rates. See "Heat Rate" in Glossary.

<sup>b</sup> Used as the thermal conversion factor for hydro, geothermal, solar thermal/photovoltaic, and wind electricity net generation to approximate the quantity of fossil fuels replaced by these sources. Through 2000, also used as the thermal conversion factor for wood and waste electricity net generation at electric utilities; beginning in 2001, Btu data for wood and waste at electric utilities are available from surveys.

<sup>c</sup> Through 2000, heat rates are for fossil-fueled steam-electric plants at electric utilities. Beginning in 2001, heat rates are for all fossil-fueled plants at electric utilities and electricity-only independent power producers.

<sup>d</sup> Used as the thermal conversion factor for nuclear electricity net generation.

<sup>e</sup> Technology-based thermal conversion factors for geothermal electricity net generation. Beginning with the April 2011 *Monthly Energy Review*, the technology-based geothermal heat rates are no longer used in Btu calculations in this report, but they are retained on this table for purposes of comparison.

<sup>f</sup> See "Heat Content" in Glossary.

<sup>g</sup> The value of 3,412 Btu per kilowatthour is a constant. It is used as the thermal conversion factor for electricity retail sales, and electricity imports and exports. E=Estimate.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See "Thermal Conversion Factor Source Documentation," which follows this table.

Beginning with the April 2011 *Monthly Energy Review*, the fossil-fuels heat rates are used as the thermal conversion factors for geothermal electricity net generation in order to treat geothermal electricity net generation similarly to electricity net generation from other non-combustible renewable energy sources – hydroelectric power, wind, photovoltaic, and solar thermal energy. **The technology-based geothermal heat rates are no longer used in Btu calculations in this report.**

# Thermal Conversion Factor Source Documentation

## Approximate Heat Content of Petroleum and Natural Gas Plant Liquids

**Asphalt.** The U.S. Energy Information Administration (EIA) adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Aviation Gasoline.** EIA adopted the thermal conversion factor of 5.048 million Btu per barrel as adopted by the Bureau of Mines from the Texas Eastern Transmission Corporation publication *Competition and Growth in American Energy Markets 1947–1985*, 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 as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Butane-Propane Mixture.** EIA adopted the Bureau of Mines calculation of 4.130 million Btu per barrel based on an assumed mixture of 60 percent butane and 40 percent propane. See **Butane** and **Propane**.

**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 Production**.

**Crude Oil Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each type of crude oil imported weighted by the quantities 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 oil 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 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.”

**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 Values of Various Fuels, Adopted January 3, 1950.”

**Ethane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.082 million Btu per barrel as published in the *California Oil World and Petroleum Industry*, First Issue, April 1942.

**Ethane-Propane Mixture.** EIA calculation of 3.308 million Btu per barrel based on an assumed mixture of 70 percent ethane and 30 percent propane. See **Ethane** and **Propane**.

**Isobutane.** EIA adopted the Bureau of Mines thermal conversion factor of 3.974 million Btu per barrel as published in the *California Oil World and Petroleum 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 the report *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 the report *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 Consumption.** Calculated annually by EIA as the average of the thermal conversion factors for all liquefied petroleum gases consumed (see Table A1) weighted by the quantities consumed. The component products of liquefied petroleum gases are ethane (including ethylene), propane (including propylene), normal butane (including butylene), butane-propane mixtures, ethane-propane mixtures, and isobutane. For 1973–1980, quantities consumed are from EIA, Energy Data Reports, “Petroleum Statement, Annual,” Table 1. For 1981 forward, quantities consumed are from EIA, *Petroleum Supply Annual*, Table 2.

**Lubricants.** EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Miscellaneous Products.** EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

**Motor Gasoline Consumption.** 1973–1993: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for “Gasoline, Motor Fuel” as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947–1985*, a 1968 release of historical and projected statistics. 1994 forward: EIA calculated national annual quantity-weighted average conversion factors for conventional, reformulated, and oxygenated motor gasolines (see Table A3). The factor for conventional motor gasoline is 5.253 million Btu per barrel, as used for

previous years. The factors for reformulated and oxygenated gasolines, both currently 5.150 million Btu per barrel, are based on data published in Environmental Protection Agency, Office of Mobile Sources, National Vehicle and Fuel Emissions Laboratory report EPA 420-F-95-003, "Fuel Economy Impact Analysis of Reformulated Gasoline." See **Fuel Ethanol (Denatured)**.

**Natural Gas Plant Liquids Production.** Calculated annually by EIA as the average of the thermal conversion factors for each natural gas plant liquid produced weighted by the quantities 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 or equal to that for natural gasoline. See **Natural Gasoline**.

**Petrochemical Feedstocks, Naphtha less than 401° F.** 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, Other Oils equal to or greater than 401° F.** 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 Values of Various Fuels, Adopted January 3, 1950." The Bureau of Mines calculated this factor by dividing 30.120 million Btu per short ton, as given in the referenced Bureau of Mines internal memorandum, by 5.0 barrels per short ton, as given in the Bureau of Mines Form 6-1300-M and successor EIA forms.

**Petroleum Consumption, Commercial Sector.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the commercial sector weighted by the estimated quantities consumed by the commercial sector. The quantities of petroleum products consumed by the commercial sector are estimated in the State Energy Data System—see documentation at [http://www.eia.gov/states/sep\\_use/notes/use\\_petrol.pdf](http://www.eia.gov/states/sep_use/notes/use_petrol.pdf).

**Petroleum Consumption, Electric Power Sector.** Calculated annually by EIA as the average of the thermal

conversion factors for all petroleum products consumed by the electric power sector weighted by the quantities consumed by the electric power sector. Data are from Form EIA-923, "Power Plant Operations Report," and predecessor forms.

**Petroleum Consumption, Industrial Sector.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the industrial sector weighted by the estimated quantities consumed by the industrial sector. The quantities of petroleum products consumed by the industrial sector are estimated in the State Energy Data System—see documentation at [http://www.eia.gov/states/sep\\_use/notes/use\\_petrol.pdf](http://www.eia.gov/states/sep_use/notes/use_petrol.pdf).

**Petroleum Consumption, Residential Sector.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the residential sector weighted by the estimated quantities consumed by the residential sector. The quantities of petroleum products consumed by the residential sector are estimated in the State Energy Data System—see documentation at [http://www.eia.gov/states/sep\\_use/notes/use\\_petrol.pdf](http://www.eia.gov/states/sep_use/notes/use_petrol.pdf).

**Petroleum Consumption, Total.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed weighted by the quantities consumed.

**Petroleum Consumption, Transportation Sector.** Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the transportation sector weighted by the estimated quantities consumed by the transportation sector. The quantities of petroleum products consumed by the transportation sector are estimated in the State Energy Data System—see documentation at [http://www.eia.gov/states/sep\\_use/notes/use\\_petrol.pdf](http://www.eia.gov/states/sep_use/notes/use_petrol.pdf).

**Petroleum Products Exports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product exported weighted by the quantities exported.

**Petroleum Products Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product imported weighted by the quantities 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 as published 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 the 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, first published in the *Petroleum Statement, Annual, 1970*.

**Total Petroleum Exports.** Calculated annually by EIA as the average of the thermal conversion factors for crude oil and each petroleum product exported weighted by the quantities exported. See **Crude Oil Exports** and **Petroleum Products Exports**.

**Total Petroleum Imports.** Calculated annually by EIA as the average of the thermal conversion factors for each type of crude oil and petroleum product imported weighted by the quantities imported. See **Crude Oil Imports** and **Petroleum Products Imports**.

**Unfinished Oils.** EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel or equal to that for distillate fuel oil (see **Distillate Fuel Oil**) and first published it in EIA's *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 it in EIA's *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 Biofuels

**Biodiesel.** EIA estimated the thermal conversion factor for biodiesel to be 5.359 million Btu per barrel, or 17,253 Btu per pound.

**Biodiesel Feedstock.** EIA used soybean oil input to the production of biodiesel (million Btu soybean oil per barrel biodiesel) as the factor to estimate total biomass inputs to the production of biodiesel. EIA assumed that 7.65 pounds

of soybean oil are needed to produce one gallon of biodiesel, and 5.433 million Btu of soybean oil are needed to produce one barrel of biodiesel. EIA also assumed that soybean oil has a gross heat content of 16,909 Btu per pound, or 5.483 million Btu per barrel.

**Ethanol (Undenatured).** EIA adopted the thermal conversion factor of 3.539 million Btu per barrel published in "Oxygenate Flexibility for Future Fuels," a paper presented by William J. Piel of the ARCO Chemical Company at the National Conference on Reformulated Gasolines and Clean Air Act Implementation, Washington, D.C., October 1991.

**Fuel Ethanol (Denatured).** 1981–2008: EIA used the 2009 factor. 2009 forward: Calculated by EIA as the annual quantity-weighted average of the thermal conversion factors for undenatured ethanol (3.539 million Btu per barrel), pentanes plus used as denaturant (4.620 million Btu per barrel), and conventional motor gasoline and motor gasoline blending components used as denaturant (5.253 million Btu per barrel). The quantity of ethanol consumed is from EIA's *Petroleum Supply Annual (PSA)* and *Petroleum Supply Monthly (PSM)*, Table 1, data for renewable fuels and oxygenate plant net production of fuel ethanol. The quantity of pentanes plus used as denaturant is from PSA/PSM, Table 1, data for renewable fuels and oxygenate plant net production of pentanes plus, multiplied by -1. The quantity of conventional motor gasoline and motor gasoline blending components used as denaturant is from PSA/PSM, Table 1, data for renewable fuels and oxygenate plant net production of conventional motor gasoline and motor gasoline blending components, multiplied by -1.

**Fuel Ethanol Feedstock.** EIA used corn input to the production of undenatured ethanol (million Btu corn per barrel undenatured ethanol) as the annual factor to estimate total biomass inputs to the production of undenatured ethanol. U.S. Department of Agriculture observed ethanol yields (gallons undenatured ethanol per bushel of corn) were 2.5 in 1980, 2.666 in 1998, 2.68 in 2002, and 2.764 in 2009; EIA estimated the ethanol yields in other years. EIA also assumed that corn has a gross heat content of 0.392 million Btu per bushel.

## Approximate Heat Content of Natural Gas

**Natural Gas Consumption, Electric Power Sector.** Calculated annually by EIA by dividing the heat content of natural gas consumed by the electric power sector by the quantity consumed. Data are from Form EIA-923, "Power Plant Operations Report," and predecessor forms.

**Natural Gas Consumption, End-Use Sectors.** Calculated annually by EIA by dividing the heat content of natural gas consumed by the end-use sectors (residential, commercial,

industrial, and transportation) by the quantity consumed. Data are from Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition."

**Natural Gas Consumption, Total.** 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 consumed.

**Natural Gas Exports.** Calculated annually by EIA by dividing the heat content of natural gas exported by the quantity exported. For 1973–1995, data are from Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." Beginning in 1996, data are from U.S. Department of Energy, Office of Fossil Energy, *Natural Gas Imports and Exports*.

**Natural Gas Imports.** Calculated annually by EIA by dividing the heat content of natural gas imported by the quantity imported. For 1973–1995, data are from Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." Beginning in 1996, data are from U.S. Department of Energy, Office of Fossil Energy, *Natural Gas Imports and Exports*.

**Natural Gas Production, Dry.** Assumed by EIA to be equal to the thermal conversion factor for dry natural gas consumed. See **Natural Gas Consumption, Total**.

**Natural Gas Production, Marketed.** Calculated annually by EIA by dividing the heat content of dry natural gas produced (see **Natural Gas Production, Dry**) and natural gas plant liquids produced (see **Natural Gas Plant Liquids Production**) by the total quantity of marketed natural gas produced.

## Approximate Heat Content of Coal and Coal Coke

**Coal Coke Imports and Exports.** EIA adopted the Bureau of Mines estimate of 24,800 million Btu per short ton.

**Coal Consumption, Electric Power Sector.** Calculated annually by EIA by dividing the heat content of coal consumed by the electric power sector by the quantity consumed. Data are from Form EIA-923, "Power Plant Operations Report," and predecessor forms.

**Coal Consumption, Industrial Sector, Coke Plants.** Calculated annually by EIA by dividing the heat content of coal consumed by coke plants by the quantity consumed. Data are from Form EIA-5, "Quarterly Coal Consumption and Quality Report—Coke Plants."

**Coal Consumption, Industrial Sector, Other.** Calculated annually by EIA by dividing the heat content of coal consumed by manufacturing plants by the quantity consumed. Data are from Form EIA-3, "Quarterly Coal Consumption and Quality Report—Manufacturing Plants."

**Coal Consumption, Residential and Commercial Sectors.** Calculated annually by EIA by dividing the heat content of coal consumed by the residential and commercial sectors by the quantity consumed. Through 1999, data are from Form EIA-6, "Coal Distribution Report." Beginning in 2000, data are for commercial combined-heat-and-power (CHP) plants from Form EIA-923, "Power Plant Operations Report," and predecessor forms.

**Coal Consumption, Total.** Calculated annually by EIA by dividing the total heat content of coal consumed by all sectors by the total quantity consumed.

**Coal Exports.** Calculated annually by EIA by dividing the heat content of steam coal and metallurgical coal exported by the quantity exported. Data are from U.S. Department of Commerce, Bureau of the Census, "Monthly Report EM 545."

**Coal Imports.** Assumed by EIA to be 25,000 million Btu per short ton.

**Coal Production.** Calculated annually by EIA to balance the heat content of coal supply (production and imports) and the heat content of coal disposition (exports, stock change, and consumption).

**Waste Coal Supplied.** Calculated annually by EIA by dividing the total heat content of waste coal supplied by the quantity supplied. For 1989–1997, data are from Form EIA-867, "Annual Nonutility Power Producer Report." For 1998–2000, data are from Form EIA-860B, "Annual Electric Generator Report—Nonutility." For 2001 forward, data are from Form EIA-3, "Quarterly Coal Consumption and Quality Report—Manufacturing Plants"; Form EIA-923, "Power Plant Operations Report"; and predecessor forms.

## Approximate Heat Rates for Electricity

**Electricity Net Generation, Fossil-Fueled Plants.** There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricity from hydroelectric power, wind, photovoltaic, solar thermal, and geothermal energy. Therefore, EIA calculates a rate factor that is equal to the annual average heat rate factor for fossil-fueled 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. 1973–1988: The weighted annual average heat rate for fossil-fueled



steam-electric power plants in the United States, as published in EIA, *Electric Plant Cost and Power Production Expenses 1991*, Table 9. 1989–2000: Calculated annually by EIA by using the heat rate data reported on Form EIA-860, “Annual Electric Generator Report” (and predecessor forms); and net generation data reported on Form EIA-759, “Monthly Power Plant Report.” The computation includes data for all electric utility steam-electric plants using fossil fuels. 2001 forward: Calculated annually by EIA by using fuel consumption and net generation data reported on Form EIA-923, “Power Plant Operations Report,” and predecessor forms. The computation includes data for all electric utilities and electricity-only independent power producers using fossil fuels.

**Electricity Net Generation, Geothermal Energy Plants.** 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, “Power System Statement.” 1982 forward: Estimated annually by EIA on the basis of an informal survey of relevant plants. Beginning with the April 2011 *Monthly Energy Review*, the technology-based geothermal

heat rates are no longer used in Btu calculations in this report, but they are retained on Table A6 for purposes of comparison.

**Electricity Net Generation, Nuclear Plants.** 1973–1984: Calculated annually 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 were reported on Form FERC-1, “Annual Report of Major Electric Utilities, Licensees, and Others”; Form EIA-412, “Annual Report of Public Electric Utilities”; and predecessor forms. For 1982, the factors were published in EIA, *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982*, page 215. For 1983 and 1984, the factors were published in EIA, *Electric Plant Cost and Power Production Expenses 1991*, Table 13. 1985 forward: Calculated annually by EIA by using the heat rate reported on Form EIA-860, “Annual Electric Generator Report” (and predecessor forms), and the generation reported on Form EIA-923, “Power Plant Operations Report” (and predecessor forms).



# B

## Appendix

### Metric Conversion Factors, Metric Prefixes, and Other Physical Conversion Factors

Data presented in the *Monthly Energy Review* and in other U.S. 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		Equivalent in	Metric Units
<b>Mass</b>	1 short ton (2,000 lb)	=	0.907 184 7	metric tons (t)
	1 long ton	=	1.016 047	metric tons (t)
	1 pound (lb)	=	0.453 592 37 <sup>a</sup>	kilograms (kg)
	1 pound uranium oxide (lb U <sub>3</sub> O <sub>8</sub> )	=	0.384 647 <sup>b</sup>	kilograms uranium (kgU)
	1 ounce, avoirdupois (avdp oz)	=	28.349 52	grams (g)
<b>Volume</b>	1 barrel of oil (bbl)	=	0.158 987 3	cubic meters (m <sup>3</sup> )
	1 cubic yard (yd <sup>3</sup> )	=	0.764 555	cubic meters (m <sup>3</sup> )
	1 cubic foot (ft <sup>3</sup> )	=	0.028 316 85	cubic meters (m <sup>3</sup> )
	1 U.S. gallon (gal)	=	3.785 412	liters (L)
	1 ounce, fluid (fl oz)	=	29.573 53	milliliters (mL)
	1 cubic inch (in <sup>3</sup> )	=	16.387 06	milliliters (mL)
<b>Length</b>	1 mile (mi)	=	1.609 344 <sup>a</sup>	kilometers (km)
	1 yard (yd)	=	0.914 4 <sup>a</sup>	meters (m)
	1 foot (ft)	=	0.304 8 <sup>a</sup>	meters (m)
	1 inch (in)	=	2.54 <sup>a</sup>	centimeters (cm)
<b>Area</b>	1 acre	=	0.404 69	hectares (ha)
	1 square mile (mi <sup>2</sup> )	=	2.589 988	square kilometers (km <sup>2</sup> )
	1 square yard (yd <sup>2</sup> )	=	0.836 127 4	square meters (m <sup>2</sup> )
	1 square foot (ft <sup>2</sup> )	=	0.092 903 04 <sup>a</sup>	square meters (m <sup>2</sup> )
	1 square inch (in <sup>2</sup> )	=	6.451 6 <sup>a</sup>	square centimeters (cm <sup>2</sup> )
<b>Energy</b>	1 British thermal unit (Btu) <sup>c</sup>	=	1,055.055 852 62 <sup>a</sup>	joules (J)
	1 calorie (cal)	=	4.186 8 <sup>a</sup>	joules (J)
	1 kilowatthour (kWh)	=	3.6 <sup>a</sup>	megajoules (MJ)
<b>Temperature<sup>d</sup></b>	32 degrees Fahrenheit (°F)	=	0 <sup>a</sup>	degrees Celsius (°C)
	212 degrees Fahrenheit (°F)	=	100 <sup>a</sup>	degrees Celsius (°C)

<sup>a</sup>Exact conversion.

<sup>b</sup>Calculated by the U.S. Energy Information Administration.

<sup>c</sup>The Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

<sup>d</sup>To convert degrees Fahrenheit (°F) to degrees Celsius (°C) exactly, subtract 32, then multiply by 5/9.

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, see <http://physics.nist.gov/cuu/Units/index.html>.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: • General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 1993), pp. 9-11, 13, and 16. • U.S. Department of Commerce, 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 <sup>1</sup>	deka	da	10 <sup>-1</sup>	deci	d
10 <sup>2</sup>	hecto	h	10 <sup>-2</sup>	centi	c
10 <sup>3</sup>	kilo	k	10 <sup>-3</sup>	milli	m
10 <sup>6</sup>	mega	M	10 <sup>-6</sup>	micro	μ
10 <sup>9</sup>	giga	G	10 <sup>-9</sup>	nano	n
10 <sup>12</sup>	tera	T	10 <sup>-12</sup>	pico	p
10 <sup>15</sup>	peta	P	10 <sup>-15</sup>	femto	f
10 <sup>18</sup>	exa	E	10 <sup>-18</sup>	atto	a
10 <sup>21</sup>	zetta	Z	10 <sup>-21</sup>	zepto	z
10 <sup>24</sup>	yotta	Y	10 <sup>-24</sup>	yocto	y

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

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		Equivalent in Final Units
<b>Petroleum</b>	1 barrel (bbl)	=	42 <sup>a</sup> U.S. gallons (gal)
<b>Coal</b>	1 short ton	=	2,000 <sup>a</sup> pounds (lb)
	1 long ton	=	2,240 <sup>a</sup> pounds (lb)
	1 metric ton (t)	=	1,000 <sup>a</sup> kilograms (kg)
<b>Wood</b>	1 cord (cd)	=	1.25 <sup>b</sup> shorts tons
	1 cord (cd)	=	128 <sup>a</sup> cubic feet (ft <sup>3</sup> )

<sup>a</sup>Exact conversion.

<sup>b</sup>Calculated by the U.S. Energy Information Administration.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

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.



# Glossary

**Alcohol:** The family name of a group of organic chemical compounds composed of carbon, hydrogen, and oxygen. The series of molecules vary in chain length and are composed of a **hydrocarbon** plus a hydroxyl group;  $\text{CH}_3\text{-(CH}_2)_n\text{-OH}$  (e.g., **methanol**, **ethanol**, and tertiary butyl alcohol). See **Fuel Ethanol**.

**Alternative Fuel:** Alternative fuels, for transportation applications, include the following: **methanol**; denatured **ethanol**, and other **alcohols**; fuel mixtures containing 85 percent or more by volume of methanol, denatured ethanol, and other alcohols with **motor gasoline** or other fuels; **natural gas**; **liquefied petroleum gas (propane)**; **hydrogen**; **coal-derived liquid fuels**; fuels (other than alcohol) derived from biological materials (**biofuels** such as **soy diesel fuel**); **electricity** (including electricity from **solar energy**); and "... any other fuel the Secretary determines, by rule, is substantially not **petroleum** and would yield substantial energy security benefits and substantial environmental benefits." The term "alternative fuel" does not include alcohol or other blended portions of primarily petroleum-based fuels used as **oxygenates** or extenders, i.e., **MTBE**, **ETBE**, other ethers, and the 10-percent ethanol portion of **gasohol**.

**Alternative-Fuel Vehicle (AFV):** A vehicle designed to operate on an **alternative fuel** (e.g., compressed **natural gas**, **methane** blend, or **electricity**). The vehicle could be either a dedicated vehicle designed to operate exclusively on alternative fuel or a nondedicated vehicle designed to operate on alternative fuel and/or a traditional fuel.

**Anthracite:** The highest rank of **coal**; used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million **Btu** per **short ton** on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). *Note:* Since the 1980's, anthracite refuse or mine waste has been used for steam-electric power generation. This fuel typically has a heat content of 15 million Btu per ton or less.

**Anthropogenic:** Made or generated by a human or caused by human activity. The term is used in the context of **global climate change** to refer to gaseous emissions that are the result of human activities, as well as other potentially climate-altering activities, such as deforestation.

**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 will be used for blending or compounding into finished aviation gasoline (e.g., straight run gasoline, alkylate, reformate, benzene, toluene, and xylene). Excludes oxygenates (alcohols, ethers), butane, and pentanes plus.

**Aviation Gasoline, Finished:** A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines. Fuel specifications are provided in ASTM Specification D 910 and Military Specification MIL-G-5572. *Note:* Data on blending components are not counted in data on finished aviation gasoline.

**Barrel (Petroleum):** A unit of volume equal to 42 U.S. Gallons.

**Base Gas:** The volume of gas needed as a permanent inventory to maintain adequate underground storage reservoir pressures and deliverability rates throughout the withdrawal season. All native gas is included in the base gas volume.

**Biodiesel:** A fuel typically made from soybean, canola, or other vegetable oils; animal fats; and recycled grease. It can serve as a substitute for **petroleum-derived diesel fuel** or **distillate fuel oil**. For U.S. Energy Information Administration reporting, it is a fuel composed of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, and meeting the requirements of ASTM (American Society for Testing & Materials) D 6751.

**Biofuels:** Liquid fuels and blending components produced from **biomass** (plant) feedstocks, used primarily for transportation. See **Biodiesel** and **Fuel Ethanol**.

**Biogenic:** Produced by biological processes of living organisms. Note: EIA uses the term "biogenic" to refer only to organic nonfossil material of biological origin.

**Biomass:** Organic non-fossil material of biological origin constituting a **renewable energy** source. See **Biodiesel**,

## **Biofuels, Biomass Waste, Fuel Ethanol, and Wood and Wood-Derived Fuels.**

**Biomass Waste:** Organic non-fossil material of biological origin that is a byproduct or a discarded product. "Biomass waste" includes municipal solid waste from **biogenic** sources, landfill gas, sludge waste, agricultural crop byproducts, straw, and other **biomass** solids, liquids, and gases; but excludes **wood and wood-derived fuels** (including **black liquor**), **biofuels** feedstock, **biodiesel**, and **fuel ethanol**. **Note:** EIA "biomass waste" data also include energy crops grown specifically for energy production, which would not normally constitute waste.

**Bituminous Coal:** A dense **coal**, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make **coke**. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million **Btu per short ton** on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Black Liquor:** A byproduct of the paper production process, alkaline spent liquor, that can be used as a source of energy. Alkaline spent liquor is removed from the digesters in the process of chemically pulping wood. After evaporation, the residual "black" liquor is burned as a fuel in a recovery furnace that permits the recovery of certain basic chemicals.

**British Thermal Unit (Btu):** The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit). See **Heat Content**.

**Btu:** See **British Thermal Unit**.

**Btu Conversion Factor:** A factor for converting **energy** data between one unit of measurement and **British thermal units (Btu)**. Btu conversion factors are generally used to convert energy data from physical units of measure (such as **barrels**, **cubic feet**, or **short tons**) into the energy-equivalent measure of Btu. (See <http://www.eia.gov/totalenergy/data/monthly/#appendices> for further information on Btu conversion factors.)

**Butane:** A normally gaseous straight-chain or branched-chain hydrocarbon (C<sub>4</sub>H<sub>10</sub>). It is extracted from natural gas or refinery gas streams. It includes isobutane and normal butane and is designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial butane.

*Isobutane:* A normally gaseous branched-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams.

*Normal Butane:* A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 31.1° F. It is extracted from natural gas or refinery gas streams.

**Butylene:** An olefinic hydrocarbon (C<sub>4</sub>H<sub>8</sub>) 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.

**Carbon Dioxide (CO<sub>2</sub>):** A colorless, odorless, non-poisonous gas that is a normal part of Earth's atmosphere. Carbon dioxide is a product of **fossil-fuel** combustion as well as other processes. It is considered a **greenhouse gas** as it traps heat (infrared energy) radiated by the Earth into the atmosphere and thereby contributes to the potential for **global warming**. The **global warming potential (GWP)** of other greenhouse gases is measured in relation to that of carbon dioxide, which by international scientific convention is assigned a value of one (1).

**Chained Dollars:** A measure used to express **real prices**. Real prices are those that have been adjusted to remove the effect of changes in the purchasing power of the dollar; they usually reflect buying power relative to a reference year. Prior to 1996, real prices were expressed in constant dollars, a measure based on the weights of goods and services in a single year, usually a recent year. In 1996, the U.S. Department of Commerce introduced the chained-dollar measure. The new measure is based on the average weights of goods and services in successive pairs of years. It is "chained" because the second year in each pair, with its weights, becomes the first year of the next pair. The advantage of using the chained-dollar measure is that it is more closely related to any given period and is therefore subject to less distortion over time.

**CIF:** See **Cost, Insurance, Freight**.

**City Gate:** A point or measuring station at which a distribution gas utility receives gas from a natural gas pipeline company or transmission system.

**Climate Change:** A term used to refer to all forms of climatic inconsistency, but especially to significant change from one prevailing climatic condition to another. In some cases, "climate change" has been used synonymously with the term "**global warming**"; scientists, however, tend to use the term in a wider sense inclusive of natural changes in climate, including climatic cooling.



**Coal:** A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time. See **Anthracite, Bituminous Coal, Lignite, Subbituminous Coal, Waste Coal, and Coal Synfuel.**

**Coal Coke:** See **Coke, Coal.**

**Coal Stocks:** Coal quantities that are held in storage for future use and disposition. Note: When coal data are collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of the period.

**Coal Synfuel:** Coal-based solid fuel that has been processed by a **coal synfuel plant**; and coal-based fuels such as briquettes, pellets, or extrusions, which are formed from fresh or recycled coal and binding materials.

**Coal Synfuel Plant:** A plant engaged in the chemical transformation of coal into **coal synfuel.**

**Coke, Coal:** A solid carbonaceous residue derived from low-ash, low-sulfur bituminous coal from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000° F so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke (coal) has a heating value of 24.8 million Btu per ton.

**Coke, Petroleum:** A residue high in carbon content and low in hydrogen that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion is 5 barrels (42 U.S. gallons each) per short ton. Coke (petroleum) has a heating value of 6.024 million Btu per barrel.

**Coking Coal:** Bituminous coal suitable for making coke. See **Coke, Coal.**

**Combined-Heat-and-Power (CHP) Plant:** A plant designed to produce both heat and electricity from a single heat source. Note: This term is being used in place of the term "cogenerator" that was used by EIA in the past. CHP better describes the facilities because some of the plants included do not produce heat and power in a sequential fashion and, as a result, do not meet the legal definition of cogeneration specified in the Public Utility Regulatory Policies Act (PURPA).

**Commercial Sector:** An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious,

social, or fraternal groups. The commercial sector includes institutional living quarters. It also includes sewage treatment facilities. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment. *Note:* This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments. Various EIA programs differ in sectoral coverage—for more information see <http://www.eia.gov/neic/datadefinitions/Guideforwebcom.htm>. See **End-Use Sectors** and **Energy-Use Sectors.**

**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.

**Conventional Gasoline:** Finished motor gasoline not included in the oxygenated or reformulated gasoline categories. *Note:* This category excludes reformulated gasoline blendstock for oxygenate blending (RBOB) as well as other blendstock.

**Conventional Hydroelectric Power:** Hydroelectric power generated from flowing water that is not created by **hydroelectric pumped storage.**

**Conversion Factor:** A factor for converting data between one unit of measurement and another (such as between **short tons** and **British thermal units**, or between **barrels** and gallons). (See <http://www.eia.gov/totalenergy/data/monthly/#appendices> and <http://www.eia.gov/totalenergy/data/monthly/#appendices> for further information on conversion factors.) See **Btu Conversion Factor** and **Thermal Conversion Factor.**

**Cost, Insurance, Freight (CIF):** A sales transaction in which the seller pays for the transportation and insurance of the goods to the port of destination specified by the buyer.

**Crude Oil:** A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include: 1) small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casinghead) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included; 2) small amounts of nonhydrocarbons produced with the oil, such as sulfur and

various metals; and 3) drip gases, and liquid hydrocarbons produced from tar sands, oil sands, gilsonite, and oil shale.

Liquids produced at natural gas processing plants are excluded. Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel and jet fuels; lubricants; asphalt; ethane, propane, and butane; and many other products used for their energy or chemical content.

**Crude Oil F.O.B. Price:** The crude oil price actually charged at the oil-producing country's port of loading. Includes deductions for any rebates and discounts or additions of premiums, where applicable. It is the actual price paid with no adjustment for credit terms.

**Crude Oil (Including Lease Condensate):** A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual oil) and other unfinished oils are excluded. Where identifiable, liquids produced at natural gas 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.

**Crude 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.

**Cubic Foot (Natural Gas):** A unit of volume equal to 1 cubic foot at a pressure base of 14.73 pounds standard per square inch absolute and a temperature base of 60° F.

**Degree-Day Normals:** Simple arithmetic averages of monthly or annual degree-days over a long period of time (usually the 30-year period 1961-1990). The averages may be simple degree-day normals or population-weighted degree-day normals.

**Degree-Days, Cooling (CDD):** A measure of how warm a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the base temperature (65 degrees) from the average of the day's high and low temperatures, with negative values set equal to zero. Each day's cooling degree-days are summed to create a cooling degree-day measure for a specified reference period. Cooling degree-days are used in energy analysis as an indicator of air conditioning energy requirements or use.

**Degree-Days, Heating (HDD):** A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree-days are summed to create a heating degree-day measure for a specified reference period. Heating degree-days are used in energy analysis as an indicator of space heating energy requirements or use.

**Degree-Days, Population-Weighted:** Heating or cooling degree-days weighted by the population of the area in which the degree-days are recorded. To compute State population-weighted degree-days, each State is divided into from one to nine climatically homogeneous divisions, which are assigned weights based on the ratio of the population of the division to the total population of the State. Degree-day readings for each division are multiplied by the corresponding population weight for each division and those products are then summed to arrive at the State population-weighted degree-day figure. To compute national population-weighted degree-days, the Nation is divided into nine Census regions, each comprising from three to eight States, which are assigned weights based on the ratio of the population of the region to the total population of the Nation. Degree-day readings for each region are multiplied by the corresponding population weight for each region and those products are then summed to arrive at the national population-weighted degree-day figure.

**Denaturant: Petroleum,** typically **pentanes plus** or **conventional motor gasoline**, added to **fuel ethanol** to make it unfit for human consumption. Fuel ethanol is denatured, usually prior to transport from the ethanol production facility, by adding 2 to 5 volume percent denaturant. See **Fuel Ethanol** and **Fuel Ethanol Minus Denaturant**.

**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.

**Diesel Fuel:** A fuel composed of **distillate fuel oils** obtained in petroleum refining operation or blends of such distillate fuel oils with **residual fuel oil** used in motor vehicles. The boiling point and specific gravity are higher for diesel fuels than for gasoline.

**Direct Use:** Use of electricity that 1) is self-generated, 2) is produced by either the same entity that consumes the power or an affiliate, and 3) is used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of **station use**.

**Distillate Fuel Oil:** A general classification for one of the **petroleum** fractions produced in conventional distillation operations. It includes **diesel fuels** and fuel oils. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as those in trucks and automobiles, as well as off-highway engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and **electricity generation**.

**Dry Hole:** An exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

**Dry Natural Gas Production:** See **Natural Gas (Dry) Production**.

**E85:** A fuel containing a mixture of 85 percent **ethanol** and 15 percent **motor gasoline**.

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

**Electric Power Sector:** An energy-consuming sector that consists of electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public-i.e., North American Industry Classification System 22 plants. See also **Combined-Heat-and-Power (CHP) Plant**, **Electricity-Only Plant**, **Electric Utility**, and **Independent Power Producer**.

**Electric Utility:** Any entity that generates, transmits, or distributes **electricity** and recovers the cost of its generation, transmission or distribution assets and operations, either directly or indirectly, through cost-based rates set by a separate regulatory authority (e.g., State Public Service Commission), or is owned by a governmental unit or the consumers that the entity serves. Examples of these entities include: investor-owned entities, public power districts, public utility districts, municipalities, rural electric cooperatives, and State and Federal agencies. Electric utilities may have Federal Energy Regulatory Commission approval for interconnection agreements and wholesale trade tariffs covering either cost-of-service and/or market-based rates

under the authority of the Federal Power Act. See **Electric Power Sector**.

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

**Electricity:** A form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change.

**Electricity Generation:** The process of producing electric energy, or the amount of electric energy produced by transforming other forms of energy, commonly expressed in **kilowatthours** (kWh) or megawatthours (Mwh).

**Electricity Generation, Gross:** The total amount of electric energy produced by generating units and measured at the generating terminal in **kilowatthours** (kWh) or megawatthours (MWh).

**Electricity Generation, Net:** The amount of **gross electricity generation** less **station use** (the **electric energy** consumed at the generating station(s) for station service or auxiliaries). *Note:* Electricity required for pumping at **hydroelectric pumped-storage** plants is regarded as electricity for station service and is deducted from gross generation.

**Electricity-Only Plant:** A plant designed to produce electricity only. See also **Combined-Heat-and-Power (CHP) Plant**.

**Electricity Retail Sales:** The amount of electricity sold to customers purchasing electricity for their own use and not for resale.

**End-Use Sectors:** The **residential**, **commercial**, **industrial**, and **transportation** sectors of the economy.

**Energy:** The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

**Energy Consumption:** The use of energy as a source of heat or power or as an input in the manufacturing process.

**Energy Service Provider:** An energy entity that provides service to a retail or end-use customer.

**Energy-Use Sectors:** A group of major energy-consuming components of U.S. society developed to measure and

analyze energy use. The sectors most commonly referred to in EIA are: **residential, commercial, industrial, transportation, and electric power.**

**Ethane:** A normally gaseous straight-chain hydrocarbon (C<sub>2</sub>H<sub>6</sub>). It is a colorless, paraffinic gas that boils at a temperature of -127.48° F. It is extracted from natural gas and refinery gas streams.

**Ethanol (C<sub>2</sub>H<sub>5</sub>OH):** A clear, colorless, flammable **alcohol**. Ethanol is typically produced biologically from **biomass** feedstocks such as agricultural crops and cellulosic residues from agricultural crops or wood. Ethanol can also be produced chemically from **ethylene**. See **Biomass, Fuel Ethanol, and Fuel Ethanol Minus Denaturant.**

**Ethylene:** An olefinic hydrocarbon (C<sub>2</sub>H<sub>4</sub>) recovered from refinery processes or petrochemical processes.

**Exploratory Well:** A well drilled to find and produce oil or gas in an area previously considered an unproductive area, to find a new reservoir in a known field (i.e., one previously found to be producing oil or gas in another reservoir), or to extend the limit of a known oil or gas reservoir.

**Exports:** Shipments of goods from within the 50 States and the District of Columbia to U.S. possessions and territories or to foreign countries.

**Extraction Loss:** The reduction in volume of natural gas due to the removal of natural gas liquid constituents, such as ethane, propane, and butane, at natural gas processing plants.

**Federal Energy Administration (FEA):** A predecessor of the U.S. Energy Information Administration.

**Federal Energy Regulatory Commission (FERC):** The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification. FERC is an independent regulatory agency within the U.S. 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 U.S. Department of Energy was created. Its functions were divided between the U.S. Department of Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

**First Purchase Price:** The price for domestic crude oil reported by the company that owns the crude oil the first time it is removed from the lease boundary.

**Flared Natural Gas:** Natural gas burned in flares on the base site or at gas processing plants.

**F.O.B. (Free on Board):** A sales transaction in which the seller makes the product available for pick up at a specified port or terminal at a specified price and the buyer pays for the subsequent transportation and insurance.

**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 **Union of Soviet Socialist Republics (U.S.S.R.).**

**Fossil Fuel:** An energy source formed in the Earth's crust from decayed organic material, such as **petroleum, coal, and natural gas.**

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

**Fuel Ethanol:** **Ethanol** intended for fuel use. Fuel ethanol in the United States must be anhydrous (less than 1 percent water). Fuel ethanol is denatured (made unfit for human consumption), usually prior to transport from the ethanol production facility, by adding 2 to 5 volume percent petroleum, typically **pentanes plus** or **conventional motor gasoline**. Fuel ethanol is used principally for blending in low concentrations with **motor gasoline** as an **oxygenate** or octane enhancer. In high concentrations, it is used to fuel **alternative-fuel vehicles** specially designed for its use. See **Alternative-Fuel Vehicle, Denaturant, E85, Ethanol, Fuel Ethanol Minus Denaturant, and Oxygenates.**

**Fuel Ethanol Minus Denaturant:** An unobserved quantity of anhydrous, **biomass-derived**, undenatured **ethanol** for fuel use. The quantity is obtained by subtracting the estimated **denaturant** volume from **fuel ethanol** volume. Fuel ethanol minus denaturant is counted as **renewable energy**, while denaturant is counted as **nonrenewable fuel**. See **Denaturant, Ethanol, Fuel Ethanol, Nonrenewable Fuels, Oxygenates, and Renewable Energy.**

**Full-Power Operation:** Operation of a nuclear generating unit at 100 percent of its design capacity. Full-power operation precedes commercial operation.

**Gasohol:** A blend of finished motor gasoline containing alcohol (generally **ethanol** but sometimes methanol) at a concentration between 5.7 percent and 10 percent by volume. See **Motor Gasoline, Oxygenated**.

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

**Geothermal Energy:** Hot water or steam extracted from geothermal reservoirs in the earth's crust and used for geothermal heat pumps, water heating, or electricity generation.

**Global Warming:** An increase in the near-surface temperature of the Earth. Global warming has occurred in the distant past as the result of natural influences, but the term is today most often used to refer to the warming some scientists predict will occur as a result of increased **anthropogenic** emissions of **greenhouse gases**. See **Climate Change**.

**Global Warming Potential (GWP):** An index used to compare the relative radiative forcing of different gases without directly calculating the changes in atmospheric concentrations. GWPs are calculated as the ratio of the radiative forcing that would result from the emission of one kilogram of a **greenhouse gas** to that from the emission of one kilogram of **carbon dioxide** over a fixed period of time, such as 100 years.

**Greenhouse Gases:** Those gases, such as water vapor, **carbon dioxide**, nitrous oxide, **methane**, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride, that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.

**Gross Domestic Product (GDP):** The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier (that is, the workers and, for property, the owners) may be either U.S. residents or residents of foreign countries.

**GT/IC:** Gas turbine and internal combustion plants.

**Heat Content:** The amount of heat energy available to be released by the transformation or use of a specified physical unit of an energy form (e.g., a ton of coal, a barrel of oil, a kilowatthour of electricity, a cubic foot of natural gas, or a pound of steam). The amount of heat energy is commonly expressed in **British thermal units (Btu)**. *Note:* Heat content of combustible energy forms can be expressed in terms of either gross heat content (higher or upper heating value) or net heat content (lower heating value), depending upon whether or not the available heat energy includes or

excludes the energy used to vaporize water (contained in the original energy form or created during the combustion process). The U.S. Energy Information Administration typically uses gross heat content values.

**Heat Rate:** A measure of generating station thermal efficiency commonly stated as **Btu per kilowatthour**. *Note:* Heat rates can be expressed as either gross or net heat rates, depending whether the electricity output is gross or net generation. Heat rates are typically expressed as net heat rates.

**Hydrocarbon:** An organic chemical compound of hydrogen and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, the primary constituent of natural gas) to the very heavy and very complex.

**Hydroelectric Power:** The production of electricity from the kinetic energy of falling water.

**Hydroelectric Power Plant:** A plant in which the turbine generators are driven by falling water.

**Hydroelectric Pumped Storage:** Hydroelectricity that is generated during peak load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

**Hydrogen (H):** The lightest of all gases, hydrogen occurs chiefly in combination with oxygen in water. It also exists in acids, bases, **alcohols**, **petroleum**, and other **hydrocarbons**.

**Imports:** Receipts of goods into the 50 States and the District of Columbia from U.S. possessions and territories or from foreign countries.

**Independent Power Producer:** A corporation, person, agency, authority, or other legal entity or instrumentality that owns or operates facilities for the generation of electricity for use primarily by the public, and that is not an **electric utility**.

**Industrial Sector:** An **energy-consuming** sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing (**NAICS** codes 31-33); agriculture, forestry, fishing and hunting (**NAICS** code 11); mining, including oil and gas extraction (**NAICS** code 21); and construction (**NAICS** code 23). Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. *Note:* This sector includes **generators** that produce **electricity** and/or **useful thermal output** primarily to support the

above-mentioned industrial activities. Various EIA programs differ in sectoral coverage—for more information see

<http://www.eia.gov/neic/datadefinitions/Guideforwebind.htm>. See **End-Use Sectors** and **Energy-Use Sectors**.

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

**Isobutane:** A normally gaseous branch-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. It is extracted from natural gas or refinery gas streams. See **Butane**.

**Isobutylene:** An olefinic hydrocarbon recovered from refinery processes or petrochemical processes.

**Isopentane:** A saturated branched-chain hydrocarbon obtained by fractionation of natural gasoline or isomerization of normal pentane.

**Jet Fuel:** A refined petroleum product used in jet aircraft engines. It includes kerosene-type jet fuel and naphtha-type jet fuel.

**Jet Fuel, Kerosene-Type:** A kerosene-based product with a maximum distillation temperature of 400° F at the 10-percent recovery point and a final maximum boiling point of 572° F. Fuel specifications are provided in ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8). It is used primarily for commercial turbojet and turboprop aircraft engines.

**Jet Fuel, Naphtha-Type:** A fuel in the heavy naphtha boiling range, with an average gravity of 52.8 degrees API, 20 to 90 percent distillation temperatures of 290° to 470° F and meeting Military Specification MIL-T-5624L (Grade JP-4). It is used by the military for turbojet and turboprop engines.

**Kerosene:** A petroleum distillate having a maximum distillation temperature of 401° F at the 10-percent recovery point, a final boiling point of 572° F, and a minimum flash point of 100° F. Included are the two grades designated in ASTM D3699 (No. 1-K and No. 2-K) and all grades of kerosene called range or stove oil. Kerosene is used in space heaters, cook stoves, and water heaters; it is suitable for use as an illuminant when burned in wick lamps.

**Kilowatt:** A unit of electrical power equal to 1,000 watts.

**Kilowatthour (kWh):** A measure of electricity defined as a unit of work or energy, measured as 1 kilowatt (1,000 watts) of power expended for 1 hour. One kilowatthour is equivalent to 3,412 Btu. See **Watthour**.

**Landed Costs:** The dollar-per-barrel price of crude oil at the port of discharge. Included are the charges associated

with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Not included are charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage charges).

**Lease and Plant Fuel:** Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and used as fuel in natural gas processing plants.

**Lease Condensate:** A mixture consisting primarily of pentanes and heavier hydrocarbons, which is recovered as a liquid from natural gas in lease or field separation facilities. Note: This category excludes natural gas liquids, such as butane and propane, which are recovered at natural gas processing plants or facilities.

**Lignite:** The lowest rank of coal, often referred to as brown coal, used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million Btu per short ton on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 13 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Liquefied Natural Gas (LNG):** Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260° F at atmospheric pressure.

**Liquefied Petroleum Gases (LPG):** Ethane, ethylene, propane, propylene, normal butane, butylene, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate new natural gas plant liquids.

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

**Lubricants:** Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricant categories are paraffinic and naphthenic.

**Marketed Production (Natural Gas):** 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.

**Methane:** A colorless, flammable, odorless, hydrocarbon gas (CH<sub>4</sub>) that is the principal constituent of natural gas. It is also an important source of hydrogen in various industrial processes.

**Methyl Tertiary Butyl Ether (MTBE):** An ether, (CH<sub>3</sub>)<sub>3</sub>COCH<sub>3</sub>, intended for motor gasoline blending. See **Oxygenates**.

**Methanol:** A light, volatile alcohol (CH<sub>3</sub>OH) eligible for motor gasoline blending. See **Oxygenates**.

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

**Motor Gasoline Blending:** Mechanical mixing of **motor gasoline blending components** and **oxygenates** as required, to produce finished motor gasoline. Finished motor gasoline may be further mixed with other motor gasoline blending components or oxygenates, resulting in increased volumes of finished motor gasoline and/or changes in the formulation of finished motor gasoline (e.g., conventional motor gasoline mixed with MTBE to produce oxygenated motor gasoline).

**Motor Gasoline Blending Components:** Naphtha (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, xylene) used for blending or compounding into finished motor gasoline. These components include reformulated gasoline blendstock (RBOB) but exclude oxygenates (alcohols, ethers), butane, and pentanes plus. *Note:* oxygenates are reported as individual components and are included in the total for other hydrocarbons, hydrogens, and oxygenates.

**Motor Gasoline, Finished:** A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition. Motor gasoline, as defined in ASTM Specification D-4814 or Federal Specification VV-G-1690C, is characterized as having a boiling range of 122°F to 158°F at the 10-percent recovery point to 365°F to 374°F at the 90-percent recovery point. “Motor gasoline” includes conventional gasoline, all types of oxygenated gasoline including gasohol, and reformulated gasoline, but excludes aviation gasoline. *Note:* Volumetric data on blending components, as well as oxygenates, are not counted in data on finished motor gasoline until the blending components are blended into the gasoline.

**Motor Gasoline Grades:** The classification of gasoline by octane ratings. Each type of gasoline (conventional, oxygenated, and reformulated) is classified by three

grades: regular, midgrade, and premium. *Note:* Gasoline sales are reported by grade in accordance with their classification at the time of sale. In general, automotive octane requirements are lower at high altitudes. Therefore, in some areas of the United States, such as the Rocky Mountain States, the octane ratings for the gasoline grades may be 2 or more octane points lower.

**Regular Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than 88. *Note:* Octane requirements may vary by altitude. See **Motor Gasoline Grades**.

**Midgrade Gasoline:** Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 88 and less than or equal to 90. *Note:* Octane requirements may vary by altitude. See **Motor Gasoline Grades**.

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

**Motor Gasoline, Oxygenated:** Finished motor gasoline, other than reformulated gasoline, having an oxygen content of 2.7 percent or higher by weight and required by the U.S. Environmental Protection Agency (EPA) to be sold in areas designated by EPA as carbon monoxide (CO) nonattainment areas. *Note:* Oxygenated gasoline excludes oxygenated fuels program reformulated gasoline (OPRG) and reformulated gasoline blendstock for oxygenate blending (RBOB). Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside CO nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline.

**Motor Gasoline, Reformulated:** Finished motor gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under Section 211(k) of the Clean Air Act. *Note:* This category includes oxygenated fuels program reformulated gasoline (OPRG) but excludes reformulated gasoline blendstock for oxygenate blending (RBOB).

**Motor Gasoline Retail Prices:** Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). Those prices are collected in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-service).

**Motor Gasoline (Total):** For stock level data, a sum including finished motor gasoline stocks plus stocks of

motor gasoline blending components but excluding stocks of oxygenates.

**MTBE:** See **Methyl Tertiary Butyl Ether**.

**NAICS (North American Industry Classification System):** A coding system developed jointly by the United States, Canada, and Mexico to classify businesses and industries according to the type of economic activity in which they are engaged. NAICS replaces the Standard Industrial Classification (SIC) codes. For additional information on NAICS, go to <http://www.census.gov/eos/www/naics/>.

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

**Natural Gas:** A gaseous mixture of hydrocarbon compounds, primarily methane, used as a fuel for electricity generation and in a variety of ways in buildings, and as raw material input and fuel for industrial processes.

**Natural Gas, Dry:** Natural gas which remains after: 1) the liquefiable hydrocarbon portion has been removed from the gas stream (i.e., gas after lease, field, and/or plant separation); and 2) any volumes of nonhydrocarbon gases have been removed where they occur in sufficient quantity to render the gas unmarketable. *Note:* Dry natural gas is also known as consumer-grade natural gas. The parameters for measurement are cubic feet at 60 degrees Fahrenheit and 14.73 pounds per square inch absolute.

**Natural Gas (Dry) Production:** The process of producing consumer-grade natural gas. Natural gas withdrawn from reservoirs is reduced by volumes used at the production (lease) site and by processing losses. Volumes used at the production site include 1) the volume returned to reservoirs in cycling, repressuring of oil reservoirs, and conservation operations; and 2) gas vented and flared. Processing losses include 1) nonhydrocarbon gases (e.g., water vapor, carbon dioxide, helium, hydrogen sulfide, and nitrogen) removed from the gas stream; and 2) gas converted to liquid form, such as lease condensate and plant liquids. Volumes of dry gas withdrawn from gas storage reservoirs are not considered part of production. Dry natural gas production equals marketed production less extraction loss.

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

**Natural Gas Plant Liquids (NGPL):** Natural gas liquids recovered from natural gas in processing plants and, in some situations, from natural gas field facilities, as well as those extracted by fractionators. Natural gas plant

liquids are defined according to the published specifications of the Gas Processors Association and the American Society for Testing and Material as follows: ethane, propane, normal butane, isobutane, pentanes plus, and other products from natural gas processing plants (i.e., products meeting the standards for finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

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

**Natural Gasoline:** A mixture of hydrocarbons (mostly pentanes and heavier) extracted from natural gas that meets vapor pressure, end-point, and other specifications for natural gasoline set by the Gas Processors Association. Includes isopentane, which is a saturated branch-chain hydrocarbon obtained by fractionation of natural gasoline or isomerization of normal pentane.

**Net Summer Capacity:** The maximum output, commonly expressed in **kilowatts** (kW) or **megawatts** (MW), that generating equipment can supply to system load, as demonstrated by a multi-hour test, at the time of summer peak demand (period of June 1 through September 30). This output reflects a reduction in capacity due to electricity use for station service or auxiliaries.

**Neutral Zone:** A 6,200 square-mile area shared equally between Kuwait and Saudi Arabia under a 1992 agreement. The Neutral Zone contains an estimated 5 billion barrels of oil and 8 trillion cubic feet of natural gas.

**Nominal Dollars:** A measure used to express **nominal price**.

**Nominal Price:** The price paid for a product or service at the time of the transaction. Nominal prices are those that have not been adjusted to remove the effect of changes in the purchasing power of the dollar; they reflect buying power in the year in which the transaction occurred.

**Non-Biomass Waste:** Material of non-biological origin that is a byproduct or a discarded product. "Non-biomass waste" includes municipal solid waste from non-biogenic sources, such as plastics, and tire-derived fuels.

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



**Nonrenewable Fuels:** Fuels that cannot be easily made or "renewed," such as **crude oil, natural gas, and coal.**

**Nuclear Electric Power (Nuclear Power):** Electricity generated by the use of the thermal energy released from the fission of nuclear fuel in a reactor.

**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 a nuclear fission chain reaction can be initiated, controlled, and sustained at a specific rate. A reactor includes fuel (fissionable material), moderating material to control the rate of fission, a heavy-walled pressure vessel to house reactor components, shielding to protect personnel, a system to conduct heat away from the reactor, and instrumentation for monitoring and controlling the reactor's systems.

**OECD:** See **Organization for Economic Cooperation and Development.**

**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.**

**OPEC:** See **Organization of the Petroleum Exporting Countries.**

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

**Organization for Economic Cooperation and Development (OECD):** An international organization helping governments tackle the economic, social and governance challenges of a globalized economy. Its membership comprises about 30 member countries. With active relationships with some 70 other countries, non-governmental organizations (NGOs) and civil society, it has a global reach. For details about the organization, see <http://www.oecd.org>.

**Organization of the Petroleum Exporting Countries (OPEC):** An intergovernmental organization whose stated objective is to "coordinate and unify the petroleum policies of member countries." It was created at the Baghdad Conference on September 10–14, 1960. Current members (with years of membership) include Algeria (1969–present), Angola (2007–present), Ecuador (1973–1992 and 2007–present), Iran (1960–present), Iraq (1960–present), Kuwait (1960–present), Libya (1962–present), Nigeria

(1971–present), Qatar (1961–present), Saudi Arabia (1960–present), United Arab Emirates (1967–present), and Venezuela (1960–present). Countries no longer members of OPEC include Gabon (1975–1994) and Indonesia (1962–2008).

**Oxygenates:** Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. **Ethanol, Methyl Tertiary Butyl Ether (MTBE), Ethyl Tertiary Butyl Ether (ETBE), and methanol** are common oxygenates.

**PAD Districts:** Petroleum Administration for Defense Districts. Geographic aggregations of the 50 States and the District of Columbia into five districts for the Petroleum Administration for Defense in 1950. The districts were originally instituted for economic and geographic reasons as Petroleum Administration for War (PAW) Districts, which were established in 1942.

**Pentanes Plus:** A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas. Includes isopentane, natural gasoline, and plant condensate.

**Petrochemical Feedstocks:** Chemical feedstocks derived from petroleum principally for the manufacture of chemicals, synthetic rubber, and a variety of plastics.

**Petroleum:** A broadly defined class of liquid hydrocarbon mixtures. Included are crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids. Note: Volumes of finished petroleum products include nonhydrocarbon compounds, such as additives and detergents, after they have been blended into the products.

**Petroleum Coke:** See **Coke, Petroleum.**

**Petroleum Consumption:** See **Products Supplied (Petroleum).**

**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 Stocks, Primary:** For individual products, quantities that are held at refineries, in pipelines, and at bulk terminals that have a capacity of 50,000 barrels or more, or that are in transit thereto. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but are included in other oils estimates and total.

**Photovoltaic Energy:** Direct-current electricity generated from sunlight through solid-state semiconductor devices that have no moving parts.

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

**Plant Condensate:** One of the natural gas liquids, mostly pentanes and heavier hydrocarbons, recovered and separated as liquid at gas inlet separators or scrubbers in processing plants.

**Primary Energy:** Energy in the form that it is first accounted for in a statistical energy balance, before any transformation to secondary or tertiary forms of energy. For example, coal can be converted to synthetic gas, which can be converted to electricity; in this example, coal is primary energy, synthetic gas is secondary energy, and electricity is tertiary energy. See **Primary Energy Production** and **Primary Energy Consumption**.

**Primary Energy Consumption:** Consumption of primary energy. (Energy sources that are produced from other energy sources—e.g., coal coke from coal—are included in primary energy consumption only if their energy content has not already been included as part of the original energy source. Thus, U.S. primary energy consumption does include net imports of coal coke, but not the coal coke produced from domestic coal.) The U.S. Energy Information Administration includes the following in U.S. primary energy consumption: coal consumption; coal coke net imports; **petroleum consumption (petroleum products supplied)**, including **natural gas plant liquids** and **crude oil** burned as fuel); **dry natural gas**—excluding **supplemental gaseous fuels**—consumption; **nuclear electricity net generation** (converted to Btu using the nuclear plants heat rate); **conventional hydroelectricity** net generation (converted to Btu using the fossil-fueled plants heat rate); **geothermal** electricity net generation (converted to Btu using the geothermal plants heat rate), and geothermal heat pump energy and geothermal direct use energy; **solar thermal** and **photovoltaic** electricity net generation (converted to Btu using the fossil-fueled plants heat rate), and solar thermal direct use energy; **wind** electricity net generation (converted to Btu using

the fossil-fueled plants heat rate); **wood and wood-derived fuels** consumption; **biomass waste** consumption; **fuel ethanol** and **biodiesel** consumption; losses and co-products from the production of fuel ethanol and biodiesel; and electricity net imports (converted to Btu using the electricity heat content of 3,412 Btu per kilowatt-hour). See **Total Energy Consumption**.

**Primary Energy Production:** Production of primary energy. The U.S. Energy Information Administration includes the following in U.S. primary energy production: **coal** production, **waste coal** supplied, and coal refuse recovery; **crude oil** and **lease condensate** production; **natural gas plant liquids** production; **dry natural gas**—excluding **supplemental gaseous fuels**—production; **nuclear electricity net generation** (converted to Btu using the nuclear plants heat rate); **conventional hydroelectricity** net generation (converted to Btu using the fossil-fueled plants heat rate); **geothermal** electricity net generation (converted to Btu using the geothermal plants heat rate), and geothermal heat pump energy and geothermal direct use energy; **solar thermal** and **photovoltaic** electricity net generation (converted to Btu using the fossil-fueled plants heat rate), and solar thermal direct use energy; **wind** electricity net generation (converted to Btu using the fossil-fueled plants heat rate); **wood and wood-derived fuels** consumption; **biomass waste** consumption; and **biofuels** feedstock.

**Prime Mover:** The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly.

**Products Supplied (Petroleum):** Approximately represents consumption of petroleum products because it measures the disappearance of these products from primary sources, i.e., refineries, natural gas-processing plants, blending plants, pipelines, and bulk terminals. In general, product supplied of each product in any given period is computed as follows: field production, plus refinery production, plus imports, plus unaccounted-for crude oil (plus net receipts when calculated on a PAD District basis) minus stock change, minus crude oil losses, minus refinery inputs, and minus exports.

**Propane:** A normally gaseous straight-chain hydrocarbon (C<sub>3</sub>H<sub>8</sub>). It is a colorless paraffinic gas that boils at a temperature of -43.67° F. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

**Propylene:** An olefinic hydrocarbon (C<sub>3</sub>H<sub>6</sub>) recovered from refinery or petrochemical processes.

**Real Dollars:** These are dollars that have been adjusted for inflation. See **Real Price**.

**Real Price:** A price that has been adjusted to remove the effect of changes in the purchasing power of the dollar. Real prices, which are expressed in constant dollars, usually reflect buying power relative to a base year.

**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 and Blender Net Inputs:** Raw materials, **unfinished oils**, and blending components processed at refineries, or blended at refineries or petroleum storage terminals to produce finished **petroleum products**. Included are gross inputs of **crude oil**, **natural gas plant liquids**, other **hydrocarbon** raw materials, **hydrogen**, **oxygenates** (excluding **fuel ethanol**), and renewable fuels (including fuel ethanol). Also included are net inputs of unfinished oils, **motor gasoline blending components**, and **aviation gasoline blending components**. Net inputs are calculated as gross inputs minus gross production. Negative net inputs indicate gross inputs are less than gross production. Examples of negative net inputs include reformulated gasoline blendstock for oxygenate blending (RBOB) produced at refineries for shipment to blending terminals, and unfinished oils produced and added to inventory in advance of scheduled maintenance of a refinery crude oil distillation unit.

**Refinery and Blender Net Production:** Liquefied refinery gases, and finished **petroleum products** produced at a **refinery** or petroleum storage terminal blending facility. Net production equals gross production minus gross inputs. Negative net production indicates gross production is less than gross inputs for a finished petroleum product. Examples of negative net production include reclassification of one finished product to another finished product, or reclassification of a finished product to **unfinished oils** or blending components.

**Refinery (Petroleum):** An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and alcohol.

**Refuse Mine:** A surface site where **coal** is recovered from previously mined coal. It may also be known as a silt bank, culm bank, refuse bank, slurry dam, or dredge operation.

**Refuse Recovery:** The recapture of **coal** from a **refuse mine** or the coal recaptured by that process. The resulting product has been cleaned to reduce the concentration of noncombustible materials.

**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 **conventional hydroelectric power**, **biomass**, **geothermal**, **solar**, and **wind**.

**Repressuring:** The injection of a pressurized fluid (such as air, gas, or water) into oil and gas reservoir formations to effect greater ultimate recovery.

**Residential Sector:** An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters. *Note:* Various EIA programs differ in sectoral coverage for more information see

<http://www.eia.gov/neic/datadefinitions/Guideforwebres.htm>. See **End-Use Sectors** and **Energy-Use Sectors**.

**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 (Standard Industrial Classification):** A set of codes developed by the U.S. Office of Management and Budget which categorizes industries into groups with similar economic activities. Replaced by **NAICS (North American Industry Classification System)**.

**Solar Energy:** See **Solar Thermal Energy** and **Photovoltaic Energy**.

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

**Special Naphthas:** All finished products within the naphtha boiling ranges that are used as paint thinner, cleaners or solvents. Those products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specifications D1836 and D484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline, or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks, are excluded.

**Station Use:** Energy that is used to operate an **electric power plant**. It includes energy consumed for plant lighting, power, and auxiliary facilities, regardless of whether the energy is produced at the plant or comes from another source.

**Steam Coal:** All nonmetallurgical coal.

**Steam-Electric Power Plant:** A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

**Still Gas (Refinery Gas):** Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, normal butane, butylene, propane, and propylene. It is used primarily as refinery fuel and, petrochemical feedstock.

**Stocks:** See **Coal Stocks**, **Crude Oil Stocks**, or **Petroleum Stocks, Primary**.

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

**Subbituminous Coal:** A **coal** whose properties range from those of **lignite** to those of **bituminous coal** and used primarily as fuel for steam-electric power generation. It may be dull, dark brown to black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million **Btu** per **short ton** on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 17 to 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

**Supplemental Gaseous Fuels:** Synthetic natural gas, propane-air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

**Synthetic Natural Gas (SNG):** (Also referred to as substitute natural gas) A manufactured product, chemically similar in most respects to **natural gas**, resulting from the conversion or reforming of **hydrocarbons** that may easily be substituted for or interchanged with pipeline-quality natural gas.

**Thermal Conversion Factor:** A factor for converting data between physical units of measure (such as **barrels**, **cubic feet**, or **short tons**) and thermal units of measure (such as **British thermal units**, calories, or joules); or for converting data between different thermal units of measure. See **Btu Conversion Factor**.

**Total Energy Consumption: Primary energy consumption** in the **end-use sectors**, plus **electricity retail sales** and **electrical system energy losses**.

**Transportation Sector:** An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use. Note: Various EIA programs differ in sectoral coverage—for more information see <http://www.eia.gov/neic/datadefinitions/Guideforwebtrans.htm> See **End-Use Sectors** and **Energy-Use Sectors**.

**Underground Storage:** The storage of natural gas in underground reservoirs at a different location from which it was produced.

**Unfinished Oils:** All oils requiring further refinery processing except those requiring only mechanical blending. Includes naphthas and lighter oils, kerosene and light gas oils, heavy gas oils, and residuum.

**Unfractionated Stream:** Mixtures of unsegregated natural gas liquid components, excluding those in plant condensate. This product is extracted from natural gas.

**Union of Soviet Socialist Republics (U.S.S.R.):** A political entity that consisted of 15 constituent republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. The U.S.S.R. ceased to exist as of December 31, 1991.

**United States:** The 50 States and the District of Columbia. Note: The United States has varying degrees of jurisdiction over a number of territories and other political entities outside the 50 States and the District of Columbia, including Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, Johnston Atoll, Midway Islands, Wake Island, and the Northern Mariana Islands. EIA data programs may include data from some or all of these areas in U.S. totals. For these programs, data products will contain notes explaining the extent of geographic coverage included under the term "United States."

**Useful Thermal Output:** The thermal energy made available in a combined-heat-and-power system for use in any industrial or commercial process, heating or cooling application, or delivered to other end users, i.e., total thermal energy made available for processes and applications other than electrical generation.

**U.S.S.R.:** See **Union of Soviet Socialist Republics (U.S.S.R.)**.

**Vented Natural Gas:** Gas released into the air on the production site or at processing plants.

**Vessel Bunkering:** Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

**Waste Coal:** Usable material that is a byproduct of previous coal processing operations. Waste coal is usually composed of mixed coal, soil, and rock (mine waste). Most waste coal is burned as-is in unconventional fluidized-bed combustors. For some uses, waste coal may be partially cleaned by removing some extraneous noncombustible constituents. Examples of waste coal include fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste.

**Waste:** See **Biomass Waste** and **Non-Biomass Waste**.

**Watt (W):** The unit of electrical power equal to one ampere under a pressure of one volt. A watt is equal to 1/746 horsepower.

**Watt-hour (Wh):** The electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electric circuit steadily for one hour.

**Waxes:** Solid or semisolid material derived from petroleum distillates or residues. Waxes are light-colored, more or less translucent crystalline masses, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Included are all marketable waxes, whether crude scale or fully refined. Waxes are used primarily as industrial coating for surface protection.

**Wellhead Price:** The value of crude oil or natural gas at the mouth of the well.

**Wind Energy:** Kinetic energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators.

**Wood and Wood-Derived Fuels:** Wood and products derived from wood that are used as fuel, including round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, paper pellets, railroad ties, utility poles, **black liquor**, red liquor, sludge wood, spent sulfite liquor, and other wood-based solids and liquids.

**Working Gas:** The volume of gas in a reservoir that is in addition to the base 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 season.

