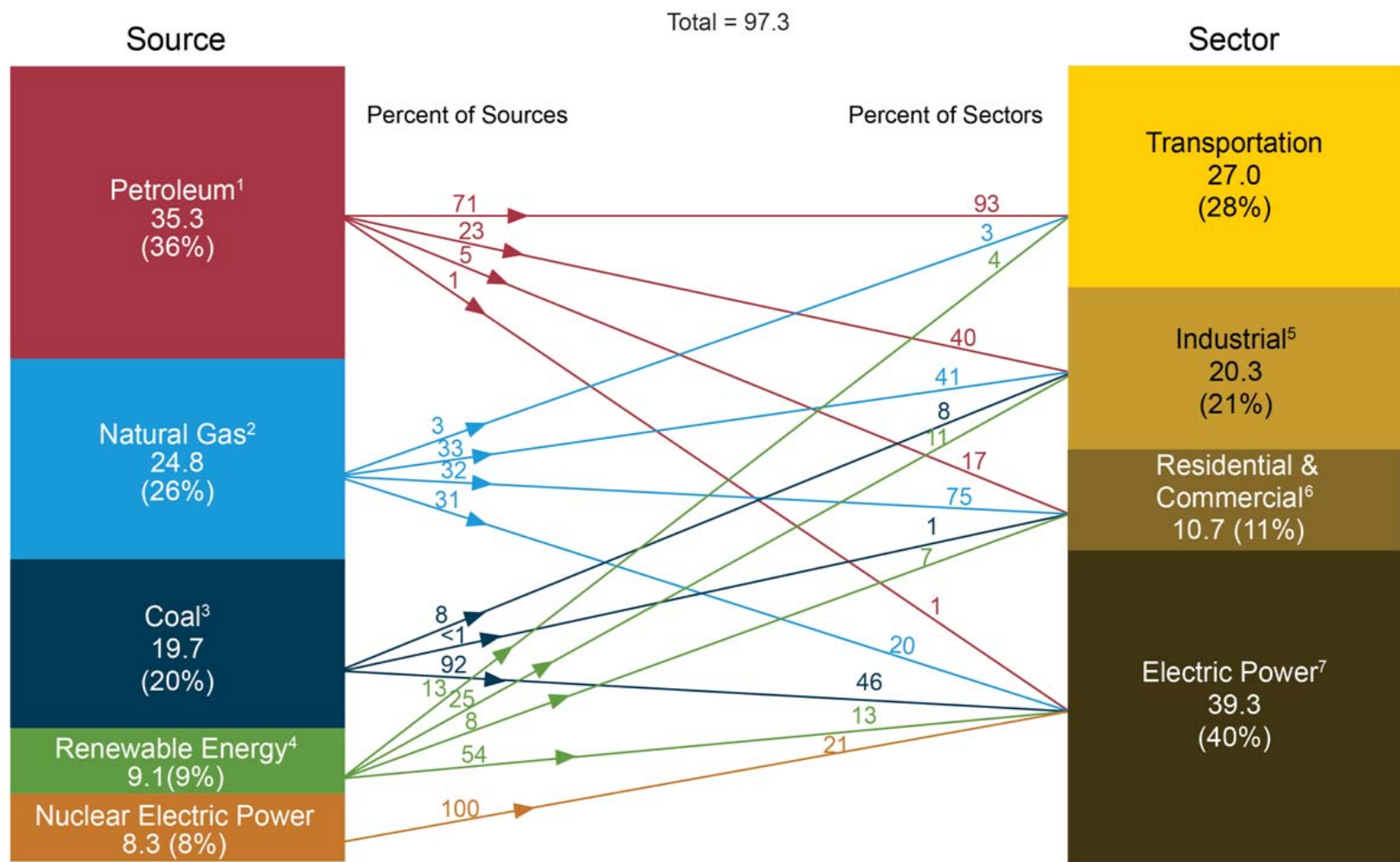


2. Energy Consumption by Sector

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Figure 2.0 Primary Energy Consumption by Source and Sector, 2011

(Quadrillion Btu)



¹ Does not include biofuels that have been blended with petroleum—biofuels are included in "Renewable Energy."

² Excludes supplemental gaseous fuels.

³ Includes less than 0.1 quadrillion Btu of coal coke net imports.

⁴ Conventional hydroelectric power, geothermal, solar/photovoltaic, wind, and biomass.

⁵ Includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

⁶ Includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

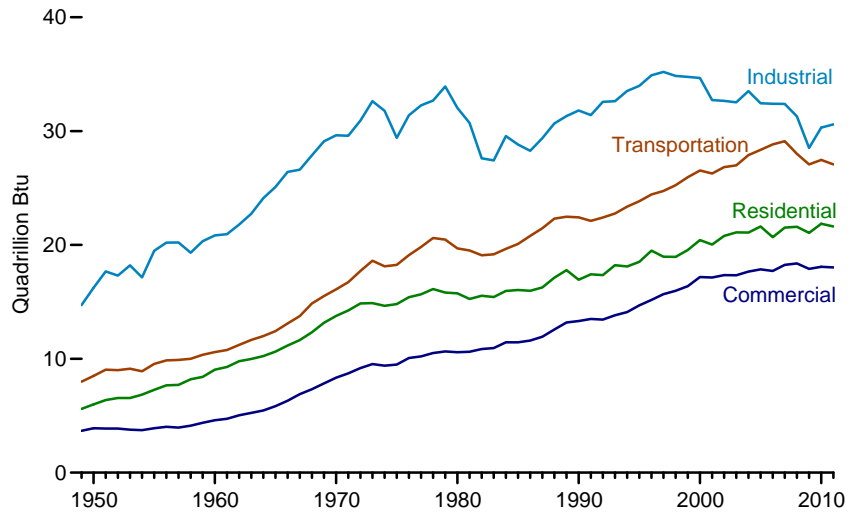
⁷ Electricity-only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes 0.1 quadrillion Btu of electricity net imports not shown under "Source."

Notes: Primary 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 is used to generate electricity). • Sum of components may not equal total due to independent rounding.

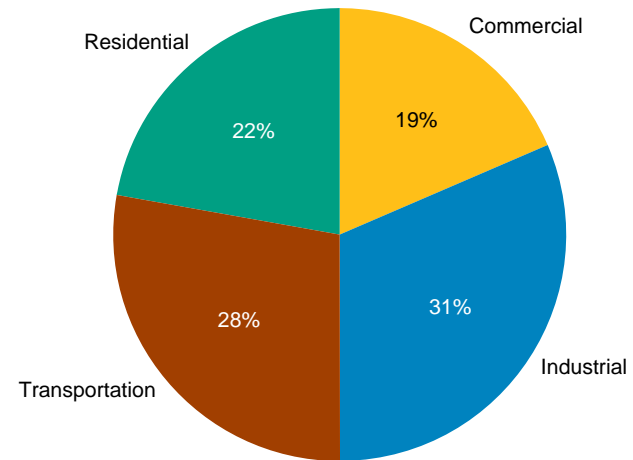
Sources: U.S. Energy Information Administration, *Annual Energy Review 2011*, Tables 1.3, 2.1b-2.1f, 10.3, and 10.4.

Figure 2.1a Energy Consumption Estimates by Sector Overview

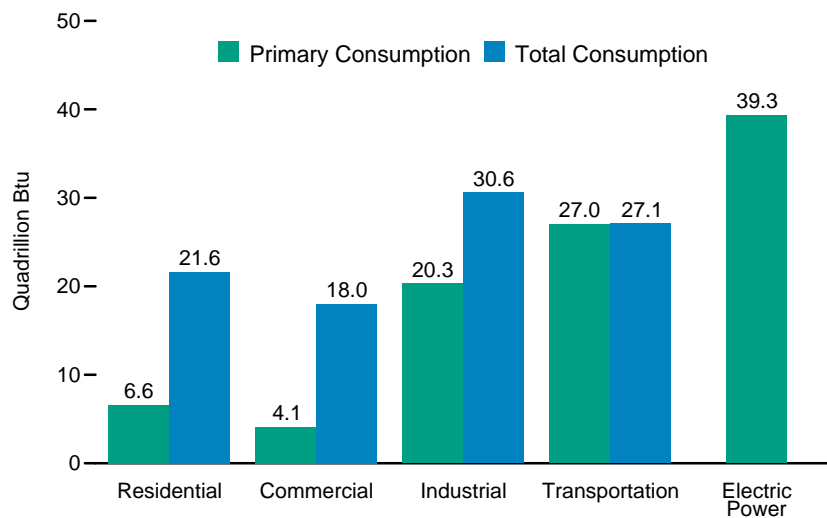
Total Consumption by End-Use Sector, 1949-2011



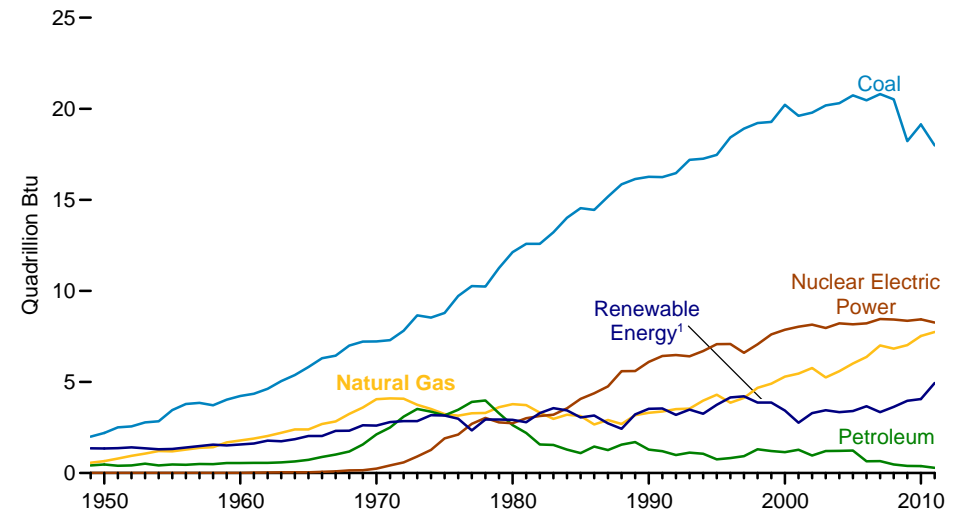
End-Use Sector Shares of Total Consumption, 2011



Primary and Total Consumption by Sector, 2011



Electric Power Sector, 1949-2011

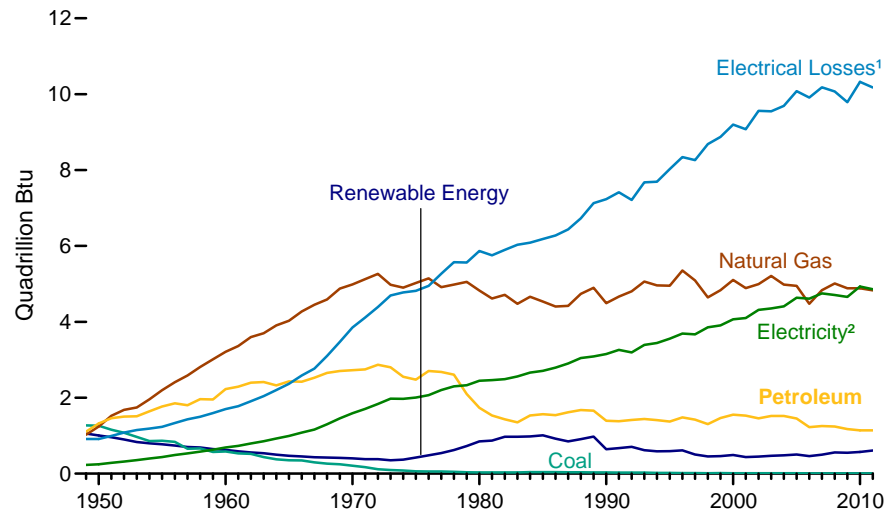


¹ Conventional hydroelectric power, geothermal, solar/photovoltaic, wind, and biomass.
 Note: • See "Primary Energy Consumption" in Glossary. • Sum of components may not equal 100 percent due to independent rounding.

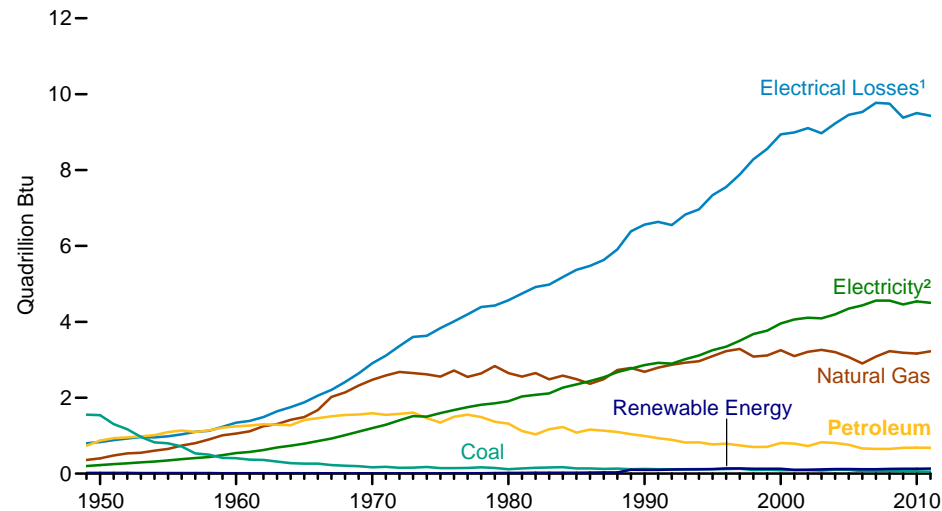
Sources: Tables 2.1a and 2.1f.

Figure 2.1b Energy Consumption Estimates by End-Use Sector, 1949-2011

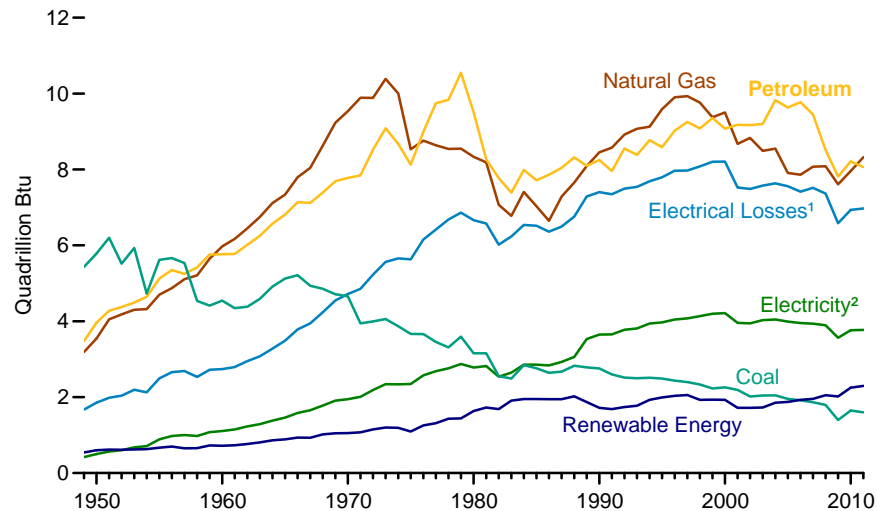
Residential, By Major Source



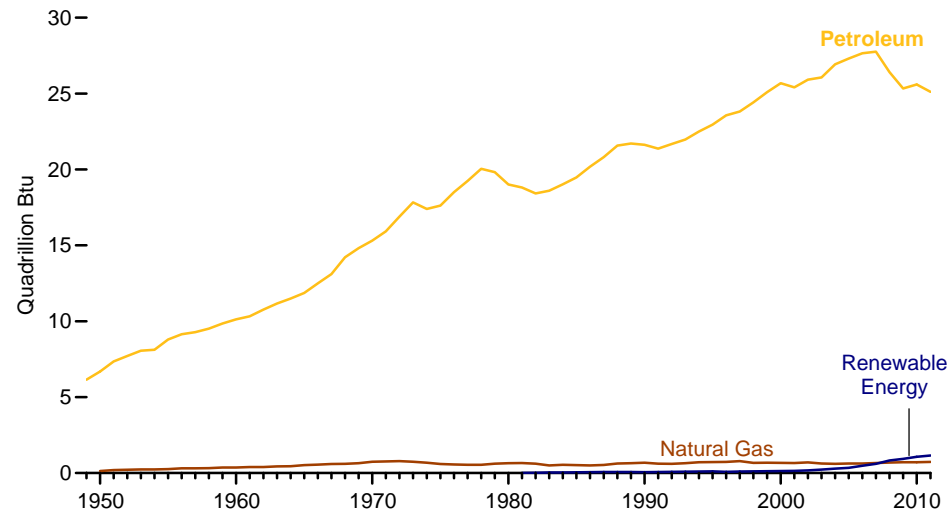
Commercial, By Major Source



Industrial, By Major Source



Transportation, By Major Source



¹ Electrical system energy losses associated with the generation, transmission, and distribution of energy in the form of electricity.

² Electricity retail sales.
Sources: Tables 2.1b–2.1e.

Table 2.1a Energy Consumption Estimates by Sector, Selected Years, 1949-2011

(Trillion Btu)

Year	End-Use Sectors								Electric Power Sector ^{3,4}	Balancing Item ⁷	Total Primary ⁸
	Residential		Commercial ¹		Industrial ²		Transportation				
	Primary ⁵	Total ⁶	Primary ⁵	Total ⁶	Primary ⁵	Total ⁶	Primary ⁵	Total ⁶			
1949	4,460	5,599	2,669	3,669	12,633	14,724	7,880	7,990	4,339	(s)	31,982
1950	4,829	5,989	2,834	3,893	13,890	16,241	8,383	8,492	4,679	(s)	34,616
1955	5,608	7,278	2,561	3,895	16,103	19,485	9,474	9,550	6,461	(s)	40,208
1960	6,651	9,039	2,723	4,609	16,996	20,842	10,560	10,596	8,158	(s)	45,086
1965	7,279	10,639	3,177	5,845	20,148	25,098	12,399	12,432	11,012	(s)	54,015
1970	8,322	13,766	4,237	8,346	22,964	29,628	16,062	16,098	16,253	(s)	67,838
1975	7,990	14,813	4,059	9,492	21,434	29,413	18,210	18,245	20,270	1	71,965
1976	8,391	15,410	4,371	10,063	22,665	31,393	19,067	19,101	21,473	8	75,975
1977	8,194	15,662	4,258	10,208	23,165	32,263	19,786	19,822	22,551	7	77,961
1978	8,260	16,132	4,309	10,512	23,244	32,688	20,583	20,617	23,553	2	79,950
1979	7,919	15,813	4,366	10,648	24,192	33,925	20,437	20,472	23,943	2	80,859
1980	7,439	15,753	4,105	10,578	22,595	32,039	19,659	19,697	24,269	-1	78,067
1981	7,045	15,262	3,837	10,616	21,318	30,712	19,478	19,514	24,425	3	76,106
1982	7,147	15,531	3,864	10,860	19,053	27,614	19,052	19,089	23,979	4	73,099
1983	6,832	15,425	3,840	10,938	18,548	27,428	19,134	19,177	24,614	3	72,971
1984	7,211	15,960	4,001	11,444	20,174	29,570	19,609	19,656	25,635	3	76,632
1985	7,148	16,041	3,732	11,451	19,443	28,816	20,041	20,088	26,032	-4	76,392
1986	6,906	15,975	3,693	11,606	19,078	28,274	20,740	20,789	26,227	3	76,647
1987	6,923	16,263	3,774	11,946	19,953	29,379	21,419	21,469	26,988	-3	79,054
1988	7,357	17,133	3,994	12,578	20,862	30,677	22,267	22,318	28,227	3	82,709
1989	7,567	17,786	4,043	13,193	20,874	31,320	22,424	22,478	⁴ 29,869	9	84,786
1990	6,557	16,945	3,896	13,320	21,180	31,810	22,366	22,420	30,495	-9	84,485
1991	6,747	17,420	3,945	13,500	20,824	31,399	22,065	22,118	30,856	1	84,438
1992	6,950	17,356	3,991	13,441	21,756	32,571	22,363	22,415	30,723	(s)	85,783
1993	7,146	18,218	3,973	13,820	21,753	32,629	22,715	22,768	31,847	-10	87,424
1994	6,978	18,112	4,016	14,098	22,393	33,521	23,311	23,366	32,399	-6	89,091
1995	6,936	18,519	4,101	14,690	22,719	33,971	23,791	23,846	33,479	3	91,029
1996	^R 7,467	19,504	4,273	15,172	23,410	34,904	24,383	24,437	34,485	4	94,022
1997	7,033	18,965	4,295	15,681	23,686	35,200	24,695	24,750	34,886	6	94,602
1998	6,413	18,955	4,005	15,968	23,177	34,843	25,201	25,256	36,225	-3	95,018
1999	6,775	19,557	4,053	16,376	22,950	34,764	25,891	25,949	36,976	6	96,652
2000	7,159	20,425	4,278	17,175	22,824	34,664	26,489	26,548	38,062	2	^R 98,814
2001	6,868	20,042	4,084	17,137	21,794	32,720	26,213	26,275	37,215	-6	96,168
2002	^R 6,912	^R 20,791	^R 4,132	^R 17,345	^R 21,799	^R 32,662	^R 26,781	^R 26,842	38,016	5	^R 97,645
2003	7,211	21,110	4,283	17,343	21,503	32,532	26,920	26,994	38,062	-1	97,978
2004	6,993	21,093	4,232	17,659	^R 22,412	^R 33,520	27,817	27,895	38,713	-6	^R 100,162
2005	6,909	21,626	4,051	^R 17,857	^R 21,411	^R 32,446	28,272	28,353	39,638	(s)	^R 100,282
2006	^R 6,168	^R 20,688	^R 3,747	^R 17,711	^R 21,536	^R 32,401	28,751	28,830	39,428	(s)	^R 99,629
2007	^R 6,598	^R 21,531	^R 3,922	^R 18,255	^R 21,370	^R 32,394	^R 29,029	^R 29,117	40,377	^R -1	^R 101,296
2008	6,817	21,596	4,073	18,381	^R 20,480	^R 31,290	27,925	28,008	39,978	(s)	^R 99,275
2009	6,619	^R 21,064	4,061	17,899	^R 18,813	^R 28,525	^R 26,989	^R 27,071	38,077	(s)	^R 94,559
2010	^R 6,603	^R 21,862	^R 4,039	^R 18,078	^R 20,062	^R 30,309	^R 27,384	^R 27,466	^R 39,626	^R 8	^R 97,722
2011 ^P	6,585	21,619	4,090	18,021	20,291	30,592	26,999	27,079	39,346	-9	97,301

¹ Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

² Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

³ 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.

⁴ Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

⁵ See "Primary Energy Consumption" in Glossary.

⁶ Total energy consumption in the end-use sectors consists of primary energy consumption, electricity retail sales, and electrical system energy losses. See Note, "Electrical System Energy Losses," at end of section.

⁷ 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 natural gas and coal.

⁸ Primary energy consumption total. See Table 1.3.

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

Notes: • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 8.

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

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all annual data beginning in 1949.

Sources: Tables 1.3 and 2.1b-2.1f.

Table 2.1b Residential Sector Energy Consumption Estimates, Selected Years, 1949-2011
(Trillion Btu)

Year	Primary Consumption ¹								Total Primary	Electricity Retail Sales ⁸	Electrical System Energy Losses ⁹	Total
	Fossil Fuels				Renewable Energy ²							
	Coal	Natural Gas ³	Petroleum ⁴	Total	Geothermal ⁵	Solar/PV ⁶	Biomass ⁷	Total				
1949	1,272	1,027	1,106	3,405	NA	NA	1,055	1,055	4,460	228	911	5,599
1950	1,261	1,240	1,322	3,824	NA	NA	1,006	1,006	4,829	246	913	5,989
1955	867	2,198	1,767	4,833	NA	NA	775	775	5,608	438	1,232	7,278
1960	585	3,212	2,227	6,024	NA	NA	627	627	6,651	687	1,701	9,039
1965	352	4,028	2,432	6,811	NA	NA	468	468	7,279	993	2,367	10,639
1970	209	4,987	2,725	7,922	NA	NA	401	401	8,322	1,591	3,852	13,766
1975	63	5,023	2,479	7,564	NA	NA	425	425	7,990	2,007	4,817	14,813
1976	59	5,147	2,703	7,910	NA	NA	482	482	8,391	2,069	4,950	15,410
1977	57	4,913	2,681	7,652	NA	NA	542	542	8,194	2,202	5,267	15,662
1978	49	4,981	2,607	7,638	NA	NA	622	622	8,260	2,301	5,571	16,132
1979	37	5,055	2,099	7,191	NA	NA	728	728	7,919	2,330	5,564	15,813
1980	31	4,825	1,734	6,589	NA	NA	850	850	7,439	2,448	5,866	15,753
1981	30	4,614	1,531	6,175	NA	NA	870	870	7,045	2,464	5,752	15,262
1982	32	4,711	1,434	6,177	NA	NA	970	970	7,147	2,489	5,895	15,531
1983	31	4,478	1,353	5,862	NA	NA	970	970	6,832	2,562	6,031	15,425
1984	40	4,661	1,531	6,231	NA	NA	980	980	7,211	2,662	6,087	15,960
1985	39	4,534	1,565	6,138	NA	NA	1,010	1,010	7,148	2,709	6,184	16,041
1986	40	4,405	1,541	5,986	NA	NA	920	920	6,906	2,795	6,274	15,975
1987	37	4,420	1,617	6,073	NA	NA	850	850	6,923	2,902	6,438	16,263
1988	37	4,735	1,675	6,447	NA	NA	910	910	7,357	3,046	6,729	17,133
1989	31	4,899	1,660	6,590	5	52	920	977	7,567	3,090	7,129	17,786
1990	31	4,491	1,394	5,916	6	56	580	641	6,557	3,153	7,235	16,945
1991	25	4,667	1,381	6,073	6	57	610	673	6,747	3,260	7,414	17,420
1992	26	4,805	1,414	6,244	6	R60	640	706	6,950	3,193	7,212	17,356
1993	26	5,063	1,439	6,528	7	61	550	618	7,146	3,394	7,677	18,218
1994	21	4,960	1,408	6,389	6	63	520	589	6,978	3,441	7,693	18,112
1995	17	4,954	1,374	6,345	7	64	520	591	6,936	3,557	8,026	18,519
1996	17	5,354	1,484	6,854	7	65	540	612	R7,467	3,694	8,344	19,504
1997	16	5,093	1,422	6,531	8	64	430	502	7,033	3,671	8,261	18,965
1998	12	4,646	1,304	5,962	8	64	380	452	6,413	3,856	8,686	18,955
1999	14	4,835	1,465	6,314	9	63	390	461	6,775	3,906	8,875	19,557
2000	11	5,105	1,554	6,670	9	R61	420	489	7,159	4,069	9,197	20,425
2001	12	4,889	1,529	6,430	9	59	370	438	6,868	4,100	9,074	20,042
2002	12	R4,995	1,457	R6,464	10	57	380	448	R6,912	4,317	9,562	R20,791
2003	12	5,209	1,519	6,741	13	57	400	470	7,211	4,353	9,546	21,110
2004	11	4,981	1,520	6,513	14	57	410	481	6,993	4,408	9,691	21,093
2005	8	4,946	1,451	6,406	16	58	430	504	6,909	4,638	10,079	21,626
2006	6	4,476	1,224	5,706	18	63	R380	R462	R6,168	4,611	9,909	R20,688
2007	8	R4,835	1,254	R6,097	22	70	R410	R502	R6,598	4,750	10,182	R21,531
2008	8	5,010	1,243	6,261	26	80	450	R557	6,817	4,708	10,071	21,596
2009	8	4,883	1,176	6,067	33	89	430	552	6,619	4,656	9,789	R21,064
2010	7	R4,883	R1,142	R6,032	37	R114	420	R571	R6,603	R4,933	R10,326	R21,862
2011 ^P	6	4,830	1,139	5,975	40	140	430	610	6,585	4,858	10,176	21,619

¹ See "Primary Energy Consumption" in Glossary.

² Data are estimates. See Table 10.2a for notes on series components.

³ Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 1, "Supplemental Gaseous Fuels," at end of Section 6.

⁴ Based on petroleum product supplied. For petroleum, product supplied is used as an approximation of petroleum consumption. See Note 1, "Petroleum Products Supplied and Petroleum Consumption," at end of Section 5.

⁵ Geothermal heat pump and direct use energy.

⁶ 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.

⁷ Wood and wood-derived fuels.

⁸ Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

⁹ 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, "Electrical System Energy Losses," at end of section.

R=Revised. P=Preliminary. NA=Not available.

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

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all annual data beginning in 1949.

Sources: Tables 2.1f, 5.14a, 6.5, 7.3, 8.9, 10.2a, A4, A5, and A6.

Table 2.1c Commercial Sector Energy Consumption Estimates, Selected Years, 1949-2011
(Trillion Btu)

Year	Primary Consumption ¹											Total Primary	Electricity Retail Sales ¹¹	Electrical System Energy Losses ¹²	Total
	Fossil Fuels				Renewable Energy ²										
	Coal	Natural Gas ³	Petroleum ^{4,5}	Total	Hydroelectric Power ⁶	Geothermal ⁷	Solar/PV ⁸	Wind ⁹	Biomass ¹⁰	Total					
1949	1,554	360	735	2,649	NA	NA	NA	NA	20	20	2,669	200	800	3,669	
1950	1,542	401	872	2,815	NA	NA	NA	NA	19	19	2,834	225	834	3,893	
1955	801	651	1,095	2,547	NA	NA	NA	NA	15	15	2,561	350	984	3,895	
1960	407	1,056	1,248	2,711	NA	NA	NA	NA	12	12	2,723	543	1,344	4,609	
1965	265	1,490	1,413	3,168	NA	NA	NA	NA	9	9	3,177	789	1,880	5,845	
1970	165	2,473	1,592	4,229	NA	NA	NA	NA	8	8	4,237	1,201	2,908	8,346	
1975	147	2,558	1,346	4,051	NA	NA	NA	NA	8	8	4,059	1,598	3,835	9,492	
1976	144	2,718	1,500	4,362	NA	NA	NA	NA	9	9	4,371	1,678	4,014	10,063	
1977	148	2,548	1,552	4,248	NA	NA	NA	NA	10	10	4,258	1,754	4,196	10,208	
1978	165	2,643	1,490	4,297	NA	NA	NA	NA	12	12	4,309	1,813	4,390	10,512	
1979	149	2,836	1,367	4,352	NA	NA	NA	NA	14	14	4,366	1,854	4,428	10,648	
1980	115	2,651	1,318	4,084	NA	NA	NA	NA	21	21	4,105	1,906	4,567	10,578	
1981	137	2,557	1,122	3,816	NA	NA	NA	NA	21	21	3,837	2,033	4,746	10,616	
1982	155	2,650	1,037	3,842	NA	NA	NA	NA	22	22	3,864	2,077	4,919	10,860	
1983	162	2,486	1,170	3,818	NA	NA	NA	NA	22	22	3,840	2,116	4,982	10,938	
1984	169	2,582	1,227	3,978	NA	NA	NA	NA	22	22	4,001	2,264	5,179	11,444	
1985	137	2,488	1,083	3,708	NA	NA	NA	NA	24	24	3,732	2,351	5,368	11,451	
1986	135	2,367	1,162	3,665	NA	NA	NA	NA	27	27	3,693	2,439	5,475	11,606	
1987	125	2,489	1,131	3,745	NA	NA	NA	NA	30	30	3,774	2,539	5,633	11,946	
1988	131	2,731	1,099	3,961	NA	NA	NA	NA	33	33	3,994	2,675	5,909	12,578	
1989	115	2,785	1,041	3,941	1	3	-	-	99	102	4,043	2,767	6,384	13,193	
1990	124	2,682	991	3,798	1	3	-	-	94	98	3,896	2,860	6,564	13,320	
1991	116	2,795	935	3,846	1	3	-	-	95	100	3,945	2,918	6,636	13,500	
1992	117	2,871	893	3,881	1	3	-	-	105	109	3,991	2,900	6,550	13,441	
1993	117	2,923	819	3,859	1	3	-	-	109	114	3,973	3,019	6,828	13,820	
1994	118	2,962	825	3,905	1	4	-	-	106	112	4,016	3,116	6,966	14,098	
1995	117	3,096	769	3,982	1	5	-	-	113	118	4,101	3,252	7,338	14,690	
1996	122	3,226	790	4,138	1	5	-	-	129	135	4,273	3,344	7,555	15,172	
1997	129	3,285	743	4,157	1	6	-	-	131	138	4,295	3,503	7,883	15,681	
1998	93	3,083	702	3,878	1	7	-	-	118	127	4,005	3,678	8,285	15,968	
1999	103	3,115	707	3,925	1	7	-	-	121	129	4,053	3,766	8,557	16,376	
2000	92	3,252	807	4,150	1	8	-	-	119	128	4,278	3,956	8,942	17,175	
2001	97	3,097	790	3,984	1	8	-	-	92	101	4,084	4,062	8,990	17,137	
2002	90	R3,212	726	R4,028	(s)	9	-	-	95	104	R4,132	4,110	9,104	R17,345	
2003	82	3,261	827	4,170	1	11	-	-	101	113	4,283	4,090	8,969	17,343	
2004	103	3,201	809	4,113	1	12	-	-	105	118	4,232	4,198	9,229	17,659	
2005	97	3,073	761	3,932	1	14	-	-	105	R120	4,051	4,351	9,455	R17,857	
2006	65	2,902	663	3,629	1	14	-	-	R103	R118	R3,747	4,435	9,529	R17,711	
2007	70	R3,085	649	R3,805	1	14	-	-	R103	118	R3,922	4,560	9,773	R18,255	
2008	69	3,228	651	3,948	1	15	(s)	-	109	125	4,073	4,558	9,749	18,381	
2009	63	3,187	682	3,932	1	17	(s)	(s)	112	129	4,061	4,460	9,378	17,899	
2010	R60	R3,164	R685	R3,908	1	19	(s)	(s)	R111	R130	R4,039	R4,539	R9,501	R18,078	
2011 ^P	51	3,225	683	3,959	1	20	(s)	(s)	110	131	4,090	4,501	9,429	18,021	

¹ See "Primary Energy Consumption" in Glossary.

² Most data are estimates. See Table 10.2a for notes on series components and estimation.

³ Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 1, "Supplemental Gaseous Fuels," at end of Section 6.

⁴ Based on petroleum product supplied. For petroleum, product supplied is used as an approximation of petroleum consumption. See Note 1, "Petroleum Products Supplied and Petroleum Consumption," at end of Section 5.

⁵ Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."

⁶ Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

⁷ Geothermal heat pump and direct use energy.

⁸ 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.

⁹ Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

¹⁰ Wood and wood-derived fuels; municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass; and fuel ethanol (minus denaturant). Through 2000, also

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

¹¹ Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

¹² 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, "Electrical System Energy Losses," at end of section.

R=Revised. P=Preliminary. NA=Not available. --=No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • The commercial sector includes combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all annual data beginning in 1949.

Sources: Tables 2.1f, 5.14a, 6.5, 7.3, 8.9, 10.2a, A4, A5, and A6.

Table 2.1d Industrial Sector Energy Consumption Estimates, Selected Years, 1949-2011
(Trillion Btu)

Year	Primary Consumption ¹												Total Primary	Electricity Retail Sales ¹¹	Electrical System Energy Losses ¹²	Total
	Fossil Fuels					Renewable Energy ²										
	Coal	Coal Coke Net Imports	Natural Gas ³	Petroleum ^{4,5}	Total	Hydroelectric Power ⁶	Geothermal ⁷	Solar/PV ⁸	Wind ⁹	Biomass ¹⁰	Total					
1949	5,433	-7	3,188	3,475	12,090	76	NA	NA	NA	468	544	12,633	418	1,672	14,724	
1950	5,781	1	3,546	3,960	13,288	69	NA	NA	NA	532	602	13,890	500	1,852	16,241	
1955	5,620	-10	4,701	5,123	15,434	38	NA	NA	NA	631	669	16,103	887	2,495	19,485	
1960	4,543	-6	5,973	5,766	16,277	39	NA	NA	NA	680	719	16,996	1,107	2,739	20,842	
1965	5,127	-18	7,339	6,813	19,260	33	NA	NA	NA	855	888	20,148	1,463	3,487	25,098	
1970	4,656	-58	9,536	7,776	21,911	34	NA	NA	NA	1,019	1,053	22,964	1,948	4,716	29,628	
1975	3,667	14	8,532	8,127	20,339	32	NA	NA	NA	1,063	1,096	21,434	2,346	5,632	29,413	
1976	3,661	(s)	8,762	8,990	21,412	33	NA	NA	NA	1,220	1,253	22,665	2,573	6,155	31,393	
1977	3,454	15	8,635	9,747	21,851	33	NA	NA	NA	1,281	1,314	23,165	2,682	6,416	32,263	
1978	3,314	125	8,539	9,835	21,812	32	NA	NA	NA	1,400	1,432	23,244	2,761	6,683	32,688	
1979	3,593	63	8,549	10,548	22,753	34	NA	NA	NA	1,405	1,439	24,192	2,873	6,860	33,925	
1980	3,155	-35	8,333	9,509	20,962	33	NA	NA	NA	1,600	1,633	22,595	2,781	6,664	32,039	
1981	3,157	-16	8,185	8,265	19,590	33	NA	NA	NA	1,695	1,728	21,318	2,817	6,576	30,712	
1982	2,552	-22	7,068	7,772	17,370	33	NA	NA	NA	1,650	1,683	19,053	2,542	6,020	27,614	
1983	2,490	-16	6,776	7,390	16,640	33	NA	NA	NA	1,874	1,908	18,548	2,648	6,232	27,428	
1984	2,842	-11	7,405	7,987	18,222	33	NA	NA	NA	1,918	1,951	20,174	2,859	6,538	29,570	
1985	2,760	-13	7,032	7,714	17,492	33	NA	NA	NA	1,918	1,951	19,443	2,855	6,518	28,816	
1986	2,641	-17	6,646	7,860	17,130	33	NA	NA	NA	1,915	1,948	19,078	2,834	6,362	28,274	
1987	2,673	9	7,283	8,042	18,006	33	NA	NA	NA	1,914	1,947	19,953	2,928	6,497	29,379	
1988	2,828	40	7,655	8,317	18,840	33	NA	NA	NA	1,989	2,022	20,862	3,059	6,757	30,677	
1989	2,787	30	8,088	8,098	19,003	28	2	-	-	1,841	1,871	20,874	3,158	7,288	31,320	
1990	2,756	5	8,451	8,251	19,463	31	2	-	-	1,684	1,717	21,180	3,226	7,404	31,810	
1991	2,601	10	8,572	7,958	19,141	30	2	-	-	1,652	1,684	20,824	3,230	7,345	31,399	
1992	2,515	35	8,918	8,552	20,019	31	2	-	-	1,705	1,737	21,756	3,319	7,496	32,571	
1993	2,496	27	9,070	8,386	19,980	30	2	-	-	1,741	1,773	21,753	3,334	7,541	32,629	
1994	2,510	58	9,126	8,771	20,465	62	3	-	-	1,862	1,927	22,393	3,439	7,689	33,521	
1995	2,488	61	9,592	8,586	20,727	55	3	-	-	1,934	1,992	22,719	3,455	7,796	33,971	
1996	2,434	23	9,901	9,019	21,377	61	3	-	-	1,969	2,033	23,410	3,527	7,968	34,904	
1997	2,395	46	9,933	9,255	21,629	58	3	-	-	1,996	2,057	23,686	3,542	7,972	35,200	
1998	2,335	67	9,763	9,082	21,248	55	3	-	-	1,872	1,929	23,177	3,587	8,079	34,843	
1999	2,227	58	9,375	9,356	21,016	49	4	-	-	1,882	1,934	22,950	3,611	8,203	34,764	
2000	2,256	65	9,500	9,075	20,896	42	4	-	-	1,881	1,928	22,824	3,631	8,208	34,664	
2001	2,192	29	8,676	9,178	20,075	33	5	-	-	1,681	1,719	21,794	3,400	7,526	32,720	
2002	2,019	61	R8,832	9,168	R20,079	39	5	-	-	1,676	1,720	R21,799	3,379	7,484	R32,662	
2003	2,041	51	R8,488	9,197	R19,777	43	3	-	-	1,679	1,726	R21,503	3,454	7,575	R32,532	
2004	2,047	138	R8,550	9,825	R20,559	33	4	-	-	1,817	1,853	R22,412	3,473	7,635	R33,520	
2005	1,954	44	R7,907	9,633	R19,538	32	4	-	-	1,837	1,873	R21,411	3,477	7,557	R32,446	
2006	1,914	61	R7,861	9,770	R19,606	29	4	-	-	1,897	1,930	R21,536	3,451	7,415	R32,401	
2007	1,865	25	R8,074	9,451	R19,414	16	5	-	-	R1,936	R1,956	R21,370	3,507	7,517	R32,394	
2008	1,796	41	R8,083	8,511	R18,431	17	5	-	-	R2,028	R2,049	R20,480	3,444	7,365	R31,290	
2009	1,396	-24	7,609	7,816	R16,797	18	4	-	-	R1,994	R2,016	R18,813	3,130	6,582	R28,525	
2010	R1,649	-6	R7,959	R8,210	R17,812	16	4	(s)	-	R2,230	R2,250	R20,062	R3,313	R6,934	R30,309	
2011 ^P	1,599	11	8,321	8,064	17,995	18	4	(s)	(s)	2,273	2,295	20,291	3,329	6,973	30,592	

¹ See "Primary Energy Consumption" in Glossary.

² Most data are estimates. See Table 10.2b for notes on series components and estimation.

³ Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 1, "Supplemental Gaseous Fuels," at end of Section 6.

⁴ Based on petroleum product supplied. For petroleum, product supplied is used as an approximation of petroleum consumption. See Note 1, "Petroleum Products Supplied and Petroleum Consumption," at end of Section 5.

⁵ Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."

⁶ Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

⁷ Geothermal heat pump and direct use energy.

⁸ 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.

⁹ Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

¹⁰ Wood and wood-derived fuels; municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass; fuel ethanol (minus denaturant); and losses and co-products from the production of fuel ethanol and biodiesel. Through 2000, also includes non-renewable waste

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

¹¹ Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

¹² 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, "Electrical System Energy Losses," at end of section.

R=Revised. P=Preliminary. NA=Not available. - =No data reported. (s)=Less than +0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: • The industrial sector includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all annual data beginning in 1949.

Sources: Tables 2.1f, 5.14b, 6.5, 7.3, 7.8, 8.9, 10.2b, A4, A5, and A6.

Table 2.1e Transportation Sector Energy Consumption Estimates, Selected Years, 1949-2011

(Trillion Btu)

Year	Primary Consumption ¹					Total Primary	Electricity Retail Sales ⁷	Electrical System Energy Losses ⁸	Total
	Fossil Fuels			Total	Renewable Energy ²				
	Coal	Natural Gas ³	Petroleum ^{4,5}		Biomass ⁶				
1949	1,727	NA	6,152	7,880	NA	7,880	22	88	7,990
1950	1,564	130	6,690	8,383	NA	8,383	23	86	8,492
1955	421	254	8,799	9,474	NA	9,474	20	56	9,550
1960	75	359	10,125	10,560	NA	10,560	10	26	10,596
1965	16	517	11,866	12,399	NA	12,399	10	24	12,432
1970	7	745	15,310	16,062	NA	16,062	11	26	16,098
1975	1	595	17,615	18,210	NA	18,210	10	24	18,245
1976	(s)	559	18,508	19,067	NA	19,067	10	24	19,101
1977	(s)	543	19,243	19,786	NA	19,786	10	25	19,822
1978	(⁹)	539	20,044	20,583	NA	20,583	10	24	20,617
1979	(⁹)	612	19,825	20,437	NA	20,437	10	24	20,472
1980	(⁹)	650	19,009	19,659	NA	19,659	11	27	19,697
1981	(⁹)	658	18,813	19,471	7	19,478	11	25	19,514
1982	(⁹)	612	18,422	19,034	18	19,052	11	26	19,089
1983	(⁹)	505	18,595	19,100	34	19,134	13	30	19,177
1984	(⁹)	545	19,023	19,567	41	19,609	14	33	19,656
1985	(⁹)	519	19,472	19,992	50	20,041	14	32	20,088
1986	(⁹)	499	20,183	20,682	57	20,740	15	34	20,789
1987	(⁹)	535	20,817	21,353	66	21,419	16	35	21,469
1988	(⁹)	632	21,568	22,199	67	22,267	16	35	22,318
1989	(⁹)	649	21,707	22,356	68	22,424	16	38	22,478
1990	(⁹)	680	21,626	22,306	60	22,366	16	37	22,420
1991	(⁹)	620	21,374	21,995	70	22,065	16	37	22,118
1992	(⁹)	608	21,675	22,283	80	22,363	16	36	22,415
1993	(⁹)	645	21,977	22,621	94	22,715	16	37	22,768
1994	(⁹)	709	22,497	23,206	105	23,311	17	38	23,366
1995	(⁹)	724	22,955	23,679	112	23,791	17	38	23,846
1996	(⁹)	737	23,565	24,302	81	24,383	17	38	24,437
1997	(⁹)	780	23,813	24,593	102	24,695	17	38	24,750
1998	(⁹)	666	24,422	25,088	113	25,201	17	38	25,256
1999	(⁹)	675	25,098	25,774	118	25,891	17	40	25,949
2000	(⁹)	672	25,682	26,354	135	26,489	18	42	26,548
2001	(⁹)	658	25,412	26,070	142	26,213	20	43	26,275
2002	(⁹)	R699	25,913	R26,612	170	R26,781	19	42	R26,842
2003	(⁹)	627	26,063	26,690	230	26,920	23	51	26,994
2004	(⁹)	602	26,925	27,527	290	27,817	25	54	27,895
2005	(⁹)	624	27,309	27,933	339	28,272	26	56	28,353
2006	(⁹)	625	27,651	28,276	475	28,751	25	54	28,830
2007	(⁹)	R663	27,763	R28,427	602	R29,029	28	60	R29,117
2008	(⁹)	692	26,407	27,099	826	27,925	26	56	28,008
2009	(⁹)	R715	25,339	R26,054	R935	R26,989	27	56	R27,071
2010	(⁹)	R716	R25,595	R26,310	R1,074	R27,384	26	55	R27,466
2011 ^P	(⁹)	735	25,110	25,845	1,154	26,999	26	54	27,079

¹ See "Primary Energy Consumption" in Glossary.

² Data are estimates. See Table 10.2b for notes on series components.

³ Natural gas only; does not include supplemental gaseous fuels—see Note 1, "Supplemental Gaseous Fuels," at end of Section 6. Data are for natural gas consumed in the operation of pipelines (primarily in compressors) and small amounts consumed as vehicle fuel—see Table 6.5.

⁴ Based on petroleum product supplied. For petroleum, product supplied is used as an approximation of petroleum consumption. See Note 1, "Petroleum Products Supplied and Petroleum Consumption," at end of Section 5.

⁵ Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."

⁶ Fuel ethanol (minus denaturant) and biodiesel.

⁷ Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

⁸ 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, "Electrical System Energy Losses," at end of section.

⁹ Beginning in 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.

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

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all annual data beginning in 1949.

Sources: Tables 2.1f, 5.14c, 6.5, 7.3, 8.9, 10.2b, A4, A5, and A6.

Table 2.1f Electric Power Sector Energy Consumption, Selected Years, 1949-2011
(Trillion Btu)

Year	Primary Consumption ¹												Electricity Net Imports ¹¹	Total Primary
	Fossil Fuels				Nuclear Electric Power ⁵	Renewable Energy ²								
	Coal	Natural Gas ³	Petroleum ⁴	Total		Hydroelectric Power ⁶	Geothermal ⁷	Solar/PV ⁸	Wind ⁹	Biomass ¹⁰	Total			
1949	1,995	569	415	2,979	0	1,349	NA	NA	NA	6	1,355	5	4,339	
1950	2,199	651	472	3,322	0	1,346	NA	NA	NA	5	1,351	6	4,679	
1955	3,458	1,194	471	5,123	0	1,322	NA	NA	NA	3	1,325	14	6,461	
1960	4,228	1,785	553	6,565	6	1,569	(s)	NA	NA	2	1,571	15	8,158	
1965	5,821	2,395	722	8,938	43	2,026	2	NA	NA	3	2,031	(s)	11,012	
1970	7,227	4,054	2,117	13,399	239	2,600	6	NA	NA	4	2,609	7	16,253	
1975	8,786	3,240	3,166	15,191	1,900	3,122	34	NA	NA	2	3,158	21	20,270	
1976	9,720	3,152	3,477	16,349	2,111	2,943	38	NA	NA	3	2,983	29	21,473	
1977	10,262	3,284	3,901	17,446	2,702	2,301	37	NA	NA	5	2,343	59	22,551	
1978	10,238	3,297	3,987	17,522	3,024	2,905	31	NA	NA	3	2,940	67	23,553	
1979	11,260	3,613	3,283	18,156	2,776	2,897	40	NA	NA	5	2,942	69	23,943	
1980	12,123	3,778	2,634	18,534	2,739	2,867	53	NA	NA	5	2,925	71	24,269	
1981	12,583	3,730	2,202	18,516	3,008	2,725	59	NA	NA	4	2,788	113	24,425	
1982	12,582	3,312	1,568	17,462	3,131	3,233	51	NA	NA	3	3,286	100	23,979	
1983	13,213	2,972	1,544	17,729	3,203	3,494	64	NA	(s)	4	3,562	121	24,614	
1984	14,019	3,199	1,286	18,504	3,553	3,353	81	(s)	(s)	9	3,443	135	25,635	
1985	14,542	3,135	1,090	18,767	4,076	2,937	97	(s)	(s)	14	3,049	140	26,032	
1986	14,444	2,670	1,452	18,566	4,380	3,038	108	(s)	(s)	12	3,158	122	26,227	
1987	15,173	2,916	1,257	19,346	4,754	2,602	112	(s)	(s)	15	2,729	158	26,988	
1988	15,850	2,693	1,563	20,106	5,587	2,302	106	(s)	(s)	17	2,425	108	28,227	
1989 ¹²	16,137	3,173	1,703	21,013	5,602	2,808	152	3	22	232	3,217	37	29,869	
1990	16,261	3,309	1,289	20,859	6,104	3,014	161	4	29	317	3,524	8	30,495	
1991	16,250	3,377	1,198	20,825	6,422	2,985	167	5	31	354	3,542	67	30,856	
1992	16,466	3,512	991	20,968	6,479	2,586	167	4	30	402	3,189	87	30,723	
1993	17,196	3,538	1,124	21,857	6,410	2,861	173	5	31	415	3,484	95	31,847	
1994	17,261	3,977	1,059	22,297	6,694	2,620	160	5	36	434	3,255	153	32,399	
1995	17,466	4,302	755	22,523	7,075	3,149	138	5	33	422	3,747	134	33,479	
1996	18,429	3,862	817	23,109	7,087	3,528	148	5	33	438	4,153	137	34,485	
1997	18,905	4,126	927	23,957	6,597	3,581	150	5	34	446	4,216	116	34,886	
1998	19,216	4,675	1,306	25,197	7,068	3,241	151	5	31	444	3,872	88	36,225	
1999	19,279	4,902	1,211	25,393	7,610	3,218	152	5	46	453	3,874	99	36,976	
2000	20,220	5,293	1,144	26,658	7,862	2,768	144	5	57	453	3,427	115	38,062	
2001	19,614	5,458	1,277	26,348	8,029	2,209	142	6	70	337	2,763	75	37,215	
2002	19,783	5,767	961	26,511	8,145	2,650	147	6	105	380	3,288	72	38,016	
2003	20,185	5,246	1,205	26,636	7,959	2,781	148	5	115	397	3,445	22	38,062	
2004	20,305	5,595	1,212	27,112	8,222	2,656	148	6	142	388	3,340	39	38,713	
2005	20,737	6,015	1,235	27,986	8,161	2,670	147	6	178	406	3,406	85	39,638	
2006	20,462	6,375	648	27,485	8,215	2,839	145	5	264	412	3,665	63	39,428	
2007	20,808	7,005	657	28,470	8,455	2,430	145	6	341	423	3,345	107	40,377	
2008	20,513	6,829	468	27,810	8,427	2,494	146	9	546	435	3,630	112	39,978	
2009	18,225	7,022	390	25,638	8,356	2,650	146	9	721	441	3,967	116	38,077	
2010	19,133	R7,527	378	R27,039	R8,434	R2,521	R148	R12	R923	R459	R4,064	R89	R39,626	
2011 ^P	17,986	7,740	288	26,014	8,259	3,153	163	18	1,168	444	4,945	127	39,346	

¹ See "Primary Energy Consumption" in Glossary.

² See Table 10.2c for notes on series components.

³ Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 1, "Supplemental Gaseous Fuels," at end of Section 6.

⁴ See Table 5.14c for series components.

⁵ Nuclear electricity net generation (converted to Btu using the nuclear heat rate—see Table A6).

⁶ Conventional hydroelectricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

⁷ Geothermal electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

⁸ Solar thermal and photovoltaic (PV) electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

⁹ Wind electricity net generation (converted to Btu using the fossil-fuels heat rate—see Table A6).

¹⁰ Wood and wood-derived fuels; and 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).

¹¹ Net imports equal imports minus exports.

¹² Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.

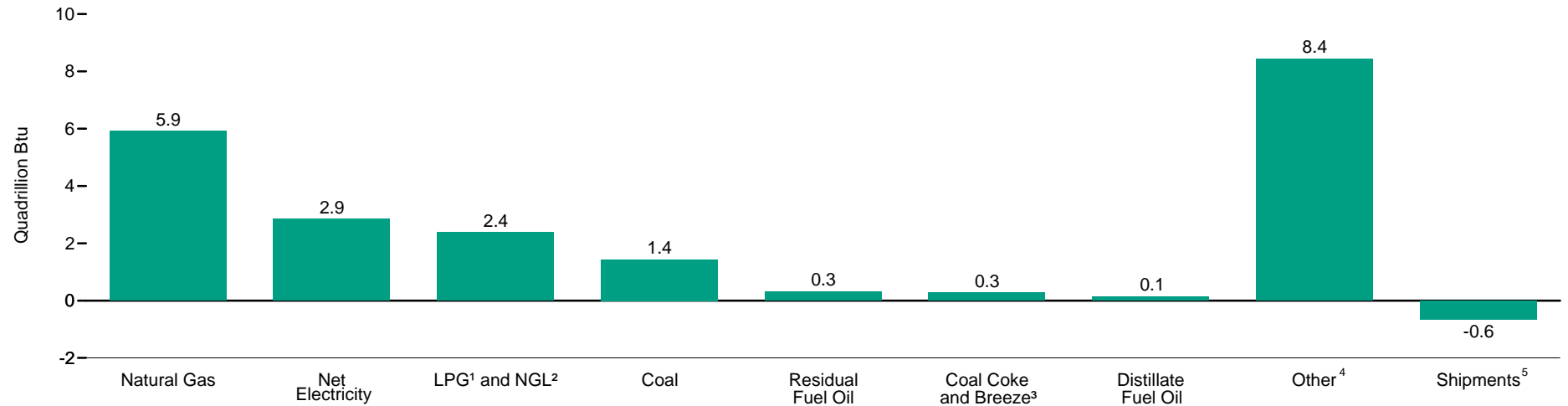
Notes: • Data are for fuels consumed to produce electricity and useful thermal output. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Note 3, "Electricity Imports and Exports," at end of Section 8. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#consumption> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all annual data beginning in 1949.

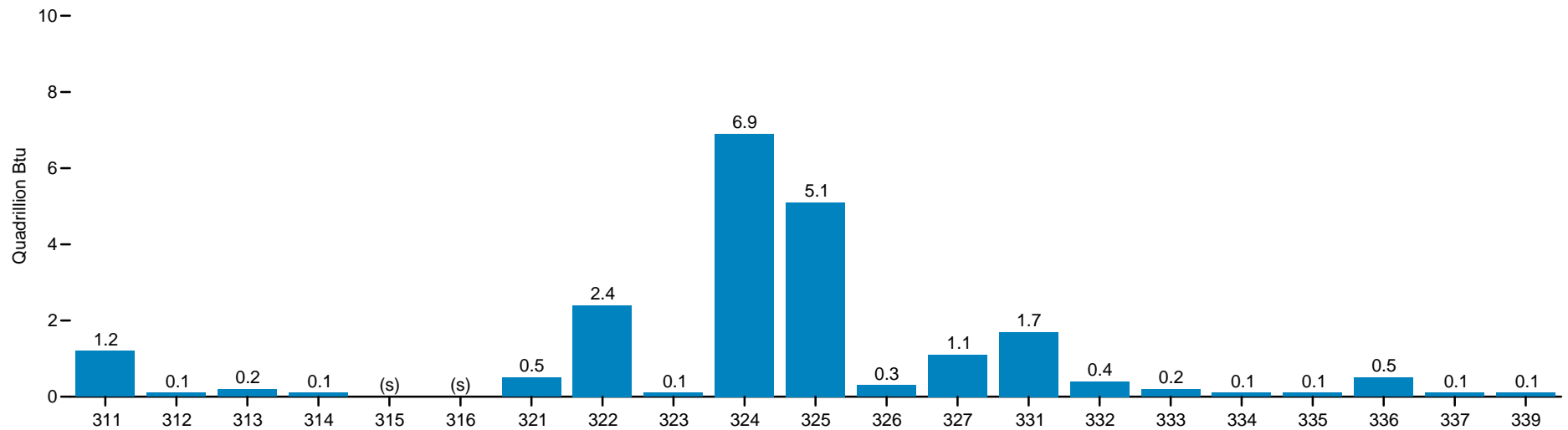
Sources: Tables 5.14c, 6.5, 7.3, 8.1, 8.2b, 10.2c, A4, A5, and A6.

Figure 2.2 Manufacturing Energy Consumption for All Purposes, 2006

By Energy Source



By North American Industry Classification System (NAICS) Code⁶



¹ Liquefied petroleum gases.

² Natural gas liquids.

³ See "Breeze" in Glossary.

⁴ Includes all other types of energy that respondents indicated were consumed or allocated.

⁵ Energy sources produced onsite from the use of other energy sources but sold or transferred to another entity.

⁶ See Table 2.2 for Manufacturing Group titles of industries that correspond to the 3-digit NAICS codes.

(s)=Less than 0.05 quadrillion Btu.

Source: Table 2.2.

Table 2.2 Manufacturing Energy Consumption for All Purposes, 2006
(Trillion Btu)

NAICS ¹ Code	Manufacturing Group	Coal	Coal Coke and Breeze ²	Natural Gas	Distillate Fuel Oil	LPG ³ and NGL ⁴	Residual Fuel Oil	Net Electricity ⁵	Other ⁶	Shipments of Energy Sources ⁷	Total ⁸
311	Food	147	1	638	16	3	26	251	105	(s)	1,186
312	Beverage and Tobacco Products	20	0	41	1	1	3	30	11	-0	107
313	Textile Mills	32	0	65	(s)	(s)	2	66	12	-0	178
314	Textile Product Mills	3	0	46	(s)	1	Q	20	(s)	-0	72
315	Apparel	0	0	7	(s)	(s)	(s)	7	(s)	-0	14
316	Leather and Allied Products	0	0	1	(s)	(s)	(s)	1	(s)	-0	3
321	Wood Products	Q	Q	87	21	4	4	91	228	-0	451
322	Paper	221	0	474	13	5	91	247	1,302	-0	2,354
323	Printing and Related Support	0	0	39	(s)	1	(s)	45	(s)	-0	85
324	Petroleum and Coal Products	102	1	849	33	29	58	137	5,744	-89	6,864
325	Chemicals	182	3	1,746	8	2,304	87	517	707	-406	5,149
326	Plastics and Rubber Products	Q	0	128	3	5	9	182	(s)	-0	337
327	Nonmetallic Mineral Products	320	11	460	30	5	3	147	138	-0	1,114
331	Primary Metals	373	253	627	7	4	19	458	139	-145	1,736
332	Fabricated Metal Products	0	Q	240	2	5	(s)	143	Q	-0	396
333	Machinery	1	0	84	2	3	Q	111	2	-0	204
334	Computer and Electronic Products	0	0	45	1	(s)	(s)	94	2	-0	142
335	Electrical Equipment, Appliances, and Components	(s)	0	42	Q	1	0	44	21	-5	103
336	Transportation Equipment	5	Q	249	3	5	7	195	13	-0	477
337	Furniture and Related Products	3	0	17	Q	1	(s)	32	8	-0	61
339	Miscellaneous	0	0	25	(s)	1	Q	33	Q	-0	66
—	Total Manufacturing	1,433	272	5,911	143	2,376	314	2,851	8,443	-645	21,098

¹ North American Industry Classification System (NAICS).

² See "Breeze" in Glossary.

³ Liquefied petroleum gases.

⁴ Natural gas liquids.

⁵ "Net Electricity" is the sum of purchases, transfers in, and onsite generation from noncombustible renewable energy sources, minus quantities sold and transferred out; it excludes onsite generation from combustible fuels.

⁶ Includes all other types of energy that respondents indicated were consumed or allocated, such as asphalt and road oil, lubricants, naphtha less than 401 degrees Fahrenheit, other oils greater than or equal to 401 degrees Fahrenheit, special naphthas, waxes, and miscellaneous nonfuel products, which are nonfuel products assigned to the petroleum refining industry group (NAICS Code 324110).

⁷ Energy sources produced onsite from the use of other energy sources but sold or transferred to

another entity. Note that shipments of energy sources are subtracted from consumption.

⁸ The sum of coal, coal coke and breeze, natural gas, distillate fuel oil, liquefied petroleum gases, natural gas liquids, residual fuel oil, net electricity, and other, minus shipments of energy sources.

(s)=Less than 0.5 trillion Btu and greater than -0.5 trillion Btu. Q=Data withheld because the relative standard error was greater than 50 percent.

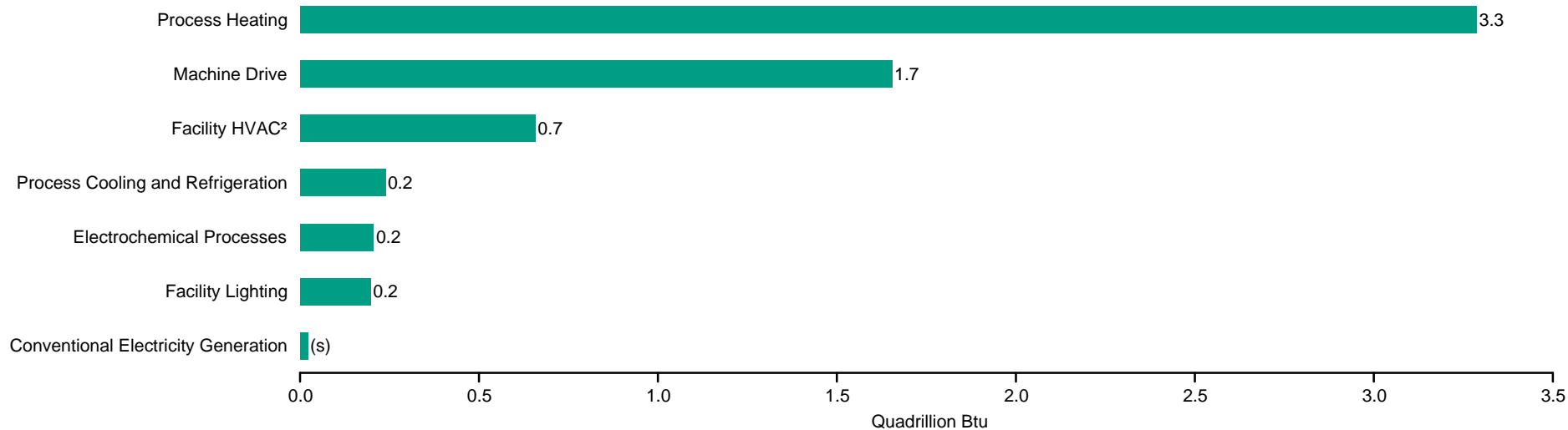
Notes: • Data are estimates for the first use of energy for heat and power and as feedstocks or raw material inputs. "First use" is the consumption of energy that was originally produced offsite or was produced onsite from input materials not classified as energy. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see <http://www.eia.gov/emeu/mecs>.

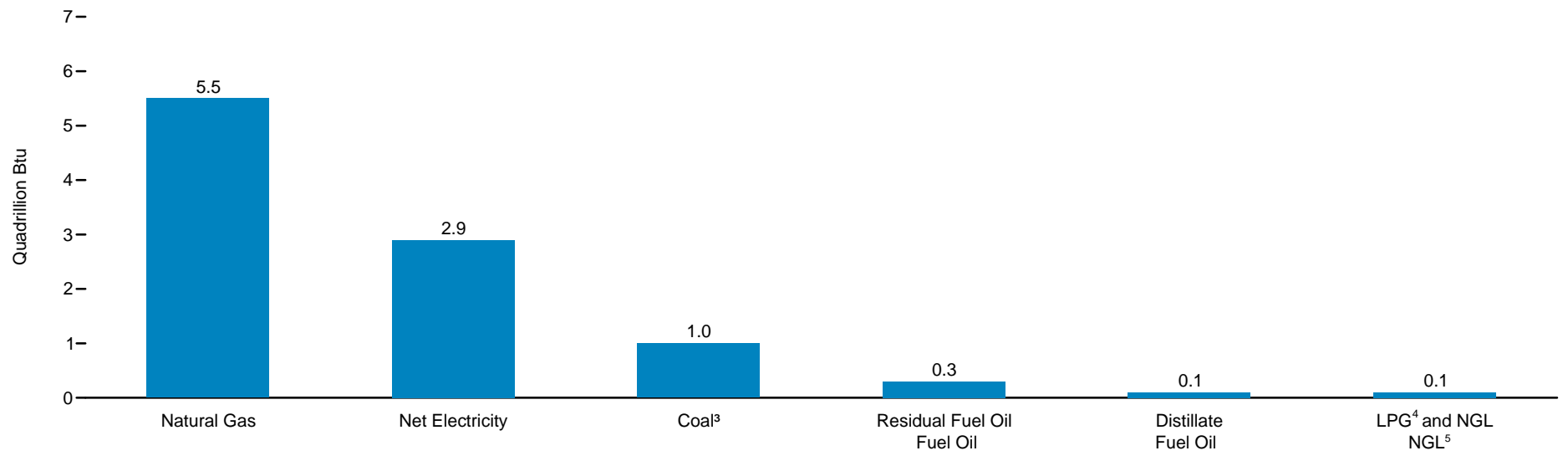
Source: U.S. Energy Information Administration, Form EIA-846, "2006 Manufacturing Energy Consumption Survey" and Form EIA-810, "Monthly Refinery Report" for 2006.

Figure 2.3 Manufacturing Energy Consumption for Heat, Power, and Electricity Generation, 2006

By Selected End Use¹



By Energy Source



¹ Excludes inputs of unallocated energy sources (5,820 trillion Btu).

² Heating, ventilation, and air conditioning. Excludes steam and hot water.

³ Excludes coal coke and breeze.

⁴ Liquefied petroleum gases.

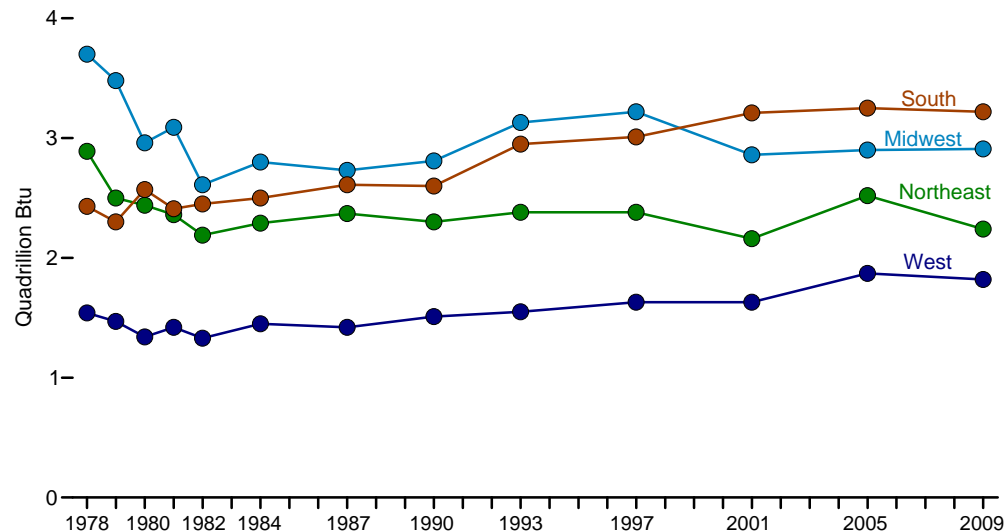
⁵ Natural gas liquids.

(s)=Less than 0.05 quadrillion Btu.

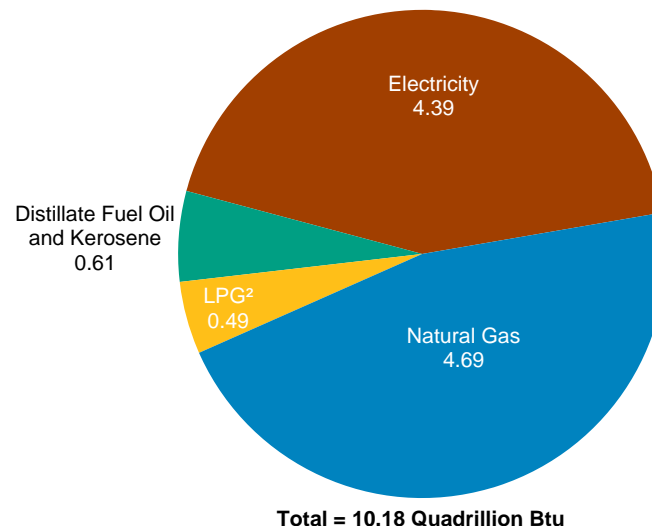
Source: Table 2.3.

Figure 2.4 Household Energy Consumption

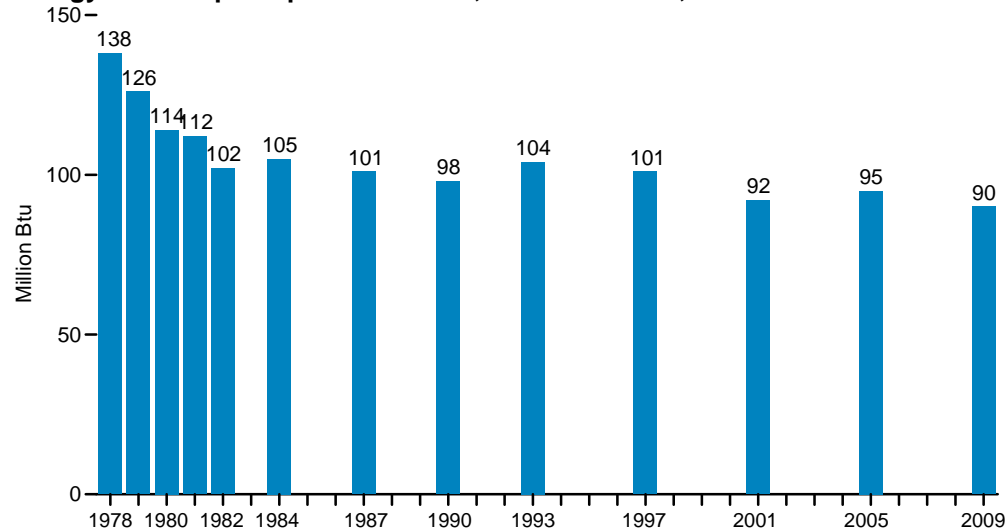
Household Energy Consumption by Census Region, Selected Years, 1978-2009¹



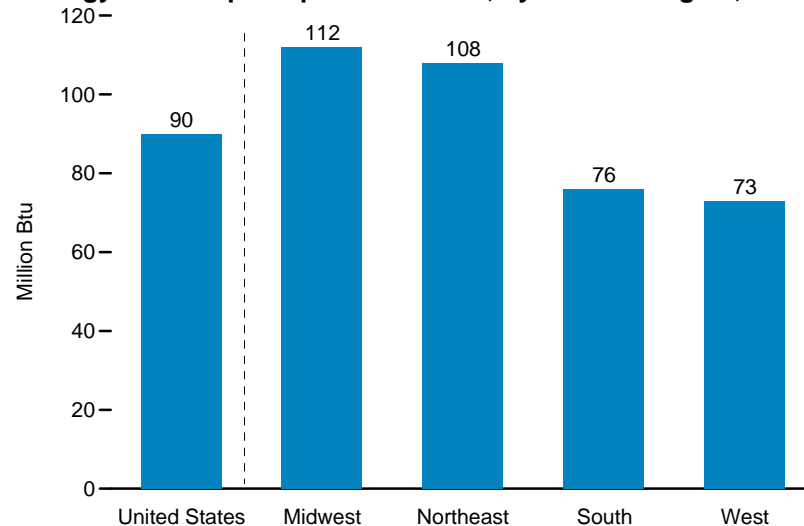
Household Energy Consumption by Source, 2009



Energy Consumption per Household, Selected Years, 1978-2009¹



Energy Consumption per Household, by Census Region, 2009



¹ For years not shown, there are no data available.

² Liquefied petroleum gases.

Notes: • Data include natural gas, electricity, distillate fuel oil, kerosene, and liquefied petroleum gases; data do not include wood. • Data for 1978-1984 are for April of the year shown through March of following year; data for 1987 forward are for the calendar year. • See Appendix C for map of Census regions.
Source: Table 2.4.

Table 2.4 Household ¹ Energy Consumption by Census Region, Selected Years, 1978-2009
(Quadrillion Btu, Except as Noted)

Census Region ²	1978	1979	1980	1981	1982	1984	1987	1990	1993	1997	2001	2005	2009
United States Total (does not include wood)	10.56	9.74	9.32	9.29	8.58	9.04	9.13	9.22	10.01	10.25	9.86	10.55	10.18
Natural Gas	5.58	5.31	4.97	5.27	4.74	4.98	4.83	4.86	5.27	5.28	4.84	4.79	4.69
Electricity ³	2.47	2.42	2.48	2.42	2.35	2.48	2.76	3.03	3.28	3.54	3.89	4.35	4.39
Distillate Fuel Oil and Kerosene	2.19	1.71	1.52	1.28	1.20	1.26	1.22	1.04	1.07	1.07	.75	.88	.61
Liquefied Petroleum Gases .....	.33	.31	.35	.31	.29	.31	.32	.28	.38	.36	.38	.52	.49
Wood ⁴	NA	NA	.85	.87	.97	.98	.85	.58	.55	.43	.37	.43	.50
Consumption per Household (million Btu) ³	138	126	114	112	102	105	101	98	104	101	92	95	90
Northeast Total (does not include wood)	2.89	2.50	2.44	2.36	2.19	2.29	2.37	2.30	2.38	2.38	2.16	2.52	2.24
Natural Gas	1.14	1.05	.94	1.01	.96	.93	1.03	1.03	1.11	1.03	.98	1.15	1.06
Electricity ³ .....	.39	.39	.41	.40	.37	.41	.44	.47	.47	.49	.53	.58	.57
Distillate Fuel Oil and Kerosene	1.32	1.03	1.07	.93	.83	.93	.87	.78	.78	.84	.60	.72	.52
Liquefied Petroleum Gases .....	.03	.03	.03	.03	.02	.03	.02	.02	.03	.03	.05	.07	.08
Wood ⁴	NA	NA	.26	.27	.24	.21	.17	.12	.14	.14	.10	.09	.10
Consumption per Household (million Btu) ³	166	145	138	132	122	125	124	120	122	121	107	122	108
Midwest Total (does not include wood)	3.70	3.48	2.96	3.09	2.61	2.80	2.73	2.81	3.13	3.22	2.86	2.91	2.91
Natural Gas	2.53	2.48	2.05	2.22	1.78	1.99	1.83	1.88	2.07	2.20	1.84	1.72	1.75
Electricity ³ .....	.60	.59	.60	.56	.56	.55	.61	.66	.74	.75	.81	.94	.94
Distillate Fuel Oil and Kerosene .....	.46	.31	.17	.19	.16	.13	.16	.13	.13	.11	.06	.06	.03
Liquefied Petroleum Gases .....	.12	.10	.15	.13	.11	.13	.13	.13	.19	.17	.15	.18	.19
Wood ⁴	NA	NA	.25	.25	.27	.27	.25	.17	.11	.08	.09	.13	.14
Consumption per Household (million Btu) ³	180	168	141	146	122	129	123	122	134	134	117	113	112
South Total (does not include wood)	2.43	2.30	2.57	2.41	2.45	2.50	2.61	2.60	2.95	3.01	3.21	3.25	3.22
Natural Gas .....	.96	.91	1.12	1.15	1.14	1.15	1.09	1.03	1.18	1.13	1.13	.94	.94
Electricity ³	1.00	.97	1.06	1.01	1.01	1.06	1.22	1.36	1.51	1.67	1.89	2.07	2.09
Distillate Fuel Oil and Kerosene .....	.32	.28	.25	.14	.18	.16	.17	.11	.13	.10	.08	.07	.05
Liquefied Petroleum Gases .....	.15	.14	.14	.12	.12	.12	.12	.10	.13	.12	.12	.18	.14
Wood ⁴	NA	NA	.23	.21	.33	.33	.26	.17	.17	.12	.09	.12	.16
Consumption per Household (million Btu) ³	99	92	95	87	87	85	84	81	88	84	83	80	76
West Total (does not include wood)	1.54	1.47	1.34	1.42	1.33	1.45	1.42	1.51	1.55	1.63	1.63	1.87	1.82
Natural Gas .....	.95	.88	.86	.90	.85	.91	.88	.92	.91	.93	.90	.98	.94
Electricity ³ .....	.48	.47	.41	.46	.41	.47	.48	.54	.56	.64	.66	.76	.79
Distillate Fuel Oil and Kerosene .....	.09	.09	.04	.03	.03	.04	.02	.02	.03	.03	.02	.03	.01
Liquefied Petroleum Gases .....	.03	.04	.04	.04	.04	.03	.05	.03	.04	.04	.06	.10	.08
Wood ⁴	NA	NA	.11	.13	.13	.17	.17	.12	.12	.10	.10	.09	.10
Consumption per Household (million Btu) ³	110	100	84	87	81	85	78	78	76	75	70	77	73

¹ Includes energy consumption in occupied primary housing units only, which differs from residential sector energy consumption.

² See Appendix C for map of Census regions.

³ Retail electricity. One kilowatthour = 3,412 Btu.

⁴ Wood is not included in the region and U.S. totals, or in the consumption-per-household data.

NA=Not available.

Notes: • Data are estimates, and are for major energy sources only. • For years not shown, there are

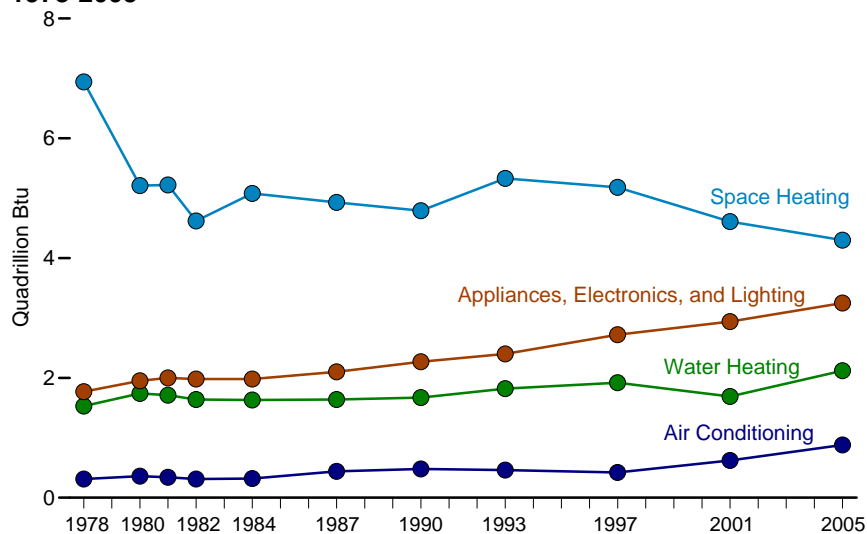
no data available. • Data for 1978–1984 are for April of year shown through March of following year; data for 1987 forward are for the calendar year. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see <http://www.eia.gov/consumption/residential/>.

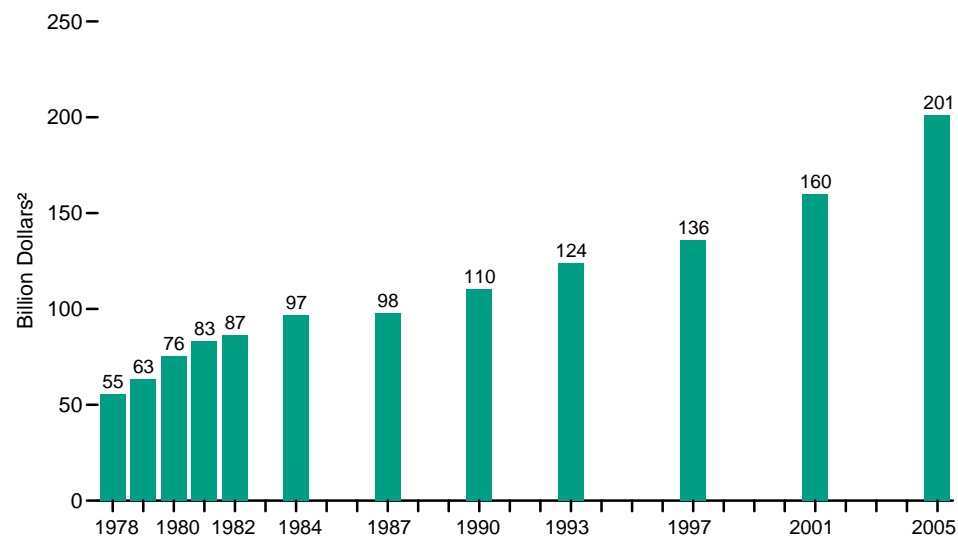
Sources: • 1978 and 1979—U.S. Energy Information Administration (EIA), Form EIA-84, "Residential Energy Consumption Survey." • 1980 forward—EIA, Form EIA-457, "Residential Energy Consumption Survey."

Figure 2.5 Household Energy Consumption and Expenditures

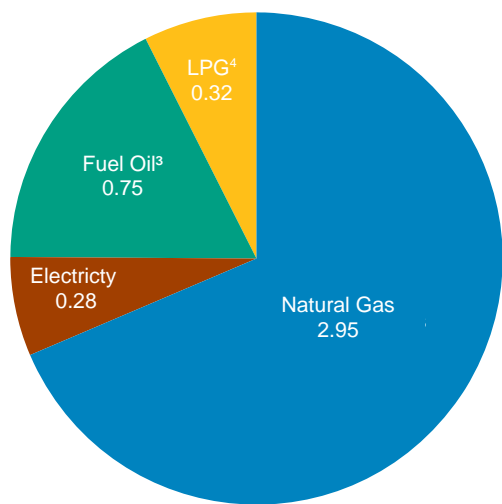
Household Energy Consumption by End Use, Selected Years, 1978-2005¹



Household Energy Expenditures, Selected Years, 1978-2005¹

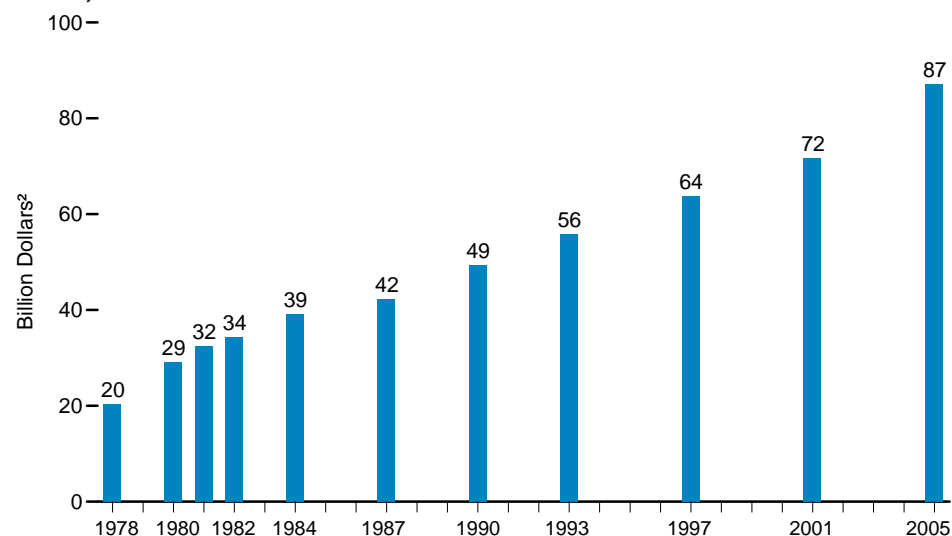


Household Energy Consumption for Space Heating by Fuel 2005



Total = 4.30 Quadrillion Btu

Appliances, Electronics, and Lighting Expenditures, Selected Years, 1978-2005¹



⁴Liquefied petroleum gases.
Source: Table 2.5.

¹ For years not shown, there are no data available.
² Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.
³ Distillate fuel oil and kerosene.

Table 2.5 Household ¹ Energy Consumption and Expenditures by End Use, Selected Years, 1978-2005

Year	Space Heating					Air Conditioning	Water Heating					Appliances, ² Electronics, and Lighting			
	Natural Gas	Elec-tricity ³	Fuel Oil ⁴	LPG ⁵	Total	Electricity ³	Natural Gas	Elec-tricity ³	Fuel Oil ⁴	LPG ⁵	Total	Natural Gas	Elec-tricity ³	LPG ⁵	Total
Consumption (quadrillion Btu)															
1978	4.26	0.40	2.05	0.23	6.94	0.31	1.04	0.29	0.14	0.06	1.53	0.28	1.46	0.03	1.77
1980	3.41	.27	1.30	.23	5.21	.36	1.15	.30	.22	.07	1.74	.36	1.54	.05	1.95
1981	3.69	.26	1.06	.21	5.22	.34	1.13	.30	.22	.06	1.71	.43	1.52	.05	2.00
1982	3.14	.25	1.04	.19	4.62	.31	1.15	.28	.15	.06	1.64	.43	1.50	.05	1.98
1984	3.51	.25	1.11	.21	5.08	.32	1.10	.32	.15	.06	1.63	.35	1.59	.04	1.98
1987	3.38	.28	1.05	.22	4.93	.44	1.10	.31	.17	.06	1.64	.34	1.72	.04	2.10
1990	3.37	.30	.93	.19	4.79	.48	1.16	.34	.11	.06	1.67	.33	1.91	.03	2.27
1993	3.67	.41	.95	.30	5.33	.46	1.31	.34	.12	.05	1.82	.29	2.08	.03	2.40
1997	3.61	.40	.91	.26	5.18	.42	1.29	.39	.16	.08	1.92	.37	2.33	.02	2.72
2001	3.32	.39	.62	.28	4.61	.62	1.15	.36	.13	.05	1.69	.37	2.52	.05	2.94
2005	2.95	.28	.75	.32	4.30	.88	1.41	.42	.14	.15	2.12	.43	2.77	.05	3.25
Expenditures (billion nominal dollars ⁶)															
1978	11.49	3.53	8.06	1.05	24.13	3.97	2.88	3.15	0.56	0.36	6.95	0.93	19.24	0.25	20.42
1980	13.22	3.78	10.48	1.78	29.26	5.84	4.51	4.45	1.76	.57	11.29	1.91	26.74	.44	29.09
1981	16.62	3.93	9.44	1.78	31.77	6.23	5.13	4.94	1.94	.51	12.52	2.17	29.70	.52	32.39
1982	17.74	4.21	8.80	1.69	32.44	6.23	6.51	5.00	1.28	.54	13.33	2.58	31.29	.52	34.39
1984	20.66	4.62	8.51	2.00	35.79	7.06	6.63	6.44	1.09	.58	14.74	2.31	36.36	.54	39.21
1987	18.05	5.53	6.25	1.85	31.68	9.77	6.02	6.45	.94	.50	13.91	2.02	39.83	.46	42.31
1990	18.59	6.16	7.42	2.01	34.18	11.23	6.59	7.21	.83	.65	15.28	2.03	46.95	.48	49.46
1993	21.95	8.66	6.24	2.81	39.66	11.31	8.08	7.58	.74	.58	16.98	1.98	53.52	.42	55.92
1997	24.11	8.56	6.57	2.79	42.03	10.20	8.84	8.99	1.04	.89	19.76	2.86	60.57	.36	63.79
2001	31.84	8.98	5.66	4.04	50.52	15.94	11.31	8.47	1.15	.69	21.62	3.83	66.94	.86	71.63
2005	31.97	7.42	10.99	6.35	56.73	25.26	15.57	11.13	2.00	3.28	31.98	4.80	80.92	1.37	87.09

¹ Includes energy consumption in occupied primary housing units only, which differs from residential sector energy consumption.

² Includes refrigerators.

³ Retail electricity. One kilowatthour=3,412 Btu.

⁴ Distillate fuel oil and kerosene.

⁵ Liquefied petroleum gases.

⁶ Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

Notes: • 2009 data for this table were not available in time for publication. • Data are estimates.

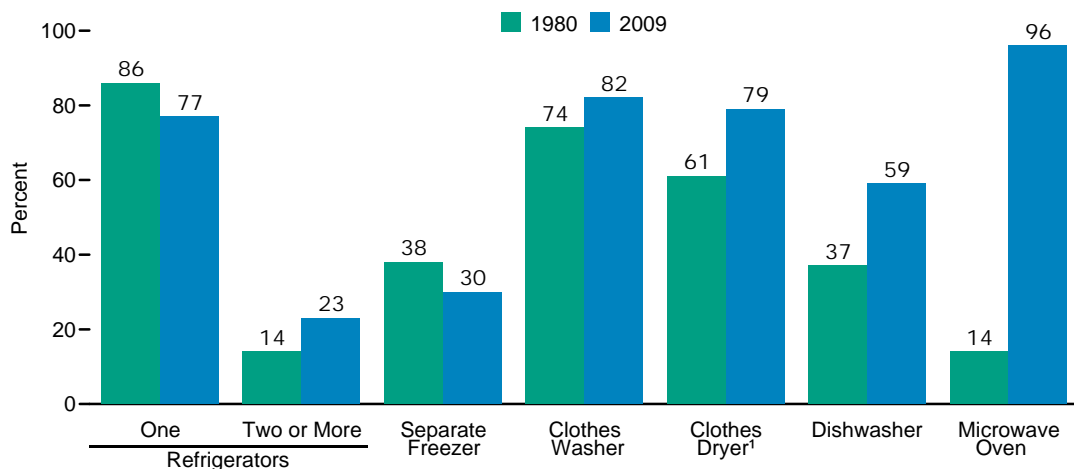
• For years not shown, there are no data available. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see <http://www.eia.gov/consumption/residential/>.

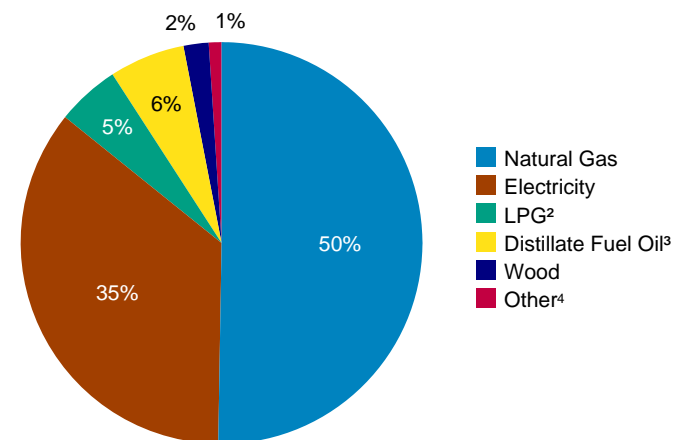
Sources: • 1978—U.S. Energy Information Administration (EIA), Form EIA-84, "Residential Energy Consumption Survey." • 1980 forward—EIA, Form EIA-457, "Residential Energy Consumption Survey."

Figure 2.6 Household End Uses: Fuel Types, Appliances, and Electronics

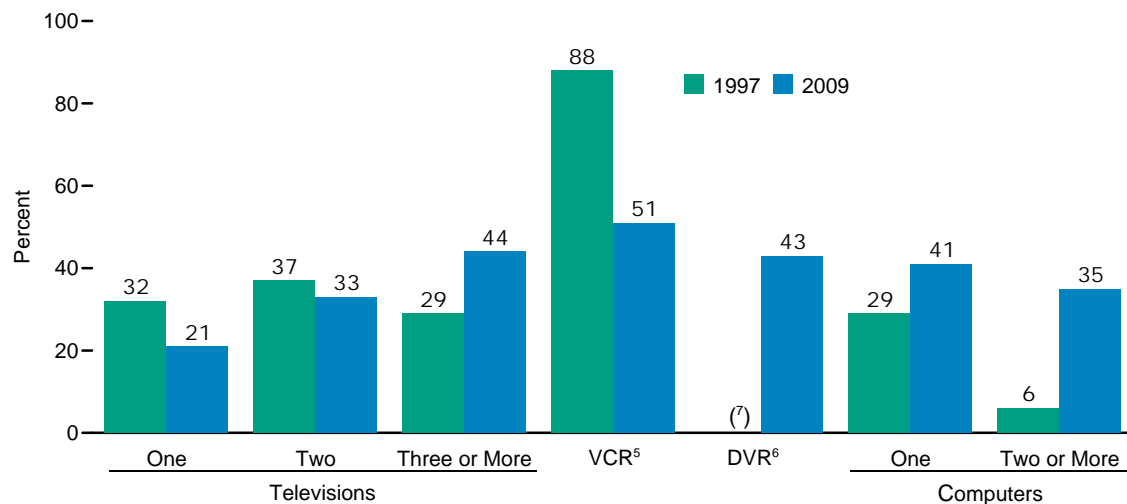
Share of Households With Selected Appliances, 1980 and 2009



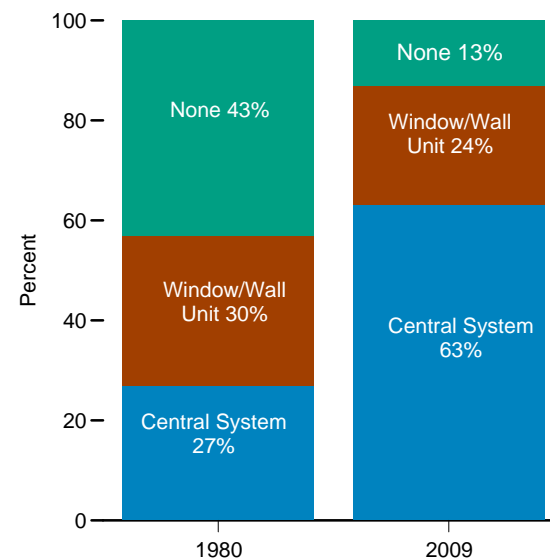
Space Heating by Main Fuel, 2009



Share of Households With Selected Electronics, 1997 and 2009



Air-Conditioning Equipment, 1980 and 2009



¹ Natural gas and electric.

² Liquefied petroleum gases.

³ Includes kerosene.

⁴ Coal, solar, other fuel, or no heating equipment.

⁵ Video Cassette Recorder.

⁶ Digital Video Recorder.

⁷ Not collected in 1997.

Note: Total may not equal sum of components due to independent rounding.

Source: Table 2.6.

Table 2.6 Household End Uses: Fuel Types, Appliances, and Electronics, Selected Years, 1978-2009

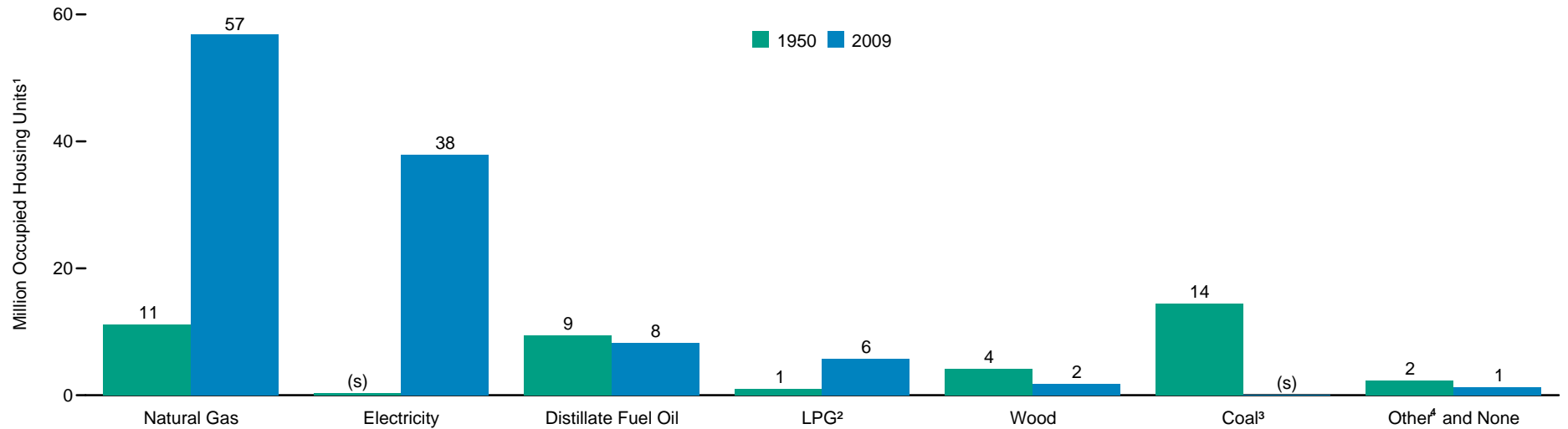
Appliance	Year													Change
	1978	1979	1980	1981	1982	1984	1987	1990	1993	1997	2001	2005	2009	1980 to 2009
Total Households (millions)	77	78	82	83	84	86	91	94	97	101	107	111	114	32
Percent of Households														
Space Heating - Main Fuel ¹														
Natural Gas	55	55	55	56	57	55	55	55	53	52	55	52	50	-5
Electricity ²	16	17	18	17	16	17	20	23	26	29	29	30	35	17
Liquefied Petroleum Gases	4	5	5	4	5	5	5	5	5	5	5	5	5	0
Distillate Fuel Oil ³	20	17	15	14	13	12	12	11	11	9	7	7	6	-9
Wood	2	4	6	6	7	7	6	4	3	2	2	3	2	-4
Other ⁴ or No Equipment	3	2	2	3	3	3	3	2	2	2	2	3	1	-1
Air Conditioning - Equipment														
Central System ⁵	23	24	27	27	28	30	34	39	44	47	55	59	63	36
Window/Wall Unit ⁵	33	31	30	31	30	30	30	29	25	25	23	25	24	-6
None	44	45	43	42	42	40	36	32	32	28	23	16	13	-30
Water Heating - Main Fuel														
Natural Gas	55	55	54	55	56	54	54	53	53	52	54	53	51	-3
Electricity ²	33	33	32	33	32	33	35	37	38	39	38	39	41	9
Liquefied Petroleum Gases	4	4	4	4	4	4	3	3	3	3	3	4	4	0
Distillate Fuel Oil ³	8	7	9	7	7	6	6	5	5	5	4	4	3	-6
Other or No Water Heating	0	0	1	1	1	1	1	1	1	1	0	0	1	0
Appliances														
Refrigerator ⁶	100	NA	100	100	100	100	100	100	100	100	100	100	100	0
One	86	NA	86	87	86	88	86	84	85	85	83	78	77	-9
Two or More	14	NA	14	13	13	12	14	15	15	15	17	22	23	9
Separate Freezer	35	NA	38	38	37	37	34	34	35	33	32	32	30	-8
Clothes Washer	74	NA	74	73	71	73	75	76	77	77	79	83	82	8
Clothes Dryer	59	NA	61	61	60	62	66	69	70	71	74	79	79	18
Natural Gas	14	NA	14	16	15	16	15	16	14	15	16	17	15	1
Electric	45	NA	47	45	45	46	51	53	57	55	57	61	63	16
Dishwasher	35	NA	37	37	36	38	43	45	45	50	53	58	59	22
Range/Stove/Oven	99	NA	99	100	99	99	99	100	100	99	100	99	99	0
Natural Gas	48	NA	46	46	47	46	43	42	33	35	35	35	34	-12
Electric	53	NA	57	56	56	57	60	59	63	62	62	62	60	3
Microwave Oven	8	NA	14	17	21	34	61	79	84	83	86	88	96	82
Electronics														
Television	NA	NA	98	98	98	98	98	99	99	99	99	99	99	1
One	NA	NA	47	51	49	46	40	35	34	32	27	21	21	-26
Two	NA	NA	38	34	35	34	35	36	36	37	36	35	33	-5
Three or More	NA	NA	14	14	15	18	23	28	28	29	36	43	44	30
Video Cassette Recorder (VCR)	NA	NA	NA	NA	NA	NA	NA	NA	NA	88	⁷ 90	80	51	NA
Digital Video Recorder (DVR)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43	NA
Computer	NA	NA	NA	NA	NA	NA	NA	NA	NA	35	56	68	76	NA
One	NA	NA	NA	NA	NA	NA	NA	NA	NA	29	42	45	41	NA
Two or More	NA	NA	NA	NA	NA	NA	NA	NA	NA	6	15	23	35	NA
Printer	NA	NA	NA	NA	NA	NA	NA	NA	5	12	49	59	60	NA

¹ Includes households that have but do not use space heating equipment.
² Retail (delivered) electricity.
³ Includes kerosene.
⁴ Coal, solar, or other fuels.
⁵ Households with both a central system and a window or wall unit are counted only under "Central System." Includes households that have but do not use air conditioning equipment.
⁶ Fewer than 0.5 percent of the households do not have a refrigerator.
⁷ The 2001 "Residential Energy Consumption Survey (RECS)" only had one question for VCRs and

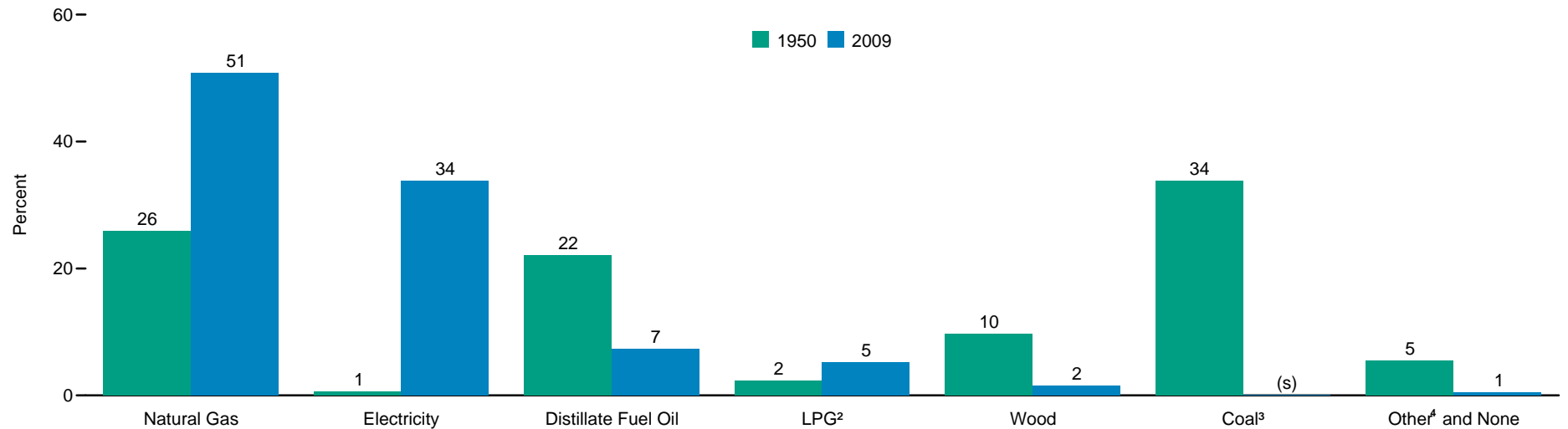
DVD players.
 NA=Not available.
 Notes: • Data are estimates. • For years not shown, there are no data available. • Totals may not equal sum of components due to independent rounding.
 Web Page: For related information, see <http://www.eia.gov/consumption/residential/>.
 Sources: • 1978 and 1979—U.S. Energy Information Administration (EIA), Form EIA-84, "RECS."
 • 1980 forward—EIA, Form EIA-457, "RECS."

Figure 2.7 Type of Heating in Occupied Housing Units, 1950 and 2009

By Fuel Type



By Fuel Type, Share of Total



¹ Sum of components do not equal total due to independent rounding.

² Liquefied petroleum gases.

³ Includes coal coke.

⁴ Kerosene, solar, and other.

(s)=Less than 0.5.

Source: Table 2.7.

Table 2.7 Type of Heating in Occupied Housing Units, Selected Years, 1950-2009

Year	Coal ¹	Distillate Fuel Oil	Kerosene	Liquefied Petroleum Gases	Natural Gas	Electricity	Wood	Solar	Other ²	None ³	Total
Million Occupied Housing Units											
1950	14.48	9.46	(⁴)	0.98	11.12	0.28	4.17	NA	0.77	1.57	42.83
1960	6.46	17.16	(⁴)	2.69	22.85	.93	2.24	NA	.22	.48	53.02
1970	1.82	16.47	(⁴)	3.81	35.01	4.88	.79	NA	.27	.40	63.45
1973	.80	17.24	(⁴)	4.42	38.46	7.21	.60	NA	.15	.45	69.34
1975	.57	16.30	(⁴)	4.15	40.93	9.17	.85	NA	.08	.47	72.52
1977	.45	15.62	.44	4.18	41.54	11.15	1.24	NA	.15	.51	75.28
1979	.36	15.30	.41	4.13	43.32	13.24	1.14	NA	.10	.57	78.57
1981	.36	14.13	.37	4.17	46.08	15.49	1.89	NA	.10	.59	83.18
1983 ⁵	.43	12.59	.45	3.87	46.70	15.68	4.09	NA	.16	.68	84.64
1985	.45	12.44	1.06	3.58	45.33	18.36	6.25	.05	.37	.53	88.43
1987	.41	12.74	1.08	3.66	45.96	20.61	5.45	.05	.28	.66	90.89
1989	.34	12.47	1.07	3.66	47.40	23.06	4.59	.04	.40	.66	93.68
1991	.32	11.47	.99	3.88	47.02	23.71	4.44	.03	.41	.86	93.15
1993	.30	11.17	1.02	3.92	47.67	25.11	4.10	.03	.50	.91	94.73
1995	.21	10.98	1.06	4.25	49.20	26.77	3.53	.02	.64	1.04	97.69
1997	.18	10.10	.75	5.40	51.05	29.20	1.79	.03	.36	.62	99.49
1999	.17	10.03	.72	5.91	52.37	31.14	1.70	.02	.21	.54	102.80
2001 ⁶	.13	9.81	.65	6.04	54.13	32.41	1.67	.02	.19	.39	105.44
2003	.13	9.50	.64	6.13	54.93	32.34	1.56	.02	.16	.44	105.84
2005	.10	9.38	.55	6.23	56.32	34.26	1.41	.02	.21	.40	108.87
2007	.09	8.74	.57	6.10	56.68	36.08	1.47	.02	.46	.48	110.69
2009	.10	8.21	.60	5.82	56.81	37.85	1.78	.01	.24	.38	111.81
Percent											
1950	33.8	22.1	(⁴)	2.3	26.0	0.6	9.7	NA	1.8	3.7	100.0
1960	12.2	32.4	(⁴)	5.1	43.1	1.8	4.2	NA	.4	.9	100.0
1970	2.9	26.0	(⁴)	6.0	55.2	7.7	1.3	NA	.4	.6	100.0
1973	1.2	24.9	(⁴)	6.4	55.5	10.4	.9	NA	.2	.7	100.0
1975	.8	22.5	(⁴)	5.7	56.4	12.6	1.2	NA	.1	.6	100.0
1977	.6	20.7	.6	5.6	55.2	14.8	1.6	NA	.2	.7	100.0
1979	.5	19.5	.5	5.3	55.1	16.9	1.4	NA	.1	.7	100.0
1981	.4	17.0	.4	5.0	55.4	18.6	2.3	NA	.1	.7	100.0
1983 ⁵	.5	14.9	.5	4.6	55.2	18.5	4.8	NA	.2	.8	100.0
1985	.5	14.1	1.2	4.1	51.3	20.8	7.1	.1	.4	.6	100.0
1987	.4	14.0	1.2	4.0	50.6	22.7	6.0	.1	.3	.7	100.0
1989	.4	13.3	1.1	3.9	50.6	24.6	4.9	(s)	.4	.7	100.0
1991	.3	12.3	1.1	4.2	50.5	25.5	4.8	(s)	.4	.9	100.0
1993	.3	11.8	1.1	4.1	50.3	26.5	4.3	(s)	.5	1.0	100.0
1995	.2	11.2	1.1	4.4	50.4	27.4	3.6	(s)	.7	1.1	100.0
1997	.2	10.2	.8	5.4	51.3	29.4	1.8	(s)	.4	.6	100.0
1999	.2	9.8	.7	5.7	50.9	30.3	1.7	(s)	.2	.5	100.0
2001 ⁶	.1	9.3	.6	5.7	51.3	30.7	1.6	(s)	.2	.4	100.0
2003	.1	9.0	.6	5.8	51.9	30.6	1.5	(s)	.1	.4	100.0
2005	.1	8.6	.5	5.7	51.7	31.5	1.3	(s)	.2	.4	100.0
2007	.1	7.9	.5	5.5	51.2	32.6	1.3	(s)	.4	.4	100.0
2009	.1	7.3	.5	5.2	50.8	33.9	1.6	(s)	.2	.3	100.0

¹ Includes coal coke.

² Includes briquettes (made of pitch and sawdust), coal dust, waste material (such as corncobs), purchased steam, and other fuels not separately displayed.

³ In 1950 and 1960, also includes nonreporting units, which totaled 997 and 2,000 units, respectively.

⁴ Included in "Distillate Fuel Oil."

⁵ Beginning in 1983, the *American Housing Survey for the United States* has been a biennial survey.

⁶ Beginning in 2001, data are consistent with the 2000 Census. For 2001 data consistent with the 1990 Census, see *American Housing Survey for the United States: 2001*.

NA=Not available. (s)=Less than 0.05 percent.

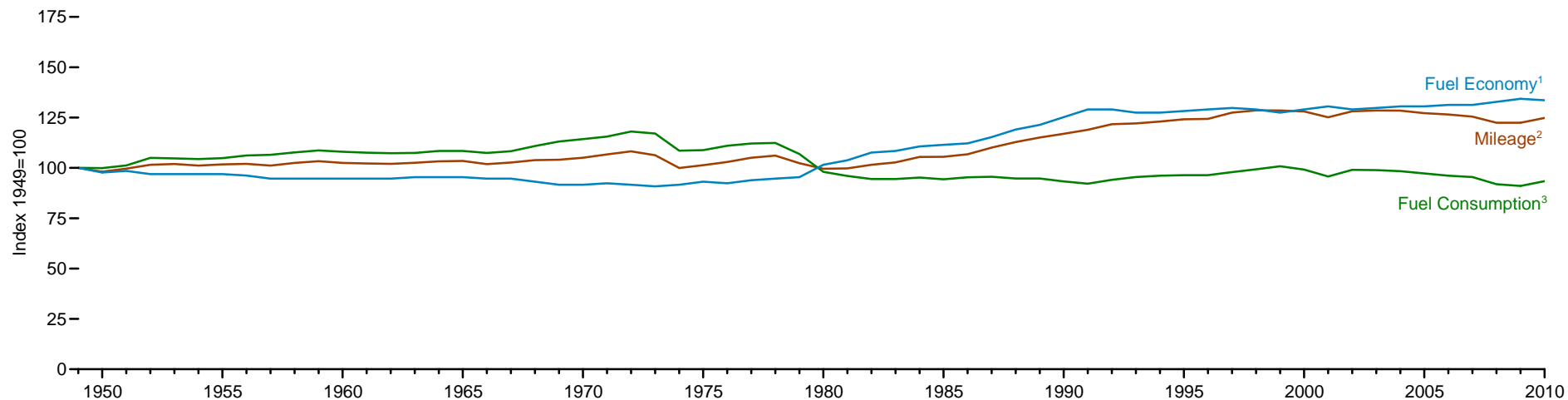
Notes: • Includes mobile homes and individual housing units in apartment buildings. Housing units with more than one type of heating system are classified according to the principal type of heating system. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all data beginning in 1950. • For related information, see <http://www.census.gov/hhes/www/ahs.html>.

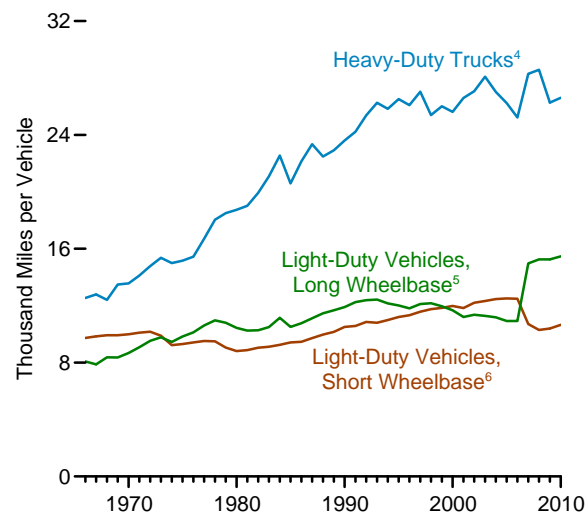
Sources: • 1950, 1960, and 1970—Bureau of the Census, *Census of Population and Housing*. • 1973-1981—Bureau of the Census, *American Housing Survey for the United States*, annual surveys, Table 2-5. • 1983 forward—Bureau of the Census, *American Housing Survey for the United States*, biennial surveys, Table 2-5.

Figure 2.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy

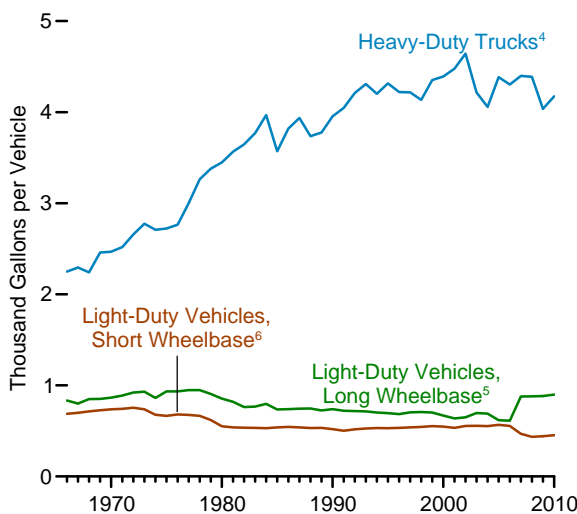
All Motor Vehicles, 1949-2010



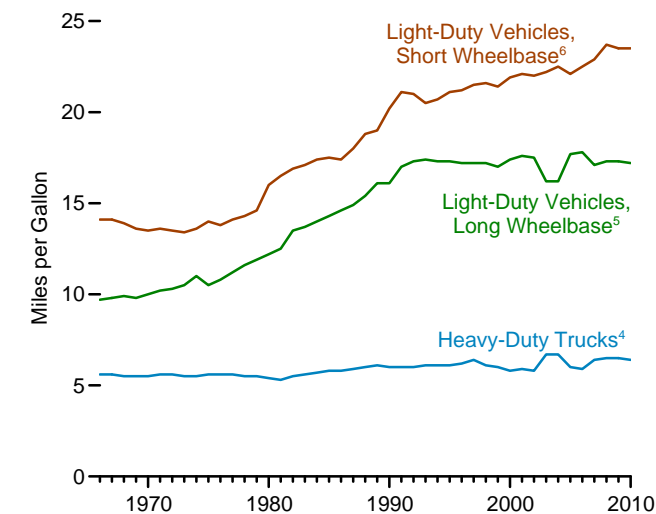
Mileage, 1966-2010



Fuel Consumption, 1966-2010



Fuel Economy, 1966-2010



¹ Miles per gallon.

² Miles per vehicle.

³ Gallons per vehicle.

⁴ Through 2006, data are for single-unit trucks with 2 axles and 6 or more tires, and combination trucks. Beginning in 2007, data are for single-unit trucks with 2 axles and 6 or more tires or a gross vehicle weight rating exceeding 10,000 pounds, and combination trucks.

⁵ Through 2006, data are for vans, pickup trucks, sport utility vehicles, and a small number of trucks with 2 axles and 4 tires, such as step vans. Beginning in 2007, data are for large passenger cars, vans, pickup trucks, and sport utility vehicles with a wheelbase larger than 121 inches.

⁶ Through 2006, data are for passenger cars (and, through 1989, for motorcycles). Beginning in 2007, data are for passenger cars, light trucks, vans, and sport utility vehicles with a wheelbase equal to or less than 121 inches.

Source: Table 2.8.

Table 2.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy, Selected Years, 1949-2010

Year	Light-Duty Vehicles, Short Wheelbase ¹			Light-Duty Vehicles, Long Wheelbase ²			Heavy-Duty Trucks ³			All Motor Vehicles ⁴		
	Mileage	Fuel Consumption	Fuel Economy	Mileage	Fuel Consumption	Fuel Economy	Mileage	Fuel Consumption	Fuel Economy	Mileage	Fuel Consumption	Fuel Economy
	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per vehicle	Gallons per vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon
1949	9,388	627	15.0	(⁵)	(⁵)	(⁵)	9,712	1,080	9.0	9,498	726	13.1
1950	9,060	603	15.0	(⁵)	(⁵)	(⁵)	10,316	1,229	8.4	9,321	725	12.8
1955	9,447	645	14.6	(⁵)	(⁵)	(⁵)	10,576	1,293	8.2	9,661	761	12.7
1960	9,518	668	14.3	(⁵)	(⁵)	(⁵)	10,693	1,333	8.0	9,732	784	12.4
1965	9,603	661	14.5	(⁵)	(⁵)	(⁵)	10,851	1,387	7.8	9,826	787	12.5
1970	9,989	737	13.5	8,676	866	10.0	13,565	2,467	5.5	9,976	830	12.0
1975	9,309	665	14.0	9,829	934	10.5	15,167	2,722	5.6	9,627	790	12.2
1976	9,418	681	13.8	10,127	934	10.8	15,438	2,764	5.6	9,774	806	12.1
1977	9,517	676	14.1	10,607	947	11.2	16,700	3,002	5.6	9,978	814	12.3
1978	9,500	665	14.3	10,968	948	11.6	18,045	3,263	5.5	10,077	816	12.4
1979	9,062	620	14.6	10,802	905	11.9	18,502	3,380	5.5	9,722	776	12.5
1980	8,813	551	16.0	10,437	854	12.2	18,736	3,447	5.4	9,458	712	13.3
1981	8,873	538	16.5	10,244	819	12.5	19,016	3,565	5.3	9,477	697	13.6
1982	9,050	535	16.9	10,276	762	13.5	19,931	3,647	5.5	9,644	686	14.1
1983	9,118	534	17.1	10,497	767	13.7	21,083	3,769	5.6	9,760	686	14.2
1984	9,248	530	17.4	11,151	797	14.0	22,550	3,967	5.7	10,017	691	14.5
1985	9,419	538	17.5	10,506	735	14.3	20,597	3,570	5.8	10,020	685	14.6
1986	9,464	543	17.4	10,764	738	14.6	22,143	3,821	5.8	10,143	692	14.7
1987	9,720	539	18.0	11,114	744	14.9	23,349	3,937	5.9	10,453	694	15.1
1988	9,972	531	18.8	11,465	745	15.4	22,485	3,736	6.0	10,721	688	15.6
1989	10,157	533	19.0	11,676	724	16.1	22,926	3,776	6.1	10,932	688	15.9
1990	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	^{1,R} 10,710	^{1,R} 468	^{1,R} 22.9	^{2,R} 14,970	^{2,R} 877	^{2,R} 17.1	^{3,R} 28,290	^{3,R} 4,398	^{3,R} 6.4	^R 11,915	693	17.2
2008	^R 10,290	^R 435	^R 23.7	^R 15,256	^R 880	^R 17.3	^R 28,573	^R 4,387	^R 6.5	^R 11,631	667	17.4
2009	10,391	442	23.5	15,252	882	17.3	26,274	4,037	6.5	11,631	661	17.6
2010 ^P	10,649	453	23.5	15,463	898	17.2	26,609	4,174	6.4	11,853	678	17.5

¹ Through 2006, data are for passenger cars (and, through 1989, for motorcycles). Beginning in 2007, data are for passenger cars, light trucks, vans, and sport utility vehicles with a wheelbase equal to or less than 121 inches.

² Through 2006, data are for vans, pickup trucks, sport utility vehicles, and a small number of trucks with 2 axles and 4 tires, such as step vans. Beginning in 2007, data are for large passenger cars, vans, pickup trucks, and sport utility vehicles with a wheelbase larger than 121 inches.

³ Through 2006, data are for single-unit trucks with 2 axles and 6 or more tires, and combination trucks. Beginning in 2007, data are for single-unit trucks with 2 axles and 6 or more tires or a gross vehicle weight rating exceeding 10,000 pounds, and combination trucks.

⁴ Includes buses and motorcycles, which are not separately displayed.

⁵ Included in "Heavy-Duty Trucks."

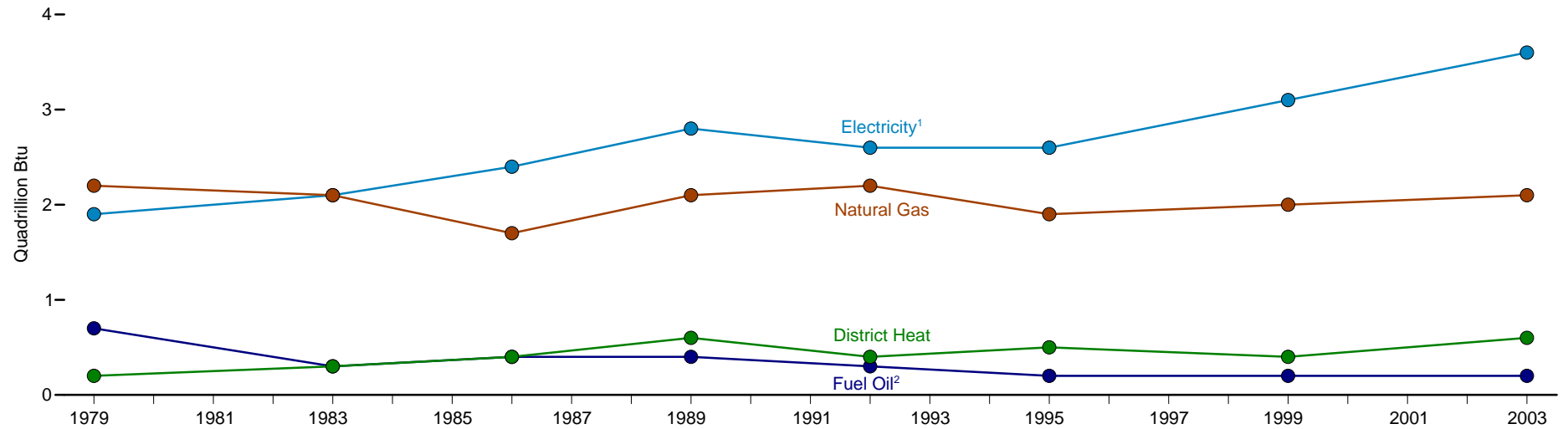
R=Revised. P=Preliminary.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#consumption> for all data beginning in 1949. • For related information, see <http://www.fhwa.dot.gov/policyinformation/statistics.cfm>.

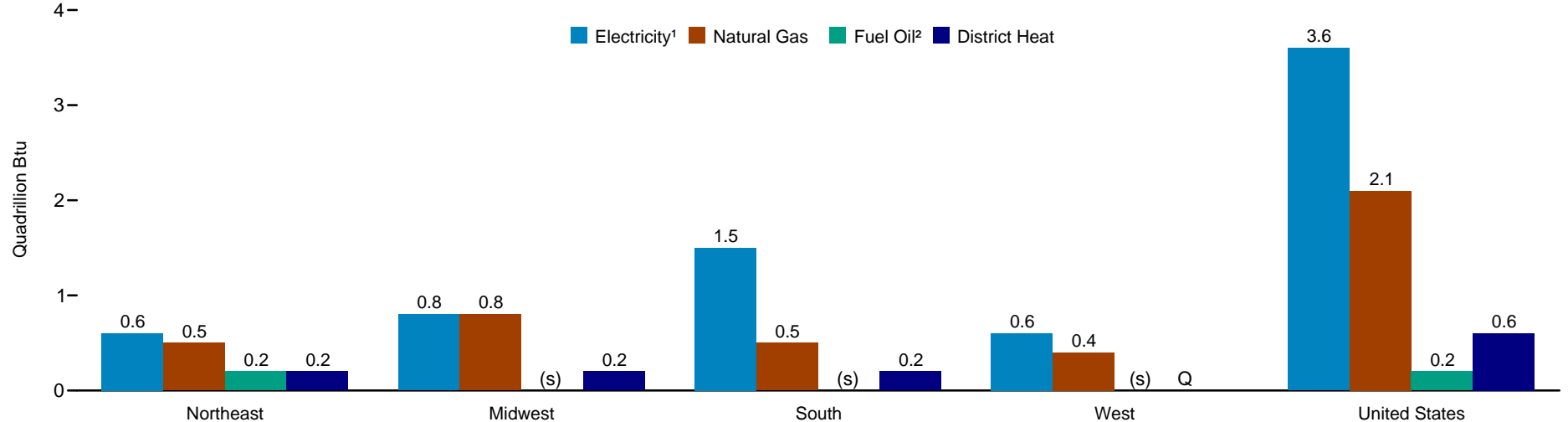
Sources: **Light-Duty Vehicles, Short Wheelbase, 1990-1994:** U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1998*, Table 4-13. **All Other Data:** • 1949-1994—Federal Highway Administration (FHWA), *Highway Statistics Summary to 1995*, Table VM-201A. • 1995 forward—FHWA, *Highway Statistics*, annual reports, Table VM-1.

Figure 2.9 Commercial Buildings Consumption by Energy Source

By Survey Year, 1979-2003



By Census Region, 2003



¹ Electricity only; excludes electrical system energy losses.

² Distillate fuel oil, residual fuel oil, and kerosene.

(s)=Less than 0.05 quadrillion Btu.

Q=Data withheld because either the relative standard error was greater than 50 percent or fewer than 20 buildings were sampled.

Note: See Appendix C for map of Census regions.

Source: Table 2.9.

Table 2.9 Commercial Buildings Consumption by Energy Source, Selected Years, 1979-2003
(Trillion Btu)

Energy Source and Year	Square Footage Category			Principal Building Activity								Census Region ¹				All Buildings
	1,001 to 10,000	10,001 to 100,000	Over 100,000	Education	Food Sales	Food Service	Health Care	Lodging	Mercantile and Service	Office	All Other	Northeast	Midwest	South	West	
Major Sources ²																
1979	1,255	2,202	1,508	511	(³)	336	469	278	894	861	1,616	1,217	1,826	1,395	526	4,965
1983	1,242	1,935	1,646	480	(³)	414	463	362	812	1,018	1,274	858	1,821	1,462	682	4,823
1986	1,273	2,008	1,696	633	147	247	456	299	985	1,008	1,202	1,037	1,585	1,459	896	4,977
1989	1,259	2,402	2,127	704	139	255	449	425	1,048	1,230	1,538	1,354	1,659	1,648	1,126	5,788
1992	1,258	2,301	1,932	637	137	307	403	463	892	1,247	1,404	1,090	1,578	1,825	998	5,490
1995 ⁴	1,332	2,152	1,838	614	137	332	561	461	973	1,019	1,225	1,035	1,497	1,684	1,106	5,321
1999	1,381	2,300	2,053	649	201	447	515	450	1,145	1,089	1,237	1,116	1,509	1,961	1,147	5,733
2003	1,248	2,553	2,721	820	251	427	594	510	1,333	1,134	1,455	1,396	1,799	2,265	1,063	6,523
Electricity ⁵																
1979	429	872	608	163	(³)	171	129	119	361	424	543	425	593	662	227	1,908
1983	469	903	758	152	(³)	212	147	151	426	509	532	324	673	801	331	2,129
1986	654	927	809	179	99	121	132	120	536	641	563	430	584	867	510	2,390
1989	572	1,145	1,056	217	105	113	154	138	550	781	715	586	609	975	604	2,773
1992	586	991	1,033	235	113	138	138	189	444	704	649	419	622	1,002	566	2,609
1995 ⁴	618	1,064	926	221	119	166	211	187	508	676	521	436	558	1,027	587	2,608
1999	698	1,235	1,164	257	165	216	232	196	659	767	606	543	662	1,247	645	3,098
2003	685	1,405	1,469	371	208	217	248	235	883	719	679	587	799	1,542	631	3,559
Natural Gas																
1979	646	996	532	214	(³)	145	221	115	422	272	784	443	1,007	470	255	2,174
1983	684	809	597	246	(³)	188	218	170	327	365	576	278	978	523	311	2,091
1986	485	715	523	254	45	114	205	105	332	258	409	244	742	426	311	1,723
1989	568	836	670	323	27	128	186	187	417	238	566	353	831	498	391	2,073
1992	572	1,017	586	291	24	157	189	193	381	388	552	354	747	697	376	2,174
1995 ⁴	535	830	580	245	18	158	258	213	395	239	420	297	750	528	371	1,946
1999	604	803	616	227	31	216	217	181	446	219	486	299	709	618	396	2,023
2003	482	909	709	268	39	203	243	215	403	269	460	462	751	527	360	2,100
Fuel Oil ⁶																
1979	177	272	231	107	(³)	15	97	20	103	107	232	285	133	237	26	681
1983	85	140	90	61	(³)	Q	28	18	43	75	79	172	28	104	Q	314
1986	114	206	121	103	Q	Q	Q	20	105	39	130	270	63	86	23	442
1989	101	170	86	71	Q	Q	17	10	76	43	122	237	61	50	Q	357
1992	86	111	75	62	Q	Q	21	16	55	47	67	194	26	48	Q	272
1995 ⁴	71	104	60	57	Q	Q	21	Q	49	28	70	168	16	45	7	235
1999	29	73	60	48	Q	Q	19	Q	18	29	65	138	5	29	8	179
2003	71	74	83	47	Q	Q	11	35	41	18	68	181	24	15	9	228
District Heat ⁷																
1979	Q	61	136	27	(³)	Q	22	24	Q	58	57	64	93	Q	Q	201
1983	Q	83	202	21	(³)	Q	70	22	Q	68	87	84	141	34	30	289
1986	Q	159	243	97	Q	Q	80	Q	12	71	99	94	196	81	51	422
1989	19	252	315	Q	Q	Q	92	Q	Q	167	134	179	159	126	121	585
1992	Q	182	238	49	NC	Q	55	65	Q	109	135	123	183	78	51	435
1995 ⁴	Q	154	271	91	Q	Q	70	57	Q	75	214	135	173	83	Q	533
1999	Q	158	213	117	Q	Q	46	68	Q	74	126	136	132	67	98	433
2003	Q	165	460	134	NC	Q	Q	Q	Q	128	247	166	225	182	Q	636

¹ See Appendix C for map of Census regions.

² Includes electricity, natural gas, fuel oil, and district heat.

³ Included in "Food Service."

⁴ Beginning in 1995, excludes commercial buildings at multi-building manufacturing facilities, and parking garages.

⁵ Electricity only; excludes electricity system energy losses.

⁶ Distillate fuel oil, residual fuel oil, and kerosene.

⁷ Through 1983, includes purchased steam only. Beginning in 1986, includes purchased and non-purchased steam and hot water.

Q=Data withheld because either the relative standard error was greater than 50 percent or fewer than 20

buildings were sampled. NC=No cases in the sample.

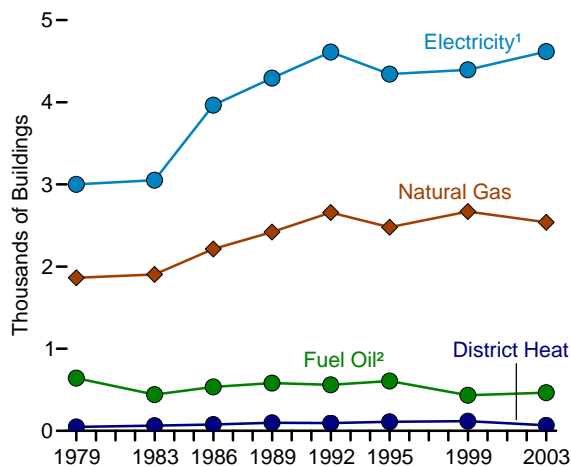
Note: Data are estimates. Statistics for individual fuels are for all buildings using each fuel. Statistics for "Major Sources" are for the sum of "Electricity," "Natural Gas," "Fuel Oil," and "District Heat," across all buildings using any of those fuels.

Web Page: For related information, see <http://www.eia.gov/consumption/commercial/>.

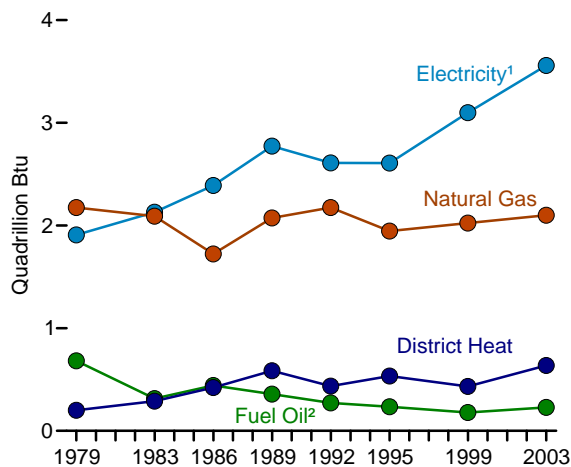
Sources: • 1979—U.S. Energy Information Administration (EIA), Form EIA-143, "Nonresidential Buildings Energy Consumption Survey." • 1983—EIA, Form EIA-788, "Nonresidential Buildings Energy Consumption Survey." • 1986—EIA, Form EIA-871, "Nonresidential Buildings Energy Consumption Survey." • 1989 forward—EIA, Form EIA-871A-F, "Commercial Buildings Energy Consumption Survey."

Figure 2.10 Commercial Buildings Energy Consumption and Expenditure Indicators, Selected Years, 1979-2003

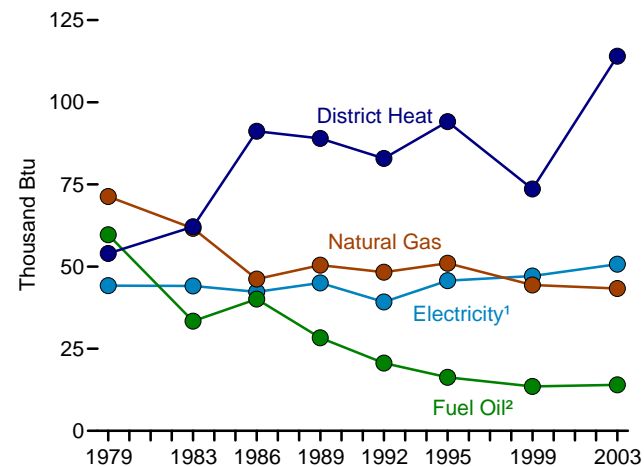
Buildings by Energy Source Used



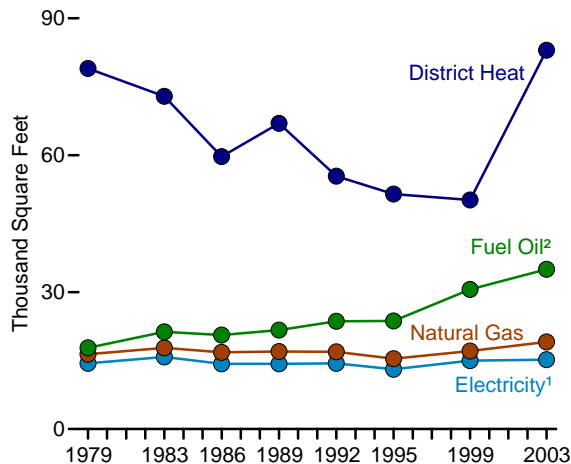
Consumption



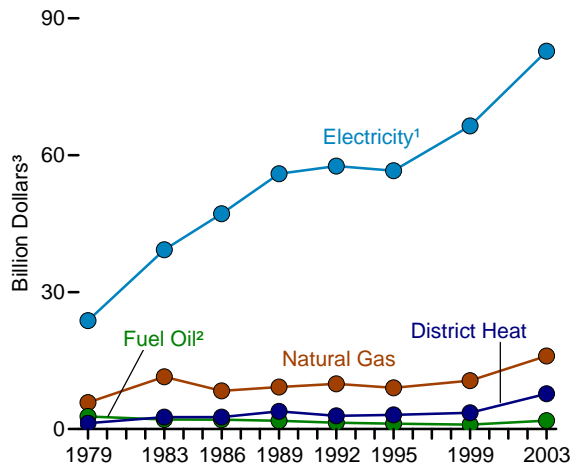
Consumption per Square Foot



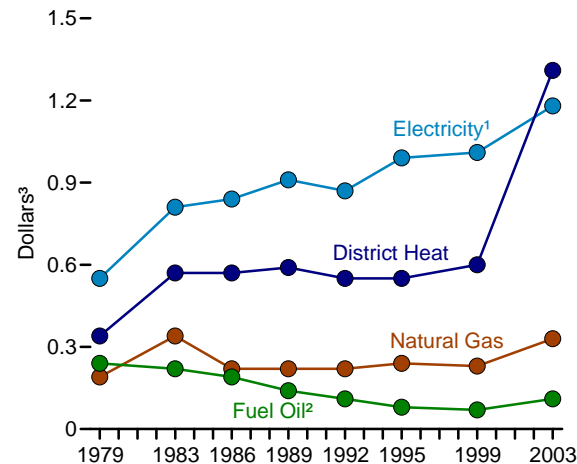
Square Footage per Building by Energy Source Used



Expenditures



Expenditures Per Square Foot



¹ Electricity only; excludes electrical system energy losses.

² Distillate fuel oil, residual fuel oil, and kerosene.

³ Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

Note: For years not shown, there are no data available.

Source: Table 2.10.

Table 2.10 Commercial Buildings Energy Consumption and Expenditure Indicators, Selected Years, 1979-2003

Energy Source and Year	Building Characteristics			Energy Consumption				Energy Expenditures			
	Number of Buildings	Total Square Feet	Square Feet per Building	Total	Per Building	Per Square Foot	Per Employee	Total	Per Building	Per Square Foot	Per Million Btu
	Thousands	Millions	Thousands	Trillion Btu	Million Btu	Thousand Btu	Million Btu	Million Dollars ¹	Thousand Dollars ¹	Dollars ¹	Dollars ¹
Major Sources ²											
1979	3,073	43,546	14.2	5,008	1,630	115.0	85.0	33,821	11.0	0.78	6.75
1983	3,185	49,471	15.5	4,856	1,525	98.2	65.7	55,764	17.5	1.13	11.48
1986	4,154	58,199	14.0	5,040	1,213	86.6	68.6	60,762	14.6	1.04	12.06
1989	4,528	63,184	14.0	5,788	1,278	91.6	81.9	70,826	15.6	1.12	12.24
1992	4,806	67,876	14.1	5,490	1,142	80.9	77.1	71,821	14.9	1.06	13.08
1995 ³	4,579	58,772	12.8	5,321	1,162	90.5	69.3	69,918	15.3	1.19	13.14
1999	4,657	67,338	14.5	5,733	1,231	85.1	70.0	81,552	17.5	1.21	14.22
2003	4,859	71,658	14.7	6,523	1,342	91.0	(⁵)	107,897	22.2	1.51	16.54
Electricity ⁴											
1979	3,001	43,153	14.4	1,908	636	44.2	32.4	23,751	7.9	.55	12.45
1983	3,052	48,327	15.8	2,129	697	44.1	28.9	39,279	12.9	.81	18.45
1986	3,965	56,508	14.3	2,390	603	42.3	32.7	47,186	11.9	.84	19.74
1989	4,294	61,563	14.3	2,773	646	45.0	39.3	55,943	13.0	.91	20.17
1992	4,611	66,525	14.4	2,609	566	39.2	36.6	57,619	12.5	.87	22.09
1995 ³	4,343	57,076	13.1	2,608	600	45.7	34.1	56,621	13.0	.99	21.71
1999	4,395	65,716	15.0	3,098	706	47.1	37.9	66,424	15.1	1.01	21.44
2003	4,617	70,181	15.2	3,559	771	50.7	(⁵)	82,783	17.9	1.18	23.26
Natural Gas											
1979	1,864	30,477	16.4	2,174	1,167	71.3	52.5	5,814	3.1	.19	2.67
1983	1,904	33,935	17.8	2,091	1,098	61.6	40.6	11,443	6.0	.34	5.47
1986	2,214	37,263	16.8	1,723	778	46.2	35.2	8,355	3.8	.22	4.85
1989	2,420	41,143	17.0	2,073	857	50.4	43.2	9,204	3.8	.22	4.44
1992	2,657	44,994	16.9	2,174	818	48.3	42.5	9,901	3.7	.22	4.55
1995 ³	2,478	38,145	15.4	1,946	785	51.0	38.7	9,018	3.6	.24	4.63
1999	2,670	45,525	17.1	2,023	758	44.4	36.0	10,609	4.0	.23	5.24
2003	2,538	48,473	19.1	2,100	828	43.3	(⁵)	16,010	6.3	.33	7.62
Fuel Oil ⁶											
1979	641	11,397	17.8	681	1,063	59.7	40.5	2,765	4.3	.24	4.06
1983	441	9,409	21.3	314	714	33.4	19.8	2,102	4.8	.22	6.68
1986	534	11,005	20.6	442	827	40.1	27.7	2,059	3.9	.19	4.66
1989	581	12,600	21.7	357	614	28.3	21.0	1,822	3.1	.14	5.11
1992	560	13,215	23.6	272	487	20.6	15.1	1,400	2.5	.11	5.14
1995 ³	607	14,421	23.7	235	387	16.3	10.2	1,175	1.9	.08	5.00
1999	434	13,285	30.6	179	412	13.5	9.1	956	2.2	.07	5.35
2003	465	16,265	35.0	228	490	14.0	(⁵)	1,826	3.9	.11	8.01
District Heat ⁷											
1979	47	3,722	79.0	201	4,267	54.0	26.5	1,267	26.9	.34	6.30
1983	64	4,643	72.9	289	4,530	62.1	34.4	2,627	41.2	.57	9.10
1986	77	4,625	59.7	422	5,446	91.2	52.4	2,620	33.8	.57	6.21
1989	98	6,578	67.0	585	5,964	89.0	56.5	3,857	39.3	.59	6.59
1992	95	5,245	55.4	435	4,596	82.9	60.9	2,901	30.7	.55	6.67
1995 ³	110	5,658	51.5	533	4,849	94.1	51.2	3,103	28.3	.55	5.83
1999	117	5,891	50.2	433	3,692	73.6	50.1	3,564	30.4	.60	8.23
2003	67	5,576	83.0	636	9,470	114.0	(⁵)	7,279	108.4	1.31	11.45

¹ Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

² Includes electricity, natural gas, fuel oil, and district heat.

³ Beginning in 1995, excludes commercial buildings at multi-building manufacturing facilities, and parking garages.

⁴ Electricity only; excludes electricity system energy losses.

⁵ Total number of employees not collected in 2003.

⁶ Distillate fuel oil, residual fuel oil, and kerosene.

⁷ Through 1983, includes purchased steam only. Beginning in 1986, includes purchased and

non-purchased steam and hot water.

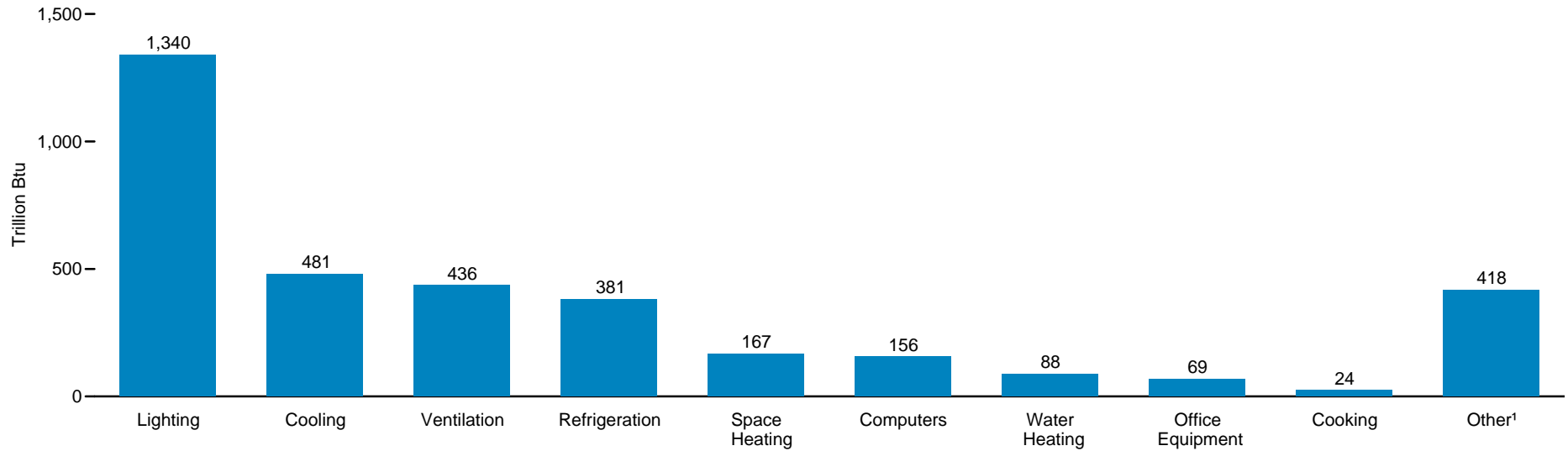
Note: Data are estimates. Statistics for individual fuels are for all buildings using each fuel. Statistics for major sources are for all buildings, even buildings using no major fuel.

Web Page: For related information, see <http://www.eia.gov/consumption/commercial/>.

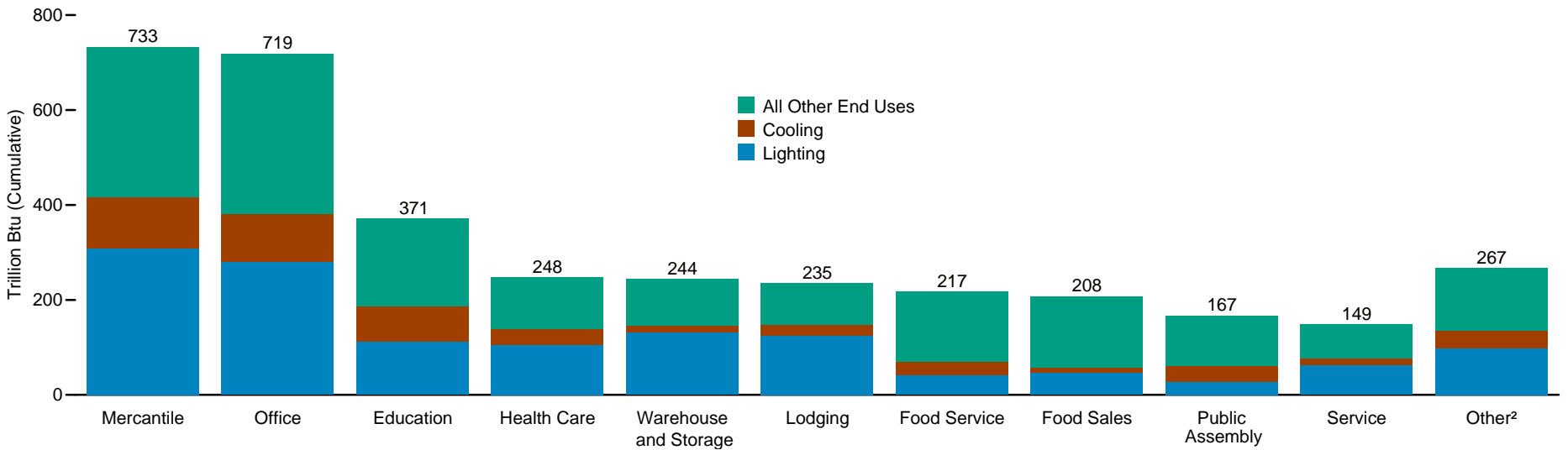
Sources: • 1979—U.S. Energy Information Administration (EIA), Form EIA-143, "Nonresidential Buildings Energy Consumption Survey." • 1983—EIA, Form EIA-788, "Nonresidential Buildings Energy Consumption Survey." • 1986—EIA, Form EIA-871, "Nonresidential Buildings Energy Consumption Survey." • 1989 forward—EIA, Form EIA-871A-F, "Commercial Buildings Energy Consumption Survey."

Figure 2.11 Commercial Buildings Electricity Consumption by End Use, 2003

By End Use



By Principal Building Activity



¹ Examples of "other" include medical, electronic, and testing equipment; conveyors, wrappers, hoists, and compactors; washers, disposals, dryers, and cleaning equipment; escalators, elevators, dumb waiters, and window washers; shop tools and electronic testing equipment; sign motors, time clocks, vending machines, phone equipment, and sprinkler controls; scoreboards, fire alarms, intercoms, television sets, radios, projectors, and door operators.

² Religious worship, public order and safety, vacant, and buildings that do not fit into any of the other named categories.

Note: Data are estimates for electricity consumption, excluding electrical system energy losses.

Source: Table 2.11.

Table 2.11 Commercial Buildings Electricity Consumption by End Use, 2003
(Trillion Btu)

End Use	Space Heating	Cooling	Ventilation	Water Heating	Lighting	Cooking	Refrigeration	Office Equipment	Computers	Other ¹	Total
All Buildings	167	481	436	88	1,340	24	381	69	156	418	3,559
Principal Building Activity											
Education	15	74	83	11	113	2	16	4	32	21	371
Food Sales	6	12	7	Q	46	2	119	2	2	10	208
Food Service	10	28	24	10	42	13	70	2	2	15	217
Health Care	6	34	42	2	105	1	8	4	10	36	248
Inpatient	3	25	38	2	76	1	4	2	7	21	178
Outpatient	3	9	4	(s)	28	(s)	4	2	3	15	69
Lodging	14	24	14	12	124	2	12	Q	6	24	235
Mercantile	58	109	68	38	308	2	49	8	11	83	733
Retail (Other Than Mall)	6	25	16	2	111	(s)	22	3	4	22	211
Enclosed and Strip Malls	52	84	51	36	197	2	27	5	8	61	523
Office	33	101	63	7	281	1	35	32	74	91	719
Public Assembly	5	35	63	(s)	27	(s)	9	Q	3	23	167
Public Order and Safety	2	8	10	3	18	(s)	3	1	2	10	57
Religious Worship	3	11	5	(s)	17	(s)	6	(s)	1	18	62
Service	6	15	24	(s)	63	Q	9	1	3	28	149
Warehouse and Storage	5	13	20	2	132	Q	36	2	5	30	244
Other ²	2	16	11	Q	59	Q	10	Q	5	22	133
Vacant	1	2	1	Q	4	Q	(s)	Q	(s)	7	15

¹ Examples of "other" include medical, electronic, and testing equipment; conveyors, wrappers, hoists, and compactors; washers, disposals, dryers and cleaning equipment; escalators, elevators, dumb waiters, and window washers; shop tools and electronic testing equipment; sign motors, time clocks, vending machines, phone equipment, and sprinkler controls; scoreboards, fire alarms, intercoms, television sets, radios, projectors, and door operators.

² Includes buildings that do not fit into any of the other named categories.

(s)=Less than 0.5 trillion Btu. Q=Data withheld because either the relative standard error was greater

than 50 percent or fewer than 20 buildings were sampled.

Notes: • Data are estimates for electricity consumption, excluding electrical system energy losses.

• One kilowatthour = 3,412 Btu.

Web Page: For related information, see <http://www.eia.gov/consumption/commercial/>.

Source: U.S. Energy Information Administration, "Commercial Buildings Energy Consumption Survey 2003," Table E3A.

Energy Consumption by Sector

Note. Electrical System Energy Losses. Electrical system energy losses are calculated as the difference between total primary consumption by the electric power sector—see Table 2.1f—and the total energy content of electricity retail sales—see Tables 8.9 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, geothermal, solar thermal, photovoltaic, and wind energy sources. In addition to conversion losses, other losses included 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.