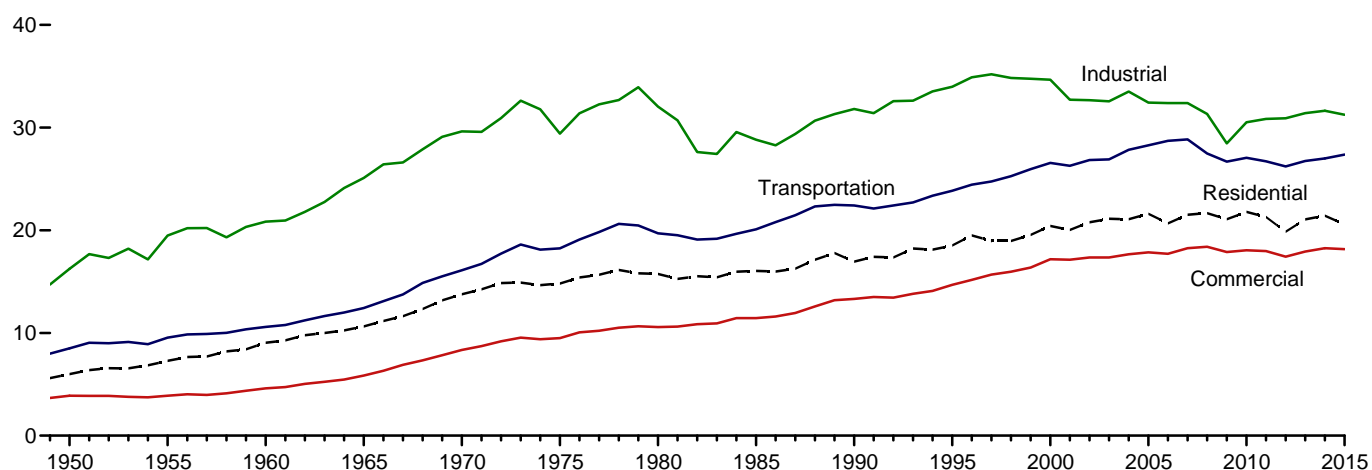


## 2. Energy Consumption by Sector

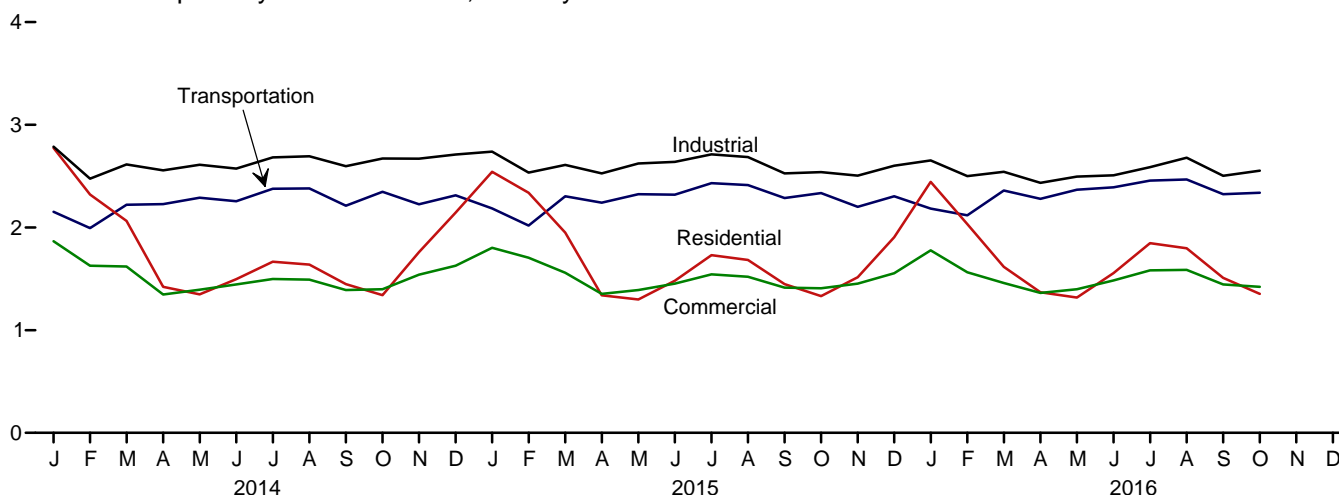
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**Figure 2.1 Energy Consumption by Sector**  
(Quadrillion Btu)

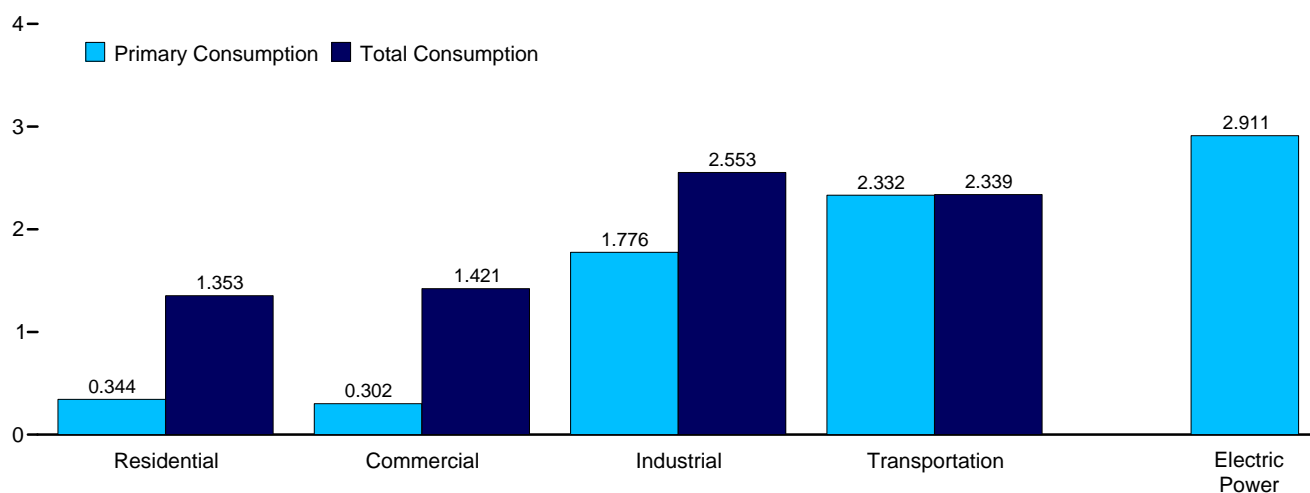
Total Consumption by End-Use Sector, 1949–2015



Total Consumption by End-Use Sector, Monthly



By Sector, October 2016



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>	Primary <sup>e</sup>		
1950 Total .....	4,829	5,989	2,834	3,893	13,890	16,241	8,383	8,492	4,679	(s)	34,616
1955 Total .....	5,608	7,278	2,561	3,895	16,103	19,485	9,474	9,550	6,461	(s)	40,208
1960 Total .....	6,651	9,039	2,723	4,609	16,996	20,842	10,560	10,596	8,158	(s)	45,086
1965 Total .....	7,279	10,639	3,177	5,845	20,148	25,098	12,399	12,432	11,012	(s)	54,015
1970 Total .....	8,322	13,766	4,237	8,346	22,964	29,628	16,062	16,098	16,253	(s)	67,838
1975 Total .....	7,990	14,813	4,059	9,492	21,434	29,413	18,210	18,245	20,270	1	71,965
1980 Total .....	7,439	15,753	4,105	10,578	22,595	32,039	19,659	19,697	24,269	-1	78,067
1985 Total .....	7,148	16,041	3,732	11,451	19,443	28,816	20,041	20,088	26,032	-4	76,392
1990 Total .....	6,556	16,944	3,896	13,320	21,180	31,810	22,366	22,420	30,495	-9	84,484
1995 Total .....	6,934	18,517	4,100	14,690	22,718	33,970	23,796	23,851	33,479	3	91,031
2000 Total .....	7,156	20,421	4,278	17,175	22,823	34,662	26,495	26,555	38,062	2	98,817
2001 Total .....	6,864	20,038	4,085	17,137	21,793	32,719	26,219	26,282	37,215	-6	96,170
2002 Total .....	6,907	20,786	4,132	17,346	21,798	32,661	26,785	26,846	38,016	5	97,643
2003 Total .....	7,232	21,119	4,298	17,346	21,534	32,553	26,826	26,900	38,028	-1	97,917
2004 Total .....	6,987	21,081	4,232	17,655	22,411	33,516	27,764	27,843	38,701	-6	100,090
2005 Total .....	6,901	21,613	4,052	17,853	21,410	32,442	28,199	28,280	39,626	(s)	100,188
2006 Total .....	6,154	20,670	3,747	17,707	21,529	32,391	28,638	28,717	39,417	(s)	99,484
2007 Total .....	6,589	21,519	3,922	18,253	21,363	32,385	28,771	28,858	40,371	-1	101,015
2008 Total .....	6,889	21,668	4,100	18,402	20,528	31,334	27,404	27,486	39,969	1	98,891
2009 Total .....	6,633	21,077	4,055	17,887	18,756	28,466	26,605	26,687	38,069	(s)	94,118
2010 Total .....	6,540	21,795	4,023	18,058	20,278	30,526	26,978	27,059	39,619	7	97,444
2011 Total .....	6,392	21,300	4,062	17,979	20,456	30,843	26,632	26,712	39,293	8	96,842
2012 Total .....	5,672	19,858	3,725	17,422	20,742	30,915	26,144	26,219	38,131	2	94,416
2013 Total .....	6,704	21,067	4,163	17,932	21,263	31,409	26,671	26,750	38,357	-1	97,157
2014 January .....	1,238	2,774	R 671	R 1,865	1,947	2,787	2,144	R 2,152	3,578	4	9,583
February .....	1,038	2,321	R 586	R 1,628	R 1,722	R 2,475	R 1,987	R 1,994	3,085	3	8,421
March .....	881	2,064	513	1,620	1,781	R 2,614	R 2,214	R 2,221	3,130	(s)	8,519
April .....	491	1,422	R 313	R 1,347	R 1,743	2,556	R 2,221	R 2,228	2,785	-3	7,550
May .....	343	1,348	R 243	R 1,394	1,714	2,610	R 2,283	R 2,290	3,059	-1	7,641
June .....	257	1,496	R 203	1,446	1,675	R 2,574	R 2,250	R 2,256	3,387	2	7,775
July .....	244	1,666	R 197	1,499	1,765	2,682	R 2,371	R 2,377	3,647	4	8,228
August .....	240	1,639	R 198	1,493	R 1,767	2,693	R 2,374	R 2,381	3,626	4	8,209
September .....	266	1,448	R 216	1,391	R 1,760	2,597	R 2,207	R 2,213	3,198	1	7,648
October .....	366	1,341	275	R 1,399	1,827	R 2,672	2,340	R 2,347	2,951	-3	7,756
November .....	714	1,759	445	R 1,540	1,819	2,671	R 2,219	R 2,226	3,000	-3	8,194
December .....	903	2,145	R 517	R 1,628	1,887	R 2,710	R 2,307	R 2,313	3,183	-3	8,794
Total .....	6,980	21,419	R 4,378	R 18,253	R 21,407	R 31,643	R 26,917	R 26,996	38,629	6	98,317
2015 January .....	R 1,139	R 2,542	R 666	R 1,803	R 1,928	R 2,739	R 2,179	R 2,186	3,357	2	9,271
February .....	R 1,085	R 2,338	R 639	R 1,706	R 1,758	R 2,534	R 2,012	R 2,019	3,103	3	8,599
March .....	R 798	R 1,950	R 499	R 1,559	R 1,826	R 2,610	R 2,297	R 2,304	3,002	(s)	8,422
April .....	R 447	R 1,339	R 323	R 1,353	R 1,732	R 2,527	R 2,235	R 2,241	2,723	-2	7,459
May .....	R 307	R 1,298	R 251	R 1,391	R 1,759	R 2,623	R 2,319	R 2,325	3,002	(s)	7,637
June .....	R 235	R 1,482	R 216	R 1,452	R 1,746	R 2,639	R 2,313	R 2,319	3,383	3	7,896
July .....	R 226	R 1,731	R 219	R 1,544	R 1,807	R 2,712	R 2,425	R 2,431	3,741	6	8,423
August .....	R 224	R 1,683	R 223	R 1,520	R 1,793	R 2,685	R 2,406	R 2,412	3,655	6	8,307
September .....	R 223	R 1,448	R 221	R 1,414	R 1,700	R 2,527	R 2,281	R 2,287	3,251	4	7,680
October .....	R 363	R 1,331	R 307	R 1,407	R 1,727	R 2,539	R 2,329	R 2,336	2,886	-1	7,612
November .....	R 577	R 1,515	R 400	R 1,454	R 1,710	R 2,504	R 2,195	R 2,201	2,792	-1	7,672
December .....	R 782	R 1,906	R 479	R 1,554	R 1,815	R 2,602	R 2,297	R 2,304	2,993	-1	8,365
Total .....	R 6,405	R 20,558	R 4,443	R 18,159	R 21,301	R 31,244	R 27,287	R 27,364	37,890	19	97,344
2016 January .....	R 1,098	R 2,444	R 647	R 1,778	R 1,872	R 2,653	R 2,177	R 2,184	3,265	R 4	R 9,064
February .....	R 891	R 2,033	R 550	R 1,563	R 1,772	R 2,500	R 2,111	R 2,118	2,890	(s)	R 8,215
March .....	R 624	R 1,616	R 417	R 1,459	R 1,790	R 2,542	R 2,355	R 2,361	2,792	-4	R 7,974
April .....	R 479	R 1,368	R 339	R 1,363	R 1,669	R 2,434	R 2,273	R 2,279	2,684	R -3	R 7,442
May .....	R 339	R 1,318	R 274	R 1,398	R 1,681	R 2,496	R 2,361	R 2,367	2,924	-1	R 7,578
June .....	R 247	R 1,556	R 230	R 1,484	R 1,667	R 2,508	R 2,384	R 2,391	3,412	R 5	R 7,944
July .....	R 238	R 1,848	R 231	R 1,583	R 1,716	R 2,587	R 2,450	R 2,457	3,840	7	8,482
August .....	R 222	R 1,797	R 230	R 1,587	R 1,817	R 2,680	R 2,461	R 2,467	3,801	5	R 8,537
September .....	R 246	R 1,510	R 241	R 1,445	R 1,723	R 2,503	R 2,317	R 2,323	3,254	3	7,784
October .....	344	1,353	302	1,421	1,776	2,553	2,332	2,339	2,911	-3	7,662
10-Month Total .....	4,728	16,843	3,461	15,082	17,483	25,456	23,223	23,286	31,772	15	80,681
2015 10-Month Total .....	5,047	17,142	3,564	15,149	17,775	26,135	22,795	22,859	32,104	21	81,306
2014 10-Month Total .....	5,365	17,519	3,417	15,082	17,701	26,260	22,391	22,458	32,445	11	81,330

<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 1, "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.

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

Notes: • Data are estimates, except for the electric power sector. • See Note 2,

"Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

• See Note 2, "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>

(Excel and CSV files) for all available annual data beginning in 1949 and monthly

data beginning in 1973.

Sources: • End-Use Sectors: Tables 2.2–2.5. • Electric Power Sector:

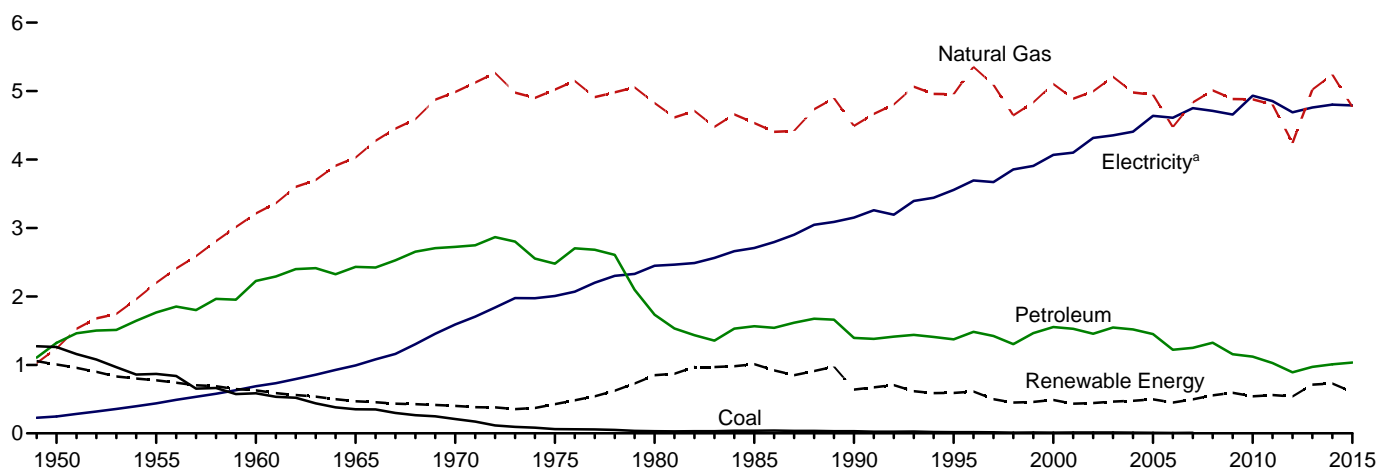
Table 2.6. • Balancing Item: Calculated as primary energy total consumption

minus the sum of total energy consumption in the four end-use sectors.

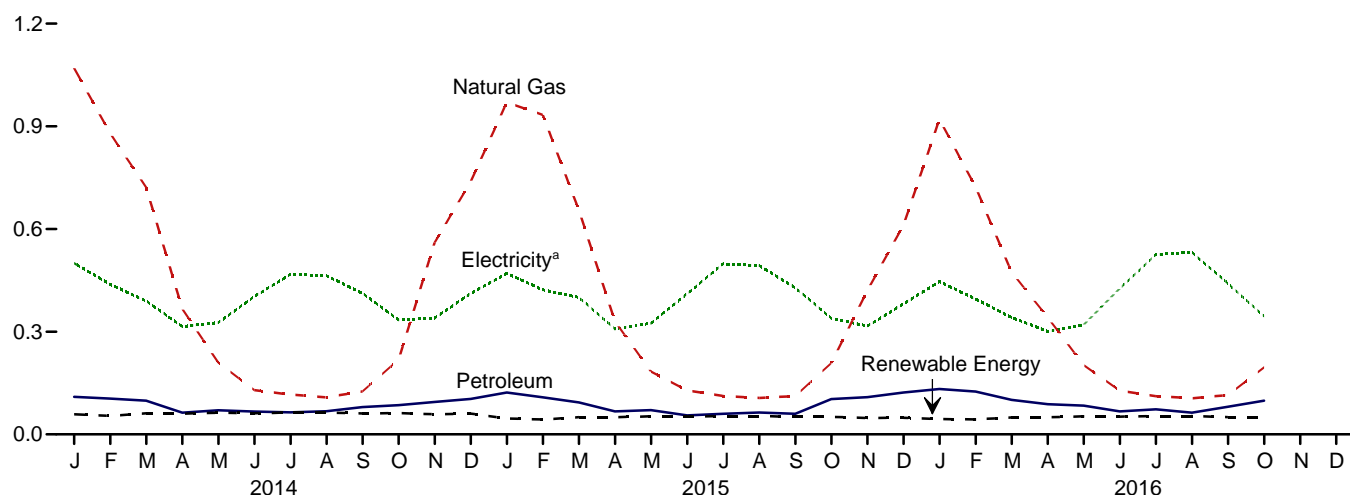
• Primary Total: Table 1.3.

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

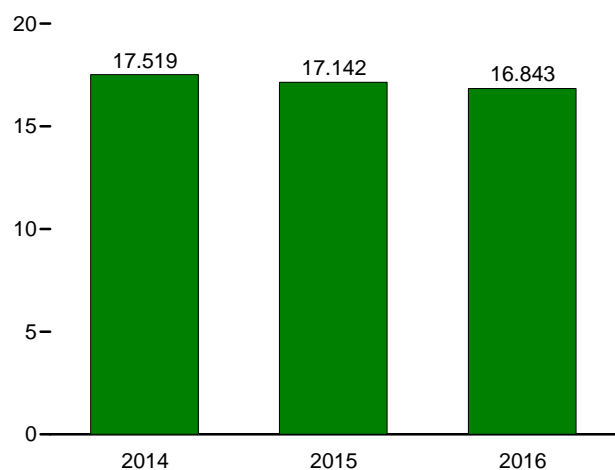
By Major Source, 1949–2015



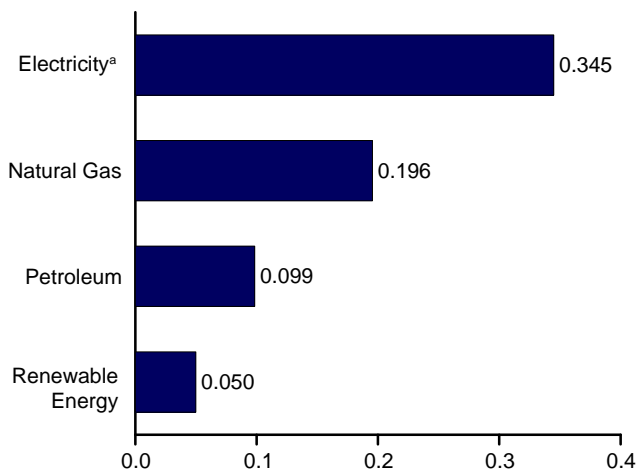
By Major Source, Monthly



Total, January–October



By Major Source, October 2016



<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>e</sup>	Electrical System Energy Losses <sup>f</sup>	Total
	Fossil Fuels				Renewable Energy <sup>b</sup>				Total Primary			
	Coal	Natural Gas <sup>c</sup>	Petro- leum	Total	Geo- thermal	Solar <sup>d</sup>	Bio- mass	Total				
1950 Total .....	1,261	1,240	1,322	3,824	NA	NA	1,006	1,006	4,829	246	913	5,989
1955 Total .....	867	2,198	1,767	4,833	NA	NA	775	775	5,608	438	1,232	7,278
1960 Total .....	585	3,212	2,227	6,024	NA	NA	627	627	6,651	687	1,701	9,039
1965 Total .....	352	4,028	2,432	6,811	NA	NA	468	468	7,279	993	2,367	10,639
1970 Total .....	209	4,987	2,725	7,922	NA	NA	401	401	8,322	1,591	3,852	13,766
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	55	580	640	6,556	3,153	7,235	16,944
1995 Total .....	17	4,954	1,373	6,345	7	63	520	589	6,934	3,557	8,026	18,517
2000 Total .....	11	5,105	1,553	6,669	9	58	420	486	7,156	4,069	9,197	20,421
2001 Total .....	12	4,889	1,528	6,429	9	55	370	435	6,864	4,100	9,074	20,038
2002 Total .....	12	4,995	1,456	6,463	10	53	380	443	6,907	4,317	9,562	20,786
2003 Total .....	12	5,209	1,546	6,768	13	52	400	465	7,232	4,353	9,534	21,119
2004 Total .....	11	4,981	1,519	6,511	14	51	410	475	6,987	4,408	9,687	21,081
2005 Total .....	8	4,946	1,450	6,405	16	50	430	496	6,901	4,638	10,074	21,613
2006 Total .....	6	4,476	1,221	5,704	18	52	380	451	6,154	4,611	9,905	20,670
2007 Total .....	8	4,835	1,249	6,092	22	55	420	497	6,589	4,750	10,180	21,519
2008 Total .....	NA	5,010	1,324	6,334	26	58	470	555	6,889	4,711	10,068	21,668
2009 Total .....	NA	4,883	1,157	6,040	33	60	500	593	6,633	4,657	9,788	21,077
2010 Total .....	NA	4,878	1,121	5,999	37	65	440	541	6,540	4,933	10,321	21,795
2011 Total .....	NA	4,805	1,027	5,832	40	70	450	560	6,392	4,855	10,054	21,300
2012 Total .....	NA	4,242	892	5,134	40	79	420	538	5,672	4,690	9,496	19,858
2013 Total .....	NA	5,023	970	5,993	40	92	580	711	6,704	4,759	9,604	21,067
2014 January .....	NA	1,070	110	1,179	3	6	49	59	1,238	500	1,036	2,774
February .....	NA	880	105	984	3	6	44	54	1,038	438	844	2,321
March .....	NA	722	98	820	3	9	49	61	881	390	793	2,064
April .....	NA	367	64	430	3	9	48	60	491	315	617	1,422
May .....	NA	210	71	280	3	11	49	63	343	327	678	1,348
June .....	NA	129	67	196	3	11	48	62	257	403	836	1,496
July .....	NA	116	64	180	3	11	49	64	244	468	954	1,666
August .....	NA	108	68	176	3	11	49	64	240	463	936	1,639
September .....	NA	125	80	205	3	10	48	61	266	412	769	1,448
October .....	NA	218	85	304	3	10	49	62	366	335	641	1,341
November .....	NA	560	95	655	3	8	48	59	714	339	706	1,759
December .....	NA	739	104	843	3	8	49	60	903	412	830	2,145
Total .....	NA	5,242	1,009	6,251	40	109	580	729	6,980	4,801	9,638	21,419
2015 January .....	NA	970	R 122	R 1,093	3	7	37	47	R 1,139	470	R 933	R 2,542
February .....	NA	933	R 108	R 1,042	3	7	33	43	R 1,085	423	R 830	R 2,338
March .....	NA	655	R 93	R 748	3	10	37	50	R 798	400	R 752	R 1,950
April .....	NA	330	R 67	R 397	3	11	35	50	R 447	308	R 584	R 1,339
May .....	NA	183	R 71	R 254	3	13	37	53	R 307	325	R 667	R 1,298
June .....	NA	128	R 55	R 183	3	13	35	52	R 235	410	R 836	1,482
July .....	NA	112	R 60	R 172	3	14	37	54	R 226	498	R 1,007	1,731
August .....	NA	106	R 64	R 170	3	14	37	54	R 224	493	R 966	1,683
September .....	NA	112	R 60	R 172	3	12	35	51	R 223	428	R 797	R 1,448
October .....	NA	208	R 103	R 311	3	11	37	51	R 363	339	R 630	1,331
November .....	NA	420	R 108	R 529	3	9	35	48	R 577	316	R 622	1,515
December .....	NA	611	R 122	R 733	3	9	37	49	R 782	381	R 743	1,906
Total .....	NA	4,769	R 1,035	R 5,804	41	129	432	601	R 6,405	4,791	R 3,362	R 20,558
2016 January .....	NA	921	R 132	R 1,053	4	8	33	45	R 1,098	446	900	R 2,444
February .....	NA	R 723	R 125	R 848	3	10	31	44	R 891	395	746	R 2,033
March .....	NA	R 474	R 101	R 575	4	13	33	49	R 624	342	650	R 1,616
April .....	NA	342	R 88	R 430	4	14	32	50	R 479	301	588	R 1,368
May .....	NA	202	R 84	R 286	4	16	33	52	R 339	321	658	R 1,318
June .....	NA	128	R 67	R 195	4	17	32	52	R 247	426	883	R 1,556
July .....	NA	111	R 73	R 184	4	17	33	54	R 238	525	1,085	R 1,848
August .....	NA	105	R 64	R 169	4	17	33	53	R 222	532	1,044	R 1,797
September .....	NA	115	R 80	R 195	4	15	32	50	R 246	441	823	R 1,510
October .....	NA	196	99	294	4	14	33	50	344	345	663	1,353
10-Month Total ...	NA	3,316	913	4,230	37	141	321	499	4,728	4,073	8,041	16,843
2015 10-Month Total ...	NA	3,739	804	4,543	34	111	359	504	5,047	4,094	8,002	17,142
2014 10-Month Total ...	NA	3,945	810	4,755	33	94	483	610	5,365	4,050	8,104	17,519

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

<sup>b</sup> 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> Distributed (small-scale) solar photovoltaic (PV) electricity generation in the residential sector and distributed solar thermal energy in the residential, commercial, and industrial sectors. See Tables 10.2a and 10.5.

<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 1, "Electrical System Energy Losses," at end of section.

R=Revised. NA=Not available.

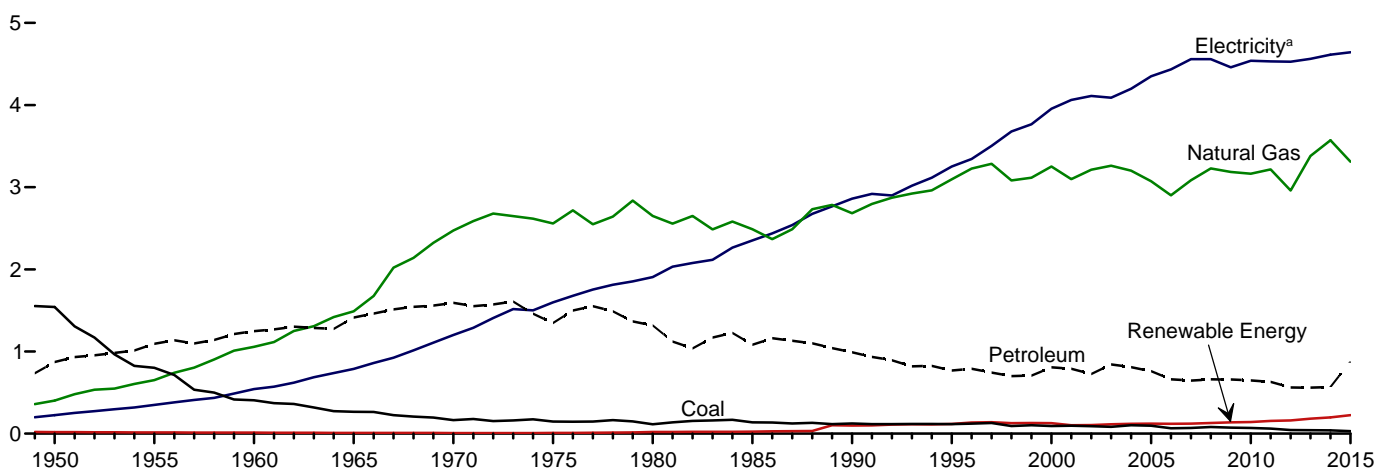
Notes: • Data are estimates, except for electricity retail sales. • See Note 2, "Energy Consumption Data and Surveys," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

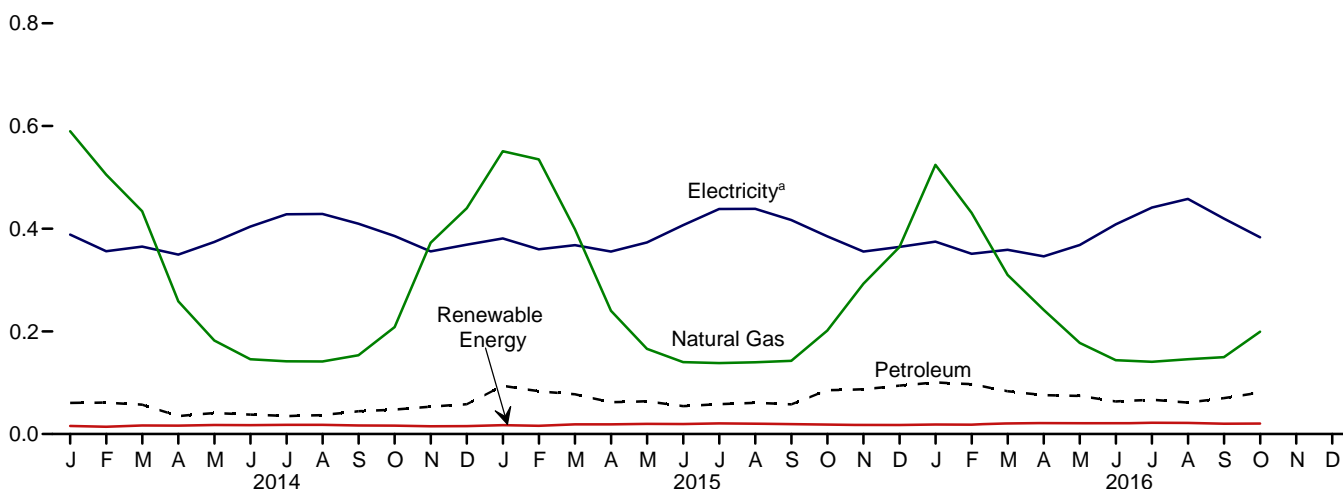
Sources: See end of section.

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

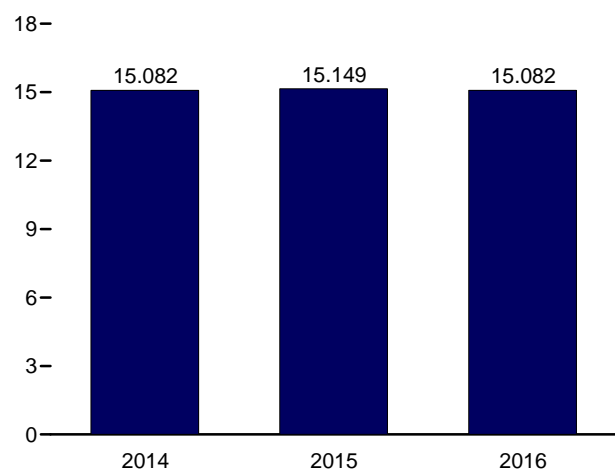
By Major Source, 1949–2015



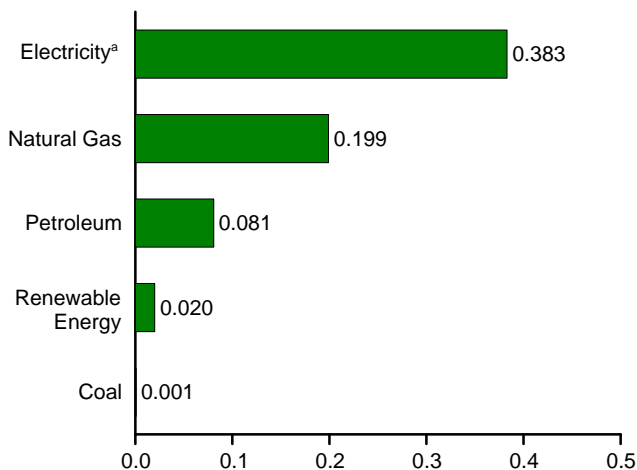
By Major Source, Monthly



Total, January–October



By Major Source, October 2016



<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)

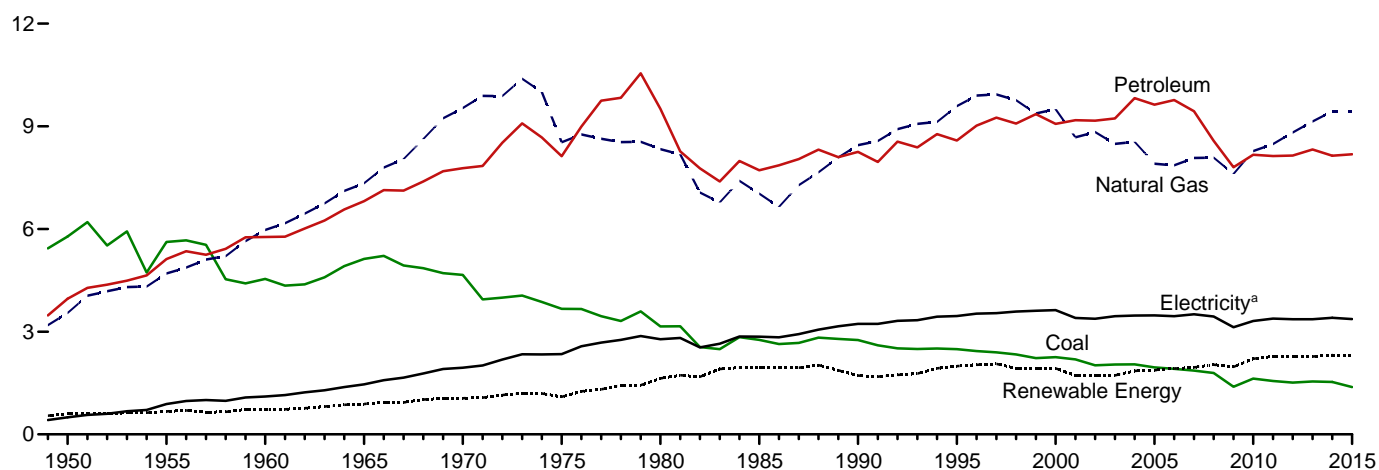
	Primary Consumption <sup>a</sup>										Total Primary	Electricity Retail Sales <sup>g</sup>	Electrical System Energy Losses <sup>h</sup>	Total
	Fossil Fuels				Renewable Energy <sup>b</sup>									
	Coal	Natural Gas <sup>c</sup>	Petro-leum <sup>d</sup>	Total	Hydro-electric Power <sup>e</sup>	Geo-thermal	Solar <sup>f</sup>	Wind	Bio-mass	Total				
1950 Total .....	1,542	401	872	2,815	NA	NA	NA	NA	19	19	2,834	225	834	3,893
1955 Total .....	801	651	1,095	2,547	NA	NA	NA	NA	15	15	2,561	350	984	3,895
1960 Total .....	407	1,056	1,248	2,711	NA	NA	NA	NA	12	12	2,723	543	1,344	4,609
1965 Total .....	265	1,490	1,413	3,168	NA	NA	NA	NA	9	9	3,177	789	1,880	5,845
1970 Total .....	165	2,473	1,592	4,229	NA	NA	NA	NA	8	8	4,237	1,201	2,908	8,346
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	(s)	—	94	98	3,896	2,860	6,564	13,320
1995 Total .....	117	3,096	769	3,982	1	5	(s)	—	113	119	4,100	3,252	7,337	14,690
2000 Total .....	92	3,252	806	4,150	1	8	1	—	119	128	4,278	3,956	8,990	17,137
2001 Total .....	97	3,097	789	3,983	1	8	1	—	92	101	4,085	4,062	8,990	17,137
2002 Total .....	90	3,212	725	4,027	(s)	9	1	—	95	105	4,132	4,110	9,104	17,346
2003 Total .....	82	3,261	841	4,184	1	11	1	—	101	114	4,298	4,090	8,958	17,346
2004 Total .....	103	3,201	809	4,113	1	12	1	—	105	120	4,232	4,198	9,225	17,655
2005 Total .....	97	3,073	761	3,931	1	14	2	—	105	121	4,052	4,351	9,451	17,853
2006 Total .....	65	2,902	661	3,627	1	14	2	—	103	120	3,747	4,435	9,525	17,707
2007 Total .....	70	3,085	646	3,801	1	14	3	—	103	121	3,922	4,560	9,771	18,253
2008 Total .....	81	3,228	660	3,970	1	15	6	—	109	130	4,100	4,559	9,743	18,402
2009 Total .....	73	3,187	659	3,919	1	17	7	(s)	112	137	4,055	4,459	9,373	17,887
2010 Total .....	70	3,165	647	3,881	1	19	11	(s)	111	142	4,023	4,539	9,497	18,058
2011 Total .....	62	3,216	630	3,908	(s)	20	19	(s)	115	154	4,062	4,531	9,385	17,979
2012 Total .....	44	2,960	562	3,565	(s)	20	32	1	108	160	3,725	4,528	9,168	17,422
2013 Total .....	41	3,380	560	3,982	(s)	20	41	1	120	182	4,163	4,562	9,206	17,932
2014 January .....	5	590	61	656	(s)	2	3	(s)	11	16	R 671	389	806	R 1,865
February .....	5	505	R 61	R 572	(s)	2	3	(s)	9	14	R 586	356	686	R 1,628
March .....	5	434	R 57	R 496	(s)	2	4	(s)	10	17	R 513	365	742	1,620
April .....	3	259	R 35	297	(s)	2	5	(s)	10	R 16	R 313	350	685	R 1,347
May .....	2	182	R 41	226	(s)	2	5	(s)	11	18	R 243	374	777	R 1,394
June .....	3	146	38	R 186	(s)	2	5	(s)	10	17	R 203	404	838	1,446
July .....	3	142	R 35	180	(s)	2	5	(s)	11	18	R 197	428	873	1,499
August .....	2	141	37	R 180	(s)	2	5	(s)	11	18	R 198	429	866	1,493
September .....	2	153	R 44	200	(s)	2	5	(s)	10	17	R 216	410	765	1,391
October .....	2	208	48	R 258	(s)	2	4	(s)	10	16	275	386	739	R 1,399
November .....	3	373	R 53	R 429	(s)	2	3	(s)	10	15	445	356	740	R 1,540
December .....	4	440	R 58	502	(s)	2	3	(s)	10	15	R 517	369	742	R 1,628
Total .....	40	3,572	R 569	R 4,181	(s)	20	52	1	124	198	R 4,378	4,614	9,261	R 18,253
2015 January .....	4	551	R 94	R 649	(s)	2	3	(s)	R 12	R 17	R 666	R 381	R 756	R 1,803
February .....	4	535	R 84	R 623	(s)	2	4	(s)	R 11	R 16	R 639	R 360	R 707	R 1,706
March .....	4	399	R 78	R 480	(s)	2	5	(s)	R 12	R 19	R 499	R 368	R 692	R 1,559
April .....	2	240	R 62	R 304	(s)	2	5	(s)	R 12	R 19	R 323	R 355	R 674	R 1,353
May .....	2	166	R 64	R 231	(s)	2	6	(s)	R 12	R 20	R 251	R 373	R 767	R 1,391
June .....	2	140	R 54	R 197	(s)	2	6	(s)	R 12	R 20	R 216	R 407	R 829	R 1,452
July .....	2	138	R 58	R 198	(s)	2	6	(s)	R 13	R 21	R 219	R 438	R 886	R 1,544
August .....	2	140	R 61	R 203	(s)	2	6	(s)	R 13	R 20	R 223	R 439	R 859	R 1,520
September .....	2	143	R 58	R 202	(s)	2	5	(s)	R 12	R 19	R 221	R 417	R 776	R 1,414
October .....	2	201	R 85	R 289	(s)	2	5	(s)	R 12	R 18	R 307	R 385	R 715	R 1,407
November .....	2	293	R 87	R 382	(s)	2	4	(s)	R 12	R 17	R 400	R 355	R 698	R 1,454
December .....	3	364	R 94	R 461	(s)	2	3	(s)	R 12	R 18	R 479	R 365	R 711	R 1,554
Total .....	31	3,309	R 878	R 4,219	(s)	20	57	1	R 146	R 224	R 4,443	4,643	9,073	R 18,159
2016 January .....	R 3	R 525	R 101	R 628	(s)	2	4	(s)	R 13	R 18	R 647	375	756	R 1,778
February .....	R 3	431	R 97	R 531	(s)	2	5	(s)	R 12	R 18	R 550	351	663	R 1,563
March .....	R 3	310	R 83	R 396	(s)	2	6	(s)	R 13	R 21	R 417	359	683	R 1,459
April .....	R 2	242	R 76	R 319	(s)	2	7	(s)	R 12	R 21	R 339	346	677	R 1,363
May .....	R 1	178	R 74	R 253	(s)	2	7	(s)	R 12	R 21	R 274	368	756	R 1,398
June .....	R 1	144	R 63	R 209	(s)	2	7	(s)	R 12	R 21	R 230	408	846	R 1,484
July .....	2	141	R 67	R 209	(s)	2	8	(s)	R 13	R 22	R 231	441	911	R 1,583
August .....	2	R 146	R 61	R 209	(s)	2	7	(s)	R 13	R 22	R 230	458	899	R 1,587
September .....	1	150	R 70	R 221	(s)	2	6	(s)	R 12	R 20	R 241	420	784	R 1,445
October .....	1	199	81	281	(s)	2	6	(s)	13	20	302	383	736	1,421
10-Month Total ...	19	2,464	773	3,256	(s)	16	63	1	124	205	3,461	3,909	7,712	15,082
2015 10-Month Total ...	26	2,653	697	3,376	(s)	16	50	1	122	189	3,564	3,923	7,661	15,149
2014 10-Month Total ...	33	2,760	457	3,250	(s)	16	46	1	104	167	3,417	3,889	7,776	15,082

a See "Primary Energy Consumption" in Glossary.  
b See Table 10.2a for notes on series components and estimation.  
c Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.  
d Does not include biofuels that have been blended with petroleum—biofuels are included in "Biomass."  
e Conventional hydroelectric power.  
f Solar photovoltaic (PV) electricity net generation in the commercial sector, both utility-scale and distributed (small-scale). See Tables 10.2a and 10.5.  
g Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.  
h 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 1, "Electrical System Energy Losses," at end of

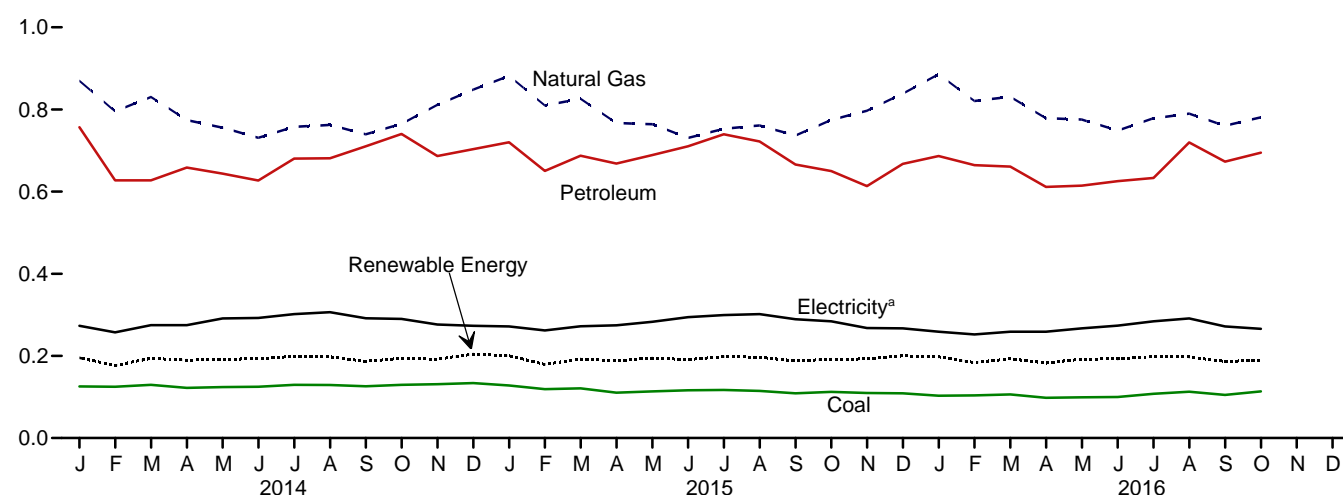
section.  
R=Revised. NA=Not available. —=No data reported. (s)=Less than 0.5 trillion Btu.  
Notes: • Data are estimates, except for coal totals beginning in 2008; hydroelectric power; solar; wind; and electricity retail sales beginning in 1979.  
• The commercial sector includes commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7. • See Note 2, "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> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.  
Sources: See end of section.

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

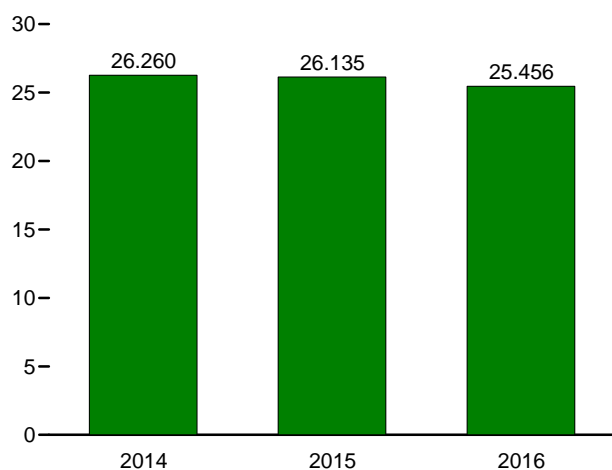
By Major Source, 1949–2015



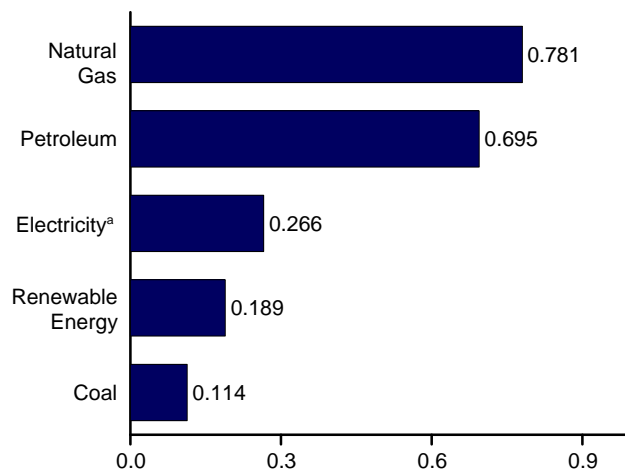
By Major Source, Monthly



Total, January–October



By Major Source, October 2016



<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>											Electricity Retail Sales <sup>h</sup>	Electrical System Energy Losses <sup>i</sup>	Total <sup>g</sup>
	Fossil Fuels				Renewable Energy <sup>b</sup>						Total Primary			
	Coal	Natural Gas <sup>c</sup>	Petro-leum <sup>d</sup>	Total <sup>e</sup>	Hydro-electric Power <sup>f</sup>	Geo-thermal	Solar <sup>g</sup>	Wind	Bio-mass	Total				
1950 Total	5,781	3,546	3,960	13,288	69	NA	NA	NA	532	602	13,890	500	1,852	16,241
1955 Total	5,620	4,701	5,123	15,434	38	NA	NA	NA	631	669	16,103	887	2,495	19,485
1960 Total	4,543	5,973	5,766	16,277	39	NA	NA	NA	680	719	16,996	1,107	2,739	20,842
1965 Total	5,127	7,339	6,813	19,260	33	NA	NA	NA	855	888	20,148	1,463	3,487	25,098
1970 Total	4,656	9,536	7,776	21,911	34	NA	NA	NA	1,019	1,053	22,964	1,948	4,716	29,628
1975 Total	3,667	8,532	8,127	20,339	32	NA	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	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	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	(s)	—	1,684	1,717	21,180	3,226	7,404	31,810
1995 Total	2,488	9,592	8,585	20,726	55	3	(s)	—	1,934	1,992	22,718	3,455	7,796	33,970
2000 Total	2,256	9,500	9,073	20,895	42	4	(s)	—	1,881	1,928	22,823	3,631	8,208	34,662
2001 Total	2,192	8,676	9,177	20,074	33	5	(s)	—	1,681	1,719	21,793	3,400	7,526	32,719
2002 Total	2,019	8,832	9,167	20,078	39	5	(s)	—	1,676	1,720	21,798	3,379	7,484	32,661
2003 Total	2,041	8,488	9,229	19,809	43	3	(s)	—	1,678	1,725	21,534	3,454	7,565	32,553
2004 Total	2,047	8,550	9,825	20,560	33	4	(s)	—	1,815	1,852	22,411	3,473	7,631	33,516
2005 Total	1,954	7,907	9,634	19,540	32	4	(s)	—	1,834	1,871	21,410	3,477	7,554	32,442
2006 Total	1,914	7,861	9,767	19,603	29	4	1	—	1,892	1,926	21,529	3,451	7,411	32,391
2007 Total	1,865	8,074	9,442	19,405	16	5	1	—	1,937	1,958	21,363	3,507	7,515	32,385
2008 Total	1,793	8,083	8,576	18,493	17	5	1	—	2,012	2,035	20,528	3,444	7,362	31,334
2009 Total	1,392	7,609	7,806	16,784	18	4	2	—	1,948	1,972	18,756	3,130	6,580	28,466
2010 Total	1,631	8,278	8,167	18,070	16	4	3	—	2,185	2,208	20,278	3,314	6,934	30,526
2011 Total	1,561	8,481	8,131	18,184	17	4	4	(s)	2,246	2,272	20,456	3,382	7,005	30,843
2012 Total	1,513	8,819	8,147	18,482	22	4	7	(s)	2,226	2,259	20,742	3,363	6,810	30,915
2013 Total	1,546	9,140	8,321	18,991	33	4	9	(s)	2,226	2,272	21,263	3,362	6,785	31,409
2014 January	126	870	757	R 1,751	1	(s)	1	(s)	193	195	1,947	273	567	R 2,787
February	125	795	627	1,546	1	(s)	1	(s)	175	177	R 1,722	257	496	R 2,475
March	129	830	R 627	R 1,586	1	(s)	1	(s)	192	194	1,781	275	559	R 2,614
April	122	774	R 658	1,554	1	(s)	1	(s)	187	189	R 1,743	275	538	2,556
May	124	755	644	1,522	1	(s)	1	(s)	190	192	1,714	291	605	2,610
June	125	731	627	1,482	1	(s)	1	(s)	190	193	1,675	292	607	R 2,574
July	129	758	681	1,566	1	(s)	1	(s)	196	199	1,765	302	616	2,682
August	129	762	R 681	1,570	1	(s)	1	(s)	195	198	R 1,767	306	619	2,693
September	126	740	R 710	R 1,573	1	(s)	1	(s)	185	187	R 1,760	292	545	2,597
October	130	765	R 740	1,633	1	(s)	1	(s)	192	194	1,827	290	555	R 2,672
November	131	811	687	1,627	1	(s)	1	(s)	190	192	1,819	277	575	2,671
December	134	848	R 703	1,683	1	(s)	1	(s)	202	204	1,887	273	550	R 2,710
Total	1,530	9,441	R 8,143	R 19,093	12	4	11	1	R 2,286	2,314	R 21,407	3,404	6,832	R 31,643
2015 January	128	882	R 720	R 1,728	1	(s)	1	(s)	198	200	R 1,928	272	R 539	R 2,739
February	119	810	R 650	R 1,578	1	(s)	1	(s)	177	179	R 1,758	262	515	R 2,534
March	121	826	R 688	R 1,634	1	(s)	1	(s)	R 190	192	R 1,826	272	R 512	R 2,610
April	110	767	R 668	R 1,543	1	(s)	1	(s)	185	188	R 1,732	275	R 521	R 2,527
May	114	764	R 689	R 1,564	1	(s)	1	(s)	192	195	R 1,759	283	R 581	R 2,623
June	116	731	R 710	R 1,554	1	(s)	1	(s)	188	191	R 1,746	294	R 599	R 2,639
July	117	753	R 740	R 1,609	1	(s)	1	(s)	195	198	R 1,807	299	R 605	R 2,712
August	115	761	R 722	R 1,596	1	(s)	1	(s)	194	R 197	R 1,793	302	R 591	R 2,685
September	109	736	R 666	R 1,512	1	(s)	1	(s)	R 186	188	R 1,700	289	R 538	R 2,527
October	112	775	R 650	R 1,535	1	(s)	1	(s)	189	192	R 1,727	284	528	R 2,539
November	110	797	R 613	R 1,517	1	(s)	1	(s)	190	193	R 1,710	268	R 526	R 2,504
December	109	839	R 667	R 1,614	1	(s)	1	(s)	198	200	R 1,815	267	R 520	R 2,602
Total	1,380	9,440	R 8,184	R 18,986	13	4	14	(s)	R 2,283	R 2,315	R 21,301	3,366	6,578	R 31,244
2016 January	R 103	886	R 687	R 1,674	1	(s)	1	(s)	195	R 198	R 1,872	259	522	R 2,653
February	R 104	R 820	R 664	R 1,588	1	(s)	1	(s)	181	184	R 1,772	252	476	R 2,500
March	R 106	R 831	R 661	R 1,597	1	(s)	1	(s)	190	193	R 1,790	259	493	R 2,542
April	R 98	779	R 611	R 1,487	1	(s)	2	(s)	179	R 183	R 1,669	259	506	R 2,434
May	R 99	R 775	R 614	R 1,488	1	(s)	2	(s)	189	192	R 1,681	267	548	R 2,496
June	R 100	R 748	R 626	R 1,474	1	(s)	2	(s)	R 190	193	R 1,667	274	567	R 2,508
July	108	778	R 633	R 1,518	1	(s)	2	(s)	195	198	R 1,716	284	587	R 2,587
August	113	R 790	R 720	R 1,620	1	(s)	2	(s)	194	197	R 1,817	291	571	R 2,680
September	105	760	R 673	R 1,537	1	(s)	2	(s)	184	186	R 1,723	272	508	R 2,503
October	114	781	695	1,586	1	(s)	1	(s)	187	189	1,776	266	511	2,553
10-Month Total	1,049	7,949	6,584	15,570	10	4	15	1	1,883	1,913	17,483	2,682	5,290	25,456
2015 10-Month Total	1,161	7,805	6,903	15,854	11	3	12	(s)	1,895	1,921	17,775	2,831	5,528	26,135
2014 10-Month Total	1,265	7,781	6,753	15,783	10	3	9	(s)	1,894	1,918	17,701	2,854	5,706	26,260

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

<sup>b</sup> 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> Solar photovoltaic (PV) electricity net generation in the industrial sector, both utility-scale and distributed (small-scale). See Tables 10.2b and 10.5.

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

<sup>i</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 1, "Electrical System Energy Losses," at end of section.

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

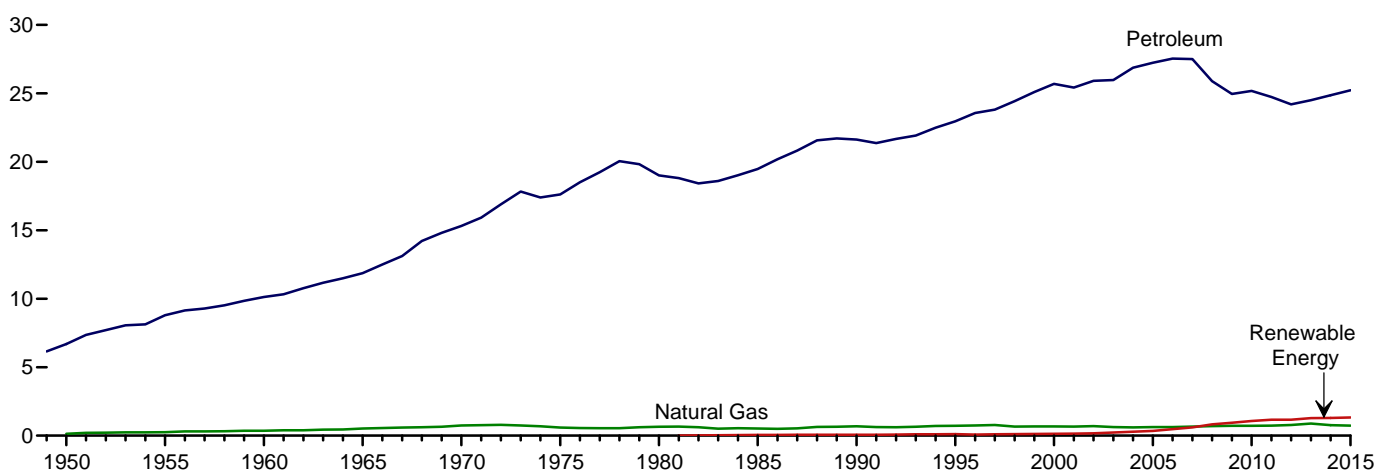
Notes: • Data are estimates, except for coal totals; hydroelectric power in 1949–1978 and 1989 forward; solar; wind; and electricity retail sales. • The industrial sector includes industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7. • See Note 2, "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> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

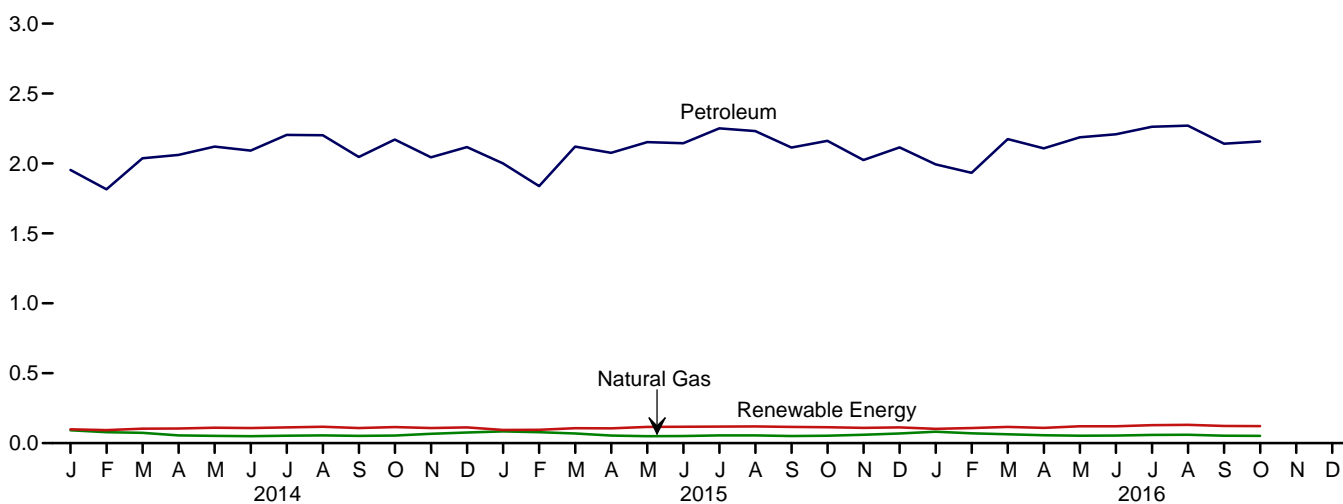
Sources: See end of section.

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

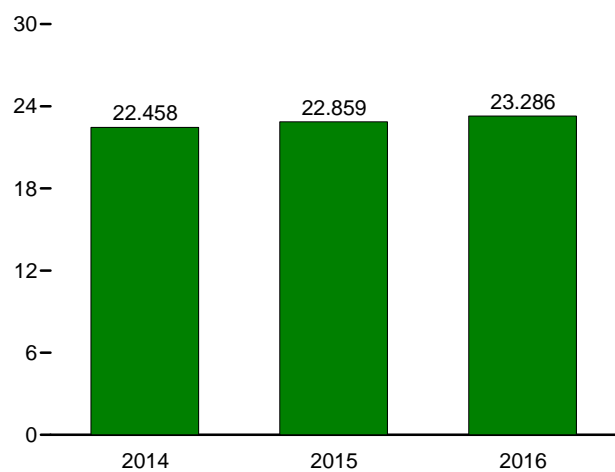
By Major Source, 1949–2015



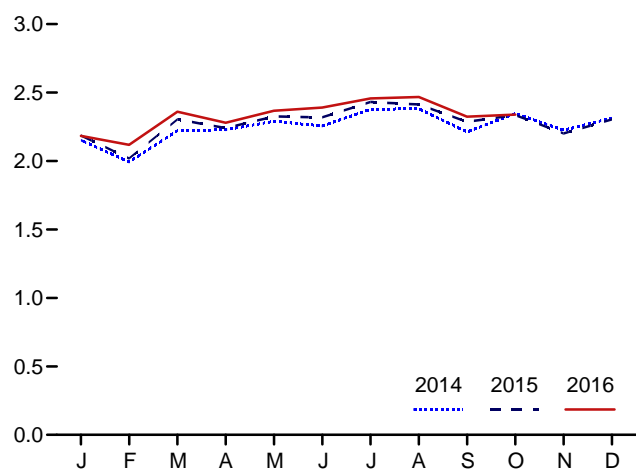
By Major Source, Monthly



Total, January–October



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>						Electricity Retail Sales <sup>e</sup>	Electrical System Energy Losses <sup>f</sup>	Total
	Fossil Fuels				Renewable Energy <sup>b</sup>	Total Primary			
	Coal	Natural Gas <sup>c</sup>	Petroleum <sup>d</sup>	Total	Biomass				
1950 Total .....	1,564	130	6,690	8,383	NA	8,383	23	86	8,492
1955 Total .....	421	254	8,799	9,474	NA	9,474	20	56	9,550
1960 Total .....	75	359	10,125	10,560	NA	10,560	10	26	10,596
1965 Total .....	16	517	11,866	12,399	NA	12,399	10	24	12,432
1970 Total .....	7	745	15,310	16,062	NA	16,062	11	26	16,098
1975 Total .....	1	595	17,615	18,210	NA	18,210	10	24	18,245
1980 Total .....	(g)	650	19,009	19,659	NA	19,659	11	27	19,697
1985 Total .....	(g)	519	19,472	19,992	50	20,041	14	32	20,088
1990 Total .....	(g)	680	21,626	22,306	60	22,366	16	37	22,420
1995 Total .....	(g)	724	22,959	23,683	112	23,796	17	38	23,851
2000 Total .....	(g)	672	25,689	26,361	135	26,495	18	42	26,555
2001 Total .....	(g)	658	25,419	26,077	142	26,219	20	43	26,282
2002 Total .....	(g)	699	25,917	26,616	170	26,785	19	42	26,846
2003 Total .....	(g)	627	25,969	26,596	230	26,826	23	51	26,900
2004 Total .....	(g)	602	26,872	27,474	290	27,764	25	54	27,843
2005 Total .....	(g)	624	27,236	27,860	339	28,199	26	56	28,280
2006 Total .....	(g)	625	27,538	28,163	475	28,638	25	54	28,717
2007 Total .....	(g)	663	27,505	28,169	602	28,771	28	60	28,858
2008 Total .....	(g)	692	25,888	26,580	825	27,404	26	56	27,486
2009 Total .....	(g)	715	24,955	25,670	935	26,605	27	56	26,687
2010 Total .....	(g)	719	25,184	25,903	1,075	26,978	26	55	27,059
2011 Total .....	(g)	734	24,740	25,474	1,158	26,632	26	54	26,712
2012 Total .....	(g)	780	24,202	24,982	1,162	26,144	25	51	26,219
2013 Total .....	(g)	887	24,506	25,394	1,278	26,671	26	53	26,750
2014 January .....	(g)	92	R 1,954	R 2,046	99	R 2,144	2	5	R 2,152
February .....	(g)	79	R 1,815	R 1,894	93	R 1,987	2	5	R 1,994
March .....	(g)	73	R 2,037	R 2,111	103	R 2,214	2	4	R 2,221
April .....	(g)	56	R 2,061	R 2,117	104	R 2,221	2	4	R 2,228
May .....	(g)	52	R 2,121	R 2,173	110	R 2,283	2	5	R 2,290
June .....	(g)	50	R 2,092	R 2,142	108	R 2,250	2	4	R 2,256
July .....	(g)	54	R 2,204	R 2,258	113	R 2,371	2	4	R 2,377
August .....	(g)	55	R 2,202	R 2,258	117	R 2,374	2	4	R 2,381
September .....	(g)	52	R 2,046	R 2,098	109	R 2,207	2	4	R 2,213
October .....	(g)	54	R 2,171	R 2,226	115	R 2,340	2	4	R 2,347
November .....	(g)	67	R 2,044	R 2,111	108	R 2,219	2	5	R 2,226
December .....	(g)	77	R 2,117	R 2,194	113	R 2,307	2	4	R 2,313
Total .....	(g)	760	R 24,865	R 25,625	R 1,292	R 26,917	26	53	R 26,996
2015 January .....	(g)	84	R 2,001	R 2,084	R 94	R 2,179	2	R 5	R 2,186
February .....	(g)	78	R 1,838	R 1,916	R 95	R 2,012	2	5	R 2,019
March .....	(g)	69	R 2,120	R 2,190	R 107	R 2,297	2	4	R 2,304
April .....	(g)	54	R 2,076	R 2,130	R 105	R 2,235	2	4	R 2,241
May .....	(g)	50	R 2,153	R 2,203	R 116	R 2,319	2	4	R 2,325
June .....	(g)	51	R 2,145	R 2,196	R 117	R 2,313	2	4	R 2,319
July .....	(g)	56	R 2,251	R 2,306	R 118	R 2,425	2	4	R 2,431
August .....	(g)	55	R 2,231	R 2,286	R 120	R 2,406	2	4	R 2,412
September .....	(g)	51	R 2,114	R 2,165	R 116	R 2,281	2	4	R 2,287
October .....	(g)	53	R 2,162	R 2,215	R 114	R 2,329	2	4	R 2,336
November .....	(g)	60	R 2,024	R 2,085	R 110	R 2,195	2	4	R 2,201
December .....	(g)	69	R 2,115	R 2,185	R 113	R 2,297	2	4	R 2,304
Total .....	(g)	732	R 25,230	R 25,962	R 1,325	R 27,287	26	51	R 27,364
2016 January .....	(g)	82	R 1,993	R 2,075	R 102	R 2,177	2	5	R 2,184
February .....	(g)	70	R 1,933	R 2,003	R 108	R 2,111	2	4	R 2,118
March .....	(g)	63	R 2,175	R 2,238	R 117	R 2,355	2	4	R 2,361
April .....	(g)	56	R 2,108	R 2,164	R 109	R 2,273	2	4	R 2,279
May .....	(g)	53	R 2,187	R 2,240	R 121	R 2,361	2	4	R 2,367
June .....	(g)	54	R 2,209	R 2,263	R 121	R 2,384	2	4	R 2,391
July .....	(g)	59	R 2,262	R 2,321	R 129	R 2,450	2	5	R 2,457
August .....	(g)	60	R 2,270	R 2,330	R 131	R 2,461	2	4	R 2,467
September .....	(g)	53	R 2,141	R 2,194	R 123	R 2,317	2	4	R 2,323
October .....	(g)	53	R 2,158	R 2,210	122	R 2,332	2	4	R 2,339
10-Month Total ...	(g)	605	21,436	22,040	1,182	23,223	21	42	23,286
2015 10-Month Total ...	(g)	602	21,090	21,692	1,103	22,795	22	43	22,859
2014 10-Month Total ...	(g)	616	20,705	21,320	1,071	22,391	22	44	22,458

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

<sup>b</sup> 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. Data are for natural gas consumed in the operation of pipelines (primarily in compressors) and small amounts consumed as vehicle fuel—see Table 4.3.

<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 1, "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.

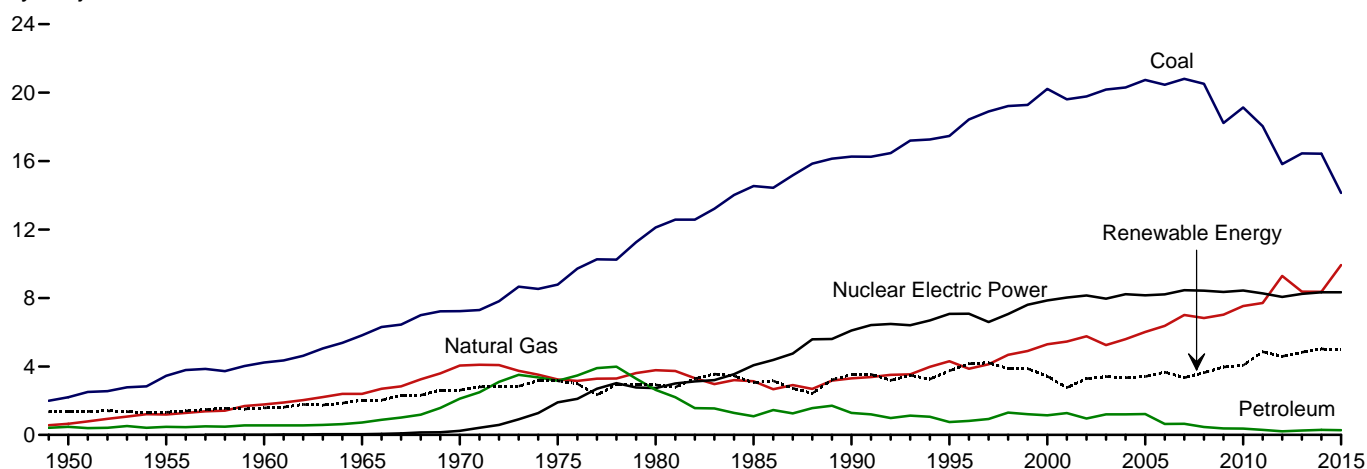
Notes: • Data are estimates, except for coal totals through 1977; and electricity retail sales beginning in 1979. • See Note 2, "Energy Consumption Data and Surveys," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

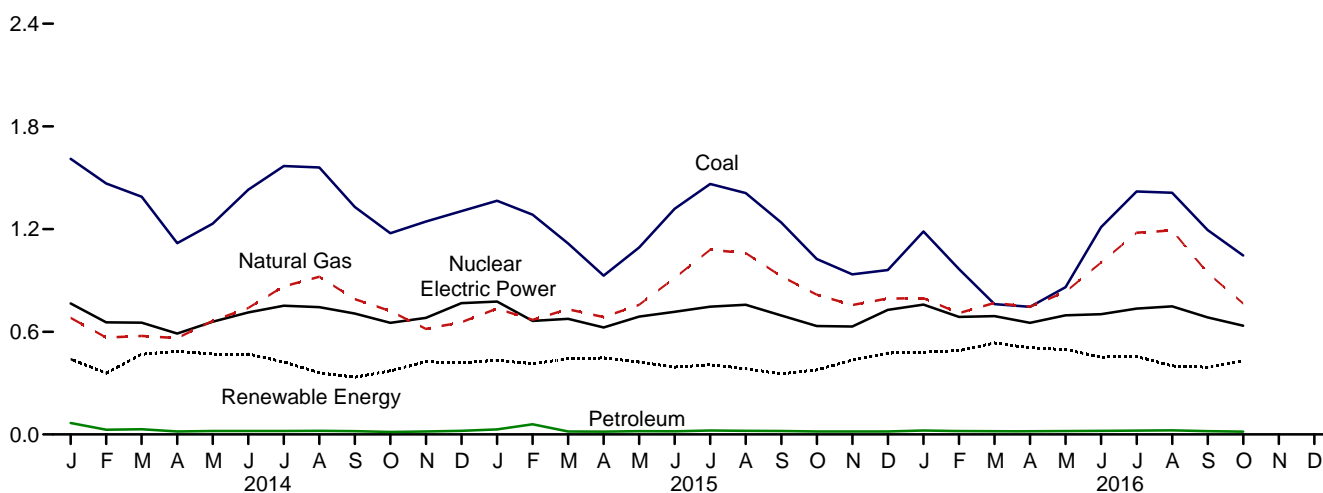
Sources: See end of section.

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

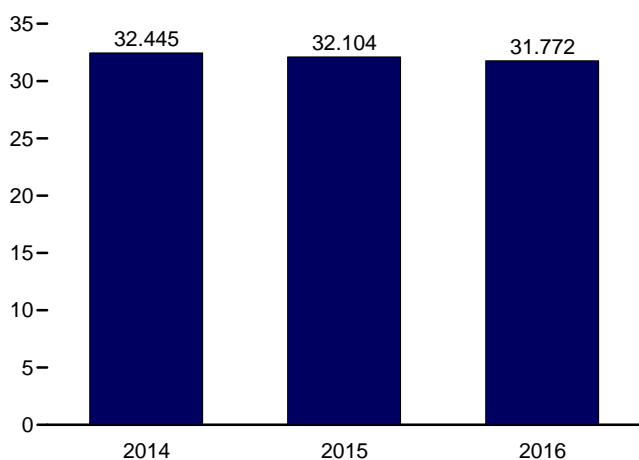
By Major Source, 1949–2015



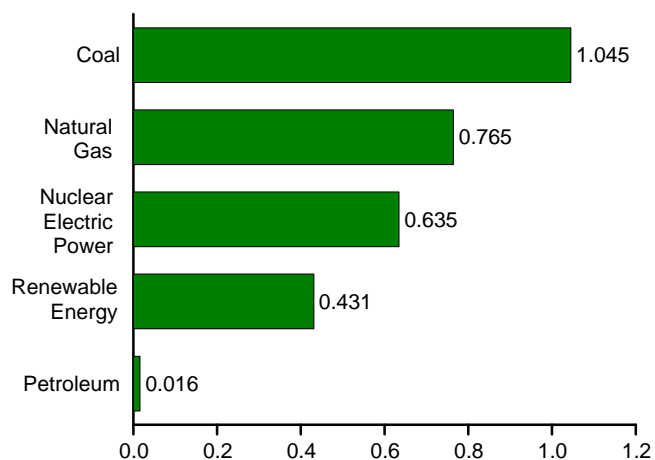
By Major Source, Monthly



Total, January–October



By Major Source, October 2016



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 <sup>f</sup>	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 <sup>e</sup>	Wind	Bio- mass	Total				
1950 Total .....	2,199	651	472	3,322	0	1,346	NA	NA	NA	5	1,351	6	4,679		
1955 Total .....	3,458	1,194	471	5,123	0	1,322	NA	NA	NA	3	1,325	14	6,461		
1960 Total .....	4,228	1,785	553	6,565	6	1,569	(s)	NA	NA	2	1,571	15	8,158		
1965 Total .....	5,821	2,395	722	8,938	43	2,026	2	NA	NA	3	2,031	(s)	11,012		
1970 Total .....	7,227	4,054	2,117	13,399	239	2,600	6	NA	NA	4	2,609	7	16,253		
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>g</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		
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	1,276	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	7,960	2,749	146	5	113	397	3,411	22	38,028		
2004 Total .....	20,305	5,595	1,201	27,101	8,223	2,655	148	6	142	388	3,339	39	38,701		
2005 Total .....	20,737	6,015	1,222	27,974	8,161	2,670	147	6	178	406	3,406	85	39,626		
2006 Total .....	20,462	6,375	637	27,474	8,215	2,839	145	5	264	412	3,665	63	39,417		
2007 Total .....	20,808	7,005	648	28,461	8,459	2,430	145	6	341	423	3,345	107	40,371		
2008 Total .....	20,513	6,829	459	27,801	8,426	2,494	146	9	546	435	3,630	112	39,969		
2009 Total .....	18,225	7,022	382	25,630	8,355	2,650	146	9	721	441	3,967	116	38,069		
2010 Total .....	19,133	7,528	370	27,031	8,434	2,521	148	12	923	459	4,064	89	39,619		
2011 Total .....	18,035	7,712	295	26,042	8,269	3,085	149	17	1,167	437	4,855	127	39,293		
2012 Total .....	15,821	9,287	214	25,322	8,062	2,606	148	40	1,339	453	4,586	161	38,131		
2013 Total .....	16,451	8,376	255	25,082	8,244	2,529	151	83	1,600	470	4,833	197	38,357		
2014 January .....	1,611	681	67	2,359	765	205	13	7	170	45	440	14	3,578		
February .....	1,467	566	27	2,060	655	164	11	8	133	42	359	11	3,085		
March .....	1,389	576	31	1,996	653	230	13	12	169	46	469	12	3,130		
April .....	1,118	563	17	1,698	590	241	12	14	177	41	485	12	2,785		
May .....	1,232	664	20	1,916	658	251	13	16	148	41	469	16	3,059		
June .....	1,430	739	20	2,189	713	244	12	18	150	45	470	15	3,387		
July .....	1,568	865	20	2,453	752	231	13	17	116	48	423	18	3,647		
August .....	1,560	921	21	2,502	744	187	13	17	97	46	361	20	3,626		
September .....	1,329	791	19	2,140	706	152	12	17	109	43	334	18	3,198		
October .....	1,176	722	15	1,912	653	162	13	16	138	42	371	15	2,951		
November .....	1,244	616	17	1,878	681	176	13	13	179	44	425	16	3,000		
December .....	1,305	656	21	1,982	767	211	13	10	140	45	419	15	3,183		
Total .....	16,427	8,362	295	25,085	8,338	2,454	151	165	1,726	530	5,026	182	38,629		
2015 January .....	1,366	735	29	2,130	777	224	13	11	141	45	433	18	3,357		
February .....	1,284	670	59	2,013	664	207	12	14	139	41	412	14	3,103		
March .....	1,116	732	18	1,865	675	225	13	19	143	43	443	19	3,002		
April .....	928	686	17	1,630	625	208	12	22	166	40	448	20	2,723		
May .....	1,092	758	19	1,869	688	186	13	23	160	41	423	20	3,002		
June .....	1,319	915	19	2,252	717	189	12	23	125	44	393	21	3,383		
July .....	1,464	1,079	23	2,566	747	195	13	24	127	48	407	21	3,741		
August .....	1,411	1,060	21	2,492	757	177	13	25	122	48	384	22	3,655		
September .....	1,238	924	20	2,182	695	149	11	20	130	43	354	20	3,251		
October .....	1,025	817	17	1,860	633	154	12	17	152	41	378	16	2,886		
November .....	936	756	18	1,710	630	179	12	16	183	44	434	18	2,792		
December .....	960	794	17	1,771	728	214	13	14	187	47	476	17	2,993		
Total .....	14,138	9,926	276	24,341	8,337	2,308	148	228	1,776	525	4,985	227	37,890		
2016 January .....	1,186	797	23	2,005	759	235	14	14	172	45	480	21	3,265		
February .....	967	709	21	1,697	686	224	13	22	188	43	490	17	2,890		
March .....	761	768	18	1,548	692	250	14	24	203	43	534	18	2,792		
April .....	746	746	18	1,510	652	236	12	27	191	40	506	15	2,684		
May .....	860	834	19	1,713	696	235	14	32	175	40	496	19	2,924		
June .....	1,211	1,004	20	2,235	703	212	13	32	152	42	452	23	3,412		
July .....	1,420	1,179	24	2,623	736	197	13	37	164	45	456	25	3,840		
August .....	1,412	1,192	24	2,629	748	180	13	36	126	46	401	24	3,801		
September .....	1,194	944	20	2,158	684	151	14	33	153	41	392	20	3,254		
October .....	1,045	765	16	1,827	635	160	14	29	190	39	431	18	2,911		
10-Month Total .....	10,803	8,938	203	19,944	6,991	2,080	133	286	1,714	424	4,637	199	31,772		
2015 10-Month Total .....	12,242	8,375	241	20,859	6,978	1,914	123	198	1,405	434	4,074	192	32,104		
2014 10-Month Total .....	13,879	7,088	257	21,224	6,889	2,067	125	142	1,407	441	4,182	151	32,445		

<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> Solar photovoltaic (PV) and solar thermal electricity net generation in the electric power sector. See Tables 10.2c and 10.5.  
<sup>f</sup> Net imports equal imports minus exports.  
<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: • 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 2, "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> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.  
Sources: See end of section.

**Table 2.7 U.S. Government Energy Consumption by Agency, Fiscal Years**  
(Trillion Btu)

Fiscal Year <sup>a</sup>	Agri- culture	Defense	Energy	GSA <sup>b</sup>	HHS <sup>c</sup>	Interior	Justice	NASA <sup>d</sup>	Postal Service	Trans- portation	Veterans Affairs	Other <sup>e</sup>	Total
1975 .....	9.5	1,360.2	50.4	22.3	6.5	9.4	5.9	13.4	30.5	19.3	27.1	10.5	1,565.0
1976 .....	9.3	1,183.3	50.3	20.6	6.7	9.4	5.7	12.4	30.0	19.5	25.0	11.2	1,383.4
1977 .....	8.9	1,192.3	51.6	20.4	6.9	9.5	5.9	12.0	32.7	20.4	25.9	11.9	1,398.5
1978 .....	9.1	1,157.8	50.1	20.4	6.5	9.2	5.9	11.2	30.9	20.6	26.8	12.4	1,360.9
1979 .....	9.2	1,175.8	49.6	19.6	6.4	10.4	6.4	11.1	29.3	19.6	25.7	12.3	1,375.4
1980 .....	8.6	1,183.1	47.4	18.1	6.0	8.5	5.7	10.4	27.2	19.2	24.8	12.3	1,371.2
1981 .....	7.9	1,239.5	47.3	18.0	6.7	7.6	5.4	10.0	27.9	18.8	24.0	11.1	1,424.2
1982 .....	7.6	1,264.5	49.0	18.1	6.4	7.4	5.8	10.1	27.5	19.1	24.2	11.6	1,451.4
1983 .....	7.4	1,248.3	49.5	16.1	6.2	7.7	5.5	10.3	26.5	19.4	24.1	10.8	1,431.8
1984 .....	7.9	1,292.1	51.6	16.2	6.4	8.4	6.4	10.6	27.7	19.8	24.6	10.7	1,482.5
1985 .....	8.4	1,250.6	52.2	20.7	6.0	7.8	8.2	10.9	27.8	19.6	25.1	13.1	1,450.3
1986 .....	6.8	1,222.8	46.9	14.0	6.2	6.9	8.6	11.2	28.0	19.4	25.0	10.8	1,406.7
1987 .....	7.3	1,280.5	48.5	13.1	6.6	6.6	8.1	11.3	28.5	19.0	24.9	11.9	1,466.3
1988 .....	7.8	1,165.8	49.9	12.4	6.4	7.0	9.4	11.3	29.6	18.7	26.3	15.8	1,360.3
1989 .....	8.7	1,274.4	44.2	12.7	6.7	7.1	7.7	12.4	30.3	18.5	26.2	15.6	1,464.7
1990 .....	9.6	1,241.7	43.5	17.5	7.1	7.4	7.0	12.4	30.6	19.0	24.9	17.5	1,438.0
1991 .....	9.6	1,269.3	42.1	14.0	6.2	7.1	8.0	12.5	30.8	19.0	25.1	18.1	1,461.7
1992 .....	9.1	1,104.0	44.3	13.8	6.8	7.0	7.5	12.6	31.7	17.0	25.3	15.7	1,294.8
1993 .....	9.3	1,048.8	43.4	14.1	7.2	7.5	9.1	12.4	33.7	19.4	25.7	16.2	1,246.8
1994 .....	9.4	977.0	42.1	14.0	7.5	7.9	10.3	12.6	35.0	19.8	25.6	17.1	1,178.2
1995 .....	9.0	926.0	47.3	13.7	6.1	6.4	10.2	12.4	36.2	18.7	25.4	17.1	1,128.5
1996 .....	9.1	904.5	44.6	14.5	6.6	4.3	12.1	11.5	36.4	19.6	26.8	17.7	1,107.7
1997 .....	7.4	880.0	43.1	14.4	7.9	6.6	12.0	12.0	40.8	19.1	27.3	20.8	1,091.2
1998 .....	7.9	837.1	31.5	14.1	7.4	6.4	15.8	11.7	39.5	18.5	27.6	19.5	1,037.1
1999 .....	7.8	810.7	27.0	14.4	7.1	7.5	15.4	11.4	39.8	22.6	27.5	19.8	1,010.9
2000 .....	7.4	779.1	30.5	17.6	8.0	7.8	19.7	11.1	43.3	21.2	27.0	20.3	993.1
2001 .....	7.4	787.2	31.1	18.4	8.5	9.5	19.7	10.9	43.4	17.8	27.7	20.7	1,002.3
2002 .....	7.2	837.5	30.7	17.5	8.0	8.2	17.7	10.7	41.6	18.3	27.7	18.4	1,043.4
2003 .....	7.7	895.1	31.9	18.5	10.1	7.3	22.7	10.8	50.9	5.5	30.6	41.0	1,132.3
2004 .....	7.0	960.7	31.4	18.3	8.8	8.7	17.5	9.9	50.5	5.2	29.9	44.0	1,191.7
2005 .....	7.5	933.2	29.6	18.4	9.6	8.6	18.8	10.3	53.5	5.0	30.0	42.1	1,166.4
2006 .....	6.8	843.7	32.9	18.2	9.3	8.1	23.5	10.2	51.8	4.6	29.3	38.1	1,076.4
2007 .....	6.8	864.6	31.5	19.1	9.9	7.5	20.7	10.6	45.8	5.6	30.0	38.1	1,090.2
2008 .....	6.5	910.8	32.1	18.8	10.3	7.1	19.0	10.8	47.1	7.7	29.0	42.4	1,141.5
2009 .....	6.6	874.3	31.1	18.6	10.8	7.9	16.5	10.2	44.2	4.3	29.9	40.4	1,094.8
2010 .....	6.8	889.9	31.7	18.8	10.4	7.3	15.7	10.1	43.3	5.7	30.2	42.9	1,112.7
2011 .....	8.3	890.3	33.1	18.5	10.5	7.3	13.9	10.1	43.0	6.7	30.6	41.7	1,114.1
2012 .....	6.7	828.5	30.3	16.3	10.0	6.7	15.1	8.9	40.8	5.6	29.7	40.6	1,039.3
2013 .....	7.3	749.5	28.9	16.4	10.5	6.2	15.3	8.7	41.9	5.3	29.9	39.3	959.3
2014 .....	6.3	730.6	29.4	17.0	9.5	6.2	15.6	8.3	43.0	5.2	31.4	39.0	941.5
2015 .....	6.2	735.1	30.1	16.9	9.0	6.6	16.2	8.4	44.0	6.0	30.7	37.8	947.0

<sup>a</sup> For 1975 and 1976, the U.S. Government's fiscal year was July 1 through June 30. Beginning in 1977, the U.S. Government's fiscal year is October 1 through September 30 (for example, fiscal year 2014 is October 2013 through September 2014).

<sup>b</sup> General Services Administration.

<sup>c</sup> Health and Human Services.

<sup>d</sup> National Aeronautics and Space Administration.

<sup>e</sup> Includes all U.S. government agencies not separately displayed. See <http://ctsedwebweb.ee.doe.gov/Annual/Report/AgencyReference.aspx> for agency list.

Notes: • Data in this table are developed using conversion factors that often differ from those in Tables A1–A6. • Data include energy consumed at foreign

installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all annual data beginning in 1975.

Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program. See <http://ctsedwebweb.ee.doe.gov/Annual/Report/Report.aspx>, "A-5 Historical Federal Energy Consumption and Cost Data by Agency and Energy Type (FY 1975 to Present)" dataset.

**Table 2.8 U.S. Government Energy Consumption by Source, Fiscal Years**  
(Trillion Btu)

Fiscal Year <sup>a</sup>	Coal	Natural Gas <sup>b</sup>	Petroleum						Other Mobility Fuels <sup>f</sup>	Elec- tricity	Purchased Steam and Other <sup>g</sup>	Total
			Aviation Gasoline	Fuel Oil <sup>c</sup>	Jet Fuel	LPG <sup>d</sup>	Motor Gasoline <sup>e</sup>	Total				
1975 .....	77.9	166.2	22.0	376.0	707.4	5.6	63.2	1,174.2	0.0	141.5	5.1	1,565.0
1976 .....	71.3	151.8	11.6	329.7	610.0	4.7	60.4	1,016.4	.0	139.3	4.6	1,383.4
1977 .....	68.4	141.2	8.8	348.5	619.2	4.1	61.4	1,042.1	.0	141.1	5.7	1,398.5
1978 .....	66.0	144.7	6.2	332.3	601.1	3.0	60.1	1,002.9	.0	141.0	6.4	1,360.9
1979 .....	65.1	148.9	4.7	327.1	618.6	3.7	59.1	1,013.1	.0	141.2	7.1	1,375.4
1980 .....	63.5	147.3	4.9	307.7	638.7	3.8	56.5	1,011.6	.2	141.9	6.8	1,371.2
1981 .....	65.1	142.2	4.6	351.3	653.3	3.5	53.2	1,066.0	.2	144.5	6.2	1,424.2
1982 .....	68.6	146.2	3.6	349.4	672.7	3.7	53.1	1,082.5	.2	147.5	6.2	1,451.4
1983 .....	62.4	147.8	2.6	329.5	673.4	3.8	51.6	1,060.8	.2	151.5	9.0	1,431.8
1984 .....	65.3	157.4	1.9	342.9	693.7	3.9	51.2	1,093.6	.2	155.9	10.1	1,482.5
1985 .....	64.8	149.9	1.9	292.6	705.7	3.8	50.4	1,054.3	.2	167.2	13.9	1,450.3
1986 .....	63.8	140.9	1.4	271.6	710.2	3.6	45.3	1,032.1	.3	155.8	13.7	1,406.7
1987 .....	67.0	145.6	1.0	319.5	702.3	3.6	43.1	1,069.5	.4	169.9	13.9	1,466.3
1988 .....	60.2	144.6	6.0	284.8	617.2	2.7	41.2	951.9	.4	171.2	32.0	1,360.3
1989 .....	48.7	152.4	.8	245.3	761.7	3.5	41.1	1,052.4	2.2	188.6	20.6	1,464.7
1990 .....	44.3	159.4	.5	245.2	732.4	3.8	37.2	1,019.1	2.6	193.6	19.1	1,438.0
1991 .....	45.9	154.1	.4	232.6	774.5	3.0	34.1	1,044.7	6.0	192.7	18.3	1,461.7
1992 .....	51.7	151.2	1.0	200.6	628.2	3.0	35.6	868.4	8.4	192.5	22.5	1,294.8
1993 .....	38.3	152.9	.7	187.0	612.4	3.5	34.5	838.1	5.8	193.1	18.6	1,246.8
1994 .....	35.0	143.9	.6	198.5	550.7	3.2	29.5	782.6	7.7	190.9	18.2	1,178.2
1995 .....	31.7	149.4	.3	178.4	522.3	3.0	31.9	735.9	8.4	184.8	18.2	1,128.5
1996 .....	23.3	147.3	.2	170.5	513.0	3.1	27.6	714.4	18.7	184.0	20.1	1,107.7
1997 .....	22.5	153.8	.3	180.0	475.7	2.6	39.0	697.6	14.5	183.6	19.2	1,091.2
1998 .....	23.9	140.4	.2	174.5	445.5	3.5	43.0	666.8	5.9	181.4	18.8	1,037.1
1999 .....	21.2	137.4	.1	162.1	444.7	2.4	41.1	650.4	.4	180.0	21.5	1,010.9
2000 .....	22.7	133.8	.2	171.3	403.1	2.5	43.9	621.0	1.8	193.6	20.2	993.1
2001 .....	18.8	133.7	.2	176.9	415.2	3.1	42.5	638.0	4.8	188.4	18.6	1,002.3
2002 .....	16.9	133.7	.2	165.6	472.9	2.8	41.3	682.8	3.2	188.3	18.5	1,043.4
2003 .....	18.1	135.5	.3	190.8	517.9	3.2	46.3	758.4	3.3	193.8	23.2	1,132.3
2004 .....	17.4	135.3	.2	261.4	508.2	2.9	44.1	816.9	3.1	197.1	22.0	1,191.7
2005 .....	17.1	135.7	.4	241.4	492.2	3.4	48.8	786.1	5.6	197.6	24.3	1,166.4
2006 .....	23.5	132.6	.6	209.3	442.6	2.7	48.3	703.6	2.1	196.7	18.2	1,076.4
2007 .....	20.4	131.5	.4	212.9	461.1	2.7	46.5	723.7	2.9	194.9	16.7	1,090.2
2008 .....	20.8	129.4	.4	198.4	524.3	2.3	48.7	774.0	3.6	196.0	17.7	1,141.5
2009 .....	20.3	131.7	.3	166.4	505.7	3.2	48.3	723.9	10.1	191.3	17.7	1,094.8
2010 .....	20.0	130.1	.4	157.8	535.8	2.5	51.3	747.7	3.0	193.7	18.2	1,112.7
2011 .....	18.5	124.7	.9	166.5	533.6	2.0	52.7	755.8	2.7	193.2	19.1	1,114.1
2012 .....	15.9	116.2	.4	148.6	493.5	1.7	50.1	694.4	3.1	187.2	22.5	1,039.3
2013 .....	14.3	122.5	.7	140.0	424.0	1.9	46.6	613.2	2.8	184.7	21.8	959.3
2014 .....	13.5	125.6	.3	133.5	414.3	1.8	44.9	594.8	3.6	182.1	21.9	941.5
2015 .....	12.6	123.3	.3	134.3	418.9	1.8	46.8	602.1	3.7	184.0	21.3	947.0

<sup>a</sup> For 1975 and 1976, the U.S. Government's fiscal year was July 1 through June 30. Beginning in 1977, the U.S. Government's fiscal year is October 1 through September 30 (for example, fiscal year 2014 is October 2013 through September 2014).

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

<sup>c</sup> Distillate fuel oil, including diesel fuel; and residual fuel oil, including Navy Special.

<sup>d</sup> Liquefied petroleum gases, primarily propane.

<sup>e</sup> Includes E10 (a mixture of 10% ethanol and 90% motor gasoline) and E15 (a mixture of 15% ethanol and 85% motor gasoline).

<sup>f</sup> Other types of fuel used in vehicles and equipment. Primarily includes alternative fuels such as compressed natural gas (CNG); liquefied natural gas (LNG); E85 (a mixture of 85% ethanol and 15% motor gasoline); B20 (a mixture of 20% biodiesel and 80% diesel fuel); B100 (100% biodiesel); hydrogen; and methanol.

<sup>g</sup> Other types of energy used in facilities. Primarily includes chilled water, but also includes small amounts of renewable energy such as wood and solar thermal.

Notes: • Data in this table are developed using conversion factors that often differ from those in Tables A1–A6. • Data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all annual data beginning in 1975.

Source: U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Federal Energy Management Program. See <http://cts.edweb.ee.doe.gov/Annual/Report/Report.aspx>, "A-5 Historical Federal Energy Consumption and Cost Data by Agency and Energy Type (FY 1975 to Present)" dataset.

## Energy Consumption by Sector

**Note 1. 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, geothermal, solar thermal, photovoltaic, and wind energy sources. 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% is lost in plant use and 7% is lost in transmission and distribution.

**Note 2. 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.

### Table 2.2 Sources

#### Coal

1949–2007: Residential sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the

residential and commercial sectors coal consumption heat content factors in Table A5.

#### Natural Gas

1949–1979: Residential sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

1980 forward: Residential sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4. The residential sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, "Supplemental Gaseous Fuels," at the end of Section 4. Residential sector natural gas (excluding supplemental gaseous fuels) consumption is equal to residential sector natural gas (including supplemental gaseous fuels) consumption minus the residential sector portion of supplemental gaseous fuels.

#### Petroleum

1949 forward: Table 3.8a.

#### Fossil Fuels Total

1949–2007: Residential sector total fossil fuels consumption is the sum of the residential sector consumption values for coal, natural gas, and petroleum.

2008 forward: Residential sector total fossil fuels consumption is the sum of the residential sector consumption values for natural gas and petroleum.

#### Renewable Energy

1949 forward: Table 10.2a.

#### Total Primary Energy Consumption

1949 forward: Residential sector total primary energy consumption is the sum of the residential sector consumption values for fossil fuels and renewable energy.

#### Electricity Retail Sales

1949 forward: Residential sector electricity retail sales from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

#### Electrical System Energy Losses

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity retail sales from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the residential sector in proportion to the residential sector's share of total electricity retail sales from Table 7.6. See Note 1, "Electrical System Energy Losses."

#### Total Energy Consumption

1949 forward: Residential sector total energy consumption is the sum of the residential sector consumption values for



total primary energy, electricity retail sales, and electrical system energy losses.

## Table 2.3 Sources

### Coal

1949 forward: Commercial sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the residential and commercial sectors coal consumption heat content factors in Table A5.

### Natural Gas

1949–1979: Commercial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

1980 forward: Commercial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4. The commercial sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, “Supplemental Gaseous Fuels,” at the end of Section 4. Commercial sector natural gas (excluding supplemental gaseous fuels) consumption is equal to commercial sector natural gas (including supplemental gaseous fuels) consumption minus the commercial sector portion of supplemental gaseous fuels.

### Petroleum

1949–1992: Table 3.8a.

1993–2008: The commercial sector share of motor gasoline consumption is equal to commercial sector motor gasoline consumption from Table 3.7a divided by motor gasoline product supplied from Table 3.5. Commercial sector fuel ethanol (including denaturant) consumption is equal to total fuel ethanol (including denaturant) consumption from Table 10.3 multiplied by the commercial sector share of motor gasoline consumption. Commercial sector petroleum (excluding biofuels) consumption is equal to commercial sector petroleum (including biofuels) consumption from Table 3.8a minus commercial sector fuel ethanol (including denaturant) consumption.

2009 forward: Commercial sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the commercial sector share of motor gasoline consumption (see 1993–2008 sources above). Commercial sector petroleum (excluding biofuels) consumption is equal to commercial sector petroleum (including biofuels) consumption from Table 3.8a minus commercial sector fuel ethanol (minus denaturant) consumption.

### Fossil Fuels Total

1949 forward: Commercial sector total fossil fuels consumption is the sum of the commercial sector consumption values for coal, natural gas, and petroleum.

### Renewable Energy

1949 forward: Table 10.2a.

## Total Primary Energy Consumption

1949 forward: Commercial sector total primary energy consumption is the sum of the commercial sector consumption values for fossil fuels and renewable energy.

### Electricity Retail Sales

1949 forward: Commercial sector electricity retail sales from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

### Electrical System Energy Losses

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity retail sales from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the commercial sector in proportion to the commercial sector’s share of total electricity retail sales from Table 7.6. See Note 1, “Electrical System Energy Losses.”

## Total Energy Consumption

1949 forward: Commercial sector total energy consumption is the sum of the commercial sector consumption values for total primary energy, electricity retail sales, and electrical system energy losses.

## Table 2.4 Sources

### Coal

1949 forward: Coke plants coal consumption from Table 6.2 is converted to Btu by multiplying by the coke plants coal consumption heat content factors in Table A5. Other industrial coal consumption from Table 6.2 is converted to Btu by multiplying by the other industrial coal consumption heat content factors in Table A5. Industrial sector coal consumption is equal to coke plants coal consumption and other industrial coal consumption.

### Natural Gas

1949–1979: Industrial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

1980 forward: Industrial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4. The industrial sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, “Supplemental Gaseous Fuels,” at the end of Section 4. Industrial sector natural gas (excluding supplemental gaseous fuels) consumption is equal to industrial sector natural gas (including supplemental gaseous fuels) consumption minus the industrial sector portion of supplemental gaseous fuels.

### Petroleum

1949–1992: Table 3.8b.

1993–2008: The industrial sector share of motor gasoline consumption is equal to industrial sector motor gasoline consumption from Table 3.7b divided by motor gasoline product supplied from Table 3.5. Industrial sector fuel ethanol (including denaturant) consumption is equal to total fuel ethanol (including denaturant) consumption from Table 10.3 multiplied by the industrial sector share of motor gasoline consumption. Industrial sector petroleum (excluding biofuels) consumption is equal to industrial sector petroleum (including biofuels) consumption from Table 3.8b minus industrial sector fuel ethanol (including denaturant) consumption.

2009 forward: Industrial sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the industrial sector share of motor gasoline consumption (see 1993–2008 sources above). Industrial sector petroleum (excluding biofuels) consumption is equal to industrial sector petroleum (including biofuels) consumption from Table 3.8b minus industrial sector fuel ethanol (minus denaturant) consumption.

#### **Coal Coke Net Imports**

1949 forward: Coal coke net imports are equal to coal coke imports from Table 1.4a minus coal coke exports from Table 1.4b.

#### **Fossil Fuels Total**

1949 forward: Industrial sector total fossil fuels consumption is the sum of the industrial sector consumption values for coal, natural gas, and petroleum, plus coal coke net imports.

#### **Renewable Energy**

1949 forward: Table 10.2b.

#### **Total Primary Energy Consumption**

1949 forward: Industrial sector total primary energy consumption is the sum of the industrial sector consumption values for fossil fuels and renewable energy.

#### **Electricity Retail Sales**

1949 forward: Industrial sector electricity retail sales from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

#### **Electrical System Energy Losses**

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity retail sales from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the industrial sector in proportion to the industrial sector's share of total electricity retail sales from Table 7.6. See Note 1, "Electrical System Energy Losses."

#### **Total Energy Consumption**

1949 forward: Industrial sector total energy consumption is the sum of the industrial sector consumption values for total primary energy, electricity retail sales, and electrical system energy losses.

## **Table 2.5 Sources**

#### **Coal**

1949–1977: Transportation sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the other industrial sector coal consumption heat content factors in Table A5.

#### **Natural Gas**

1949 forward: Transportation sector natural gas consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

#### **Petroleum**

1949–1992: Table 3.8c.

1993–2008: The transportation sector share of motor gasoline consumption is equal to transportation sector motor gasoline consumption from Table 3.7c divided by motor gasoline product supplied from Table 3.5. Transportation sector fuel ethanol (including denaturant) consumption is equal to total fuel ethanol (including denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption. Transportation sector petroleum (excluding biofuels) consumption is equal to transportation sector petroleum (including biofuels) consumption from Table 3.8c minus transportation sector fuel ethanol (including denaturant) consumption.

2009 forward: Transportation sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption (see 1993–2008 sources above). Transportation sector petroleum (excluding biofuels) consumption is equal to: transportation sector petroleum (including biofuels) consumption from Table 3.8c; minus transportation sector fuel ethanol (minus denaturant) consumption; minus refinery and blender net inputs of renewable fuels (excluding fuel ethanol) from U.S. Energy Information Administration, *Petroleum Supply Annual/Petroleum Supply Monthly*, Table 1 (for biomass-based diesel fuel, the data are converted to Btu by multiplying by the biodiesel heat content factor in Table A1; for other renewable diesel fuel, the data are converted to Btu by multiplying by the other renewable diesel fuel heat content factor in Table A1).

#### **Fossil Fuels Total**

1949–1977: Transportation sector total fossil fuels consumption is the sum of the transportation sector consumption values for coal, natural gas, and petroleum.

1978 forward: Transportation sector total fossil fuels consumption is the sum of the transportation sector consumption values for natural gas and petroleum.

#### **Renewable Energy**

1981 forward: Table 10.2b.

#### **Total Primary Energy Consumption**

1949–1980: Transportation sector total primary energy consumption is equal to transportation sector fossil fuels consumption.

1981 forward: Transportation sector total primary energy consumption is the sum of the transportation sector consumption values for fossil fuels and renewable energy.

### **Electricity Retail Sales**

1949 forward: Transportation sector electricity retail sales from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

### **Electrical System Energy Losses**

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity retail sales from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the transportation sector in proportion to the transportation sector's share of total electricity retail sales from Table 7.6. See Note 1, "Electrical System Energy Losses."

### **Total Energy Consumption**

1949 forward: Transportation sector total energy consumption is the sum of the transportation sector consumption values for total primary energy, electricity retail sales, and electrical system energy losses.

## **Table 2.6 Sources**

### **Coal**

1949 forward: Electric power sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the electric power sector coal consumption heat content factors in Table A5.

### **Natural Gas**

1949–1979: Electric power sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas electric power sector consumption heat content factors in Table A4.

1980 forward: Electric power sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas electric power sector consumption heat content factors in Table A4. The electric power sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, "Supplemental Gaseous Fuels," at the end of Section 4. Electric power sector natural gas (excluding supplemental gaseous fuels) consumption is equal to electric power sector natural gas (including supplemental gaseous fuels) consumption minus the electric power sector portion of supplemental gaseous fuels.

### **Petroleum**

1949 forward: Table 3.8c.

### **Fossil Fuels Total**

1949 forward: Electric power sector total fossil fuels consumption is the sum of the electric power sector consumption values for coal, natural gas, and petroleum.

### **Nuclear Electric Power**

1949 forward: Nuclear electricity net generation data from Table 7.2a are converted to Btu by multiplying by the nuclear heat rate factors in Table A6.

### **Renewable Energy**

1949 forward: Table 10.2c.

### **Electricity Net Imports**

1949 forward: Electricity net imports are equal to electricity imports from Table 1.4a minus electricity exports from Table 1.4b.

### **Total Primary Energy Consumption**

1949 forward: Electric power sector total primary energy consumption is the sum of the electric power sector consumption values for fossil fuels, nuclear electric power, and renewable energy, plus electricity net imports.

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