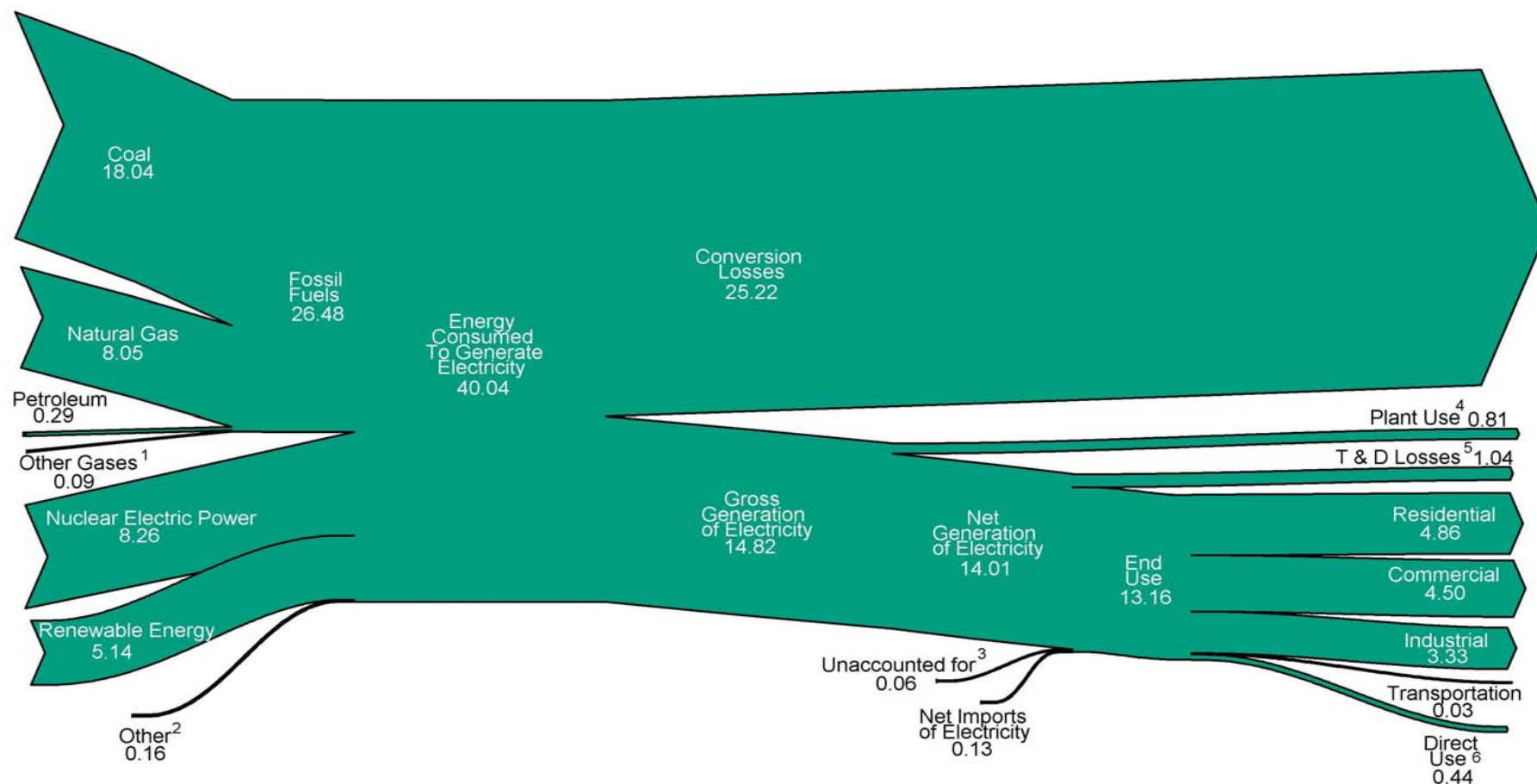


# 8. Electricity

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**Figure 8.0 Electricity Flow, 2011**  
(Quadrillion Btu)



<sup>1</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>2</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>3</sup> Data collection frame differences and nonsampling error. Derived for the diagram by subtracting the "T & D Losses" estimate from "T & D Losses and Unaccounted for" derived from Table 8.1.

<sup>4</sup> Electric energy used in the operation of power plants.

<sup>5</sup> Transmission and distribution losses (electricity losses that occur between the point of

generation and delivery to the customer) are estimated as 7 percent of gross generation.

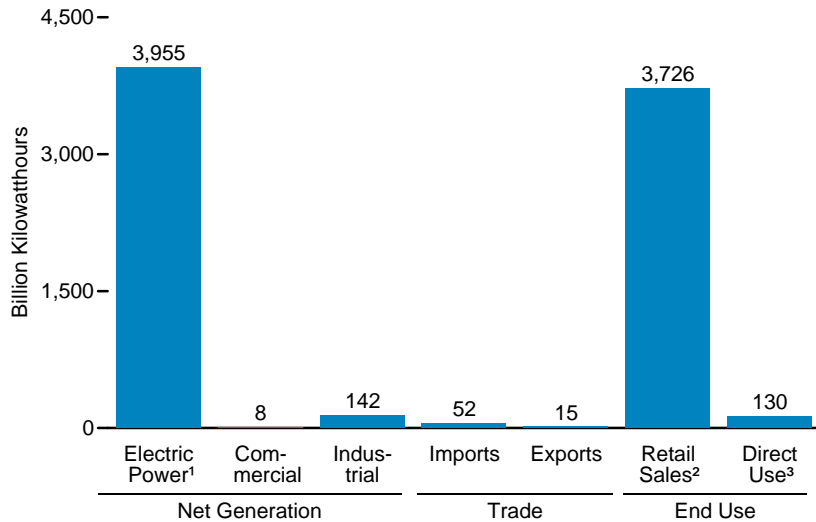
<sup>6</sup> Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

Notes: • Data are preliminary. • See Note, "Electrical System Energy Losses," at the end of Section 2. • Net generation of electricity includes pumped storage facility production minus energy used for pumping. • Values are derived from source data prior to rounding for publication. • Totals may not equal sum of components due to independent rounding.

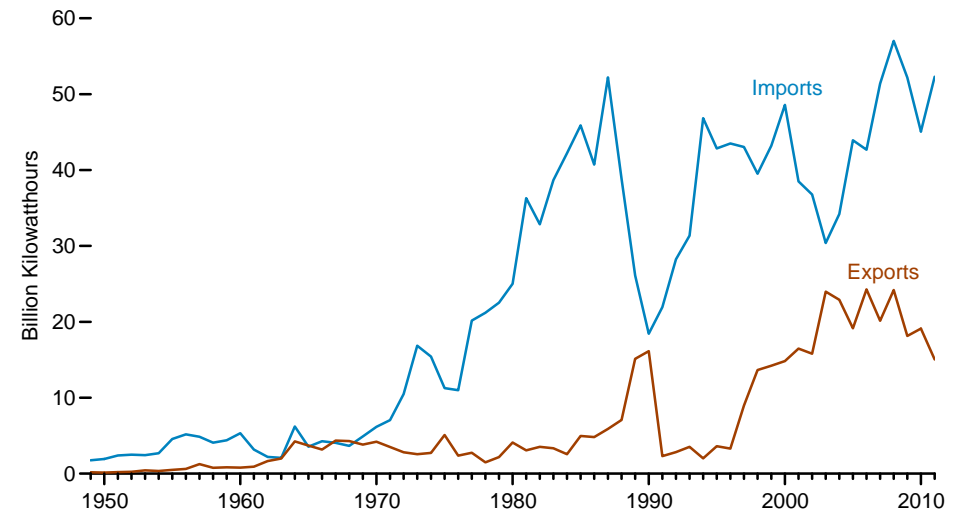
Sources: Tables 8.1, 8.4a, 8.9, A6 (column 7), and U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

## Figure 8.1 Electricity Overview

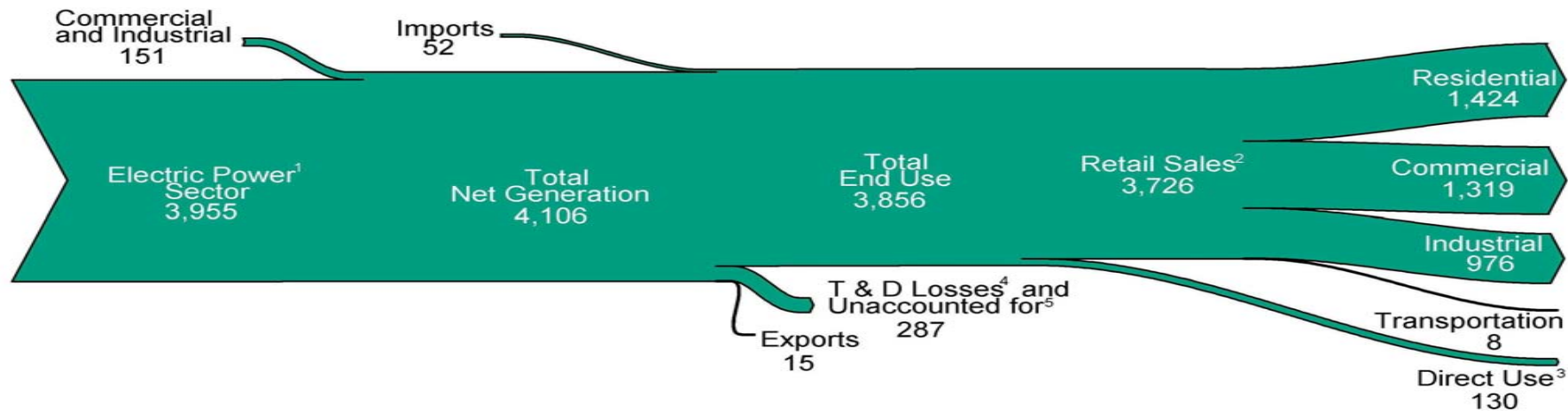
### Overview, 2011



### Electricity Trade, 1949-2011



### Net-Generation-to-End-Use Flow, 2011 (Billion Kilowatthours)



<sup>1</sup> Electricity-only and combined-heat-and-power plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>2</sup> Electricity retail sales to ultimate customers reported by electric utilities and other energy service providers.

<sup>3</sup> See Table 8.1, footnote 8.

<sup>4</sup> Transmission and distribution losses (electricity losses that occur between the point of generation and delivery to the customer). See Note, "Electrical System Energy Losses," at the end of Section 2.

<sup>5</sup> Data collection frame differences and nonsampling error.

Sources: Tables 8.1 and 8.9.

**Table 8.1 Electricity Overview, Selected Years, 1949-2011**  
(Billion Kilowatthours)

Year	Net Generation				Trade					T & D Losses <sup>5</sup> and Unaccounted for <sup>6</sup>	End Use		
	Electric Power Sector <sup>2</sup>	Commercial Sector <sup>3</sup>	Industrial Sector <sup>4</sup>	Total	Imports <sup>1</sup>		Exports <sup>1</sup>		Net Imports <sup>1</sup>		Retail Sales <sup>7</sup>	Direct Use <sup>8</sup>	Total
					From Canada	Total	To Canada	Total	Total				
1949	291	NA	5	296	NA	2	NA	(s)	2	43	255	NA	255
1950	329	NA	5	334	NA	2	NA	(s)	2	44	291	NA	291
1955	547	NA	3	550	NA	5	NA	(s)	4	58	497	NA	497
1960	756	NA	4	759	NA	5	NA	1	5	76	688	NA	688
1965	1,055	NA	3	1,058	NA	4	NA	4	(s)	104	954	NA	954
1970	1,532	NA	3	1,535	NA	6	NA	4	2	145	1,392	NA	1,392
1975	1,918	NA	3	1,921	NA	11	NA	5	6	180	1,747	NA	1,747
1976	2,038	NA	3	2,041	NA	11	NA	2	9	194	1,855	NA	1,855
1977	2,124	NA	3	2,127	NA	20	NA	3	17	197	1,948	NA	1,948
1978	2,206	NA	3	2,209	NA	21	NA	1	20	211	2,018	NA	2,018
1979	2,247	NA	3	2,251	NA	23	NA	2	20	200	2,071	NA	2,071
1980	2,286	NA	3	2,290	NA	25	NA	4	21	216	2,094	NA	2,094
1981	2,295	NA	3	2,298	NA	36	NA	3	33	184	2,147	NA	2,147
1982	2,241	NA	3	2,244	NA	33	NA	4	29	187	2,086	NA	2,086
1983	2,310	NA	3	2,313	NA	39	NA	3	35	198	2,151	NA	2,151
1984	2,416	NA	3	2,419	NA	42	NA	3	40	173	2,286	NA	2,286
1985	2,470	NA	3	2,473	NA	46	NA	5	41	190	2,324	NA	2,324
1986	2,487	NA	3	2,490	NA	41	NA	5	36	158	2,369	NA	2,369
1987	2,572	NA	3	2,575	NA	52	NA	6	46	164	2,457	NA	2,457
1988	2,704	NA	3	2,707	NA	39	NA	7	32	161	2,578	NA	2,578
1989	2,848	4	4115	2,967	NA	26	NA	15	11	222	2,647	109	2,756
1990	2,901	6	131	3,038	16	18	16	16	2	203	2,713	125	2,837
1991	2,936	6	133	3,074	20	22	2	2	20	207	2,762	124	2,886
1992	2,934	6	143	3,084	26	28	2	3	25	212	2,763	134	2,897
1993	3,044	7	146	3,197	29	31	3	4	28	224	2,861	139	3,001
1994	3,089	8	151	3,248	45	47	1	2	45	211	2,935	146	3,081
1995	3,194	8	151	3,353	41	43	2	4	39	229	3,013	151	3,164
1996	3,284	9	151	3,444	42	43	2	3	40	231	3,101	153	3,254
1997	3,329	9	154	3,492	43	43	7	9	34	224	3,146	156	3,302
1998	3,457	9	154	3,620	40	40	12	14	26	221	3,264	161	3,425
1999	3,530	9	156	3,695	43	43	13	14	29	240	3,312	172	3,484
2000	3,638	8	157	3,802	49	49	13	15	34	244	3,421	171	3,592
2001	3,580	7	149	3,737	38	39	16	16	22	202	3,394	163	3,557
2002	3,698	7	153	3,858	37	37	15	16	21	248	3,465	166	3,632
2003	3,721	7	155	3,883	29	30	24	24	6	228	3,494	168	3,662
2004	3,808	8	154	3,971	33	34	22	23	11	266	3,547	168	3,716
2005	3,902	8	145	4,055	42	44	19	19	25	269	3,661	150	3,811
2006	3,908	8	148	4,065	42	43	23	24	18	266	3,670	147	3,817
2007	4,005	8	143	4,157	50	51	20	20	31	298	3,765	126	3,890
2008	3,974	8	137	4,119	56	57	24	24	33	287	3,733	132	3,865
2009	3,810	8	132	3,950	51	52	18	18	34	261	3,597	127	3,724
2010	<sup>R</sup> 3,972	<sup>R</sup> 9	<sup>R</sup> 144	<sup>R</sup> 4,125	44	45	<sup>R</sup> 18	19	26	<sup>R</sup> 265	<sup>R</sup> 3,754	<sup>R</sup> 132	<sup>R</sup> 3,886
2011	<sup>P</sup> 3,955	<sup>P</sup> 8	<sup>P</sup> 142	<sup>P</sup> 4,106	<sup>P</sup> 51	<sup>P</sup> 52	<sup>P</sup> 14	<sup>P</sup> 15	<sup>P</sup> 37	<sup>P</sup> 287	<sup>P</sup> 3,726	<sup>E</sup> 130	<sup>P</sup> 3,856

<sup>1</sup> Electricity transmitted across U.S. borders. Net imports equal imports minus exports.

<sup>2</sup> Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

<sup>3</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>4</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants. Through 1988, data are for industrial hydroelectric power only.

<sup>5</sup> Transmission and distribution losses (electricity losses that occur between the point of generation and delivery to the customer). See Note, "Electrical System Energy Losses," at end of Section 2.

<sup>6</sup> Data collection frame differences and nonsampling error.

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

<sup>8</sup> Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

R=Revised. P=Preliminary. E=Estimate. NA=Not available. (s)=Less than 0.5 billion kilowatthours.

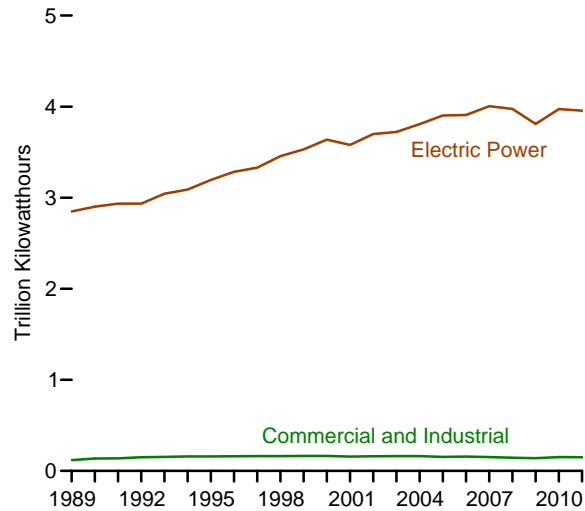
Notes: • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.

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

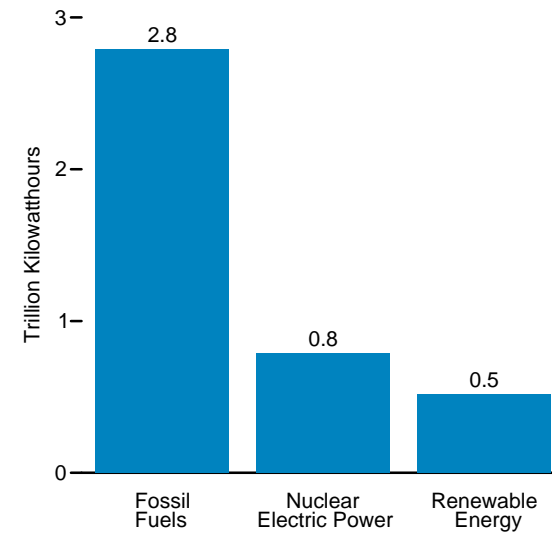
Sources: See end of section.

**Figure 8.2a Electricity Net Generation, Total (All Sectors)**

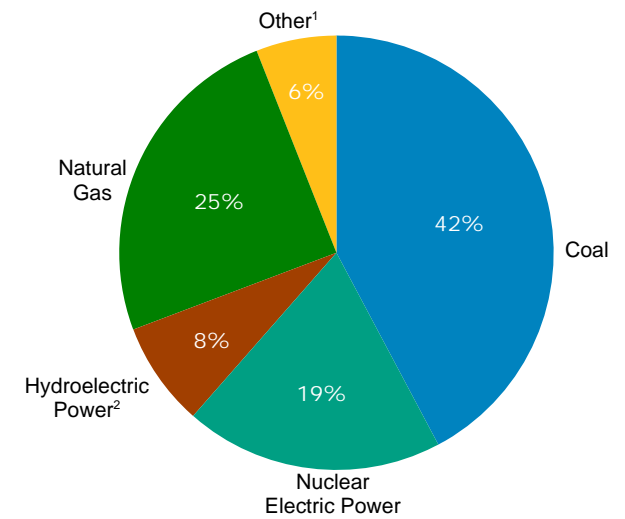
**By Sector, 1989-2011**



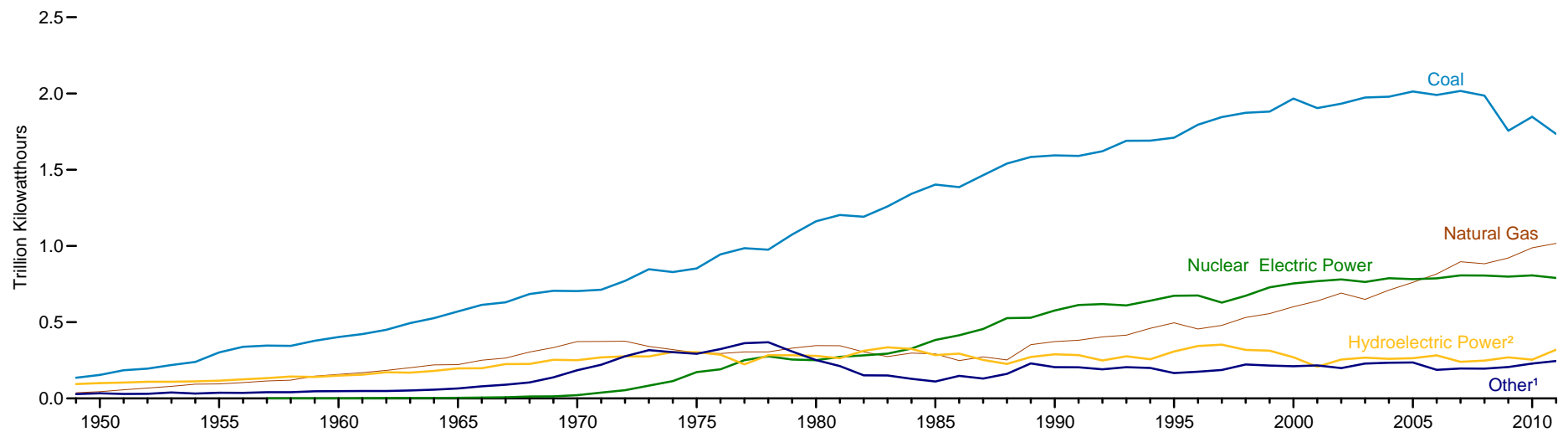
**By Source Category, 2011**



**By Source, 2011**



**By Source, 1949-2011**

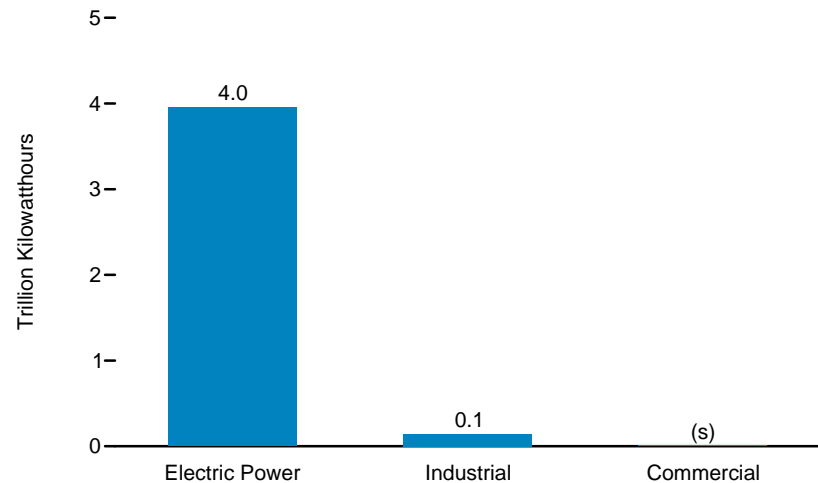


<sup>1</sup> Wind, petroleum, wood, waste, geothermal, other gases, solar thermal and photovoltaic, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

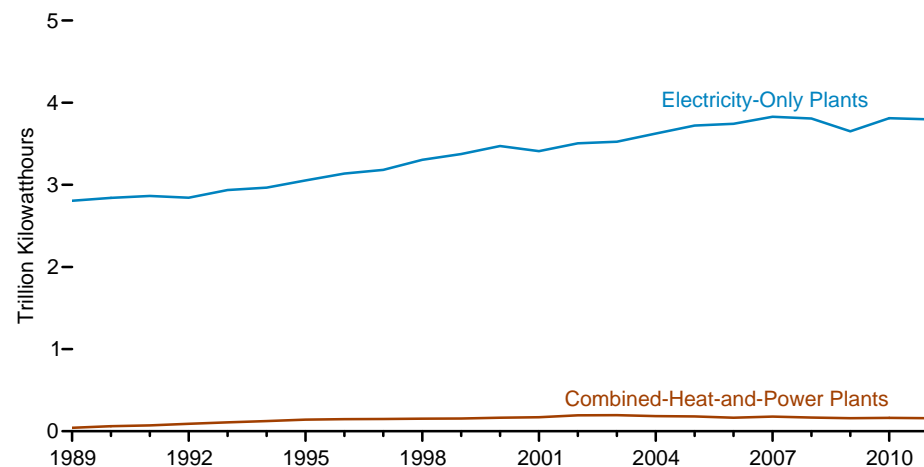
<sup>2</sup> Conventional hydroelectric power and pumped storage.  
Note: Sum of components may not equal 100 percent due to independent rounding.  
Sources: Tables 8.2a, 8.2b, and 8.2d.

**Figure 8.2b Electricity Net Generation by Sector**

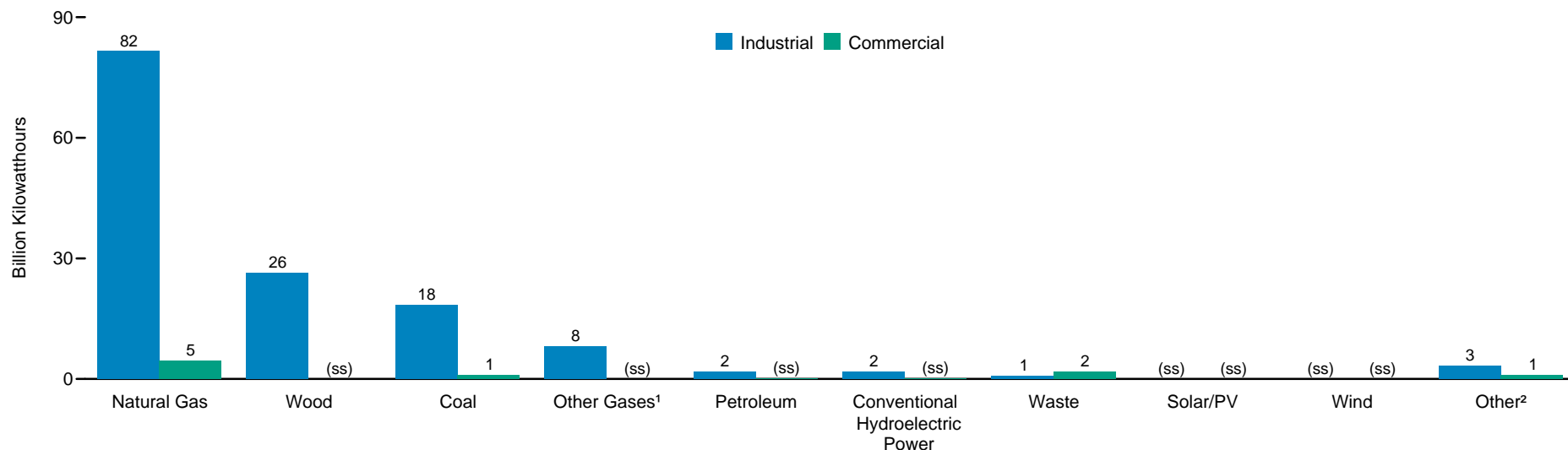
**By Sector, 2011**



**Electric Power Sector by Plant Type, 1989-2011**



**Industrial and Commercial Sectors, 2011**



<sup>1</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>2</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

(s) = Less than 0.05 trillion kilowatthours.

(ss) = Less than 0.5 billion kilowatthours.

Sources: Tables 8.2b-8.2d.

**Table 8.2a Electricity Net Generation: Total (All Sectors), Selected Years, 1949-2011**  
(Sum of Tables 8.2b and 8.2d; Billion Kilowatthours)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage <sup>5</sup>	Renewable Energy							Other <sup>10</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power <sup>6</sup>	Biomass		Geo-thermal	Solar/PV <sup>9</sup>	Wind	Total		
									Wood <sup>7</sup>	Waste <sup>8</sup>						
1949	135.5	28.5	37.0	NA	201.0	0.0	( <sup>6</sup> )	94.8	0.4	NA	NA	NA	NA	95.2	NA	296.1
1950	154.5	33.7	44.6	NA	232.8	.0	( <sup>6</sup> )	100.9	.4	NA	NA	NA	NA	101.3	NA	334.1
1955	301.4	37.1	95.3	NA	433.8	.0	( <sup>6</sup> )	116.2	.3	NA	NA	NA	NA	116.5	NA	550.3
1960	403.1	48.0	158.0	NA	609.0	.5	( <sup>6</sup> )	149.4	.1	NA	(s)	NA	NA	149.6	NA	759.2
1965	570.9	64.8	221.6	NA	857.3	3.7	( <sup>6</sup> )	197.0	.3	NA	.2	NA	NA	197.4	NA	1,058.4
1970	704.4	184.2	372.9	NA	1,261.5	21.8	( <sup>6</sup> )	251.0	.1	.2	.5	NA	NA	251.8	NA	1,535.1
1975	852.8	289.1	299.8	NA	1,441.7	172.5	( <sup>6</sup> )	303.2	(s)	.2	3.2	NA	NA	306.6	NA	1,920.8
1976	944.4	320.0	294.6	NA	1,559.0	191.1	( <sup>6</sup> )	286.9	.1	.2	3.6	NA	NA	290.8	NA	2,040.9
1977	985.2	358.2	305.5	NA	1,648.9	250.9	( <sup>6</sup> )	223.6	.3	.2	3.6	NA	NA	227.7	NA	2,127.4
1978	975.7	365.1	305.4	NA	1,646.2	276.4	( <sup>6</sup> )	283.5	.2	.1	3.0	NA	NA	286.8	NA	2,209.4
1979	1,075.0	303.5	329.5	NA	1,708.0	255.2	( <sup>6</sup> )	283.1	.3	.2	3.9	NA	NA	287.5	NA	2,250.7
1980	1,161.6	246.0	346.2	NA	1,753.8	251.1	( <sup>6</sup> )	279.2	.3	.2	5.1	NA	NA	284.7	NA	2,289.6
1981	1,203.2	206.4	345.8	NA	1,755.4	272.7	( <sup>6</sup> )	263.8	.2	.1	5.7	NA	NA	269.9	NA	2,298.0
1982	1,192.0	146.8	305.3	NA	1,644.1	282.8	( <sup>6</sup> )	312.4	.2	.1	4.8	NA	NA	317.5	NA	2,244.4
1983	1,259.4	144.5	274.1	NA	1,678.0	293.7	( <sup>6</sup> )	335.3	.2	.2	6.1	NA	(s)	341.7	NA	2,313.4
1984	1,341.7	119.8	297.4	NA	1,758.9	327.6	( <sup>6</sup> )	324.3	.5	.4	7.7	(s)	(s)	332.9	NA	2,419.5
1985	1,402.1	100.2	291.9	NA	1,794.3	383.7	( <sup>6</sup> )	284.3	.7	.6	9.3	(s)	(s)	295.0	NA	2,473.0
1986	1,385.8	136.6	248.5	NA	1,770.9	414.0	( <sup>6</sup> )	294.0	.5	.7	10.3	(s)	(s)	305.5	NA	2,490.5
1987	1,463.8	118.5	272.6	NA	1,854.9	455.3	( <sup>6</sup> )	252.9	.8	.7	10.8	(s)	(s)	265.1	NA	2,575.3
1988	1,540.7	148.9	252.8	NA	1,942.4	527.0	( <sup>6</sup> )	226.1	.9	.7	10.3	(s)	(s)	238.1	NA	2,707.4
1989 <sup>11</sup>	1,583.8	164.4	352.6	7.9	2,108.6	529.4	( <sup>6</sup> )	272.0	27.2	9.2	14.6	.3	2.1	325.3	3.8	2,967.1
1990	1,594.0	126.5	372.8	10.4	2,103.6	576.9	-3.5	292.9	32.5	13.2	15.4	.4	2.8	357.2	3.6	3,037.8
1991	1,590.6	119.8	381.6	11.3	2,103.3	612.6	-4.5	289.0	33.7	15.7	16.0	.5	3.0	357.8	4.7	3,073.8
1992	1,621.2	100.2	404.1	13.3	2,138.7	618.8	-4.2	253.1	36.5	17.8	16.1	.4	2.9	326.9	3.7	3,083.9
1993	1,690.1	112.8	414.9	13.0	2,230.7	610.3	-4.0	280.5	37.6	18.3	16.8	.5	3.0	356.7	3.5	3,197.2
1994	1,690.7	105.9	460.2	13.3	2,270.1	640.4	-3.4	260.1	37.9	19.1	15.5	.5	3.4	336.7	3.7	3,247.5
1995	1,709.4	74.6	496.1	13.9	2,293.9	673.4	-2.7	310.8	36.5	20.4	13.4	.5	3.2	384.8	4.1	3,353.5
1996	1,795.2	81.4	455.1	14.4	2,346.0	674.7	-3.1	347.2	36.8	20.9	14.3	.5	3.2	423.0	3.6	3,444.2
1997	1,845.0	92.6	479.4	13.4	2,430.3	628.6	-4.0	356.5	36.9	21.7	14.7	.5	3.3	433.6	3.6	3,492.2
1998	1,873.5	128.8	531.3	13.5	2,547.1	673.7	-4.5	323.3	36.3	22.4	14.8	.5	3.0	400.4	3.6	3,620.3
1999	1,881.1	118.1	556.4	14.1	2,569.7	728.3	-6.1	319.5	37.0	22.6	14.8	.5	4.5	399.0	4.0	3,694.8
2000	1,966.3	111.2	601.0	14.0	2,692.5	753.9	-5.5	275.6	37.6	23.1	14.1	.5	5.6	356.5	4.8	3,802.1
2001	1,904.0	124.9	639.1	9.0	2,677.0	768.8	-8.8	217.0	35.2	14.5	13.7	.5	6.7	287.7	11.9	3,736.6
2002	1,933.1	94.6	691.0	11.5	2,730.2	780.1	-8.7	264.3	38.7	15.0	14.5	.6	10.4	343.4	13.5	3,858.5
2003	1,973.7	119.4	649.9	15.6	2,758.6	763.7	-8.5	275.8	37.5	15.8	14.4	.5	11.2	355.3	14.0	3,883.2
2004	1,978.3	121.1	710.1	15.3	2,824.8	788.5	-8.5	268.4	38.1	15.4	14.8	.6	14.1	351.5	14.2	3,970.6
2005	2,012.9	122.2	761.0	13.5	2,909.5	782.0	-6.6	270.3	38.9	15.4	14.7	.6	17.8	357.7	12.8	4,055.4
2006	1,990.5	64.2	816.4	14.2	2,885.3	787.2	-6.6	289.2	38.8	16.1	14.6	.5	26.6	385.8	13.0	4,064.7
2007	2,016.5	65.7	896.6	13.5	2,992.2	806.4	-6.9	247.5	39.0	16.5	14.6	.6	34.4	352.7	12.2	4,156.7
2008	1,985.8	46.2	883.0	11.7	2,926.7	806.2	-6.3	254.8	37.3	17.7	14.8	.9	55.4	380.9	11.8	4,119.4
2009	1,755.9	38.9	921.0	10.6	2,726.5	798.9	-4.6	273.4	36.1	18.4	15.0	.9	73.9	417.7	11.9	3,950.3
2010	R1,847.3	R37.1	R987.7	R11.3	R2,883.4	807.0	R-5.5	R260.2	R37.2	R18.9	R15.2	R1.2	R94.7	R427.4	R12.9	R4,125.1
2011 <sup>P</sup>	1,734.3	28.2	1,016.6	11.3	2,790.3	790.2	-5.9	325.1	36.9	19.8	16.7	1.8	119.7	520.1	11.1	4,105.7

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.  
<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>5</sup> Pumped storage facility production minus energy used for pumping.  
<sup>6</sup> Through 1989, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."  
<sup>7</sup> Wood and wood-derived fuels.  
<sup>8</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>9</sup> Solar thermal and photovoltaic (PV) energy.  
<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived

fuels).  
<sup>11</sup> Through 1988, all data except hydroelectric are for electric utilities only; hydroelectric data through 1988 include industrial plants as well as electric utilities. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial plants.  
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.05 billion kilowatthours.  
Notes: • See Note 1, "Coverage of Electricity Statistics," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1949. • See <http://www.eia.gov/electricity/> for related information.  
Sources: • 1949-1988—Table 8.2b for electric power sector, and Table 8.1 for industrial sector. • 1989 forward—Tables 8.2b and 8.2d.



**Table 8.2b Electricity Net Generation: Electric Power Sector, Selected Years, 1949-2011**  
(Subset of Table 8.2a; Billion Kilowatthours)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage <sup>5</sup>	Renewable Energy							Other <sup>10</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power <sup>6</sup>	Biomass		Geo-thermal	Solar/PV <sup>9</sup>	Wind	Total		
									Wood <sup>7</sup>	Waste <sup>8</sup>						
1949	135.5	28.5	37.0	NA	201.0	0.0	( <sup>6</sup> )	89.7	0.4	NA	NA	NA	NA	90.1	NA	291.1
1950	154.5	33.7	44.6	NA	232.8	.0	( <sup>6</sup> )	95.9	.4	NA	NA	NA	NA	96.3	NA	329.1
1955	301.4	37.1	95.3	NA	433.8	.0	( <sup>6</sup> )	113.0	.3	NA	NA	NA	NA	113.3	NA	547.0
1960	403.1	48.0	158.0	NA	609.0	.5	( <sup>6</sup> )	145.8	.1	NA	(s)	NA	NA	146.0	NA	755.5
1965	570.9	64.8	221.6	NA	857.3	3.7	( <sup>6</sup> )	193.9	.3	NA	.2	NA	NA	194.3	NA	1,055.3
1970	704.4	184.2	372.9	NA	1,261.5	21.8	( <sup>6</sup> )	247.7	.1	.2	.5	NA	NA	248.6	NA	1,531.9
1975	852.8	289.1	299.8	NA	1,441.7	172.5	( <sup>6</sup> )	300.0	(s)	.2	3.2	NA	NA	303.5	NA	1,917.6
1976	944.4	320.0	294.6	NA	1,559.0	191.1	( <sup>6</sup> )	283.7	.1	.2	3.6	NA	NA	287.6	NA	2,037.7
1977	985.2	358.2	305.5	NA	1,648.9	250.9	( <sup>6</sup> )	220.5	.3	.2	3.6	NA	NA	224.5	NA	2,124.3
1978	975.7	365.1	305.4	NA	1,646.2	276.4	( <sup>6</sup> )	280.4	.2	.1	3.0	NA	NA	283.7	NA	2,206.3
1979	1,075.0	303.5	329.5	NA	1,708.0	255.2	( <sup>6</sup> )	279.8	.3	.2	3.9	NA	NA	284.2	NA	2,247.4
1980	1,161.6	246.0	346.2	NA	1,753.8	251.1	( <sup>6</sup> )	276.0	.3	.2	5.1	NA	NA	281.5	NA	2,286.4
1981	1,203.2	206.4	345.8	NA	1,755.4	272.7	( <sup>6</sup> )	260.7	.2	.1	5.7	NA	NA	266.7	NA	2,294.8
1982	1,192.0	146.8	305.3	NA	1,644.1	282.8	( <sup>6</sup> )	309.2	.2	.1	4.8	NA	NA	314.4	NA	2,241.2
1983	1,259.4	144.5	274.1	NA	1,678.0	293.7	( <sup>6</sup> )	332.1	.2	.2	6.1	NA	(s)	338.6	NA	2,310.3
1984	1,341.7	119.8	297.4	NA	1,758.9	327.6	( <sup>6</sup> )	321.2	.5	.4	7.7	(s)	(s)	329.8	NA	2,416.3
1985	1,402.1	100.2	291.9	NA	1,794.3	383.7	( <sup>6</sup> )	281.1	.7	.6	9.3	(s)	(s)	291.9	NA	2,469.8
1986	1,385.8	136.6	248.5	NA	1,770.9	414.0	( <sup>6</sup> )	290.8	.5	.7	10.3	(s)	(s)	302.3	NA	2,487.3
1987	1,463.8	118.5	272.6	NA	1,854.9	455.3	( <sup>6</sup> )	249.7	.8	.7	10.8	(s)	(s)	262.0	NA	2,572.1
1988	1,540.7	148.9	252.8	NA	1,942.4	527.0	( <sup>6</sup> )	222.9	.9	.7	10.3	(s)	(s)	234.9	NA	2,704.3
1989 <sup>11</sup>	1,562.4	159.0	297.3	.5	2,019.1	529.4	( <sup>6</sup> )	269.2	5.6	7.7	14.6	.3	2.1	299.5	.3	2,848.2
1990	1,572.1	118.9	309.5	.6	2,001.1	576.9	-3.5	289.8	7.0	11.5	15.4	.4	2.8	326.9	(s)	2,901.3
1991	1,568.8	112.8	317.8	.7	2,000.1	612.6	-4.5	286.0	7.7	13.9	16.0	.5	3.0	327.0	.4	2,935.6
1992	1,597.7	92.2	334.3	1.2	2,025.4	618.8	-4.2	250.0	8.5	15.9	16.1	.4	2.9	293.9	.5	2,934.4
1993	1,665.5	105.4	342.2	1.0	2,114.1	610.3	-4.0	277.5	9.2	16.2	16.8	.5	3.0	323.2	.4	3,043.9
1994	1,666.3	98.7	385.7	1.1	2,151.7	640.4	-3.4	254.0	9.2	17.0	15.5	.5	3.4	299.7	.2	3,088.7
1995	1,686.1	68.1	419.2	1.9	2,175.3	673.4	-2.7	305.4	7.6	18.0	13.4	.5	3.2	348.0	.2	3,194.2
1996	1,772.0	74.8	378.8	1.3	2,226.9	674.7	-3.1	341.2	8.4	17.8	14.3	.5	3.2	385.4	.2	3,284.1
1997	1,820.8	86.5	399.6	1.5	2,308.4	628.6	-4.0	350.6	8.7	18.5	14.7	.5	3.3	396.3	.1	3,329.4
1998	1,850.2	122.2	449.3	2.3	2,424.0	673.7	-4.5	317.9	8.6	19.2	14.8	.5	3.0	364.0	.2	3,457.4
1999	1,858.6	111.5	473.0	1.6	2,444.8	728.3	-6.1	314.7	9.0	19.5	14.8	.5	4.5	362.9	.1	3,530.0
2000	1,943.1	105.2	518.0	2.0	2,568.3	753.9	-5.5	271.3	8.9	20.3	14.1	.5	5.6	320.7	.1	3,637.5
2001	1,882.8	119.1	554.9	.6	2,557.5	768.8	-8.8	213.7	8.3	12.9	13.7	.5	6.7	256.0	6.5	3,580.1
2002	1,910.6	89.7	607.7	2.0	2,610.0	780.1	-8.7	260.5	9.0	13.1	14.5	.6	10.4	308.0	9.1	3,698.5
2003	1,952.7	113.7	567.3	2.6	2,636.4	763.7	-8.5	271.5	9.5	13.8	14.4	.5	11.2	321.0	8.6	3,721.2
2004	1,957.2	114.7	627.2	3.6	2,702.6	788.5	-8.5	265.1	9.7	13.1	14.8	.6	14.1	317.4	8.3	3,808.4
2005	1,992.1	116.5	683.8	3.8	2,796.1	782.0	-6.6	267.0	10.6	13.0	14.7	.6	17.8	323.7	6.9	3,902.2
2006	1,969.7	59.7	734.4	4.3	2,768.1	787.2	-6.6	286.3	10.3	13.9	14.6	.5	26.6	352.2	7.1	3,908.1
2007	1,998.4	61.3	814.8	4.0	2,878.5	806.4	-6.9	245.8	10.7	14.3	14.6	.6	34.4	320.5	6.8	4,005.3
2008	1,968.8	42.9	802.4	3.2	2,817.3	806.2	-6.3	253.1	10.6	15.4	14.8	.9	55.4	350.2	7.0	3,974.3
2009	1,741.1	35.8	841.0	3.1	2,621.0	798.9	-4.6	271.5	10.7	16.0	15.0	.9	73.9	388.0	6.6	3,809.8
2010	<sup>R</sup> 1,827.7	<sup>R</sup> 34.7	<sup>R</sup> 901.4	<sup>R</sup> 3.0	<sup>R</sup> 2,766.8	807.0	<sup>R</sup> -5.5	<sup>R</sup> 258.5	<sup>R</sup> 11.4	<sup>R</sup> 16.4	<sup>R</sup> 15.2	<sup>R</sup> 1.2	94.6	<sup>R</sup> 397.3	<sup>R</sup> 6.8	<sup>R</sup> 3,972.4
2011 <sup>P</sup>	1,714.9	26.2	930.6	3.1	2,674.8	790.2	-5.9	323.1	10.5	17.2	16.7	1.8	119.7	489.0	6.9	3,955.1

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.  
<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>5</sup> Pumped storage facility production minus energy used for pumping.  
<sup>6</sup> Through 1989, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."  
<sup>7</sup> Wood and wood-derived fuels.  
<sup>8</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>9</sup> Solar thermal and photovoltaic (PV) energy.  
<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>11</sup> 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 0.05 billion kilowatthours.

Notes: • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Table 8.2d for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1949. • See <http://www.eia.gov/electricity/> for related information.  
Sources: • 1949-September 1977—Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1981—Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982-1988—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." • 1989-1997—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."

**Table 8.2c Electricity Net Generation: Electric Power Sector by Plant Type, Selected Years, 1989-2011**  
(Breakout of Table 8.2b; Billion Kilowatthours)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage <sup>5</sup>	Renewable Energy							Other <sup>10</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power <sup>6</sup>	Biomass		Geo-thermal	Solar/PV <sup>9</sup>	Wind	Total		
									Wood <sup>7</sup>	Waste <sup>8</sup>						
<b>Electricity-Only Plants<sup>11</sup></b>																
1989	1,554.0	158.3	266.9	—	1,979.3	529.4	( <sup>6</sup> )	269.2	4.2	6.9	14.6	0.3	2.1	297.3	—	2,805.9
1990	1,560.2	117.6	264.7	(s)	1,942.4	576.9	-3.5	289.8	5.6	10.4	15.4	.4	2.8	324.3	—	2,840.0
1995	1,658.0	62.0	317.4	(s)	2,037.4	673.4	-2.7	305.4	5.9	16.3	13.4	.5	3.2	344.7	—	3,052.8
1996	1,742.8	68.5	272.8	(s)	2,084.1	674.7	-3.1	341.2	6.5	16.1	14.3	.5	3.2	381.8	—	3,137.6
1997	1,793.2	80.3	291.1	(s)	2,164.6	628.6	-4.0	350.6	6.5	16.4	14.7	.5	3.3	392.0	—	3,181.3
1998	1,823.0	115.7	335.9	.1	2,274.6	673.7	-4.5	317.9	6.6	17.0	14.8	.5	3.0	359.8	—	3,303.6
1999	1,832.1	104.8	356.6	(s)	2,293.6	728.3	-6.1	314.7	7.3	17.1	14.8	.5	4.5	358.8	—	3,374.6
2000	1,910.6	98.0	399.4	.2	2,408.2	753.9	-5.5	271.3	7.3	17.6	14.1	.5	5.6	316.4	—	3,472.9
2001	1,851.8	113.2	427.0	(s)	2,392.0	768.8	-8.8	213.7	6.6	11.3	13.7	.5	6.7	252.6	5.9	3,410.5
2002	1,881.2	83.3	456.8	.2	2,421.5	780.1	-8.7	260.5	7.3	11.2	14.5	.6	10.4	304.3	7.6	3,504.8
2003	1,915.8	108.5	421.2	.3	2,445.7	763.7	-8.5	271.5	7.4	11.9	14.4	.5	11.2	317.0	7.6	3,525.5
2004	1,921.1	109.4	491.2	.4	2,522.0	788.5	-8.5	265.1	8.1	11.8	14.8	.6	14.1	314.5	7.6	3,624.1
2005	1,955.5	111.2	553.2	(s)	2,619.9	782.0	-6.6	267.0	8.5	11.7	14.7	.6	17.8	320.3	6.2	3,721.8
2006	1,933.7	55.2	618.0	(s)	2,607.0	787.2	-6.6	286.2	8.3	12.5	14.6	.5	26.6	348.7	6.3	3,742.7
2007	1,962.0	56.9	686.3	.1	2,705.3	806.4	-6.9	245.8	8.7	12.9	14.6	.6	34.4	317.1	6.0	3,828.0
2008	1,932.0	39.3	683.3	(s)	2,654.6	806.2	-6.3	253.1	8.6	14.0	14.8	.9	55.4	346.8	6.2	3,807.4
2009	1,711.9	31.9	722.7	.1	2,466.6	798.9	-4.6	271.5	8.5	14.3	15.0	.9	73.9	384.0	5.8	3,650.7
2010	R <sup>1</sup> 1,797.5	R <sup>2</sup> 32.4	R <sup>3</sup> 779.4	.1	R <sup>4</sup> 2,609.3	807.0	R <sup>5</sup> -5.5	R <sup>6</sup> 258.5	R <sup>7</sup> 8.5	R <sup>8</sup> 14.7	R <sup>9</sup> 15.2	R <sup>10</sup> 1.2	R <sup>11</sup> 94.6	R <sup>12</sup> 393.6	6.0	R <sup>13</sup> 3,810.3
2011 <sup>P</sup>	1,687.9	24.1	809.2	(s)	2,521.2	790.2	-5.9	323.1	8.5	15.5	16.7	1.8	119.7	485.3	6.1	3,796.9
<b>Combined-Heat-and-Power Plants<sup>12</sup></b>																
1989	8.4	0.7	30.4	0.5	39.9	—	—	—	1.3	0.9	—	—	—	2.2	0.3	42.3
1990	11.9	1.3	44.8	.6	58.7	—	—	—	1.4	1.1	—	—	—	2.6	(s)	61.3
1995	28.1	6.1	101.7	1.9	137.9	—	—	—	1.7	1.7	—	—	—	3.4	.2	141.5
1996	29.2	6.3	105.9	1.3	142.7	—	—	—	1.9	1.7	—	—	—	3.6	.2	146.6
1997	27.6	6.2	108.5	1.5	143.7	—	—	—	2.2	2.1	—	—	—	4.3	.1	148.1
1998	27.2	6.6	113.4	2.3	149.4	—	—	—	2.0	2.3	—	—	—	4.2	.2	153.8
1999	26.6	6.7	116.4	1.6	151.2	—	—	—	1.7	2.4	—	—	—	4.1	.1	155.4
2000	32.5	7.2	118.6	1.8	160.2	—	—	—	1.6	2.7	—	—	—	4.3	.1	164.6
2001	31.0	6.0	128.0	.6	165.5	—	—	—	1.7	1.7	—	—	—	3.4	.6	169.5
2002	29.4	6.5	150.9	1.7	188.5	—	—	—	1.7	2.0	—	—	—	3.7	1.4	193.7
2003	36.9	5.2	146.1	2.4	190.6	—	—	—	2.1	1.9	—	—	—	4.0	1.1	195.7
2004	36.1	5.3	136.0	3.2	180.6	—	—	—	1.6	1.3	—	—	—	2.9	.7	184.3
2005	36.5	5.3	130.7	3.8	176.2	—	—	(s)	2.1	1.3	—	—	—	3.4	.7	180.4
2006	36.0	4.5	116.4	4.2	161.1	—	—	(s)	2.0	1.4	—	—	—	3.5	.8	165.4
2007	36.4	4.4	128.4	3.9	173.2	—	—	(s)	2.0	1.4	—	—	—	3.5	.7	177.4
2008	36.9	3.6	119.0	3.2	162.7	—	—	(s)	2.0	1.4	—	—	—	3.4	.8	166.9
2009	29.2	3.9	118.3	3.0	154.4	—	—	(s)	2.3	1.7	—	—	—	3.9	.8	159.1
2010	R <sup>1</sup> 30.3	R <sup>2</sup> 3.3	R <sup>3</sup> 122.0	R <sup>4</sup> 2.9	R <sup>5</sup> 157.5	—	—	R <sup>6</sup> —	R <sup>7</sup> 2.1	R <sup>8</sup> 1.6	—	—	—	R <sup>9</sup> 3.8	R <sup>10</sup> .8	R <sup>11</sup> 162.0
2011 <sup>P</sup>	26.9	2.1	121.4	3.1	153.6	—	—	—	2.0	1.7	—	—	—	3.7	.9	158.1

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Pumped storage facility production minus energy used for pumping.

<sup>6</sup> Through 1989, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."

<sup>7</sup> Wood and wood-derived fuels.

<sup>8</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>9</sup> Solar thermal and photovoltaic (PV) energy.

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>11</sup> Electricity-only plants within the NAICS 22 category whose primary business is to sell electricity to the public. Data also include a small number of electric utility combined-heat-and-power (CHP) plants.

<sup>12</sup> Combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity and heat to the public. Data do not include electric utility CHP plants—these are included under "Electricity-Only Plants."

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.05 billion kilowatthours.

Notes: • See Table 8.2d for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989.

• For related information, see <http://www.eia.gov/electricity/>.

Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."

**Table 8.2d Electricity Net Generation: Commercial and Industrial Sectors, Selected Years, 1989-2011**

(Subset of Table 8.2a; Billion Kilowatthours)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage <sup>5</sup>	Renewable Energy						Other <sup>9</sup>	Total	
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power	Biomass		Geo-thermal	Solar/PV <sup>8</sup>	Wind			Total
									Wood <sup>6</sup>	Waste <sup>7</sup>						
<b>Commercial Sector<sup>10</sup></b>																
1989	0.7	0.6	2.2	0.1	3.6	—	—	0.1	0.1	0.5	—	—	—	0.7	—	4.3
1990	.8	.6	3.3	.1	4.8	—	—	.1	.1	.8	—	—	—	1.1	—	5.8
1995	1.0	.4	5.2	—	6.5	—	—	.1	.1	1.5	—	—	—	1.7	(s)	8.2
1996	1.1	.4	5.2	(s)	6.7	—	—	.1	.1	2.2	—	—	—	2.4	(s)	9.0
1997	1.0	.4	4.7	(s)	6.2	—	—	.1	(s)	2.3	—	—	—	2.5	(s)	8.7
1998	1.0	.4	4.9	(s)	6.3	—	—	.1	(s)	2.3	—	—	—	2.5	—	8.7
1999	1.0	.4	4.6	(s)	6.0	—	—	.1	(s)	2.4	—	—	—	2.5	(s)	8.6
2000	1.1	.4	4.3	(s)	5.8	—	—	.1	(s)	2.0	—	—	—	2.1	(s)	7.9
2001	1.0	.4	4.4	(s)	5.9	—	—	.1	(s)	1.0	—	—	—	1.1	.5	7.4
2002	1.0	.4	4.3	(s)	5.7	—	—	(s)	(s)	1.1	—	—	—	1.1	.6	7.4
2003	1.2	.4	3.9	—	5.5	—	—	.1	(s)	1.3	—	—	—	1.4	.6	7.5
2004	1.3	.5	4.0	—	5.8	—	—	.1	(s)	1.6	—	—	—	1.7	.8	8.3
2005	1.4	.4	4.2	—	6.0	—	—	.1	(s)	1.7	—	—	—	1.8	.8	8.5
2006	1.3	.2	4.4	(s)	5.9	—	—	.1	(s)	1.6	—	—	—	1.7	.8	8.4
2007	1.4	.2	4.3	—	5.8	—	—	.1	(s)	1.6	—	—	—	1.7	.8	8.3
2008	1.3	.1	4.2	—	5.6	—	—	.1	(s)	1.5	—	(s)	—	1.6	.7	7.9
2009	1.1	.2	4.2	—	5.5	—	—	.1	(s)	1.7	—	(s)	(s)	1.8	.8	8.2
2010	1.1	.1	R4.7	R(s)	R6.0	—	—	.1	(s)	1.7	—	(s)	(s)	1.8	.8	R8.6
2011 <sup>P</sup>	1.0	.1	4.5	(s)	5.6	—	—	.1	(s)	1.7	—	(s)	(s)	1.9	.9	8.4
<b>Industrial Sector<sup>11</sup></b>																
1989	20.7	4.8	53.2	7.3	85.9	—	—	2.7	21.6	0.9	—	—	—	25.2	3.5	114.7
1990	21.1	7.0	60.0	9.6	97.8	—	—	3.0	25.4	.9	—	—	—	29.3	3.6	130.7
1995	22.4	6.0	71.7	11.9	112.1	—	—	5.3	28.9	.9	—	—	—	35.1	3.9	151.0
1996	22.2	6.3	71.0	13.0	112.5	—	—	5.9	28.4	.9	—	—	—	35.2	3.4	151.0
1997	23.2	5.6	75.1	11.8	115.8	—	—	5.7	28.2	.9	—	—	—	34.8	3.5	154.1
1998	22.3	6.2	77.1	11.2	116.8	—	—	5.3	27.7	.9	—	—	—	33.9	3.4	154.1
1999	21.5	6.1	78.8	12.5	118.9	—	—	4.8	28.1	.7	—	—	—	33.5	3.9	156.3
2000	22.1	5.6	78.8	11.9	118.4	—	—	4.1	28.7	.8	—	—	—	33.6	4.7	156.7
2001	20.1	5.3	79.8	8.5	113.6	—	—	3.1	26.9	.6	—	—	—	30.6	4.9	149.2
2002	21.5	4.4	79.0	9.5	114.4	—	—	3.8	29.6	.8	—	—	—	34.3	3.8	152.6
2003	19.8	5.3	78.7	13.0	116.8	—	—	4.2	28.0	.7	—	—	—	32.9	4.8	154.5
2004	19.8	6.0	79.0	11.7	116.4	—	—	3.2	28.4	.8	—	—	—	32.4	5.1	153.9
2005	19.5	5.4	72.9	9.7	107.4	—	—	3.2	28.3	.7	—	—	—	32.2	5.1	144.7
2006	19.5	4.2	77.7	9.9	111.3	—	—	2.9	28.4	.6	—	—	—	31.9	5.1	148.3
2007	16.7	4.2	77.6	9.4	107.9	—	—	1.6	28.3	.6	—	—	—	30.5	4.7	143.1
2008	15.7	3.2	76.4	8.5	103.9	—	—	1.7	26.6	.8	—	—	—	29.1	4.1	137.1
2009	13.7	3.0	75.7	7.6	100.0	—	—	1.9	25.3	.7	—	—	—	27.9	4.5	132.3
2010	18.4	R2.3	R81.6	R8.3	R110.6	—	—	R1.7	R25.7	R.9	—	(s)	—	R28.2	R5.2	R144.1
2011 <sup>P</sup>	18.4	1.8	81.5	8.1	109.9	—	—	1.8	26.4	.9	—	(s)	(s)	29.1	3.3	142.3

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Pumped storage facility production minus energy used for pumping.

<sup>6</sup> Wood and wood-derived fuels.

<sup>7</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>8</sup> Solar thermal and photovoltaic (PV) energy.

<sup>9</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>11</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.05 billion kilowatthours.

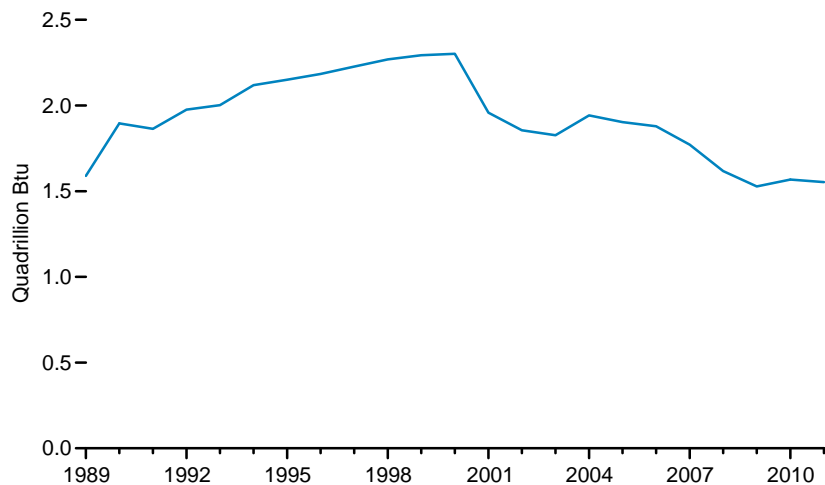
Notes: • See Tables 8.2b and 8.2c for electric power sector electricity-only and CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1989. • See <http://www.eia.gov/electricity/> for related information.

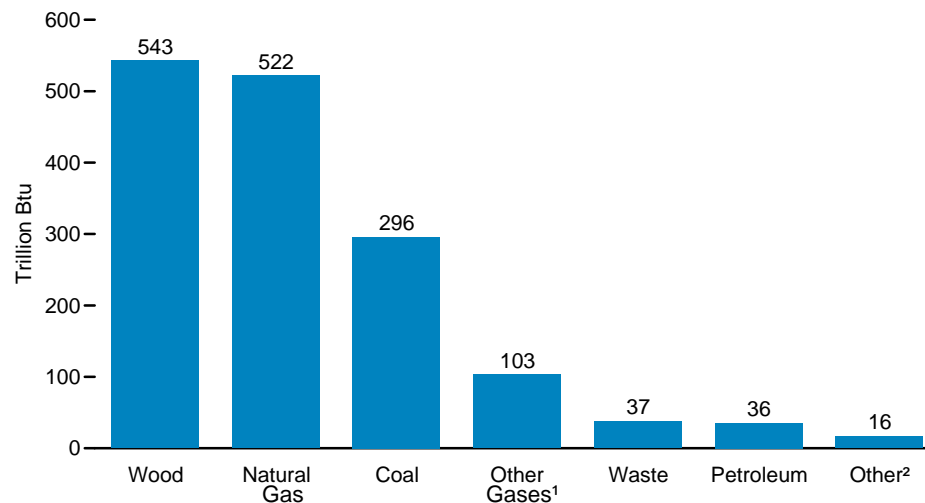
Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report,"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

**Figure 8.3 Useful Thermal Output at Combined-Heat-and-Power Plants**

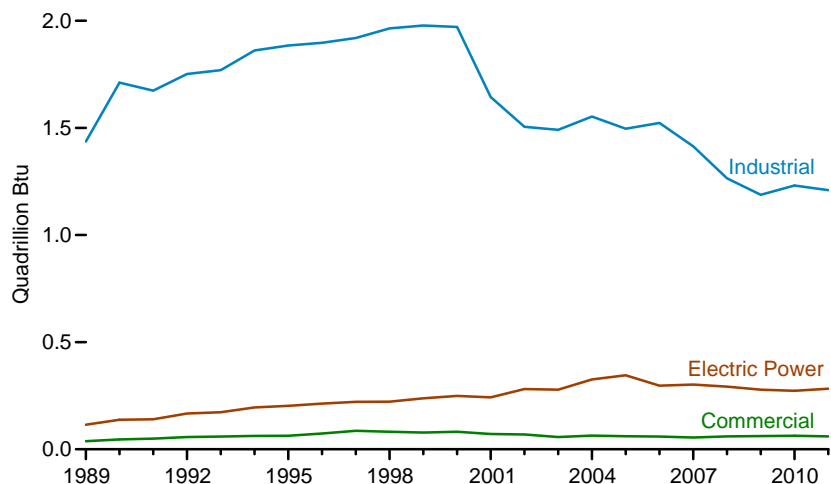
**Total (All Sectors), 1989-2011**



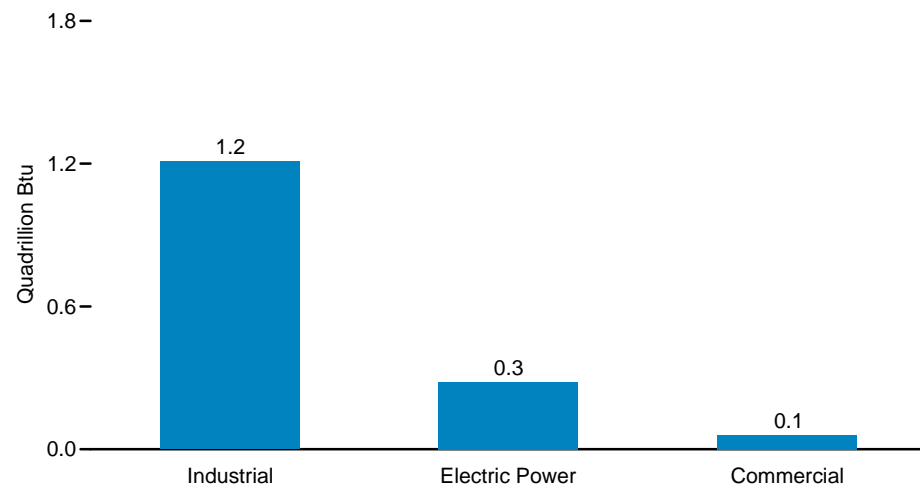
**Total (All Sectors) by Source, 2011**



**By Sector, 1989-2011**



**By Sector, 2011**



<sup>1</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>2</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

Sources: Tables 8.3a–8.3c.

**Table 8.3a Useful Thermal Output at Combined-Heat-and-Power Plants: Total (All Sectors), 1989-2011**

(Sum of Tables 8.3b and 8.3c; Trillion Btu)

Year	Fossil Fuels					Renewable Energy			Other <sup>7</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total	Biomass		Total		
						Wood <sup>5</sup>	Waste <sup>6</sup>			
1989	323	96	462	93	973	546	30	577	39	1,589
1990	363	127	538	141	1,168	651	36	687	40	1,896
1991	352	112	547	148	1,159	623	37	660	44	1,863
1992	367	117	592	160	1,236	658	40	698	42	1,976
1993	373	129	604	142	1,248	668	45	713	41	2,002
1994	388	133	646	144	1,309	722	45	767	42	2,119
1995	386	121	686	145	1,338	721	47	768	44	2,151
1996	392	133	711	150	1,385	701	55	756	43	2,184
1997	389	137	713	150	1,389	731	55	785	53	2,227
1998	382	136	782	167	1,466	700	57	757	46	2,269
1999	386	125	811	179	1,501	690	55	744	48	2,294
2000	384	108	812	184	1,488	707	56	764	50	2,302
2001	354	90	741	133	1,318	557	28	585	55	1,958
2002	337	73	709	118	1,236	546	26	572	48	1,856
2003	333	85	610	110	1,139	597	35	632	55	1,826
2004	352	97	654	126	1,230	637	30	667	45	1,943
2005	342	92	624	138	1,197	628	36	665	41	1,903
2006	333	78	603	126	1,140	653	37	690	49	1,879
2007	327	76	554	116	1,074	616	35	651	47	1,772
2008	315	48	509	111	983	572	38	610	24	1,617
2009	282	53	513	100	947	509	38	547	33	1,527
2010	<sup>R</sup> 300	<sup>R</sup> 41	<sup>R</sup> 524	<sup>R</sup> 91	<sup>R</sup> 958	<sup>R</sup> 542	<sup>R</sup> 40	<sup>R</sup> 581	<sup>R</sup> 29	<sup>R</sup> 1,568
2011 <sup>P</sup>	296	36	522	103	956	543	37	580	16	1,553

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Wood and wood-derived fuels.

<sup>6</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>7</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and,

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

R=Revised. P=Preliminary.

Notes: • Data do not include electric utility combined-heat-and-power (CHP) plants. • See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

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

Sources: Tables 8.3b and 8.3c.

**Table 8.3b Useful Thermal Output at Combined-Heat-and-Power Plants: Electric Power Sector, 1989-2011**  
(Subset of Table 8.3a; Trillion Btu)

Year	Fossil Fuels					Renewable Energy			Other <sup>7</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total	Biomass		Total		
						Wood <sup>5</sup>	Waste <sup>6</sup>			
1989	13	8	67	2	90	19	5	24	1	114
1990	21	9	80	4	114	18	6	25	(s)	138
1991	21	6	82	4	113	17	9	26	1	140
1992	28	6	102	5	140	17	8	25	2	167
1993	30	8	107	3	147	16	8	24	1	173
1994	37	9	119	5	170	15	10	24	1	195
1995	40	13	118	4	176	15	12	27	(s)	203
1996	43	12	121	4	180	16	16	33	(s)	213
1997	39	12	132	8	191	16	14	30	(s)	221
1998	43	6	142	5	196	10	16	26	(s)	222
1999	52	7	146	4	208	10	20	30	(s)	238
2000	53	7	158	5	223	6	19	26	(s)	249
2001	52	6	164	5	226	8	4	13	3	243
2002	40	4	214	6	264	8	5	13	5	281
2003	38	7	200	9	255	9	11	20	3	278
2004	39	8	239	18	305	9	9	17	4	326
2005	40	8	239	37	323	10	8	18	4	346
2006	38	7	207	23	275	10	7	17	4	297
2007	38	7	213	20	279	11	8	19	4	302
2008	37	7	204	22	270	9	8	17	5	292
2009	38	7	191	20	256	9	8	18	5	278
2010	<sup>R</sup> 38	6	<sup>R</sup> 187	<sup>R</sup> 20	<sup>R</sup> 251	<sup>R</sup> 10	8	<sup>R</sup> 18	5	<sup>R</sup> 273
2011 <sup>P</sup>	37	6	197	22	262	9	7	16	6	283

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Wood and wood-derived fuels.

<sup>6</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>7</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

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

Notes: • Data are for combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity and heat to the public. Data do not include electric utility CHP plants.

• See Table 8.3c for commercial and industrial CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

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

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

**Table 8.3c Useful Thermal Output at Combined-Heat-and-Power Plants: Commercial and Industrial Sectors, Selected Years, 1989-2011** (Subset of Table 8.3a; Trillion Btu)

Year	Fossil Fuels					Renewable Energy			Other <sup>7</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total	Biomass		Total		
						Wood <sup>5</sup>	Waste <sup>6</sup>			
<b>Commercial Sector <sup>8</sup></b>										
1989	14	4	10	(s)	27	(s)	10	10	—	38
1990	15	5	16	(s)	36	(s)	10	11	—	46
1995	17	3	29	—	48	(s)	15	15	(s)	63
1996	20	3	33	R —	55	1	17	18	—	73
1997	22	4	40	(s)	66	1	19	20	—	86
1998	20	5	39	(s)	64	1	18	18	—	82
1999	20	3	37	R —	61	1	17	17	—	78
2000	21	4	39	R —	64	1	17	18	—	82
2001	18	4	35	—	58	1	8	8	6	72
2002	18	3	36	—	57	1	6	7	5	69
2003	23	3	17	—	42	1	8	8	6	57
2004	22	4	22	—	49	(s)	8	9	6	64
2005	23	4	20	—	47	(s)	8	9	6	61
2006	22	2	19	(s)	44	(s)	9	9	6	59
2007	23	2	20	—	44	1	6	7	4	55
2008	23	2	20	—	45	(s)	9	9	6	60
2009	20	1	26	—	47	(s)	8	8	6	61
2010	R19	1	R30	R(s)	R50	(s)	R8	8	5	R63
2011 <sup>P</sup>	17	1	28	(s)	46	(s)	8	8	6	60
<b>Industrial Sector <sup>9</sup></b>										
1989	297	84	385	90	856	527	15	542	38	1,437
1990	327	113	443	137	1,019	632	20	652	40	1,711
1995	329	105	540	140	1,114	706	20	726	44	1,884
1996	329	118	557	146	1,150	684	21	705	43	1,897
1997	328	121	541	142	1,132	713	22	735	53	1,920
1998	318	124	601	162	1,206	689	24	713	46	1,965
1999	313	115	629	175	1,233	679	18	697	48	1,978
2000	309	98	615	179	1,201	700	20	720	50	1,971
2001	284	80	542	128	1,034	548	16	564	46	1,644
2002	278	66	458	112	914	537	15	552	39	1,505
2003	272	75	393	101	842	588	16	604	46	1,491
2004	290	85	393	108	876	628	13	641	35	1,553
2005	280	81	364	102	827	618	20	638	32	1,496
2006	272	69	377	103	821	642	21	663	39	1,523
2007	266	67	322	96	751	605	21	625	38	1,414
2008	255	39	285	89	668	563	21	584	13	1,265
2009	223	45	296	80	644	500	21	521	22	1,188
2010	R243	R34	R308	R72	R657	R531	R24	R556	R18	R1,231
2011 <sup>P</sup>	241	29	297	81	648	533	23	557	5	1,209

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal syngas.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Wood and wood-derived fuels.

<sup>6</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>7</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>8</sup> Commercial combined-heat-and-power (CHP) plants.

<sup>9</sup> Industrial combined-heat-and-power (CHP) plants.

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • See Table 8.3b for electric power sector CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

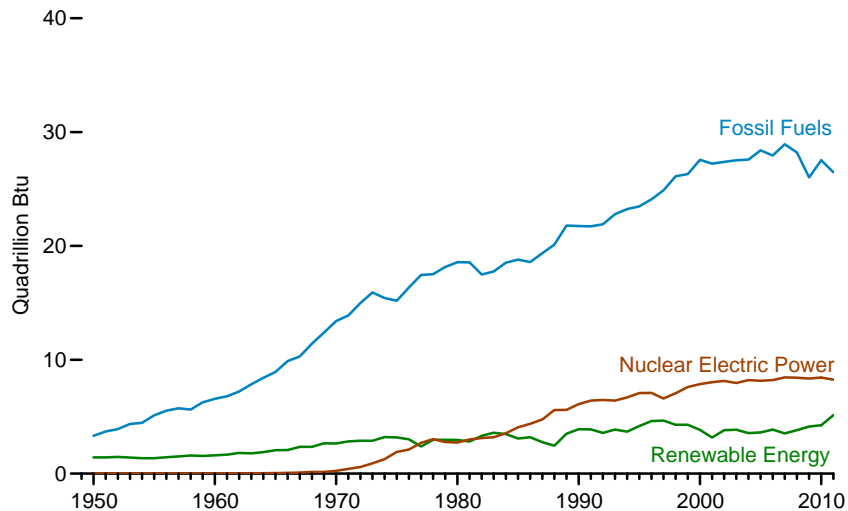
Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989.

• For related information, see <http://www.eia.gov/electricity/>.

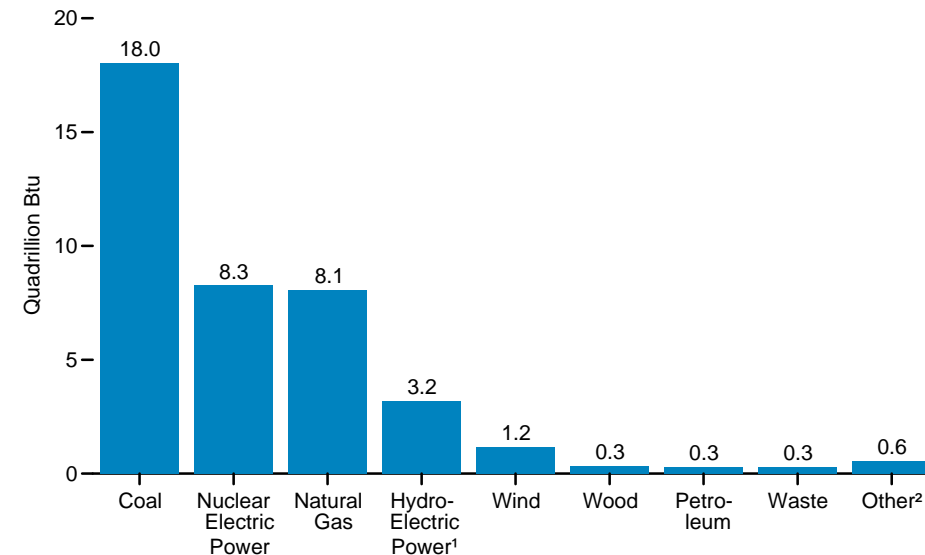
Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-920, "Combined Heat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

**Figure 8.4 Consumption for Electricity Generation**

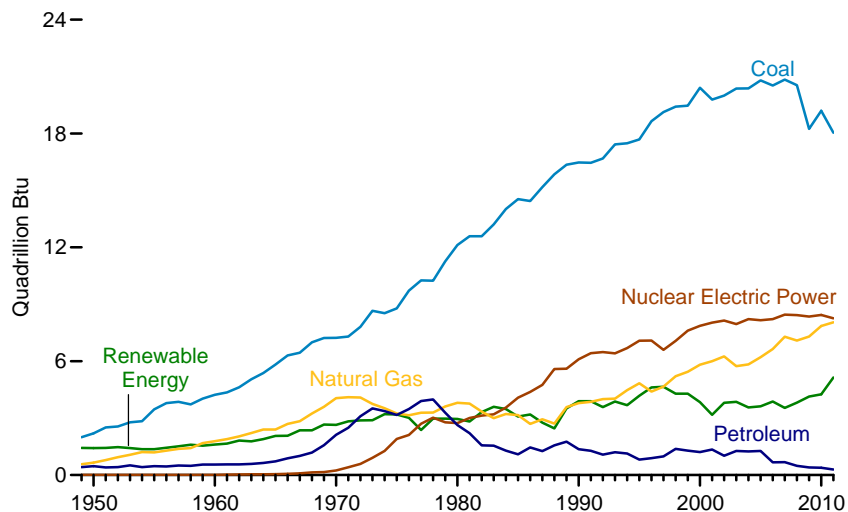
**By Major Category, 1949-2011**



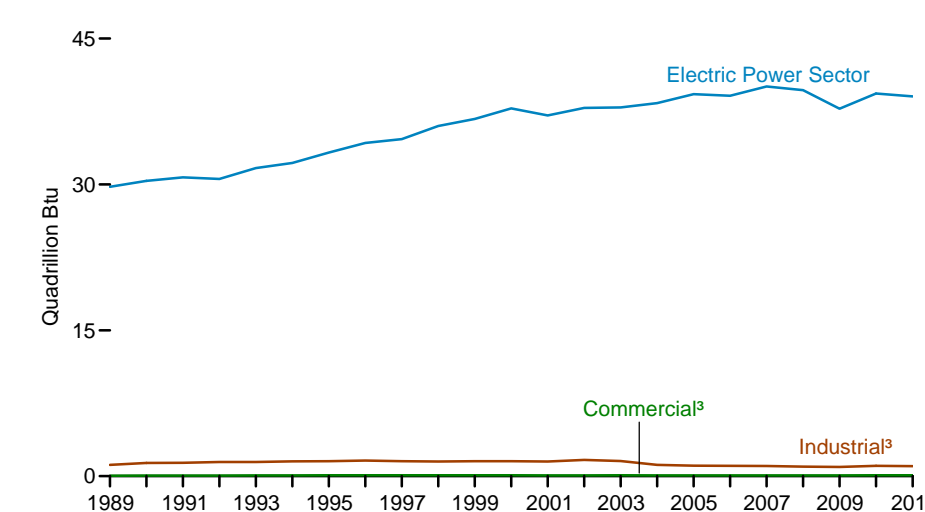
**By Major Fuel, 2011**



**By Major Source, 1949-2011**



**By Sector, 1989-2011**



<sup>1</sup> Conventional hydroelectric power.

<sup>2</sup> Geothermal, other gases, electricity net imports, solar thermal and photovoltaic energy, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies,

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

<sup>3</sup> Combined-heat-and-power plants and a small number of electricity-only plants.

Sources: Tables 8.4a-8.4c.



**Table 8.4a Consumption for Electricity Generation by Energy Source: Total (All Sectors), Selected Years, 1949-2011**  
(Sum of Tables 8.4b and 8.4c; Trillion Btu)

Year	Fossil Fuels					Nuclear Electric Power <sup>5</sup>	Renewable Energy							Other <sup>9</sup>	Electricity Net Imports <sup>10</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total		Conventional Hydroelectric Power <sup>5</sup>	Biomass		Geo-thermal <sup>5</sup>	Solar/PV <sup>5,8</sup>	Wind <sup>5</sup>	Total			
								Wood <sup>6</sup>	Waste <sup>7</sup>							
1949	1,995	415	569	NA	2,979	0	1,425	6	NA	NA	NA	NA	1,431	NA	5	4,415
1950	2,199	472	651	NA	3,322	0	1,415	5	NA	NA	NA	NA	1,421	NA	6	4,749
1955	3,458	471	1,194	NA	5,123	0	1,360	3	NA	NA	NA	NA	1,363	NA	14	6,500
1960	4,228	553	1,785	NA	6,565	6	1,608	2	NA	(s)	NA	NA	1,610	NA	15	8,197
1965	5,821	722	2,395	NA	8,938	43	2,059	3	NA	2	NA	NA	2,064	NA	(s)	11,045
1970	7,227	2,117	4,054	NA	13,399	239	2,634	1	2	6	NA	NA	2,643	NA	7	16,287
1975	8,786	3,166	3,240	NA	15,191	1,900	3,155	(s)	2	34	NA	NA	3,190	NA	21	20,303
1976	9,720	3,477	3,152	NA	16,349	2,111	2,976	1	2	38	NA	NA	3,017	NA	29	21,506
1977	10,262	3,901	3,284	NA	17,446	2,702	2,333	3	2	37	NA	NA	2,376	NA	59	22,583
1978	10,238	3,987	3,297	NA	17,522	3,024	2,937	2	1	31	NA	NA	2,971	NA	67	23,585
1979	11,260	3,283	3,613	NA	18,156	2,776	2,931	3	2	40	NA	NA	2,976	NA	69	23,977
1980	12,123	2,634	3,810	NA	18,567	2,739	2,900	3	2	53	NA	NA	2,957	NA	71	24,335
1981	12,583	2,202	3,768	NA	18,553	3,008	2,758	3	1	59	NA	NA	2,821	NA	113	24,495
1982	12,582	1,568	3,342	NA	17,491	3,131	3,266	2	1	51	NA	NA	3,320	NA	100	24,042
1983	13,213	1,544	2,998	NA	17,754	3,203	3,527	2	2	64	NA	(s)	3,595	NA	121	24,673
1984	14,019	1,286	3,220	NA	18,526	3,553	3,386	5	4	81	(s)	(s)	3,476	NA	135	25,690
1985	14,542	1,090	3,160	NA	18,792	4,076	2,970	8	7	97	(s)	(s)	3,082	NA	140	26,090
1986	14,444	1,452	2,691	NA	18,586	4,380	3,071	5	7	108	(s)	(s)	3,191	NA	122	26,280
1987	15,173	1,257	2,935	NA	19,365	4,754	2,635	8	7	112	(s)	(s)	2,762	NA	158	27,040
1988	15,850	1,563	2,709	NA	20,123	5,587	2,334	10	8	106	(s)	(s)	2,458	NA	108	28,276
1989	<sup>11</sup> 16,359	<sup>11</sup> 1,756	<sup>11</sup> 3,582	90	<sup>11</sup> 21,788	<sup>11</sup> 5,602	<sup>12</sup> 2,837	<sup>11</sup> 345	<sup>11</sup> 151	<sup>11</sup> 152	<sup>11</sup> 3	<sup>11</sup> 22	<sup>11</sup> 3,510	39	37	30,976
1990	16,477	1,366	3,791	112	21,746	6,104	3,046	442	211	161	4	29	3,893	36	8	31,788
1991	16,460	1,276	3,861	125	21,723	6,422	3,016	425	247	167	5	31	3,889	59	67	32,160
1992	16,686	1,076	3,999	141	21,903	6,479	2,617	481	283	167	4	30	3,582	40	87	32,091
1993	17,424	1,203	4,027	136	22,790	6,410	2,892	485	288	173	5	31	3,874	34	95	33,203
1994	17,485	1,135	4,476	136	23,233	6,694	2,683	498	301	160	5	36	3,683	40	153	33,803
1995	17,687	813	4,840	133	23,473	7,075	3,205	480	316	138	5	33	4,177	42	134	34,901
1996	18,650	888	4,400	159	24,097	7,087	3,590	513	324	148	5	33	4,613	37	137	35,971
1997	19,128	985	4,658	119	24,890	6,597	3,640	484	339	150	5	34	4,653	36	116	36,293
1998	19,417	1,378	5,205	125	26,124	7,068	3,297	475	332	151	5	31	4,290	36	88	37,607
1999	19,467	1,285	5,441	126	26,320	7,610	3,268	490	332	152	5	46	4,292	41	99	38,362
2000	20,411	1,212	5,818	126	27,567	7,862	2,811	496	330	144	5	57	3,843	46	115	39,433
2001	19,789	1,347	6,001	97	27,235	8,029	2,242	486	228	142	6	70	3,173	160	75	38,672
2002	19,997	1,014	6,250	131	27,392	8,145	2,689	605	257	147	6	105	3,809	191	72	39,610
2003	20,367	1,266	5,736	156	27,525	7,959	2,825	519	249	148	5	115	3,860	193	22	39,559
2004	20,376	1,248	5,827	135	27,586	8,222	2,690	344	230	148	6	142	3,560	183	39	39,591
2005	20,802	1,269	6,212	110	28,393	8,161	2,703	355	230	147	6	178	3,619	173	85	40,430
2006	20,527	668	6,644	115	27,954	8,215	2,869	350	241	145	5	264	3,873	162	63	40,268
2007	20,842	683	7,288	115	28,927	8,455	2,446	353	245	145	6	341	3,536	168	107	41,193
2008	20,549	485	7,087	97	28,218	8,427	2,511	339	267	146	9	546	3,817	172	112	40,747
2009	18,241	403	7,302	84	26,029	8,356	2,669	320	272	146	9	721	4,137	170	116	38,808
2010	<sup>R</sup> 19,196	<sup>R</sup> 386	<sup>R</sup> 7,853	<sup>R</sup> 90	<sup>R</sup> 27,525	<sup>R</sup> 8,434	<sup>R</sup> 2,539	<sup>R</sup> 350	<sup>R</sup> 281	<sup>R</sup> 148	<sup>R</sup> 12	<sup>R</sup> 923	<sup>R</sup> 4,253	<sup>R</sup> 184	<sup>R</sup> 89	<sup>R</sup> 40,485
2011 <sup>P</sup>	18,044	291	8,051	91	26,477	8,259	3,171	333	287	163	18	1,168	5,140	162	127	40,166

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.  
<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>5</sup> Values are converted from kilowatt-hours to Btu using the approximate heat rates in Table A6.  
<sup>6</sup> Wood and wood-derived fuels.  
<sup>7</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>8</sup> Solar thermal and photovoltaic (PV) energy.  
<sup>9</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>10</sup> Net imports equal imports minus exports. See Note 3, "Electricity Imports and Exports," at end of section.  
<sup>11</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities,

independent power producers, commercial plants, and industrial plants.  
<sup>12</sup> Through 1988, data are for electric utilities and industrial plants. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial plants.  
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.  
Notes: • Data are for energy consumed to produce electricity. Data also include energy consumed to produce useful thermal output at a small number of electric utility combined-heat-and-power (CHP) plants.  
• This table no longer shows energy consumption by hydroelectric pumped storage plants. The change was made because most of the electricity used to pump water into elevated storage reservoirs is generated by plants other than pumped-storage plants; thus, the associated energy is already accounted for in other data columns in this table. • See Note 1, "Coverage of Electricity Statistics," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1949.  
• For related information, see <http://www.eia.gov/electricity/>.  
Sources: • 1949-1988—Table 8.4b for electric power sector, and Tables 8.1 and A6 for industrial sector. • 1989 forward—Tables 8.4b and 8.4c.

**Table 8.4b Consumption for Electricity Generation by Energy Source: Electric Power Sector, Selected Years, 1949-2011** (Subset of Table 8.4a; Trillion Btu)

Year	Fossil Fuels					Nuclear Electric Power <sup>5</sup>	Renewable Energy							Other <sup>9</sup>	Electricity Net Imports <sup>10</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total		Conventional Hydroelectric Power <sup>5</sup>	Biomass		Geo-thermal <sup>5</sup>	Solar/PV <sup>5,8</sup>	Wind <sup>5</sup>	Total			
								Wood <sup>6</sup>	Waste <sup>7</sup>							
1949	1,995	415	569	NA	2,979	0	1,349	6	NA	NA	NA	NA	1,355	NA	5	4,339
1950	2,199	472	651	NA	3,322	0	1,346	5	NA	NA	NA	NA	1,351	NA	6	4,679
1955	3,458	471	1,194	NA	5,123	0	1,322	3	NA	NA	NA	NA	1,325	NA	14	6,461
1960	4,228	553	1,785	NA	6,565	6	1,569	2	NA	(s)	NA	NA	1,571	NA	15	8,158
1965	5,821	722	2,395	NA	8,938	43	2,026	3	NA	2	NA	NA	2,031	NA	(s)	11,012
1970	7,227	2,117	4,054	NA	13,399	239	2,600	1	2	6	NA	NA	2,609	NA	7	16,253
1975	8,786	3,166	3,240	NA	15,191	1,900	3,122	(s)	2	34	NA	NA	3,158	NA	21	20,270
1976	9,720	3,477	3,152	NA	16,349	2,111	2,943	1	2	38	NA	NA	2,983	NA	29	21,473
1977	10,262	3,901	3,284	NA	17,446	2,702	2,301	3	2	37	NA	NA	2,343	NA	59	22,551
1978	10,238	3,987	3,297	NA	17,522	3,024	2,905	2	1	31	NA	NA	2,940	NA	67	23,553
1979	11,260	3,283	3,613	NA	18,156	2,776	2,897	3	2	40	NA	NA	2,942	NA	69	23,943
1980	12,123	2,634	3,810	NA	18,567	2,739	2,867	3	2	53	NA	NA	2,925	NA	71	24,302
1981	12,583	2,202	3,768	NA	18,553	3,008	2,725	3	1	59	NA	NA	2,788	NA	113	24,462
1982	12,582	1,568	3,342	NA	17,491	3,131	3,233	2	1	51	NA	NA	3,286	NA	100	24,009
1983	13,213	1,544	2,998	NA	17,754	3,203	3,494	2	2	64	NA	(s)	3,562	NA	121	24,639
1984	14,019	1,286	3,220	NA	18,526	3,553	3,353	5	4	81	(s)	(s)	3,443	NA	135	25,657
1985	14,542	1,090	3,160	NA	18,792	4,076	2,937	8	7	97	(s)	(s)	3,049	NA	140	26,057
1986	14,444	1,452	2,691	NA	18,586	4,380	3,038	5	7	108	(s)	(s)	3,158	NA	122	26,247
1987	15,173	1,257	2,935	NA	19,365	4,754	2,602	8	7	112	(s)	(s)	2,729	NA	158	27,007
1988	15,850	1,563	2,709	NA	20,123	5,587	2,302	10	8	106	(s)	(s)	2,425	NA	108	28,244
1989	<sup>11</sup> 16,121	<sup>11</sup> 1,697	<sup>11</sup> 3,107	7	<sup>11</sup> 20,932	<sup>11</sup> 5,602	<sup>11</sup> 2,808	<sup>11</sup> 75	<sup>11</sup> 126	<sup>11</sup> 152	<sup>11</sup> 13	<sup>11</sup> 22	<sup>11</sup> 3,187	2	37	29,761
1990	16,235	1,281	3,233	6	20,755	6,104	3,014	106	180	161	4	29	3,493	(s)	8	30,361
1991	16,223	1,199	3,296	6	20,725	6,422	2,985	104	217	167	5	31	3,509	4	67	30,727
1992	16,431	990	3,407	12	20,840	6,479	2,586	120	252	167	4	30	3,158	3	87	30,568
1993	17,159	1,122	3,426	12	21,719	6,410	2,861	129	255	173	5	31	3,454	3	95	31,681
1994	17,215	1,056	3,851	12	22,134	6,694	2,620	134	269	160	5	36	3,224	2	153	32,207
1995	17,416	743	4,179	18	22,356	7,075	3,149	106	282	138	5	33	3,713	2	134	33,281
1996	18,375	810	3,730	16	22,930	7,087	3,528	117	280	148	5	33	4,112	2	137	34,268
1997	18,855	917	3,981	14	23,768	6,597	3,581	117	292	150	5	34	4,179	1	116	34,660
1998	19,162	1,306	4,520	23	25,011	7,068	3,241	125	287	151	5	31	3,840	2	88	36,008
1999	19,214	1,211	4,742	14	25,181	7,610	3,218	125	290	152	5	46	3,836	1	99	36,728
2000	20,153	1,145	5,120	19	26,438	7,862	2,768	126	294	144	5	57	3,394	1	115	37,811
2001	19,549	1,280	5,290	9	26,128	8,029	2,209	116	205	142	6	70	2,747	109	75	37,089
2002	19,733	955	5,522	25	26,235	8,145	2,650	141	224	147	6	105	3,273	137	72	37,861
2003	20,137	1,199	5,009	30	26,374	7,959	2,781	156	216	148	5	115	3,421	136	22	37,912
2004	20,217	1,202	5,209	27	26,655	8,222	2,656	150	206	148	6	142	3,308	131	39	38,355
2005	20,649	1,227	5,643	24	27,543	8,161	2,670	166	205	147	6	178	3,372	116	85	39,276
2006	20,377	635	6,055	28	27,095	8,215	2,839	163	216	145	5	264	3,632	117	63	39,122
2007	20,723	651	6,681	27	28,083	8,455	2,430	165	221	145	6	341	3,307	117	107	40,068
2008	20,431	463	6,516	23	27,434	8,427	2,494	159	242	146	9	546	3,596	122	112	39,691
2009	18,135	382	6,731	21	25,270	8,356	2,650	160	244	146	9	721	3,931	115	116	37,788
2010	<sup>R</sup> 19,043	<sup>R</sup> 371	<sup>R</sup> 7,242	20	<sup>R</sup> 26,675	<sup>R</sup> 8,434	<sup>R</sup> 2,521	<sup>R</sup> 177	<sup>R</sup> 249	<sup>R</sup> 148	<sup>R</sup> 12	<sup>R</sup> 923	<sup>R</sup> 4,031	<sup>R</sup> 116	<sup>R</sup> 89	<sup>R</sup> 39,345
2011 <sup>P</sup>	17,897	278	7,433	20	25,629	8,259	3,153	160	256	163	18	1,168	4,917	117	127	39,049

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.  
<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>5</sup> Values are converted from kilowatt-hours to Btu using the approximate heat rates in Table A6.  
<sup>6</sup> Wood and wood-derived fuels.  
<sup>7</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>8</sup> Solar thermal and photovoltaic (PV) energy.  
<sup>9</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>10</sup> Net imports equal imports minus exports. See Note 3, "Electricity Imports and Exports," at end of section.  
<sup>11</sup> 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 energy consumed to produce electricity. Data also include energy consumed to

produce useful thermal output at a small number of electric utility combined-heat-and-power (CHP) plants.  
• 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 Table 8.4c for commercial and industrial CHP and electricity-only data. • This table no longer shows energy consumption by hydroelectric pumped storage plants. The change was made because most of the electricity used to pump water into elevated storage reservoirs is generated by plants other than pumped-storage plants; thus, the associated energy is already accounted for in other data columns in this table. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1949.  
• For related information, see <http://www.eia.gov/electricity/>.  
Sources: **Electricity Net Imports:** Tables 8.1 and A6. **All Other Data:** • 1949-1988—Tables 8.2b, 8.5b, A1, A4, A5, and A6. • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."

**Table 8.4c Consumption for Electricity Generation by Energy Source: Commercial and Industrial Sectors, Selected Years, 1989-2011** (Subset of Table 8.4a; Trillion Btu)

Year	Fossil Fuels					Nuclear Electric Power	Renewable Energy							Electricity Net Imports	Total	
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total		Conventional Hydroelectric Power <sup>5</sup>	Biomass		Geo-thermal	Solar/PV <sup>5,8</sup>	Wind <sup>5</sup>	Total			Other <sup>9</sup>
								Wood <sup>6</sup>	Waste <sup>7</sup>							
<b>Commercial Sector <sup>10</sup></b>																
1989	9	7	18	1	36	—	1	2	9	—	—	—	12	—	—	47
1990	9	6	28	1	45	—	1	2	15	—	—	—	18	—	—	63
1995	12	4	44	—	60	—	1	1	21	—	—	—	23	(s)	—	83
1996	14	4	44	(s)	62	—	1	1	31	—	—	—	33	(s)	—	95
1997	14	5	40	(s)	59	—	1	1	34	—	—	—	35	(s)	—	94
1998	11	5	42	(s)	57	—	1	1	32	—	—	—	34	—	—	91
1999	12	6	40	(s)	57	—	1	(s)	33	—	—	—	35	(s)	—	92
2000	12	5	38	(s)	55	—	1	(s)	26	—	—	—	28	(s)	—	82
2001	13	6	37	(s)	56	—	1	(s)	15	—	—	—	16	7	—	79
2002	9	4	31	(s)	44	—	(s)	(s)	18	—	—	—	19	11	—	73
2003	13	5	39	—	58	—	1	(s)	19	—	—	—	21	11	—	89
2004	8	5	34	—	46	—	1	(s)	19	—	—	—	21	11	—	78
2005	8	4	35	—	46	—	1	(s)	20	—	—	—	21	10	—	78
2006	8	2	35	(s)	45	—	1	(s)	21	—	—	—	22	10	—	77
2007	8	2	35	—	44	—	1	(s)	19	—	—	—	20	10	—	75
2008	8	1	34	—	43	—	1	(s)	20	—	(s)	—	21	11	—	75
2009	7	1	35	—	43	—	1	(s)	23	—	(s)	(s)	24	13	—	80
2010	7	1	<sup>R</sup> 40	<sup>R</sup> (s)	<sup>R</sup> 48	—	1	(s)	<sup>R</sup> 24	—	(s)	(s)	<sup>R</sup> 25	<sup>R</sup> 14	—	<sup>R</sup> 87
2011 <sup>P</sup>	6	1	39	(s)	45	—	1	(s)	24	—	(s)	(s)	25	14	—	84
<b>Industrial Sector <sup>11</sup></b>																
1989	229	52	456	83	820	—	28	267	15	—	—	—	311	37	—	1,168
1990	233	79	530	104	946	—	31	335	16	—	—	—	382	36	—	1,364
1995	259	66	617	114	1,057	—	55	373	13	—	—	—	440	40	—	1,537
1996	261	74	626	143	1,104	—	61	394	13	—	—	—	468	35	—	1,607
1997	260	63	637	105	1,064	—	58	367	14	—	—	—	439	36	—	1,538
1998	245	67	643	102	1,056	—	55	349	13	—	—	—	417	35	—	1,508
1999	242	68	660	112	1,081	—	49	364	8	—	—	—	422	39	—	1,542
2000	245	61	660	107	1,074	—	42	369	10	—	—	—	421	45	—	1,540
2001	227	62	674	88	1,051	—	33	370	7	—	—	—	410	44	—	1,504
2002	255	55	697	106	1,113	—	39	464	15	—	—	—	518	43	—	1,675
2003	217	61	687	127	1,093	—	43	362	13	—	—	—	419	46	—	1,558
2004	151	42	585	108	885	—	33	194	5	—	—	—	231	41	—	1,158
2005	145	39	534	85	804	—	32	189	5	—	—	—	226	46	—	1,076
2006	143	31	554	87	814	—	29	187	3	—	—	—	219	35	—	1,068
2007	111	30	572	88	800	—	16	188	4	—	—	—	208	41	—	1,050
2008	109	21	537	73	740	—	17	179	5	—	—	—	200	39	—	980
2009	99	20	535	62	716	—	18	160	4	—	—	—	182	42	—	940
2010	<sup>R</sup> 146	<sup>R</sup> 14	<sup>R</sup> 570	<sup>R</sup> 70	<sup>R</sup> 801	—	16	<sup>R</sup> 172	<sup>R</sup> 8	—	(s)	—	<sup>R</sup> 197	<sup>R</sup> 55	—	<sup>R</sup> 1,053
2011 <sup>P</sup>	141	12	580	71	803	—	18	173	8	—	(s)	(s)	199	31	—	1,033

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Values are converted from kilowatt-hours to Btu using the approximate heat rates in Table A6.

<sup>6</sup> Wood and wood-derived fuels.

<sup>7</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>8</sup> Solar thermal and photovoltaic (PV) energy.

<sup>9</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>11</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

R=Revised. P=Preliminary. — =Not applicable. — =No data reported. (s)=Less than 0.5 trillion Btu.

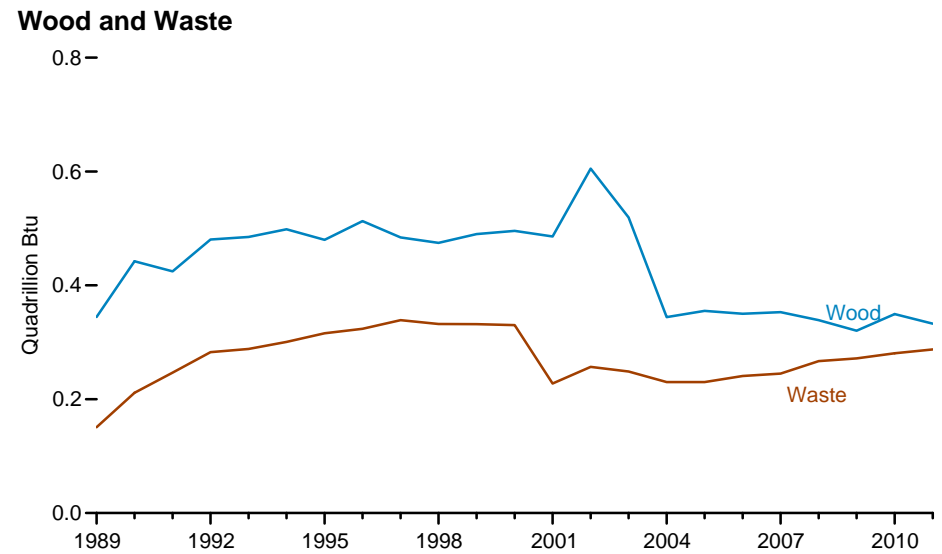
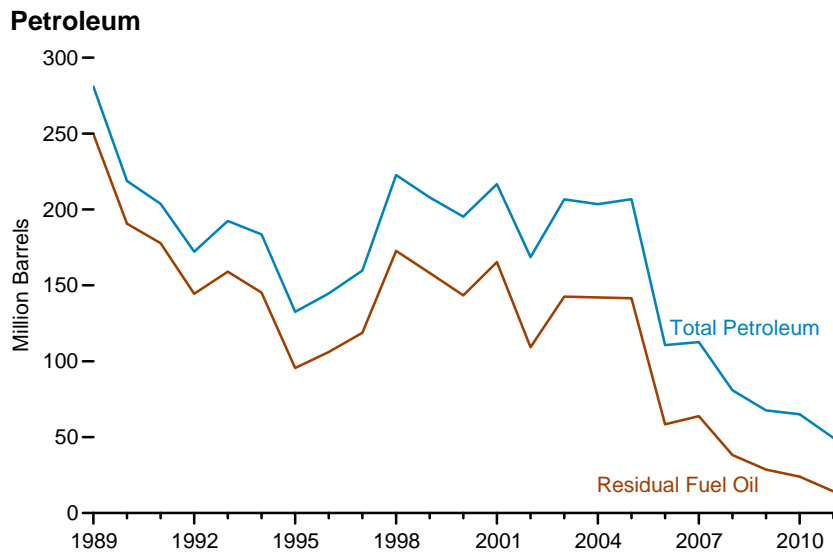
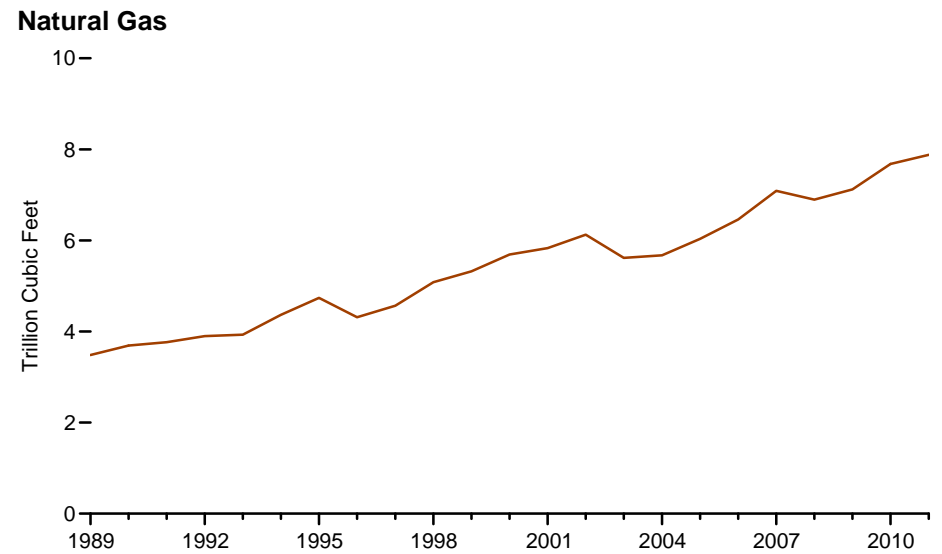
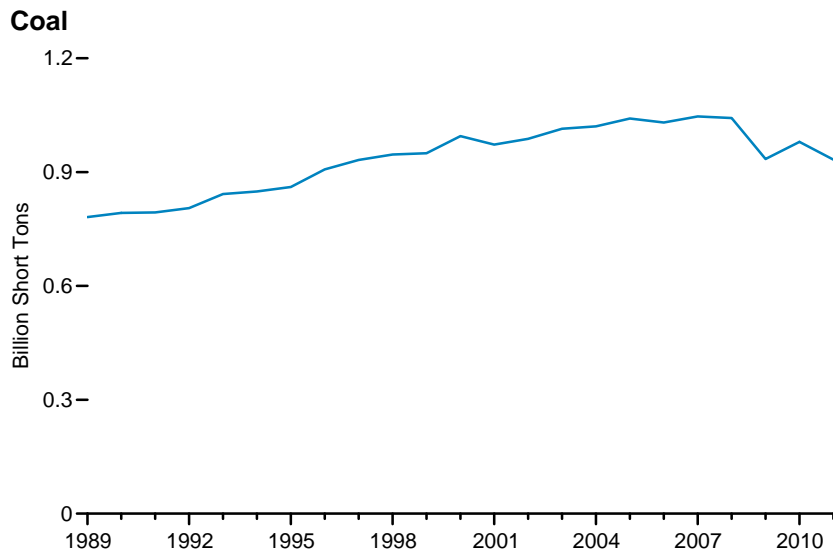
Notes: • Data are for energy consumed to produce electricity. • See Table 8.4b for electric power sector electricity-only and CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989.

• For related information, see <http://www.eia.gov/electricity/>.

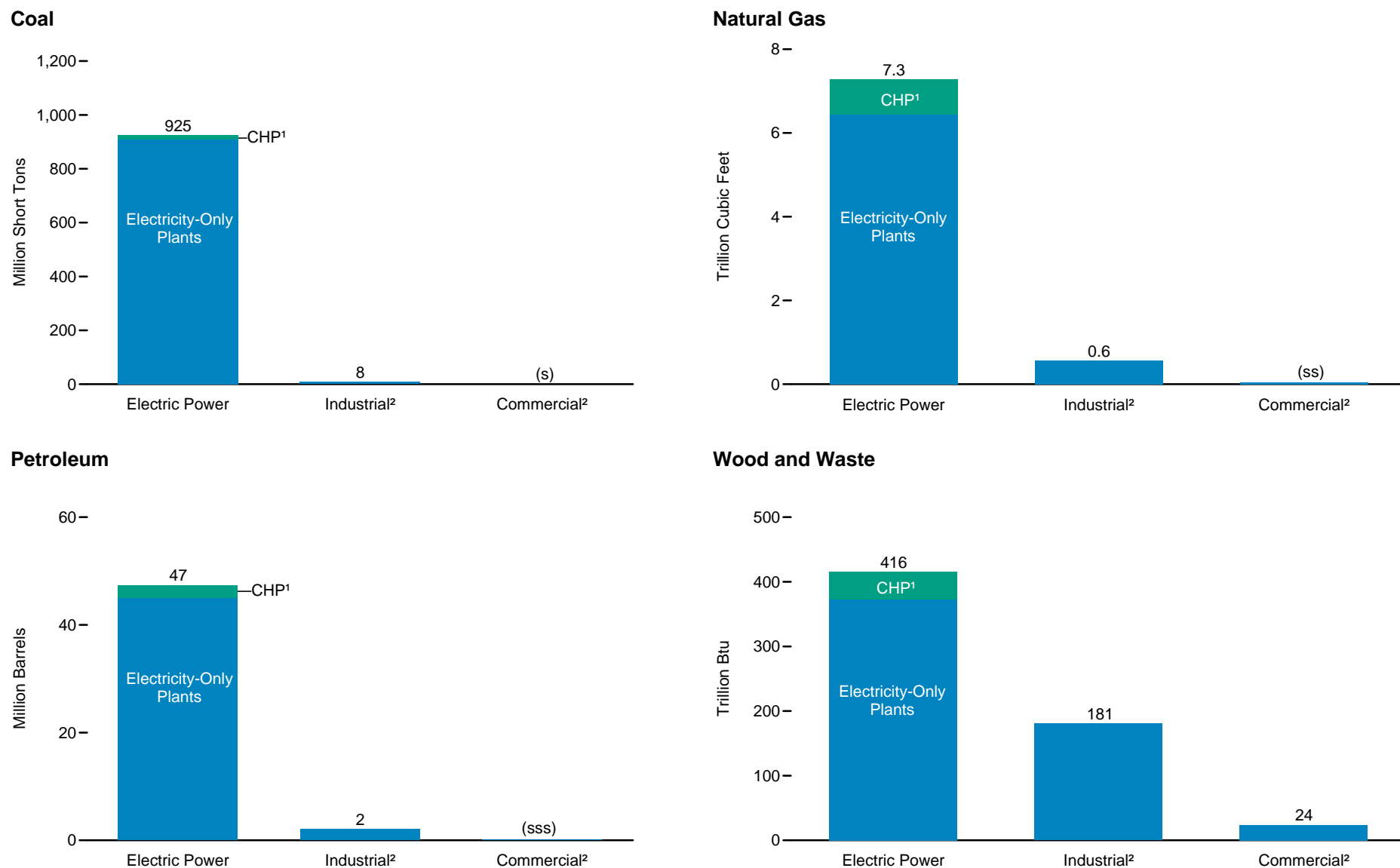
Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report,"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

**Figure 8.5a Consumption of Combustible Fuels for Electricity Generation (All Sectors), 1989-2011**



Source: Table 8.5a.

**Figure 8.5b Consumption of Combustible Fuels for Electricity Generation by Sector, 2011**



<sup>1</sup> Combined-heat-and-power plants.

<sup>2</sup> Combined-heat-and-power and electricity-only plants.

(s)=Less than 0.5 million short tons.

(ss)=Less than 0.05 trillion cubic feet.

(sss)=Less than 0.5 million barrels.

Sources: Tables 8.5b-8.5d.

**Table 8.5a Consumption of Combustible Fuels for Electricity Generation: Total (All Sectors), Selected Years, 1949-2011**  
(Sum of Tables 8.5b and 8.5d)

Year	Coal <sup>1</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>6</sup> Million Cubic Feet	Other Gases <sup>7</sup> Trillion Btu	Biomass		Other <sup>10</sup> Trillion Btu
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
1949	83,963	4,767	61,534	NA	NA	66,301	550,121	NA	6	NA	NA
1950	91,871	5,423	69,998	NA	NA	75,421	628,919	NA	5	NA	NA
1955	143,759	5,412	69,862	NA	NA	75,274	1,153,280	NA	3	NA	NA
1960	176,685	3,824	84,371	NA	NA	88,195	1,724,762	NA	2	NA	NA
1965	244,788	4,928	110,274	NA	NA	115,203	2,321,101	NA	3	NA	NA
1970	320,182	24,123	311,381	NA	636	338,686	3,931,860	NA	1	2	NA
1975	405,962	38,907	467,221	NA	70	506,479	3,157,669	NA	(s)	2	NA
1976	448,371	41,843	514,077	NA	68	556,261	3,080,868	NA	1	2	NA
1977	477,126	48,837	574,869	NA	98	624,193	3,191,200	NA	3	2	NA
1978	481,235	47,520	588,319	NA	398	637,830	3,188,363	NA	2	1	NA
1979	527,051	30,691	492,606	NA	268	524,636	3,490,523	NA	3	2	NA
1980	569,274	29,051	391,163	NA	179	421,110	3,681,595	NA	3	2	NA
1981	596,797	21,313	329,798	NA	139	351,806	3,640,154	NA	3	1	NA
1982	593,666	15,337	234,434	NA	149	250,517	3,225,518	NA	2	1	NA
1983	625,211	16,512	228,984	NA	261	246,804	2,910,767	NA	2	2	NA
1984	664,399	15,190	189,289	NA	252	205,736	3,111,342	NA	5	4	NA
1985	693,841	14,635	158,779	NA	231	174,571	3,044,083	NA	8	7	NA
1986	685,056	14,326	216,156	NA	313	232,046	2,602,370	NA	5	7	NA
1987	717,894	15,367	184,011	NA	348	201,116	2,844,051	NA	8	7	NA
1988	758,372	18,769	229,327	NA	409	250,141	2,635,613	NA	10	8	NA
1989 <sup>11</sup>	781,672	27,733	249,614	303	667	280,986	3,485,429	90	345	151	39
1990	792,457	18,143	190,652	437	1,914	218,800	3,691,563	112	442	211	36
1991	793,666	16,564	177,780	380	1,789	203,669	3,764,778	125	425	247	59
1992	805,140	14,493	144,467	759	2,504	172,241	3,899,718	141	481	283	40
1993	842,153	16,845	159,059	715	3,169	192,462	3,928,653	136	485	288	34
1994	848,796	22,365	145,225	929	3,020	183,618	4,367,148	136	498	301	40
1995	860,594	19,615	95,507	680	3,355	132,578	4,737,871	133	480	316	42
1996	907,209	20,252	106,055	1,712	3,322	144,626	4,312,458	159	513	324	37
1997	931,949	20,309	118,741	237	4,086	159,715	4,564,770	119	484	339	36
1998	946,295	25,062	172,728	549	4,860	222,640	5,081,384	125	475	332	36
1999	949,802	25,951	158,187	974	4,552	207,871	5,321,984	126	490	332	41
2000	994,933	31,675	143,381	1,450	3,744	195,228	5,691,481	126	496	330	46
2001	972,691	31,150	165,312	855	3,871	216,672	5,832,305	97	486	228	160
2002	987,583	23,286	109,235	1,894	6,836	168,597	6,126,062	131	605	257	191
2003	1,014,058	29,672	142,518	2,947	6,303	206,653	5,616,135	156	519	249	193
2004	1,020,523	20,163	142,088	2,856	7,677	203,494	5,674,580	135	344	230	183
2005	1,041,448	20,651	141,518	2,968	8,330	206,785	6,036,370	110	355	230	173
2006	1,030,556	13,174	58,473	2,174	7,363	110,634	6,461,615	115	350	241	162
2007	1,046,795	15,683	63,833	2,917	6,036	112,615	7,089,342	115	353	245	168
2008	1,042,335	12,832	38,191	2,822	5,417	80,932	6,895,843	97	339	267	172
2009	934,683	12,658	28,576	2,328	4,821	67,668	7,121,069	84	320	272	170
2010	<sup>R</sup> 979,684	<sup>R</sup> 14,050	<sup>R</sup> 23,997	<sup>R</sup> 2,056	<sup>R</sup> 4,994	<sup>R</sup> 65,071	<sup>R</sup> 7,680,185	<sup>R</sup> 90	<sup>R</sup> 350	<sup>R</sup> 281	<sup>R</sup> 184
2011 <sup>P</sup>	932,911	10,775	14,246	1,707	4,561	49,533	7,880,481	91	333	287	162

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Fuel oil nos. 1, 2, and 4. For 1949–1979, data are for gas turbine and internal combustion plant use of petroleum. For 1980–2000, electric utility data also include small amounts of kerosene and jet fuel.  
<sup>3</sup> Fuel oil nos. 5 and 6. For 1949–1979, data are for steam plant use of petroleum. For 1980–2000, electric utility data also include a small amount of fuel oil no. 4.  
<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.  
<sup>5</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.  
<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>8</sup> Wood and wood-derived fuels.  
<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and,

beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>11</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial plants.  
R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.5 trillion Btu.  
Notes: • Data are for fuels consumed to produce electricity. Data also include fuels consumed to produce useful thermal output at a small number of electric utility combined-heat-and-power (CHP) plants.  
• See Note 1, "Coverage of Electricity Statistics," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1949. • See <http://www.eia.gov/electricity/> for related information.  
Sources: Tables 8.5b and 8.5d.

**Table 8.5b Consumption of Combustible Fuels for Electricity Generation: Electric Power Sector, Selected Years, 1949-2011** (Subset of Table 8.5a)

Year	Coal <sup>1</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>6</sup> Million Cubic Feet	Other Gases <sup>7</sup> Trillion Btu	Biomass		Other <sup>10</sup> Trillion Btu
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
		Thousand Barrels							Thousand Short Tons	Thousand Barrels	
1949	83,963	4,767	61,534	NA	NA	66,301	550,121	NA	6	NA	NA
1950	91,871	5,423	69,998	NA	NA	75,421	628,919	NA	5	NA	NA
1955	143,759	5,412	69,862	NA	NA	75,274	1,153,280	NA	3	NA	NA
1960	176,685	3,824	84,371	NA	NA	88,195	1,724,762	NA	2	NA	NA
1965	244,788	4,928	110,274	NA	NA	115,203	2,321,101	NA	3	NA	NA
1970	320,182	24,123	311,381	NA	636	338,686	3,931,860	NA	1	2	NA
1975	405,962	38,907	467,221	NA	70	506,479	3,157,669	NA	(s)	2	NA
1976	448,371	41,843	514,077	NA	68	556,261	3,080,868	NA	1	2	NA
1977	477,126	48,837	574,869	NA	98	624,193	3,191,200	NA	3	2	NA
1978	481,235	47,520	588,319	NA	398	637,830	3,188,363	NA	2	1	NA
1979	527,051	30,691	492,606	NA	268	524,636	3,490,523	NA	3	2	NA
1980	569,274	29,051	391,163	NA	179	421,110	3,681,595	NA	3	2	NA
1981	596,797	21,313	329,798	NA	139	351,806	3,640,154	NA	3	1	NA
1982	593,666	15,337	234,434	NA	149	250,517	3,225,518	NA	2	1	NA
1983	625,211	16,512	228,984	NA	261	246,804	2,910,767	NA	2	2	NA
1984	664,399	15,190	189,289	NA	252	205,736	3,111,342	NA	5	4	NA
1985	693,841	14,635	158,779	NA	231	174,571	3,044,083	NA	8	7	NA
1986	685,056	14,326	216,156	NA	313	232,046	2,602,370	NA	5	7	NA
1987	717,894	15,367	184,011	NA	348	201,116	2,844,051	NA	8	7	NA
1988	758,372	18,769	229,327	NA	409	250,141	2,635,613	NA	10	8	NA
1989 <sup>11</sup>	771,551	26,036	242,708	9	517	271,340	3,023,513	7	75	126	2
1990	781,301	16,394	183,285	25	1,008	204,745	3,147,289	6	106	180	(s)
1991	782,653	14,255	171,629	58	974	190,810	3,216,056	6	104	217	4
1992	793,390	12,469	137,681	118	1,490	157,719	3,324,963	12	120	252	3
1993	829,851	14,559	151,407	213	2,571	179,034	3,344,239	12	129	255	3
1994	836,113	20,241	137,198	667	2,256	169,387	3,758,484	12	134	269	2
1995	847,854	18,066	88,895	441	2,452	119,663	4,093,773	18	106	282	2
1996	894,400	18,472	98,795	567	2,467	130,168	3,659,810	16	117	280	2
1997	919,009	18,646	112,423	130	3,201	147,202	3,903,195	14	117	292	1
1998	934,126	23,166	165,875	411	3,999	209,447	4,415,813	23	125	287	2
1999	937,888	23,875	151,921	514	3,607	194,345	4,643,775	14	125	290	1
2000	982,713	29,722	138,047	403	3,155	183,946	5,014,071	19	126	294	1
2001	961,523	29,056	159,150	374	3,308	205,119	5,142,493	9	116	205	109
2002	975,251	21,810	104,577	1,243	5,705	156,154	5,408,279	25	141	224	137
2003	1,003,036	27,441	137,361	1,937	5,719	195,336	4,909,248	30	156	216	136
2004	1,012,459	18,793	138,831	2,511	7,135	195,809	5,075,339	27	150	206	131
2005	1,033,567	19,450	138,337	2,591	7,877	199,760	5,484,780	24	166	205	116
2006	1,022,802	12,578	56,347	1,783	6,905	105,235	5,891,222	28	163	221	117
2007	1,041,346	15,135	62,072	2,496	5,523	107,316	6,501,612	27	165	216	117
2008	1,036,891	12,318	37,222	2,608	5,000	77,149	6,342,331	23	159	242	122
2009	929,692	11,848	27,768	2,110	4,485	64,151	6,566,991	21	160	244	115
2010	R971,245	R13,677	R23,560	R1,848	R4,679	R62,477	R7,085,416	20	R177	R249	R116
2011 <sup>P</sup>	924,523	10,513	13,914	1,564	4,281	47,398	7,278,562	20	160	256	117

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Fuel oil nos. 1, 2, and 4. For 1949–1979, data are for gas turbine and internal combustion plant use of petroleum. For 1980–2000, electric utility data also include small amounts of kerosene and jet fuel.  
<sup>3</sup> Fuel oil nos. 5 and 6. For 1949–1979, data are for steam plant use of petroleum. For 1980–2000, electric utility data also include a small amount of fuel oil no. 4.  
<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.  
<sup>5</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.  
<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>8</sup> Wood and wood-derived fuels.  
<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>11</sup> 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. Data also include fuels consumed to produce useful thermal output at a small number of electric utility combined-heat-and-power (CHP) plants.  
• 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 Table 8.5d for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/data/annual/#electricity> for all annual data beginning in 1949. • See <http://www.eia.gov/electricity/> for related information.  
Sources: • 1949-September 1977—Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1981—Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982-1988—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." • 1989-1997—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."

**Table 8.5c Consumption of Combustible Fuels for Electricity Generation: Electric Power Sector by Plant Type, Selected Years, 1989-2011** (Breakout of Table 8.5b)

Year	Coal <sup>1</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>6</sup> Million Cubic Feet	Other Gases <sup>7</sup> Trillion Btu	Biomass		Other <sup>10</sup> Trillion Btu
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
<b>Electricity-Only Plants <sup>11</sup></b>											
1989	767,378	25,574	241,960	3	517	270,125	2,790,567	—	59	111	—
1990	774,213	14,956	181,231	17	1,008	201,246	2,794,110	(s)	87	162	—
1995	832,928	16,169	86,584	133	1,082	108,297	3,287,571	(s)	84	262	—
1996	878,825	17,361	96,386	50	1,010	118,848	2,823,724	(s)	94	258	—
1997	904,245	17,702	109,989	30	1,687	136,156	3,039,227	1	91	266	—
1998	920,353	22,293	163,541	295	2,202	197,137	3,543,931	1	95	263	—
1999	924,692	22,877	149,193	380	1,891	181,905	3,729,175	1	105	264	—
2000	967,080	28,001	135,419	94	1,457	170,799	4,092,729	2	105	267	—
2001	946,068	27,695	157,090	26	1,827	193,945	4,163,930	(s)	96	179	98
2002	960,077	21,521	102,622	444	3,925	144,212	4,258,467	6	118	193	117
2003	983,538	25,951	136,050	936	4,794	186,904	3,780,314	6	127	185	120
2004	994,774	17,944	137,736	1,441	6,096	187,601	4,141,535	5	134	190	122
2005	1,015,640	18,689	137,082	1,676	6,876	191,827	4,592,271	(s)	143	189	108
2006	1,004,769	12,375	155,192	991	5,988	98,497	5,091,049	(s)	141	198	107
2007	1,022,840	14,626	60,929	1,709	4,711	100,818	5,611,600	2	142	203	107
2008	1,017,806	11,950	36,059	2,478	4,254	71,760	5,520,491	2	136	223	112
2009	913,566	11,509	26,569	1,911	3,642	58,197	5,750,589	2	133	222	105
2010	R954,514	R13,337	R22,470	R1,777	R4,464	R59,902	R6,239,466	R1	R153	R228	R105
2011 <sup>P</sup>	909,645	10,374	12,817	1,546	4,059	45,032	6,439,729	1	137	235	107
<b>Combined-Heat-and-Power Plants <sup>12</sup></b>											
1989	4,173	462	747	6	—	1,215	232,946	7	16	16	2
1990	7,088	1,438	2,054	7	—	3,499	353,179	6	18	18	(s)
1995	14,926	1,898	2,311	307	1,370	11,366	806,202	18	22	20	2
1996	15,575	1,111	2,410	517	1,456	11,320	836,086	15	24	22	2
1997	14,764	944	2,434	100	1,514	11,046	863,968	14	26	26	1
1998	13,773	872	2,334	117	1,797	12,310	871,881	21	30	24	2
1999	13,197	998	2,728	134	1,716	12,440	914,600	14	20	26	1
2000	15,634	1,721	2,627	310	1,698	13,147	921,341	17	21	28	1
2001	15,455	1,360	2,059	347	1,482	11,175	978,563	9	20	26	11
2002	15,174	289	1,955	800	1,780	11,942	1,149,812	20	23	30	20
2003	19,498	1,491	1,311	1,002	926	8,431	1,128,935	23	29	31	16
2004	17,685	850	1,095	1,070	1,039	8,209	933,804	22	16	16	9
2005	17,927	760	1,254	915	1,001	7,933	892,509	24	22	17	9
2006	18,033	203	1,155	792	918	6,738	800,173	27	22	18	10
2007	18,506	509	1,144	787	812	6,498	890,012	25	23	18	9
2008	19,085	368	1,162	130	746	5,389	821,839	22	23	18	10
2009	16,126	340	1,199	199	843	5,953	816,402	19	27	22	11
2010	R16,731	R340	1,090	R71	R215	R2,575	R845,950	R19	R24	R21	R10
2011 <sup>P</sup>	14,878	139	1,097	18	223	2,366	838,833	19	23	21	10

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.  
<sup>2</sup> Fuel oil nos. 1, 2, and 4. Through 2000, electric utility data also include small amounts of kerosene and jet fuel.  
<sup>3</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.  
<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.  
<sup>5</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.  
<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>8</sup> Wood and wood-derived fuels.  
<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>11</sup> Electricity-only plants within the NAICS 22 category whose primary business is to sell electricity to the public. Data also include a small number of electric utility combined-heat-and-power (CHP) plants.

<sup>12</sup> Combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity and heat to the public. Data do not include electric utility CHP plants—these are included under "Electricity-Only Plants."  
R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.5.  
Notes: • Data are for fuels consumed to produce electricity. Data also include fuels consumed to produce useful thermal output at a small number of electric utility combined-heat-and-power (CHP) plants.  
• See Table 8.5d for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.  
Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989.  
• For related information, see <http://www.eia.gov/electricity/>.  
Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."



**Table 8.5d Consumption of Combustible Fuels for Electricity Generation: Commercial and Industrial Sectors, Selected Years, 1989-2011** (Subset of Table 8.5a)

Year	Coal <sup>1</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>6</sup> Million Cubic Feet	Other Gases <sup>7</sup> Trillion Btu	Biomass		Other <sup>10</sup> Trillion Btu
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
	Thousand Barrels					Thousand Short Tons	Thousand Barrels	Trillion Btu		Trillion Btu	
<b>Commercial Sector <sup>11</sup></b>											
1989	414	882	282	—	—	1,165	17,987	1	2	9	—
1990	417	580	372	(s)	—	953	27,544	1	2	15	—
1995	569	493	152	(s)	1	649	42,700	—	1	21	(s)
1996	656	422	218	(s)	1	645	42,380	(s)	1	31	(s)
1997	630	583	200	—	1	790	38,975	(s)	1	34	(s)
1998	440	436	359	—	1	802	40,693	(s)	1	32	—
1999	481	506	421	—	1	931	39,045	(s)	(s)	33	(s)
2000	514	505	310	1	1	823	37,029	(s)	(s)	26	(s)
2001	532	520	469	2	6	1,023	36,248	(s)	(s)	15	7
2002	477	524	292	10	2	834	32,545	(s)	(s)	18	11
2003	582	553	326	3	2	894	38,480	—	(s)	19	11
2004	377	545	214	1	1	766	32,839	—	(s)	19	11
2005	377	377	201	1	1	585	33,785	—	(s)	20	10
2006	347	211	116	(s)	1	333	34,623	—	(s)	21	10
2007	361	156	94	—	2	258	34,087	—	(s)	19	10
2008	369	131	29	(s)	1	166	33,403	—	(s)	20	11
2009	317	145	39	(s)	1	190	34,279	—	(s)	23	13
2010	<sup>R</sup> 314	<sup>R</sup> 143	<sup>R</sup> 21	(s)	2	<sup>R</sup> 172	<sup>R</sup> 39,462	<sup>R</sup> (s)	(s)	<sup>R</sup> 24	<sup>R</sup> 14
2011 <sup>P</sup>	297	94	15	(s)	1	112	37,773	(s)	(s)	24	14
<b>Industrial Sector <sup>12</sup></b>											
1989	9,707	815	6,624	294	150	8,482	443,928	83	267	15	37
1990	10,740	1,169	6,995	412	905	13,103	516,729	104	335	16	36
1995	12,171	1,056	6,460	239	902	12,265	601,397	114	373	13	40
1996	12,153	1,359	7,042	1,145	853	13,813	610,268	143	394	13	35
1997	12,311	1,079	6,118	107	884	11,723	622,599	105	367	14	36
1998	11,728	1,461	6,494	137	860	12,392	624,878	102	349	13	35
1999	11,432	1,571	5,845	460	944	12,595	639,165	112	364	8	39
2000	11,706	1,448	5,024	1,046	588	10,459	640,381	107	369	10	45
2001	10,636	1,574	5,693	479	557	10,530	653,565	88	370	7	44
2002	11,855	952	4,366	640	1,130	11,608	685,239	106	464	15	43
2003	10,440	1,678	4,831	1,006	582	10,424	668,407	127	362	13	46
2004	7,687	825	3,043	344	541	6,919	566,401	108	194	5	41
2005	7,504	824	2,980	377	452	6,440	517,805	85	189	5	46
2006	7,408	385	2,010	391	456	5,066	535,770	87	187	3	35
2007	5,089	392	1,666	421	512	5,041	553,643	88	188	4	41
2008	5,075	383	941	214	416	3,617	520,109	73	179	5	39
2009	4,674	664	769	218	335	3,328	519,799	62	160	4	42
2010	<sup>R</sup> 8,125	<sup>R</sup> 231	<sup>R</sup> 416	<sup>R</sup> 208	<sup>R</sup> 313	<sup>R</sup> 2,422	<sup>R</sup> 555,307	<sup>R</sup> 70	<sup>R</sup> 172	<sup>R</sup> 8	<sup>R</sup> 55
2011 <sup>P</sup>	8,091	168	318	144	279	2,023	564,146	71	173	8	31

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Fuel oil nos. 1, 2, and 4.

<sup>3</sup> Fuel oil nos. 5 and 6.

<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

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

<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>8</sup> Wood and wood-derived fuels.

<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>11</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>12</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

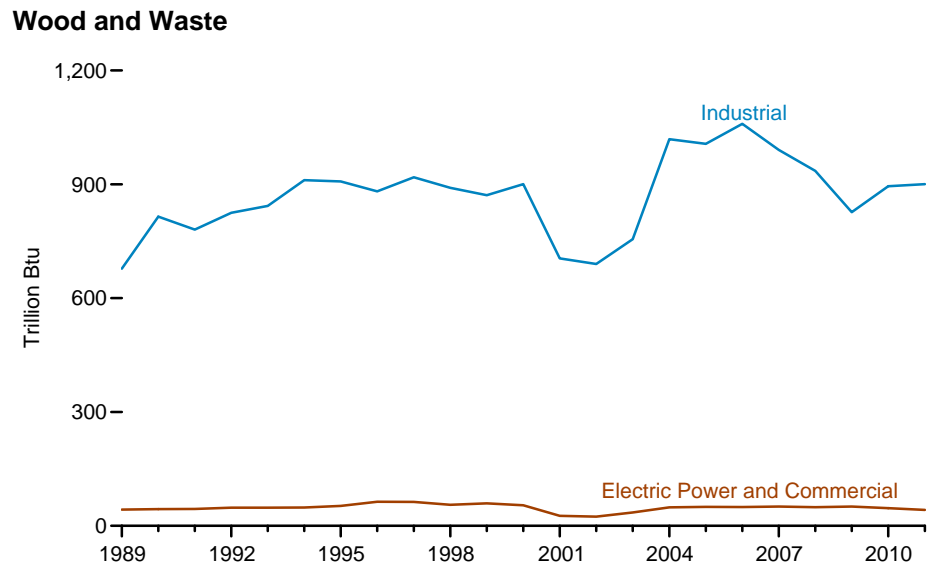
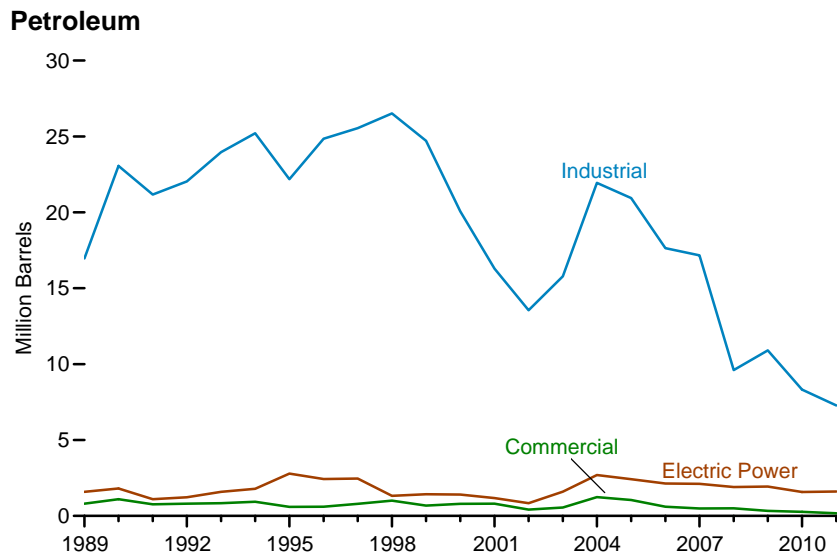
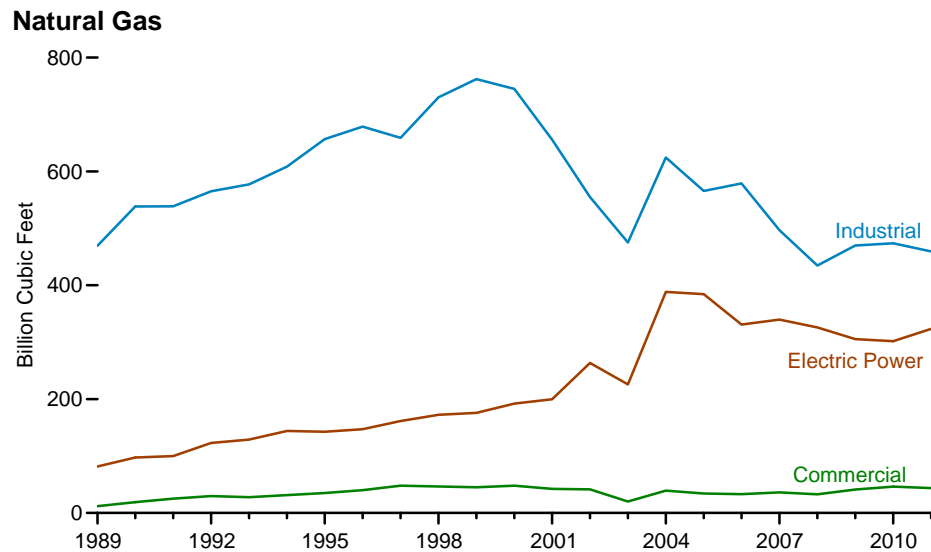
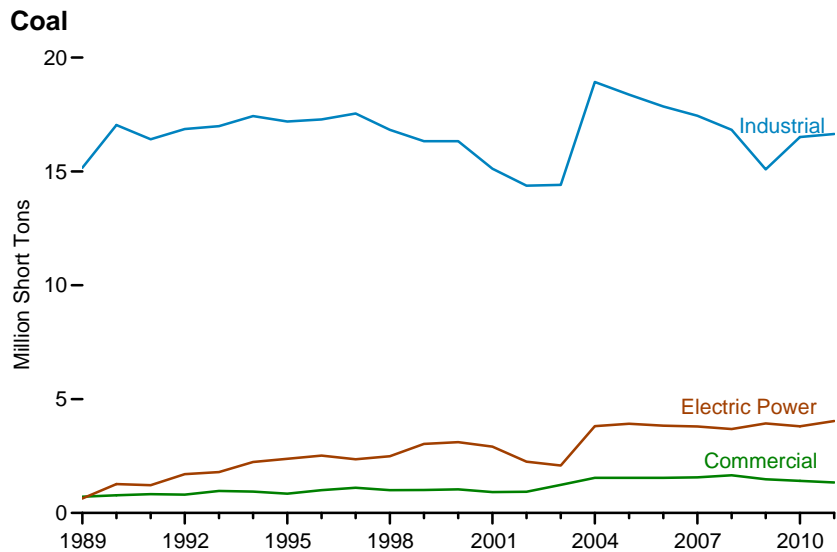
R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.5.

Notes: • Data are for fuels consumed to produce electricity. • See Tables 8.5b and 8.5c for electric power sector electricity-only and CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1989. • See <http://www.eia.gov/electricity/> for related information.

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

**Figure 8.6 Estimated Consumption of Combustible Fuels for Useful Thermal Output at Combined-Heat-and-Power Plants by Sector, 1989-2011**



Sources: Tables 8.6b and 8.6c.

**Table 8.6a Estimated Consumption of Combustible Fuels for Useful Thermal Output at Combined-Heat-and-Power Plants: Total (All Sectors), 1989-2011** (Sum of Tables 8.6b and 8.6c)

Year	Coal <sup>1</sup>	Petroleum					Natural Gas <sup>6</sup>	Other Gases <sup>7</sup>	Biomass		Other <sup>10</sup>
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
	Thousand Short Tons	Thousand Barrels			Thousand Short Tons	Thousand Barrels	Million Cubic Feet	Trillion Btu	Trillion Btu		Trillion Btu
1989	16,510	1,410	16,357	353	247	19,357	563,307	116	683	38	49
1990	19,081	2,050	18,428	895	918	25,965	654,749	176	813	46	50
1991	18,458	3,027	15,293	835	777	23,039	663,963	185	779	46	55
1992	19,372	2,358	16,474	935	862	24,077	717,860	200	822	51	52
1993	19,750	2,449	17,933	857	1,031	26,394	733,584	178	836	56	51
1994	20,609	2,811	18,822	609	1,137	27,929	784,015	180	903	57	53
1995	20,418	2,082	16,661	642	1,235	25,562	834,382	181	902	59	55
1996	20,806	2,192	18,552	756	1,275	27,873	865,774	187	876	69	54
1997	21,005	2,584	15,882	289	2,009	28,802	868,569	188	913	68	67
1998	20,320	4,944	16,539	681	1,336	28,845	949,106	209	875	72	58
1999	20,373	4,665	14,133	838	1,437	26,822	982,958	224	862	68	60
2000	20,466	2,897	13,292	1,455	924	22,266	985,263	230	884	71	63
2001	18,944	2,574	11,826	563	661	18,268	898,286	166	696	35	69
2002	17,561	1,462	9,402	1,363	517	14,811	860,019	147	682	32	60
2003	17,720	2,153	10,341	1,629	763	17,939	721,267	138	746	44	69
2004	24,275	3,357	15,390	1,908	1,043	25,870	1,052,100	218	1,016	51	70
2005	23,833	3,795	15,397	1,302	783	24,408	984,340	238	997	59	64
2006	23,227	1,481	11,373	1,222	1,259	20,371	942,817	226	1,049	60	75
2007	22,810	1,359	10,783	1,320	1,262	19,775	872,579	214	982	59	71
2008	22,168	1,305	5,285	943	897	12,016	793,537	203	924	61	39
2009	20,507	2,142	5,097	890	1,007	13,161	816,787	176	816	61	58
2010	<sup>R</sup> 21,727	<sup>R</sup> 1,197	<sup>R</sup> 2,947	<sup>R</sup> 722	<sup>R</sup> 1,059	<sup>R</sup> 10,161	<sup>R</sup> 821,775	172	<sup>R</sup> 876	<sup>R</sup> 66	<sup>R</sup> 52
2011 <sup>P</sup>	22,014	599	2,432	495	1,105	9,054	826,548	190	881	62	27

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

<sup>2</sup> Fuel oil nos. 1, 2, and 4.

<sup>3</sup> Fuel oil nos. 5 and 6.

<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

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

<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>8</sup> Wood and wood-derived fuels.

<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

R=Revised. P=Preliminary.

Notes: • Estimates are for fuels consumed to produce useful thermal output; they exclude fuels consumed to produce electricity. • Estimates do not include electric utility combined-heat-and-power (CHP) plants. • See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

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

Sources: Tables 8.6b and 8.6c.

**Table 8.6b Estimated Consumption of Combustible Fuels for Useful Thermal Output at Combined-Heat-and-Power Plants: Electric Power Sector, 1989-2011** (Subset of Table 8.6a)

Year	Coal <sup>1</sup>	Petroleum					Natural Gas <sup>6</sup>	Other Gases <sup>7</sup>	Biomass		Other <sup>10</sup>
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
	Thousand Short Tons	Thousand Barrels				Thousand Short Tons	Thousand Barrels	Million Cubic Feet	Trillion Btu	Trillion Btu	Trillion Btu
1989	639	120	1,471	1	—	1,591	81,670	3	24	6	1
1990	1,266	173	1,630	2	—	1,805	97,330	5	23	8	(s)
1991	1,221	104	995	1	—	1,101	99,868	5	21	11	1
1992	1,704	154	1,045	10	4	1,229	122,908	6	21	10	2
1993	1,794	290	1,074	27	40	1,591	128,743	4	21	10	2
1994	2,241	371	1,024	104	58	1,791	144,062	6	18	12	1
1995	2,376	486	1,127	58	222	2,784	142,753	5	19	15	(s)
1996	2,520	308	1,155	86	175	2,424	147,091	5	20	21	(s)
1997	2,355	343	1,246	23	171	2,466	161,608	10	20	17	(s)
1998	2,493	134	653	19	103	1,322	172,471	6	12	20	(s)
1999	3,033	183	572	30	128	1,423	175,757	4	13	25	(s)
2000	3,107	294	467	51	120	1,412	192,253	7	8	24	(s)
2001	2,910	219	355	3	119	1,171	199,808	6	10	5	4
2002	2,255	66	197	23	111	841	263,619	7	10	6	6
2003	2,080	190	919	88	80	1,596	225,967	12	11	14	4
2004	3,809	314	985	202	237	2,688	388,424	31	15	17	7
2005	3,918	225	1,072	95	206	2,424	384,365	60	19	15	7
2006	3,834	69	998	87	195	2,129	330,878	37	19	14	8
2007	3,795	192	1,014	98	162	2,114	339,796	34	21	16	8
2008	3,689	230	1,019	62	119	1,907	326,048	38	18	16	8
2009	3,935	187	1,015	100	126	1,930	305,542	34	20	17	8
2010	<sup>R</sup> 3,808	<sup>R</sup> 113	944	<sup>R</sup> 29	<sup>R</sup> 98	<sup>R</sup> 1,578	<sup>R</sup> 301,769	<sup>R</sup> 33	<sup>R</sup> 18	<sup>R</sup> 15	<sup>R</sup> 8
2011 <sup>P</sup>	4,035	73	963	4	113	1,605	323,364	36	16	13	9

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.  
<sup>2</sup> Fuel oil nos. 1, 2, and 4.  
<sup>3</sup> Fuel oil nos. 5 and 6.  
<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.  
<sup>5</sup> Petroleum coke is converted from short tons to barrels by multiplying by 5.  
<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.  
<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.  
<sup>8</sup> Wood and wood-derived fuels.  
<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).  
<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.5.  
 Notes: • Estimates are for fuels consumed to produce useful thermal output; they exclude fuels consumed to produce electricity. • Estimates are for combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity and heat to the public. Estimates do not include electric utility CHP plants. • See Table 8.6c for commercial and industrial CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.  
 Web Page: For related information, see <http://www.eia.gov/electricity/>.  
 Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."

**Table 8.6c Estimated Consumption of Combustible Fuels for Useful Thermal Output at Combined-Heat-and-Power Plants: Commercial and Industrial Sectors, Selected Years, 1989-2011** (Subset of Table 8.6a)

Year	Coal <sup>1</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>6</sup> Million Cubic Feet	Other Gases <sup>7</sup> Trillion Btu	Biomass		Other <sup>10</sup> Trillion Btu
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
	Thousand Barrels					Thousand Short Tons	Thousand Barrels	Trillion Btu		Trillion Btu	
<b>Commercial Sector <sup>11</sup></b>											
1989	711	202	601	–	–	803	12,049	(s)	(s)	13	–
1990	773	389	715	(s)	–	1,104	18,913	(s)	(s)	13	–
1995	850	319	261	(s)	3	596	34,964	–	(s)	19	(s)
1996	1,005	260	328	(s)	3	601	40,075	–	1	22	(s)
1997	1,108	470	309	–	3	794	47,941	(s)	1	24	–
1998	1,002	418	573	–	3	1,006	46,527	(s)	1	22	–
1999	1,009	254	412	–	3	682	44,991	–	1	21	–
2000	1,034	403	366	2	4	792	47,844	–	1	21	–
2001	916	505	304	–	–	809	42,407	–	1	10	7
2002	929	248	108	28	6	416	41,430	–	1	8	6
2003	1,234	119	381	12	9	555	19,973	–	1	10	8
2004	1,540	570	613	20	8	1,243	39,233	–	1	15	11
2005	1,544	417	587	(s)	8	1,045	34,172	–	1	14	10
2006	1,539	155	404	–	9	601	33,112	(s)	1	16	10
2007	1,566	101	340	–	11	494	35,987	–	2	12	7
2008	1,652	287	173	–	9	504	32,813	–	1	14	10
2009	1,481	120	173	–	8	331	41,275	–	1	13	9
2010	<sup>R</sup> 1,406	<sup>R</sup> 90	<sup>R</sup> 122	–	11	<sup>R</sup> 265	<sup>R</sup> 46,324	<sup>R</sup> (s)	1	12	8
2011 <sup>P</sup>	1,336	53	88	–	6	169	43,661	(s)	1	12	9
<b>Industrial Sector <sup>12</sup></b>											
1989	15,160	1,088	14,285	352	247	16,963	469,588	113	659	19	48
1990	17,041	1,488	16,084	893	918	23,056	538,506	171	790	25	50
1995	17,192	1,277	15,272	584	1,010	22,182	656,665	175	882	25	55
1996	17,281	1,624	17,069	670	1,097	24,848	678,608	182	855	26	53
1997	17,542	1,772	14,328	267	1,835	25,541	659,021	178	892	27	67
1998	16,824	4,391	15,313	662	1,230	26,518	730,108	202	862	29	58
1999	16,330	4,228	13,148	808	1,307	24,718	762,210	219	849	23	60
2000	16,325	2,200	12,459	1,402	800	20,062	745,165	223	875	25	63
2001	15,119	1,850	11,167	560	542	16,287	656,071	160	685	20	58
2002	14,377	1,149	9,097	1,312	399	13,555	554,970	139	672	18	48
2003	14,406	1,844	9,041	1,529	675	15,788	475,327	126	735	21	57
2004	18,926	2,473	13,791	1,686	798	21,939	624,443	187	1,000	19	53
2005	18,371	3,153	13,738	1,207	568	20,940	565,803	179	977	30	48
2006	17,854	1,258	9,971	1,136	1,055	17,640	578,828	190	1,029	30	57
2007	17,449	1,066	9,429	1,222	1,090	17,166	496,796	180	959	31	57
2008	16,827	788	4,093	882	769	9,605	434,676	165	905	31	22
2009	15,091	1,835	3,909	790	873	10,900	469,970	142	796	31	41
2010	<sup>R</sup> 16,513	<sup>R</sup> 993	<sup>R</sup> 1,882	<sup>R</sup> 692	<sup>R</sup> 950	<sup>R</sup> 8,318	<sup>R</sup> 473,683	<sup>R</sup> 139	<sup>R</sup> 857	<sup>R</sup> 38	<sup>R</sup> 36
2011 <sup>P</sup>	16,643	473	1,381	491	987	7,279	459,524	154	864	36	9

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Fuel oil nos. 1, 2, and 4.

<sup>3</sup> Fuel oil nos. 5 and 6.

<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

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

<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>8</sup> Wood and wood-derived fuels.

<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>11</sup> Commercial combined-heat-and-power (CHP) plants.

<sup>12</sup> Industrial combined-heat-and-power (CHP) plants.

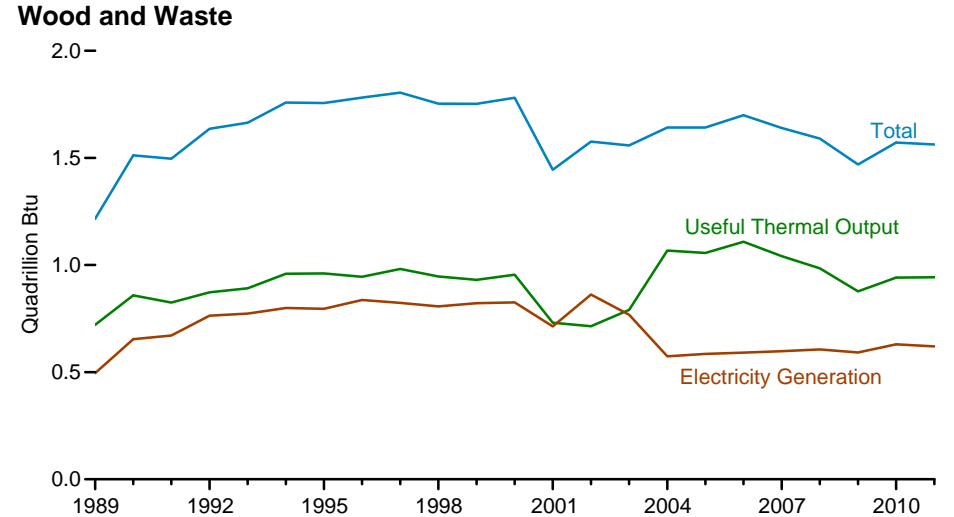
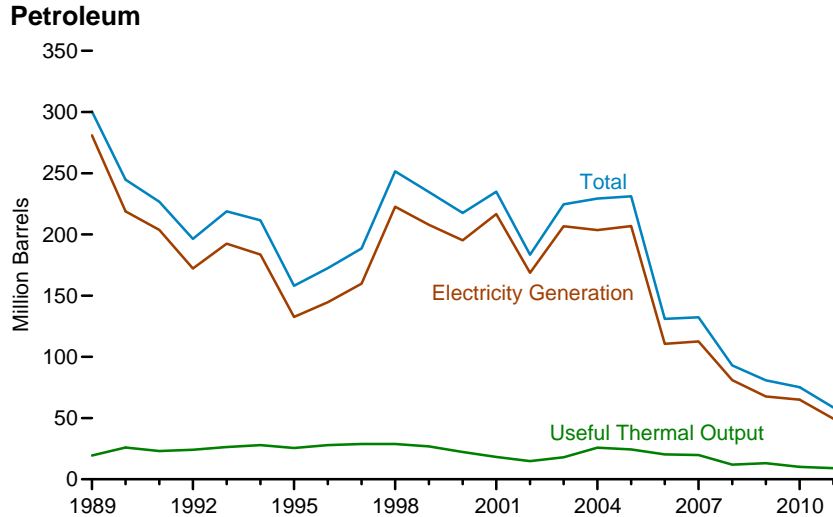
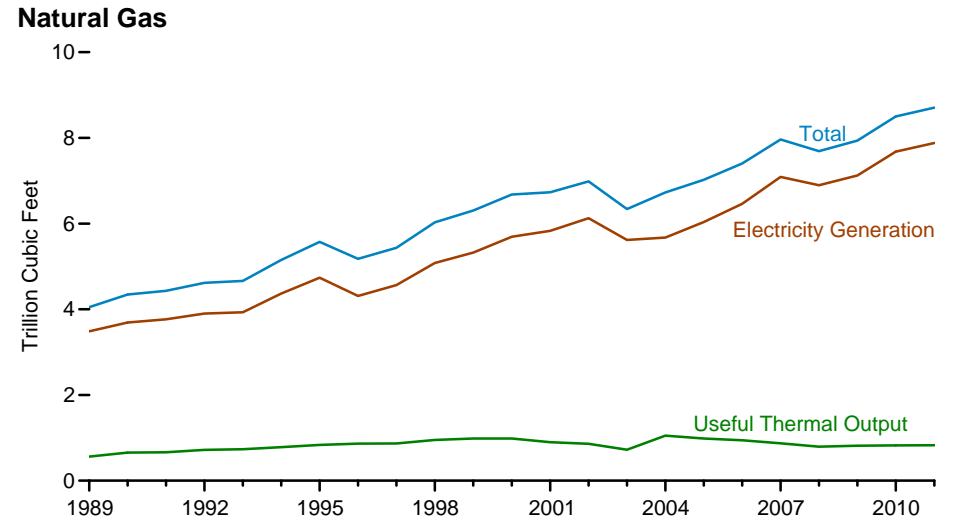
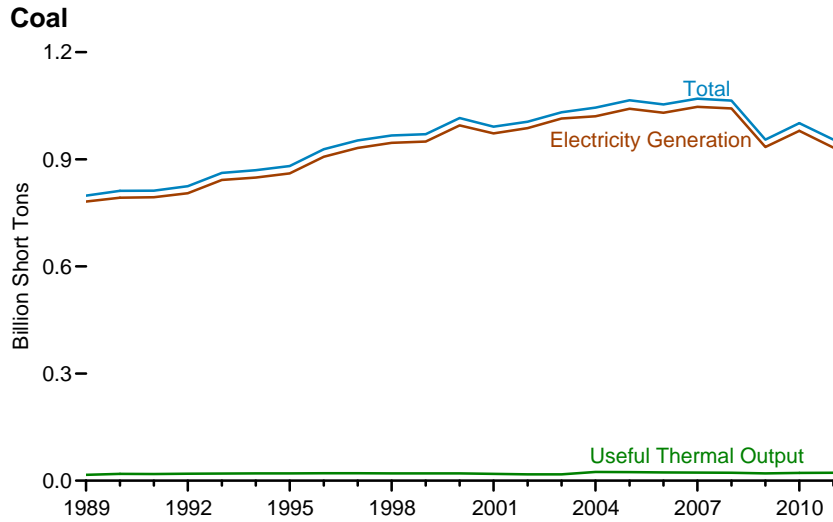
R=Revised. P=Preliminary. –=No data reported. (s)=Less than 0.5.

Notes: • Estimates are for fuels consumed to produce useful thermal output; they exclude fuels consumed to produce electricity. • See Table 8.6b for electric power sector CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989. • For related information, see <http://www.eia.gov/electricity/>.

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

**Figure 8.7 Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output, 1989-2011**



Sources: Tables 8.5a, 8.6a, and 8.7a.

**Table 8.7a Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output:  
Total (All Sectors), 1989-2011 (Sum of Tables 8.7b and 8.7c)**

Year	Coal <sup>1</sup>	Petroleum					Natural Gas <sup>6</sup>	Other Gases <sup>7</sup>	Biomass		Other <sup>10</sup>
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
	Thousand Short Tons	Thousand Barrels				Thousand Short Tons	Thousand Barrels	Million Cubic Feet	Trillion Btu	Trillion Btu	Trillion Btu
1989	798,181	29,143	265,970	656	915	300,342	4,048,736	206	1,028	189	88
1990	811,538	20,194	209,081	1,332	2,832	244,765	4,346,311	288	1,256	257	86
1991	812,124	19,590	193,073	1,215	2,566	226,708	4,428,742	311	1,204	292	114
1992	824,512	16,852	160,941	1,695	3,366	196,318	4,617,578	341	1,303	333	92
1993	861,904	19,293	176,992	1,571	4,200	218,855	4,662,236	314	1,321	344	85
1994	869,405	25,177	164,047	1,539	4,157	211,547	5,151,163	316	1,401	357	92
1995	881,012	21,697	112,168	1,322	4,590	158,140	5,572,253	313	1,382	374	97
1996	928,015	22,444	124,607	2,468	4,596	172,499	5,178,232	346	1,389	392	91
1997	952,955	22,893	134,623	526	6,095	188,517	5,433,338	307	1,397	407	103
1998	966,615	30,006	189,267	1,230	6,196	251,486	6,030,490	334	1,349	404	95
1999	970,175	30,616	172,319	1,812	5,989	234,694	6,304,942	350	1,352	400	101
2000	1,015,398	34,572	156,673	2,904	4,669	217,494	6,676,744	356	1,380	401	109
2001	991,635	33,724	177,137	1,418	4,532	234,940	6,730,591	263	1,182	263	229
2002	1,005,144	24,748	118,637	3,257	7,353	183,408	6,986,081	278	1,287	289	252
2003	1,031,778	31,825	152,859	4,576	7,067	224,593	6,337,402	294	1,266	293	262
2004	1,044,798	23,520	157,478	4,764	8,721	229,364	6,726,679	353	1,360	282	254
2005	1,065,281	24,446	156,915	4,270	9,113	231,193	7,020,709	348	1,353	289	237
2006	1,053,783	14,655	69,846	3,396	8,622	131,005	7,404,432	341	1,399	300	237
2007	1,069,606	17,042	74,616	4,237	7,299	132,389	7,961,922	329	1,336	304	239
2008	1,064,503	14,137	43,477	3,765	6,314	92,948	7,689,380	300	1,263	328	212
2009	955,190	14,800	33,672	3,218	5,828	80,830	7,937,856	259	1,137	333	228
2010	<sup>R</sup> 1,001,411	<sup>R</sup> 15,247	<sup>R</sup> 26,944	<sup>R</sup> 2,777	<sup>R</sup> 6,053	<sup>R</sup> 75,231	<sup>R</sup> 8,501,960	<sup>R</sup> 262	<sup>R</sup> 1,226	<sup>R</sup> 346	<sup>R</sup> 237
2011 <sup>P</sup>	954,925	11,374	16,678	2,203	5,666	58,586	8,707,029	281	1,214	349	189

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

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

<sup>3</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.

<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

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

<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>8</sup> Wood and wood-derived fuels.

<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from

non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

R=Revised. P=Preliminary.

Notes: • See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/electricity/> for related information.

Sources: Tables 8.7b and 8.7c.

**Table 8.7b Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output:  
Electric Power Sector, 1989-2011** (Subset of Table 8.7a)

Year	Coal <sup>1</sup>	Petroleum					Natural Gas <sup>6</sup>	Other Gases <sup>7</sup>	Biomass		Other <sup>10</sup>
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>	
	Thousand Short Tons	Thousand Barrels				Thousand Short Tons	Thousand Barrels	Million Cubic Feet	Trillion Btu	Trillion Btu	Trillion Btu
1989	772,190	26,156	244,179	10	517	272,931	3,105,183	9	100	132	3
1990	782,567	16,567	184,915	26	1,008	206,550	3,244,619	11	129	188	(s)
1991	783,874	14,359	172,625	59	974	191,911	3,315,925	11	126	229	4
1992	795,094	12,623	138,726	128	1,494	158,948	3,447,871	18	140	262	5
1993	831,645	14,849	152,481	239	2,611	180,625	3,472,982	16	150	265	5
1994	838,354	20,612	138,222	771	2,315	171,178	3,902,546	19	152	282	3
1995	850,230	18,553	90,023	499	2,674	122,447	4,236,526	24	125	296	2
1996	896,921	18,780	99,951	653	2,642	132,593	3,806,901	20	138	300	2
1997	921,364	18,989	113,669	152	3,372	149,668	4,064,803	24	137	309	1
1998	936,619	23,300	166,528	431	4,102	210,769	4,588,284	29	137	308	2
1999	940,922	24,058	152,493	544	3,735	195,769	4,819,531	19	138	315	1
2000	985,821	30,016	138,513	454	3,275	185,358	5,206,324	25	134	318	1
2001	964,433	29,274	159,504	377	3,427	206,291	5,342,301	15	126	211	113
2002	977,507	21,876	104,773	1,267	5,816	156,995	5,671,897	33	150	230	143
2003	1,005,116	27,632	138,279	2,026	5,799	196,932	5,135,215	41	167	230	140
2004	1,016,268	19,107	139,816	2,713	7,372	198,498	5,463,763	58	165	223	138
2005	1,037,485	19,675	139,409	2,685	8,083	202,184	5,869,145	84	185	221	123
2006	1,026,636	12,646	57,345	1,870	7,101	107,365	6,222,100	65	182	231	125
2007	1,045,141	15,327	63,086	2,594	5,685	109,431	6,841,408	61	186	237	124
2008	1,040,580	12,547	38,241	2,670	5,119	79,056	6,668,379	61	177	258	131
2009	933,627	12,035	28,782	2,210	4,611	66,081	6,872,533	55	180	261	124
2010	<sup>R</sup> 975,052	<sup>R</sup> 13,790	<sup>R</sup> 24,503	<sup>R</sup> 1,877	<sup>R</sup> 4,777	<sup>R</sup> 64,055	<sup>R</sup> 7,387,184	52	<sup>R</sup> 196	<sup>R</sup> 264	124
2011 <sup>P</sup>	928,558	10,586	14,876	1,568	4,394	49,003	7,601,926	56	175	269	126

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

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

<sup>3</sup> Fuel oil nos. 5 and 6. Through 2000, electric utility data also include a small amount of fuel oil no. 4.

<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

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

<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>8</sup> Wood and wood-derived fuels.

<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

R=Revised. P=Preliminary. (s)=Less than 0.5.

Notes: • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Table 8.7c for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/electricity/> for related information.

Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."



**Table 8.7c Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output: Commercial and Industrial Sectors, Selected Years, 1989-2011** (Subset of Table 8.7a)

Year	Coal <sup>1</sup> Thousand Short Tons	Petroleum					Natural Gas <sup>6</sup> Million Cubic Feet	Other Gases <sup>7</sup> Trillion Btu	Biomass		Other <sup>10</sup> Trillion Btu	
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	Total <sup>5</sup>			Wood <sup>8</sup>	Waste <sup>9</sup>		
	Thousand Barrels					Thousand Short Tons	Thousand Barrels	Trillion Btu		Trillion Btu		
<b>Commercial Sector <sup>11</sup></b>												
1989	1,125	1,085	883	—	—	1,967	30,037	1	2	22	—	
1990	1,191	969	1,087	(s)	—	2,056	46,458	1	2	28	—	
1995	1,419	812	413	(s)	4	1,245	77,664	—	1	40	(s)	
1996	1,660	682	545	(s)	4	1,246	82,455	(s)	2	53	(s)	
1997	1,738	1,053	509	—	4	1,584	86,915	(s)	2	58	(s)	
1998	1,443	854	932	—	4	1,807	87,220	(s)	2	54	—	
1999	1,490	759	834	—	4	1,613	84,037	(s)	1	54	(s)	
2000	1,547	908	676	3	6	1,615	84,874	(s)	1	47	(s)	
2001	1,448	1,026	773	2	6	1,832	78,655	(s)	1	25	15	
2002	1,405	771	400	38	8	1,250	73,975	(s)	1	26	17	
2003	1,816	671	708	16	11	1,449	58,453	—	1	29	18	
2004	1,917	1,115	827	21	9	2,009	72,072	—	2	34	21	
2005	1,922	794	789	1	9	1,630	67,957	—	1	34	20	
2006	1,886	366	520	(s)	10	935	67,735	(s)	1	36	21	
2007	1,927	257	434	—	12	752	70,074	—	2	31	17	
2008	2,021	418	202	(s)	10	671	66,216	—	1	34	21	
2009	1,798	266	212	(s)	9	521	75,555	—	1	36	22	
2010	R1,720	R233	R143	(s)	12	R437	R85,786	R	(s)	1	R36	R22
2011 <sup>P</sup>	1,633	147	103	(s)	6	282	81,433	(s)	1	36	23	
<b>Industrial Sector <sup>12</sup></b>												
1989	24,867	1,903	20,909	646	397	25,444	913,516	195	926	35	85	
1990	27,781	2,657	23,079	1,305	1,824	36,159	1,055,235	275	1,125	41	86	
1995	29,363	2,333	21,732	823	1,912	34,448	1,258,063	290	1,255	38	95	
1996	29,434	2,983	24,111	1,815	1,950	38,661	1,288,876	325	1,249	39	89	
1997	29,853	2,851	20,445	374	2,719	37,265	1,281,620	283	1,259	41	102	
1998	28,553	5,852	21,807	800	2,090	38,910	1,354,986	305	1,211	42	93	
1999	27,763	5,799	18,993	1,268	2,251	37,312	1,401,374	331	1,213	31	99	
2000	28,031	3,648	17,483	2,448	1,388	30,520	1,385,546	331	1,244	35	108	
2001	25,755	3,424	16,860	1,039	1,099	26,817	1,309,636	248	1,054	27	101	
2002	26,232	2,101	13,463	1,953	1,529	25,163	1,240,209	245	1,136	34	92	
2003	24,846	3,522	13,872	2,535	1,257	26,212	1,143,734	253	1,097	34	103	
2004	26,613	3,298	16,835	2,030	1,339	28,857	1,190,844	295	1,193	24	94	
2005	25,875	3,977	16,718	1,583	1,020	27,380	1,083,607	264	1,166	34	94	
2006	25,262	1,643	11,981	1,526	1,511	22,706	1,114,597	277	1,216	33	92	
2007	22,537	1,458	11,096	1,643	1,602	22,207	1,050,439	268	1,148	36	98	
2008	21,902	1,171	5,034	1,095	1,184	13,222	954,785	239	1,084	35	60	
2009	19,766	2,499	4,678	1,008	1,209	14,228	989,769	204	955	35	82	
2010	R24,638	R1,224	R2,298	R900	R1,264	R10,740	R1,028,990	R210	R1,029	R47	R91	
2011 <sup>P</sup>	24,733	641	1,699	635	1,265	9,302	1,023,670	224	1,037	44	40	

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Fuel oil nos. 1, 2, and 4.

<sup>3</sup> Fuel oil nos. 5 and 6.

<sup>4</sup> Jet fuel, kerosene, other petroleum liquids, and waste oil.

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

<sup>6</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>7</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>8</sup> Wood and wood-derived fuels.

<sup>9</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>10</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>11</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>12</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.5.

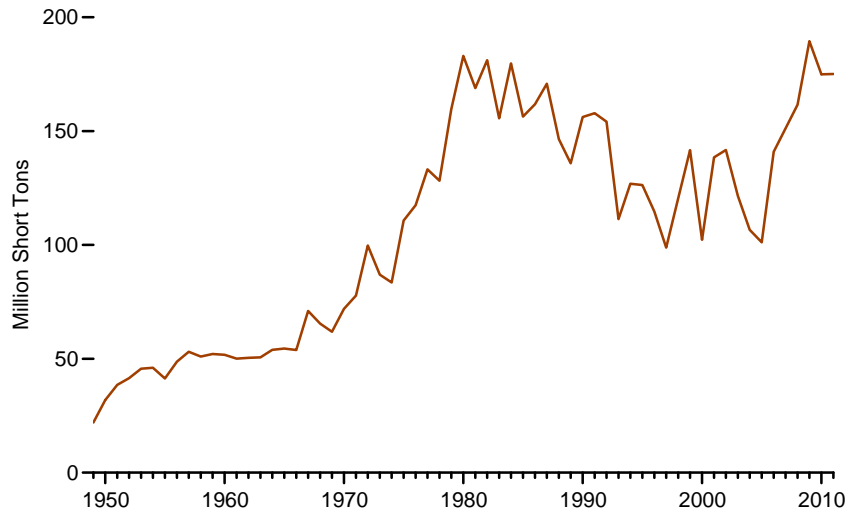
Notes: • See Table 8.7b for electric power sector electricity-only and CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Useful Thermal Output" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1989. • See <http://www.eia.gov/electricity/> for related information.

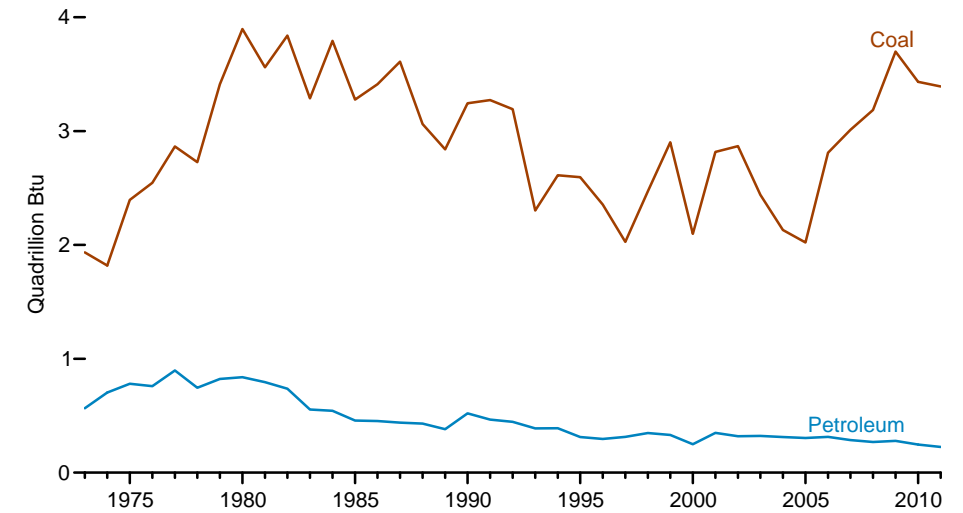
Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report,"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

**Figure 8.8 Stocks of Coal and Petroleum: Electric Power Sector, End of Year**

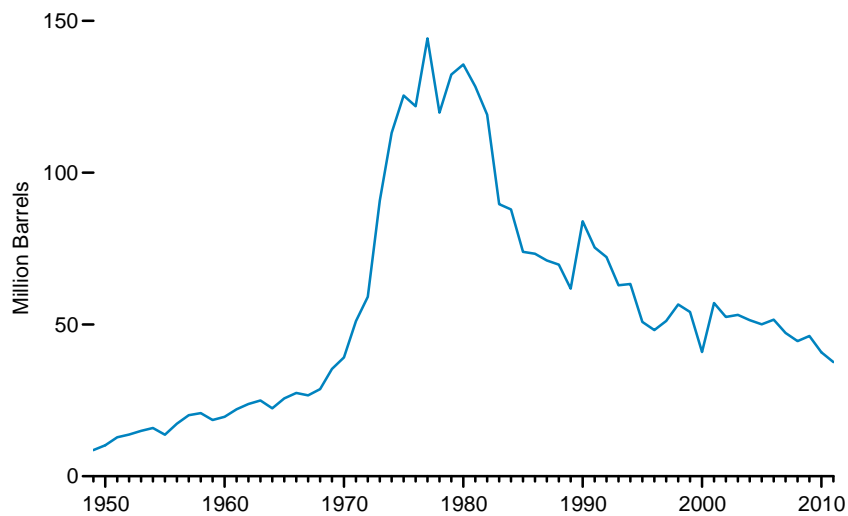
**Coal, 1949-2011**



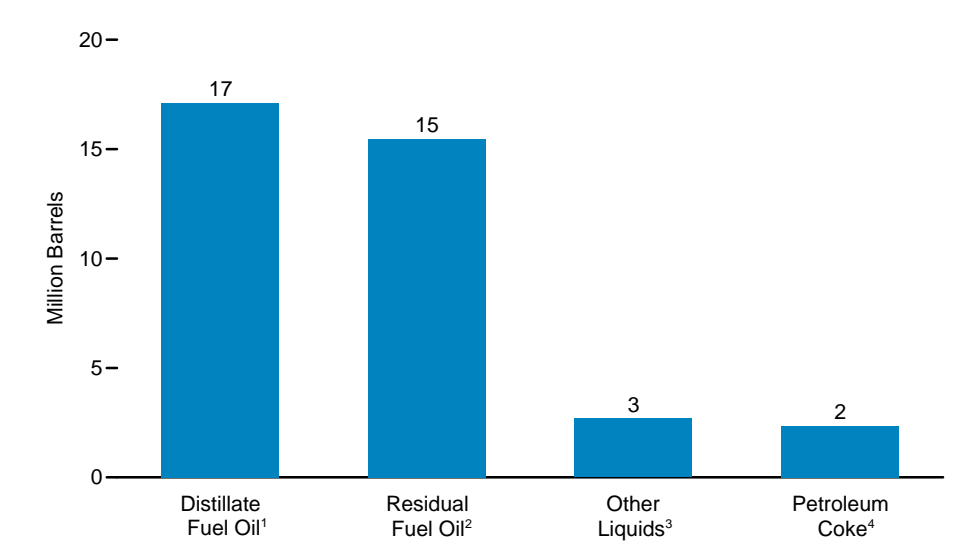
**Coal and Petroleum, 1973-2011**



**Petroleum, 1949-2011**



**Petroleum Products, 2011**



<sup>1</sup> Fuel oil nos. 1, 2, and 4.

<sup>2</sup> Fuel oil nos. 5 and 6.

<sup>3</sup> Jet fuel and kerosene.

<sup>4</sup> Petroleum coke, which is reported in short tons, is converted at a rate of 5 barrels per short ton.

Sources: Tables 8.8, A3, and A5.

**Table 8.8 Stocks of Coal and Petroleum: Electric Power Sector, Selected Years, End of Year 1949-2011**

Year	Coal <sup>1</sup>	Petroleum				Total <sup>5,6</sup>
		Distillate Fuel Oil <sup>2</sup>	Residual Fuel Oil <sup>3</sup>	Other Liquids <sup>4</sup>	Petroleum Coke <sup>5</sup>	
	Thousand Short Tons	Thousand Barrels			Thousand Short Tons	Thousand Barrels
1949	22,054	NA	NA	NA	NA	8,604
1950	31,842	NA	NA	NA	NA	10,201
1955	41,391	NA	NA	NA	NA	13,671
1960	51,735	NA	NA	NA	NA	19,572
1965	54,525	NA	NA	NA	NA	25,647
1970	71,908	NA	NA	NA	239	39,151
1975	110,724	16,432	108,825	NA	31	125,413
1976	117,436	14,703	106,993	NA	32	121,857
1977	133,219	19,281	124,750	NA	44	144,252
1978	128,225	16,386	102,402	NA	198	119,778
1979	159,714	20,301	111,121	NA	183	132,338
1980	183,010	30,023	105,351	NA	52	135,635
1981	168,893	26,094	102,042	NA	42	128,345
1982	181,132	23,369	95,515	NA	41	119,090
1983	155,598	18,801	70,573	NA	55	89,652
1984	179,727	19,116	68,503	NA	50	87,870
1985	156,376	16,386	57,304	NA	49	73,933
1986	161,806	16,269	56,841	NA	40	73,313
1987	170,797	15,759	55,069	NA	51	71,084
1988	146,507	15,099	54,187	NA	86	69,714
1989	135,860	13,824	47,446	NA	105	61,795
1990	156,166	16,471	67,030	NA	94	83,970
1991	157,876	16,357	58,636	NA	70	75,343
1992	154,130	15,714	56,135	NA	67	72,183
1993	111,341	15,674	46,770	NA	89	62,890
1994	126,897	16,644	46,344	NA	69	63,333
1995	126,304	15,392	35,102	NA	65	50,821
1996	114,623	15,216	32,473	NA	91	48,146
1997	98,826	15,456	33,336	NA	469	51,138
1998	120,501	16,343	37,451	NA	559	56,591
1999 <sup>7</sup>	141,604	17,995	34,256	NA	372	54,109
2000	102,296	15,127	24,748	NA	211	40,932
2001	138,496	20,486	34,594	NA	390	57,031
2002	141,714	17,413	25,723	800	1,711	52,490
2003	121,567	19,153	25,820	779	1,484	53,170
2004	106,669	19,275	26,596	879	937	51,434
2005	101,137	18,778	27,624	1,012	530	50,062
2006	140,964	18,013	28,823	1,380	674	51,583
2007	151,221	18,395	24,136	1,902	554	47,203
2008	161,589	17,761	21,088	1,955	739	44,498
2009	189,467	17,886	19,068	2,257	1,394	46,181
2010	<sup>R</sup> 174,917	<sup>R</sup> 16,758	<sup>R</sup> 16,629	<sup>R</sup> 2,319	<sup>R</sup> 1,019	<sup>R</sup> 40,800
2011 <sup>P</sup>	175,100	17,101	15,469	2,690	470	37,608

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, and lignite.

<sup>2</sup> Fuel oil nos. 1, 2, and 4. For 1973–1979, data are for gas turbine and internal combustion plant stocks of petroleum. For 1980–2000, electric utility data also include small amounts of kerosene and jet fuel.

<sup>3</sup> Fuel oil nos. 5 and 6. For 1973–1979, data are for steam plant stocks of petroleum. For 1980–2000, electric utility data also include a small amount of fuel oil no. 4.

<sup>4</sup> Jet fuel and kerosene. Through 2003, data also include a small amount of waste oil.

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

<sup>6</sup> Distillate fuel oil and residual fuel oil; beginning in 1970, also includes petroleum coke; and beginning in 2002, also includes other liquids.

<sup>7</sup> Through 1998, data are for electric utilities only. Beginning in 1999, data are for electric utilities and independent power producers.

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

Notes: • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants

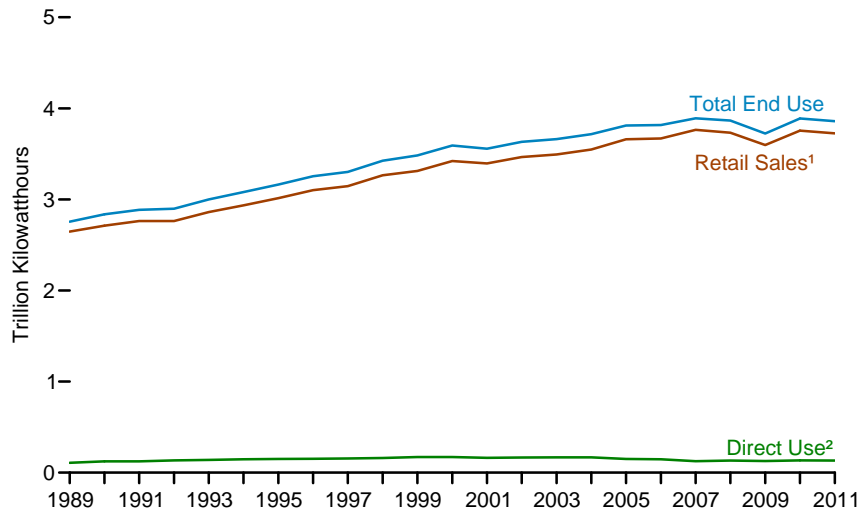
Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding.

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

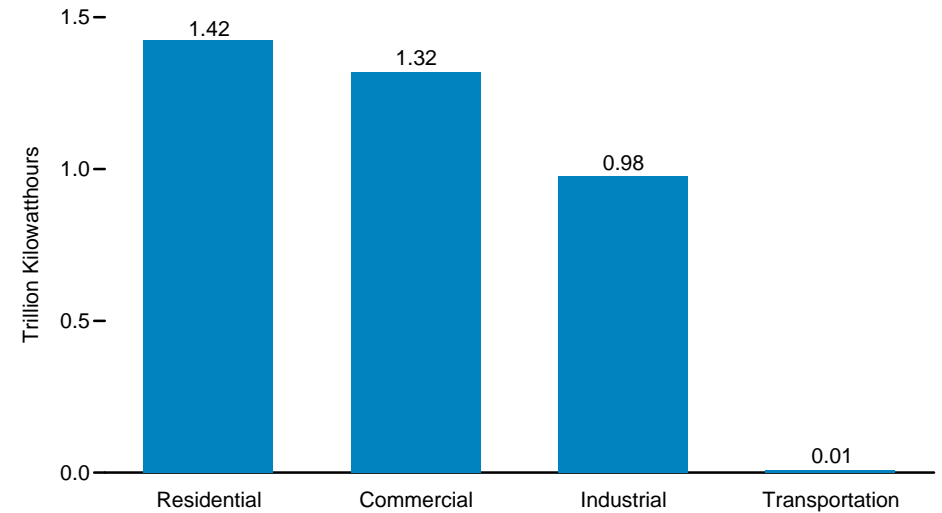
Sources: • 1949-September 1977—Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • October 1977-1981—Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • 1982-1988—U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." • 1989-1997—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001-2003—EIA, Form EIA-906, "Power Plant Report." • 2004-2007—EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • 2008 forward—EIA, Form EIA-923, "Power Plant Operations Report."

**Figure 8.9 Electricity End Use**

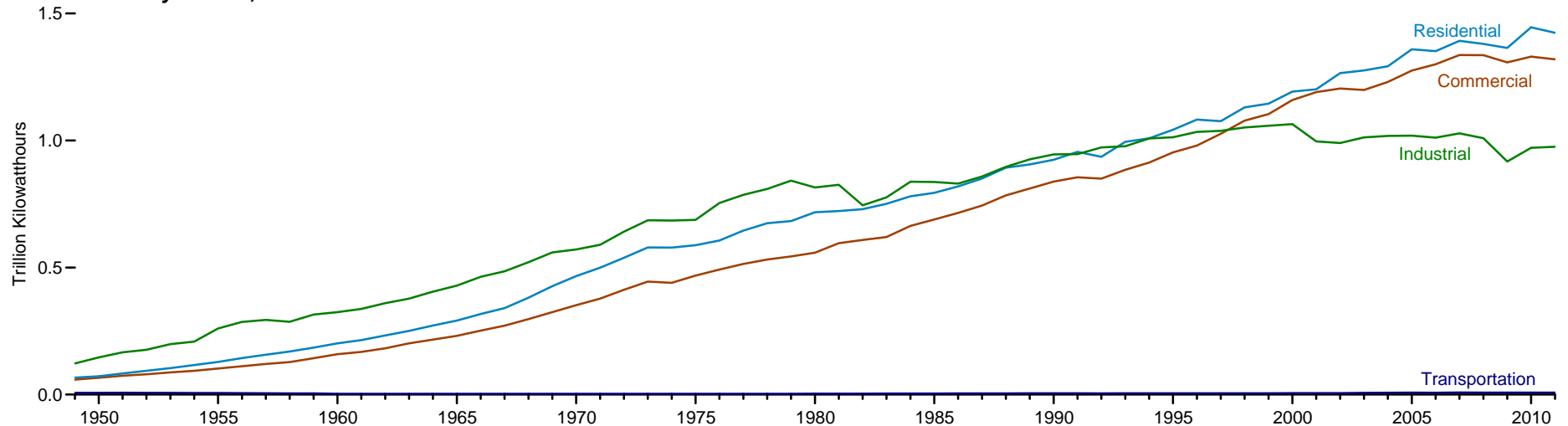
**Overview, 1989-2011**



**Retail Sales<sup>1</sup> by Sector, 2011**



**Retail Sales<sup>1</sup> by Sector, 1949-2011**



<sup>1</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

<sup>2</sup> Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial

process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

Source: Table 8.9.

**Table 8.9 Electricity End Use, Selected Years, 1949-2011**  
(Billion Kilowatthours)

Year	Retail Sales <sup>1</sup>					Direct Use <sup>6</sup>	Total End Use <sup>7</sup>	Discontinued Retail Sales Series	
	Residential	Commercial <sup>2</sup>	Industrial <sup>3</sup>	Transportation <sup>4</sup>	Total Retail Sales <sup>5</sup>			Commercial (Old) <sup>8</sup>	Other (Old) <sup>9</sup>
1949	67	E59	123	E6	255	NA	255	45	20
1950	72	E66	146	E7	291	NA	291	51	22
1955	128	E103	260	E6	497	NA	497	79	29
1960	201	E159	324	E3	688	NA	688	131	32
1965	291	E231	429	E3	954	NA	954	200	34
1970	466	E352	571	E3	1,392	NA	1,392	307	48
1975	588	E468	688	E3	1,747	NA	1,747	403	68
1976	606	E492	754	E3	1,855	NA	1,855	425	70
1977	645	E514	786	E3	1,948	NA	1,948	447	71
1978	674	E531	809	E3	2,018	NA	2,018	461	73
1979	683	543	842	3	2,071	NA	2,071	473	73
1980	717	559	815	3	2,094	NA	2,094	488	74
1981	722	596	826	3	2,147	NA	2,147	514	85
1982	730	609	745	3	2,086	NA	2,086	526	86
1983	751	620	776	4	2,151	NA	2,151	544	80
1984	780	664	838	4	2,286	NA	2,286	583	85
1985	794	689	837	4	2,324	NA	2,324	606	87
1986	819	715	831	4	2,369	NA	2,369	631	89
1987	850	744	858	5	2,457	NA	2,457	660	88
1988	893	784	896	5	2,578	NA	2,578	699	90
1989	906	811	926	5	2,647	109	2,756	726	90
1990	924	838	946	5	2,713	125	2,837	751	92
1991	955	855	947	5	2,762	124	2,886	766	94
1992	936	850	973	5	2,763	134	2,897	761	93
1993	995	885	977	5	2,861	139	3,001	795	95
1994	1,008	913	1,008	5	2,935	146	3,081	820	98
1995	1,043	953	1,013	5	3,013	151	3,164	863	95
1996	1,083	980	1,034	5	3,101	153	3,254	887	98
1997	1,076	1,027	1,038	5	3,146	156	3,302	929	103
1998	1,130	1,078	1,051	5	3,264	161	3,425	979	104
1999	1,145	1,104	1,058	5	3,312	172	3,484	1,002	107
2000	1,192	1,159	1,064	5	3,421	171	3,592	1,055	109
2001	1,202	1,191	997	6	3,394	163	3,557	1,083	113
2002	1,265	1,205	990	6	3,465	166	3,632	1,104	106
2003	1,276	1,199	1,012	7	3,494	168	3,662	--	--
2004	1,292	1,230	1,018	7	3,547	168	3,716	--	--
2005	1,359	1,275	1,019	8	3,661	150	3,811	--	--
2006	1,352	1,300	1,011	7	3,670	147	3,817	--	--
2007	1,392	1,336	1,028	8	3,765	126	3,890	--	--
2008	1,380	1,336	1,009	8	3,733	132	3,865	--	--
2009	1,364	1,307	917	8	3,597	127	3,724	--	--
2010	R1,446	R1,330	R971	8	R3,754	R132	R3,886	--	--
2011	P1,424	P1,319	P976	P8	P3,726	E130	P3,856	--	--

<sup>1</sup> Electricity retail sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

<sup>2</sup> Commercial sector, including public street and highway lighting, interdepartmental sales, and other sales to public authorities.

<sup>3</sup> Industrial sector. Through 2002, excludes agriculture and irrigation; beginning in 2003, includes agriculture and irrigation.

<sup>4</sup> Transportation sector, including sales to railroads and railways.

<sup>5</sup> The sum of "Residential," "Commercial," "Industrial," and "Transportation."

<sup>6</sup> Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

<sup>7</sup> The sum of "Total Retail Sales" and "Direct Use."

<sup>8</sup> "Commercial (Old)" is a discontinued series—data are for the commercial sector, excluding public street and highway lighting, interdepartmental sales, and other sales to public authorities.

<sup>9</sup> "Other (Old)" is a discontinued series—data are for public street and highway lighting, interdepartmental sales, other sales to public authorities, agriculture and irrigation, and transportation including railroads and railways.

R=Revised. P=Preliminary. E=Estimate. NA=Not available. -- =Not applicable.

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

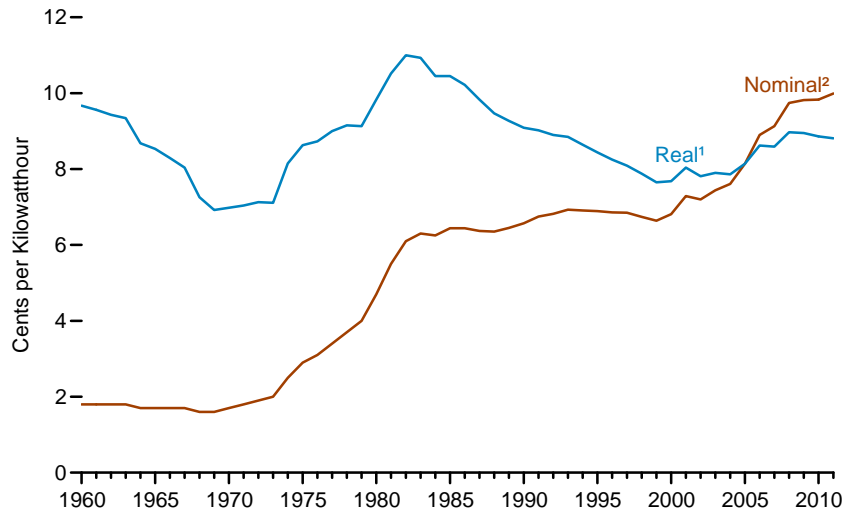
Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#electricity> for updated monthly and

annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1949. • See <http://www.eia.gov/electricity/> for related information.

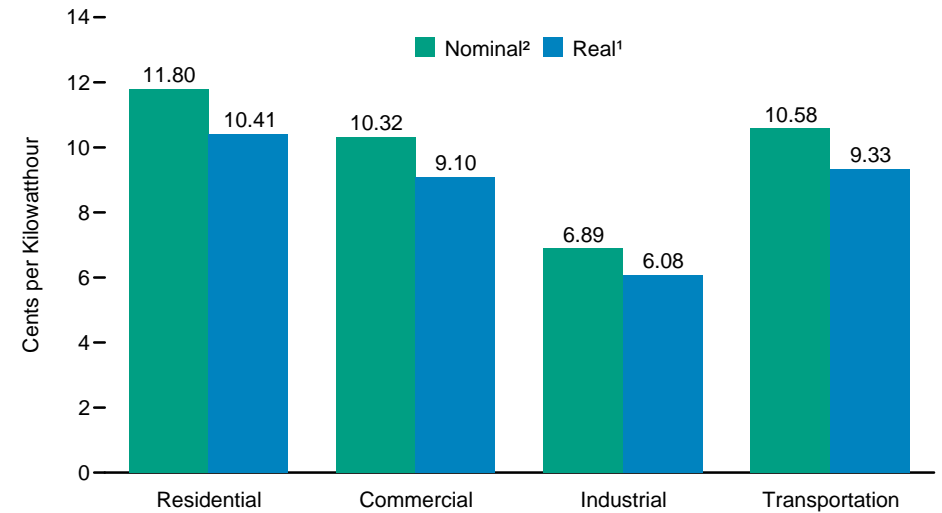
Sources: **Residential and Industrial:** • 1949-September 1977—Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • October 1977-February 1980—Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income." • March 1980-1982—FERC, Form FPC-5, "Electric Utility Company Monthly Statement." • 1983—U.S. Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement." • 1984-1996—EIA, Form EIA-861, "Annual Electric Utility Report." • 1997 forward—EIA, *Electric Power Monthly (EPM)* (February 2012), Table 5.1. **Commercial:** • 1949-2002—Estimated by EIA as the sum of "Commercial (Old)" and the non-transportation portion of "Other (Old)." See estimation methodology at [http://www.eia.gov/state/seds/sep\\_use/notes/use\\_elec.pdf](http://www.eia.gov/state/seds/sep_use/notes/use_elec.pdf). • 2003 forward—EIA, EPM (February 2012), Table 5.1. **Transportation:** • 1949-2002—Estimated by EIA as the transportation portion of "Other (Old)." See estimation methodology at [http://www.eia.gov/state/seds/sep\\_use/notes/use\\_elec.pdf](http://www.eia.gov/state/seds/sep_use/notes/use_elec.pdf). • 2003 forward—EIA, EPM (February 2012), Table 5.1. **Direct Use:** • 1989-1997—EIA, Form EIA-867, "Annual Nonutility Power Producer Report." • 1998—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 1999-2010—EIA, *Electric Power Annual 2010* (November 2011), Table 7.2. • 2011—Estimate based on the 2010 value adjusted by the percentage change in commercial and industrial net generation on Table 8.1. **Commercial (Old) and Other (Old):** • 1949-2002—See sources for "Residential" and "Industrial."

**Figure 8.10 Average Retail Prices of Electricity**

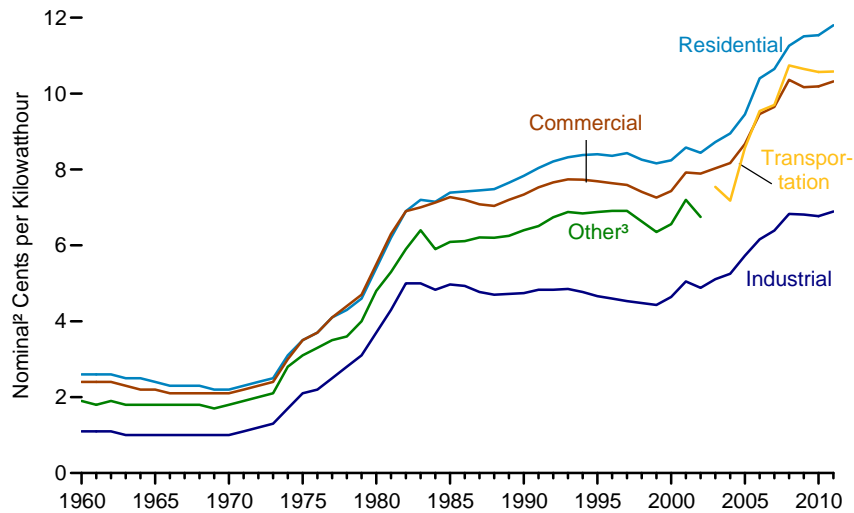
**Total, 1960-2011**



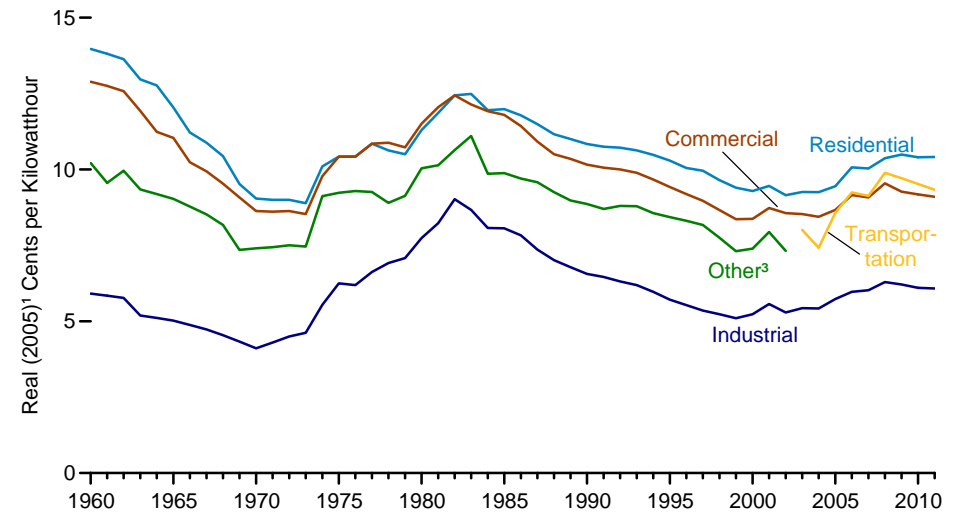
**By Sector, 2011**



**By Sector, Nominal<sup>2</sup> Prices, 1960-2011**



**By Sector, Real<sup>1</sup> Prices, 1960-2011**



<sup>1</sup> In chained (2005) dollars, calculated by using gross domestic product implicit price deflators in Table D1. See "Chained Dollars" in Glossary.

<sup>2</sup> See "Nominal Price" in Glossary.

<sup>3</sup> Public street and highway lighting, interdepartmental sales, other sales to public authorities, agriculture and irrigation, and transportation including railroads and railways.

Note: Taxes are included.

Source: Table 8.10.

**Table 8.10 Average Retail Prices of Electricity, Selected Years, 1960-2011**  
(Cents per Kilowatthour, Including Taxes)

Year	Residential		Commercial <sup>1</sup>		Industrial <sup>2</sup>		Transportation <sup>3</sup>		Other <sup>4</sup>		Total	
	Nominal <sup>5</sup>	Real <sup>6</sup>	Nominal <sup>5</sup>	Real <sup>6</sup>	Nominal <sup>5</sup>	Real <sup>6</sup>	Nominal <sup>5</sup>	Real <sup>6</sup>	Nominal <sup>5</sup>	Real <sup>6</sup>	Nominal <sup>5</sup>	Real <sup>6</sup>
1960	2.6	14.0	2.4	12.9	1.1	5.9	NA	NA	1.9	10.2	1.8	9.7
1965	2.4	R12.0	2.2	11.0	1.0	5.0	NA	NA	1.8	9.0	1.7	8.5
1966	2.3	11.2	2.1	R10.2	1.0	4.9	NA	NA	1.8	8.8	1.7	8.3
1967	2.3	10.9	2.1	R9.9	1.0	4.7	NA	NA	1.8	8.5	1.7	R8.0
1968	2.3	R10.4	2.1	9.5	1.0	4.5	NA	NA	1.8	8.2	1.6	7.3
1969	2.2	9.5	2.1	9.1	1.0	4.3	NA	NA	1.7	7.4	1.6	6.9
1970	2.2	R9.0	2.1	8.6	1.0	4.1	NA	NA	1.8	7.4	1.7	7.0
1971	2.3	9.0	2.2	8.6	1.1	4.3	NA	NA	1.9	7.4	1.8	R7.0
1972	2.4	9.0	2.3	8.6	1.2	4.5	NA	NA	2.0	7.5	1.9	7.1
1973	2.5	8.9	2.4	8.5	1.3	4.6	NA	NA	2.1	7.5	2.0	7.1
1974	3.1	10.1	3.0	9.8	1.7	5.5	NA	NA	2.8	9.1	2.5	8.2
1975	3.5	10.4	3.5	10.4	2.1	6.3	NA	NA	3.1	9.2	2.9	8.6
1976	3.7	10.4	3.7	10.4	2.2	6.2	NA	NA	3.3	9.3	3.1	8.7
1977	4.1	10.9	4.1	10.9	2.5	6.6	NA	NA	3.5	9.3	3.4	9.0
1978	4.3	10.6	4.4	10.9	2.8	6.9	NA	NA	3.6	8.9	3.7	9.2
1979	4.6	10.5	4.7	10.7	3.1	7.1	NA	NA	4.0	9.1	4.0	9.1
1980	5.4	11.3	5.5	11.5	3.7	R7.7	NA	NA	4.8	R10.0	4.7	9.8
1981	6.2	11.9	6.3	12.1	4.3	8.2	NA	NA	5.3	R10.1	5.5	10.5
1982	6.9	R12.4	6.9	R12.4	5.0	9.0	NA	NA	5.9	R10.6	6.1	11.0
1983	7.2	12.5	7.0	R12.1	5.0	8.7	NA	NA	6.4	11.1	6.3	10.9
1984	7.15	R11.95	7.13	R11.92	4.83	R8.07	NA	NA	5.90	R9.86	6.25	R10.45
1985	7.39	R11.99	7.27	R11.80	4.97	R8.06	NA	NA	6.09	R9.88	6.44	R10.45
1986	7.42	R11.78	7.20	R11.43	4.93	7.83	NA	NA	6.11	R9.70	6.44	R10.22
1987	7.45	R11.49	7.08	R10.92	4.77	R7.36	NA	NA	6.21	R9.58	6.37	R9.83
1988	7.48	R11.16	7.04	R10.50	4.70	R7.01	NA	NA	6.20	R9.25	6.35	R9.47
1989	7.65	11.00	7.20	R10.35	4.72	R6.78	NA	NA	6.25	R8.98	6.45	R9.27
1990	7.83	10.84	7.34	R10.16	4.74	R6.56	NA	NA	6.40	8.86	6.57	R9.09
1991	8.04	10.75	7.53	R10.06	4.83	6.46	NA	NA	6.51	R8.70	6.75	R9.02
1992	8.21	R10.72	7.66	R10.00	4.83	6.31	NA	NA	6.74	R8.80	6.82	R8.90
1993	8.32	R10.63	7.74	9.89	4.85	R6.19	NA	NA	6.88	R8.79	6.93	R8.85
1994	8.38	R10.48	7.73	R9.67	4.77	5.97	NA	NA	6.84	8.56	6.91	R8.64
1995	8.40	R10.29	7.69	R9.42	4.66	R5.71	NA	NA	6.88	R8.43	6.89	R8.44
1996	8.36	R10.05	7.64	R9.19	4.60	R5.53	NA	NA	6.91	R8.31	6.86	R8.25
1997	8.43	R9.96	7.59	R8.97	4.53	R5.35	NA	NA	6.91	8.17	6.85	R8.09
1998	8.26	R9.65	7.41	R8.66	4.48	R5.23	NA	NA	6.63	7.75	6.74	7.88
1999	8.16	9.40	7.26	R8.36	4.43	R5.10	NA	NA	6.35	R7.31	6.64	7.65
2000	8.24	R9.29	7.43	R8.37	4.64	5.23	NA	NA	6.56	R7.39	6.81	7.68
2001	8.58	9.46	7.92	R8.73	5.05	5.57	NA	NA	7.20	7.94	7.29	8.04
2002	8.44	R9.15	7.89	R8.56	4.88	R5.29	NA	NA	6.75	R7.32	7.20	R7.81
2003	8.72	R9.26	8.03	8.53	5.11	5.43	7.54	8.01	--	--	7.44	R7.90
2004	8.95	9.25	8.17	8.44	5.25	R5.42	7.18	7.42	--	--	7.61	7.86
2005	9.45	9.45	8.67	8.67	5.73	5.73	8.57	8.57	--	--	8.14	8.14
2006	10.40	10.07	9.46	9.16	6.16	5.97	9.54	9.24	--	--	8.90	8.62
2007	10.65	R10.03	9.65	9.08	6.39	R6.02	9.70	9.13	--	--	9.13	8.59
2008	11.26	10.37	10.36	9.54	6.83	6.29	10.74	9.89	--	--	9.74	8.97
2009	11.51	R10.49	10.17	R9.27	6.81	6.21	10.65	R9.71	--	--	9.82	R8.95
2010	R11.54	R10.40	R10.19	R9.18	R6.77	R6.10	R10.57	R9.52	--	--	R9.83	R8.86
2011 <sup>P</sup>	11.80	10.41	10.32	9.10	6.89	6.08	10.58	9.33	--	--	9.99	8.81

<sup>1</sup> Commercial sector. For 1960–2002, prices exclude public street and highway lighting, interdepartmental sales, and other sales to public authorities.

<sup>2</sup> Industrial sector. For 1960–2002, prices exclude agriculture and irrigation.

<sup>3</sup> Transportation sector, including railroads and railways.

<sup>4</sup> Public street and highway lighting, interdepartmental sales, other sales to public authorities, agriculture and irrigation, and transportation including railroads and railways.

<sup>5</sup> See "Nominal Price" in Glossary.

<sup>6</sup> In chained (2005) dollars, calculated by using gross domestic product implicit price deflators in Table D1. See "Chained Dollars" in Glossary.

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

Notes: • Beginning in 2003, the category "Other" has been replaced by "Transportation," and the categories "Commercial" and "Industrial" have been redefined. • Data represent revenue from electricity retail sales divided by electricity retail sales. • Prices include State and local taxes, energy or demand charges, customer service charges, environmental surcharges, franchise fees, fuel adjustments, and other miscellaneous charges applied to end-use customers during normal billing operations. Prices do not include deferred charges, credits, or other adjustments, such as fuel or revenue from purchased power, from

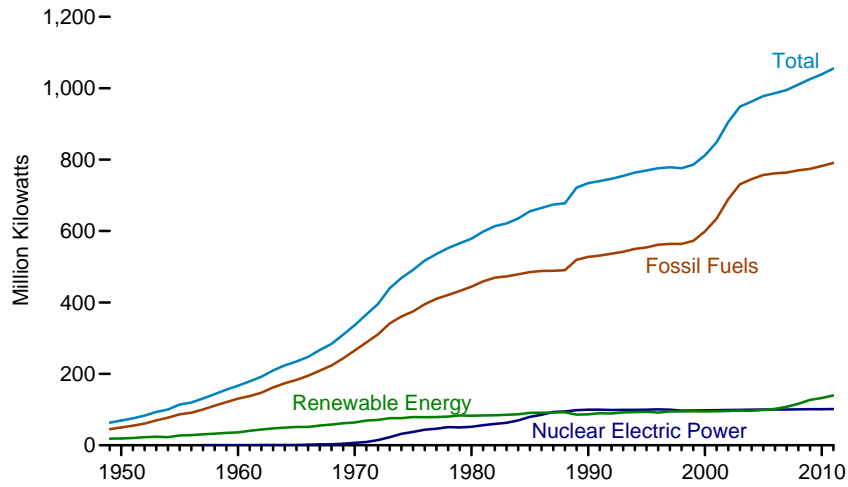
previous reporting periods. • Through 1979, data are for Classes A and B privately owned electric utilities only. (Class A utilities are those with operating revenues of \$2.5 million or more; Class B utilities are those with between \$1 million and \$2.5 million.) For 1980–1982, data are for selected Class A utilities whose electric operating revenues were \$100 million or more during the previous year. For 1983, data are for a selected sample of electric utilities. Beginning in 1984, data are for a census of electric utilities. Beginning in 1996, data also include energy service providers selling to retail customers.

Web Pages: • See <http://www.eia.gov/totalenergy/data/monthly/#prices> for updated monthly and annual data. • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all annual data beginning in 1960. • See <http://www.eia.gov/electricity/> for related information.

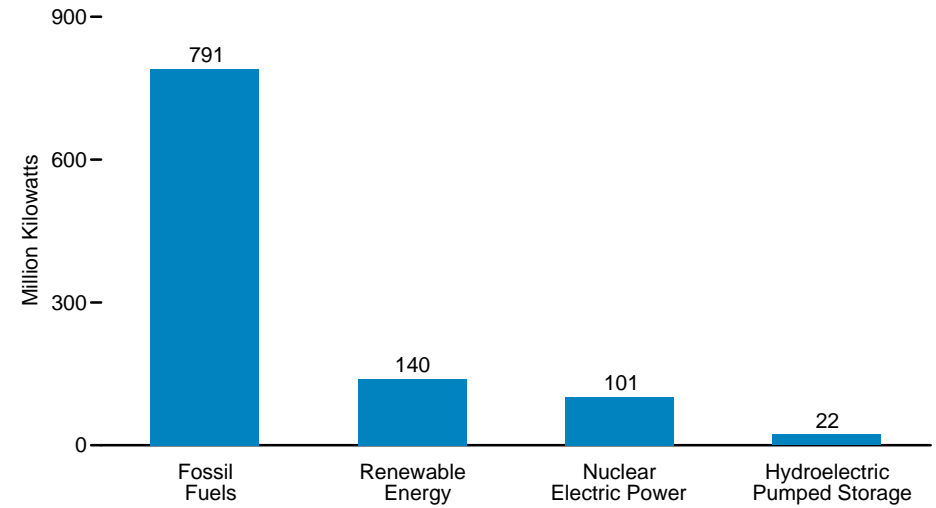
Sources: • 1960–September 1977—Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income." • October 1977–February 1980—Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income." • March 1980–1982—FERC, Form FERC-5, "Electric Utility Company Monthly Statement." • 1983—U.S. Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement." • 1984–1996—EIA, Form EIA-861, "Annual Electric Utility Report." • 1997 forward—EIA, *Electric Power Monthly* (February 2012), Table 5.3.

**Figure 8.11a Electric Net Summer Capacity, Total (All Sectors)**

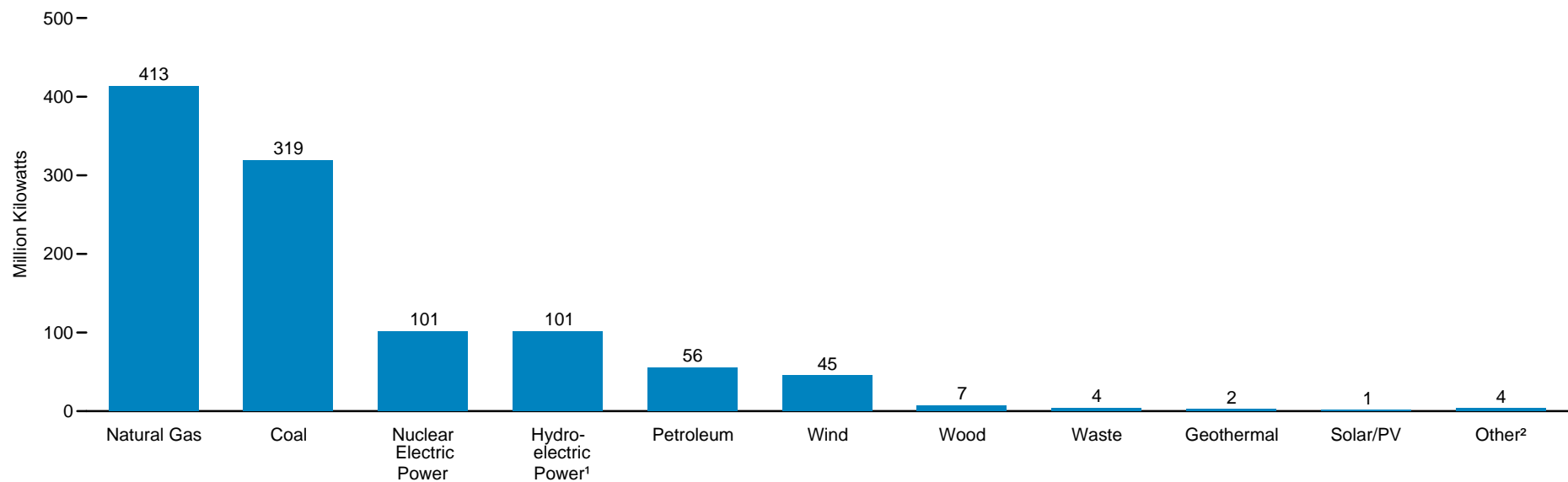
**Total, 1949-2011**



**By Major Category, 2011**



**By Source, 2011**



<sup>1</sup> Conventional and pumped storage.

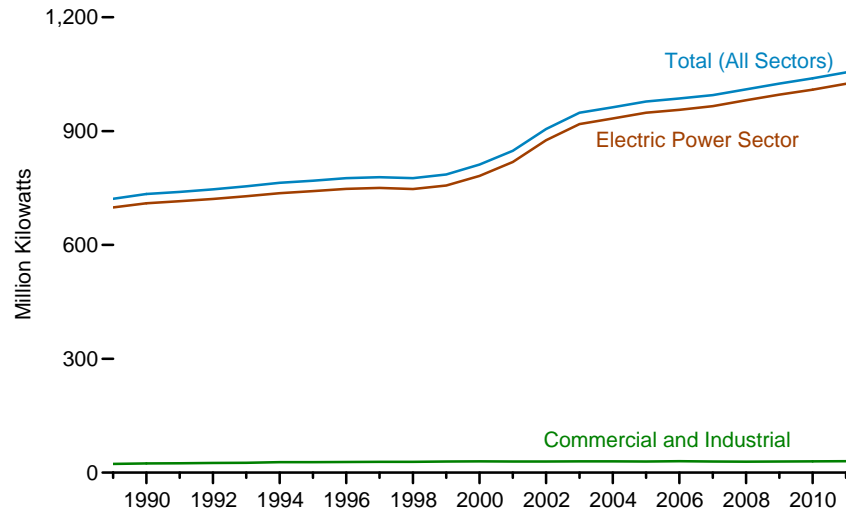
Source: Table 8.11a.

<sup>2</sup> Blast furnace gas, propane gas, other manufactured and waste gases derived from fossil fuels, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

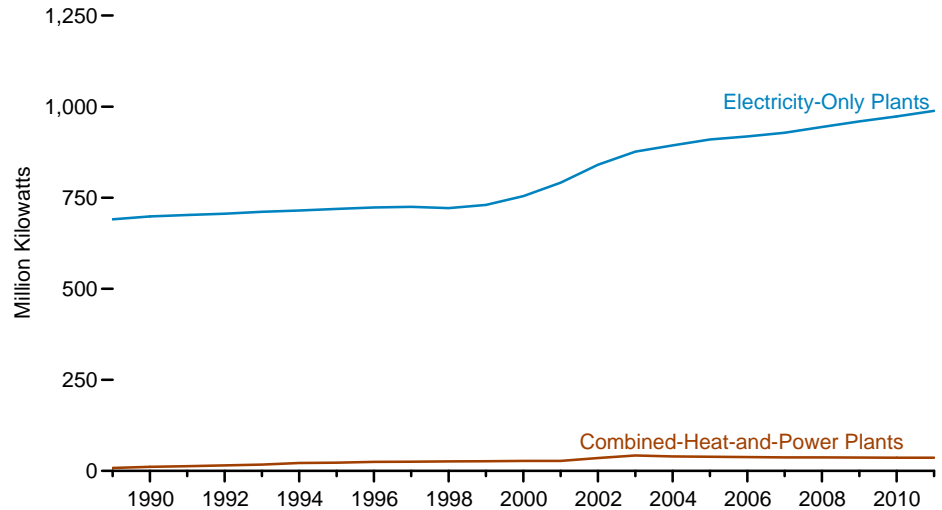


**Figure 8.11b Electric Net Summer Capacity by Sector**

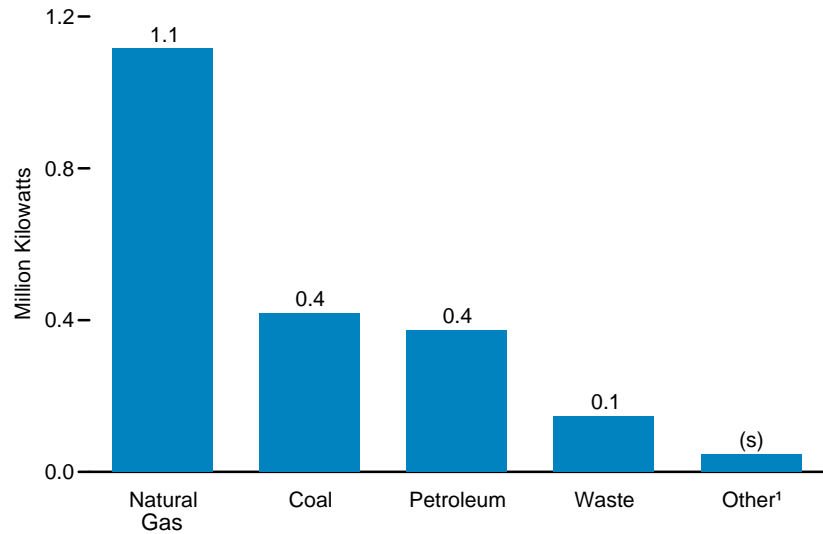
**Total (All Sectors) and Sectors, 1989-2011**



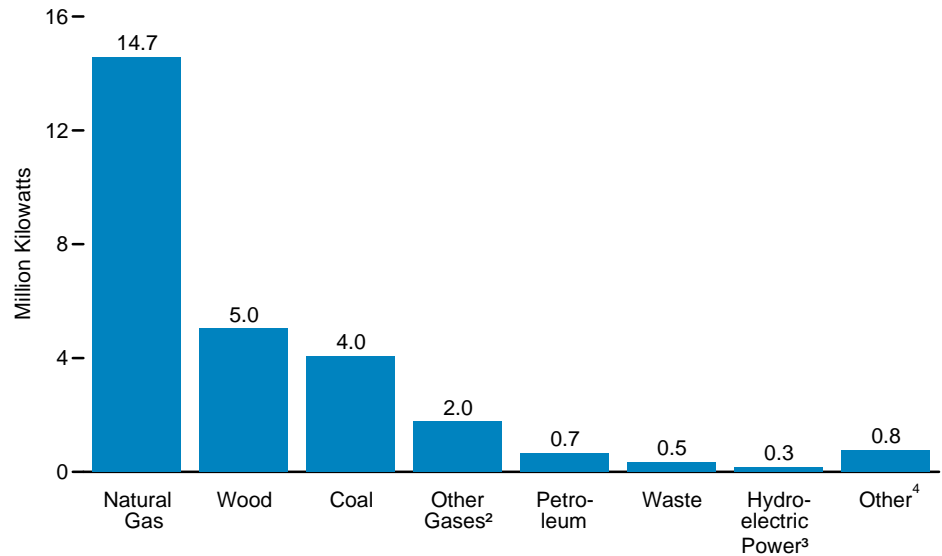
**Electric Power Sector by Plant Type, 1989-2011**



**Commercial Sector, 2011**



**Industrial Sector, 2011**



<sup>1</sup> Conventional hydroelectric power, solar/PV, wood, wind, blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

<sup>2</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels

<sup>3</sup> Conventional hydroelectric power.

<sup>4</sup> Solar/PV, wind, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

(s)=Less than 0.05 million kilowatts.

Sources: Tables 8.11a-8.11d.

**Table 8.11a Electric Net Summer Capacity: Total (All Sectors), Selected Years, 1949-2011**

(Sum of Tables 8.11b and 8.11d; Million Kilowatts)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage	Renewable Energy							Other <sup>9</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power <sup>5</sup>	Biomass		Geo-thermal	Solar/PV <sup>8</sup>	Wind	Total		
									Wood <sup>6</sup>	Waste <sup>7</sup>						
1949	NA	NA	NA	NA	44.9	0.0	( <sup>5</sup> )	18.5	(s)	( <sup>10</sup> )	NA	NA	NA	18.5	NA	63.4
1950	NA	NA	NA	NA	50.0	.0	( <sup>5</sup> )	19.2	(s)	( <sup>10</sup> )	NA	NA	NA	19.2	NA	69.2
1955	NA	NA	NA	NA	86.8	.0	( <sup>5</sup> )	27.4	(s)	( <sup>10</sup> )	NA	NA	NA	27.4	NA	114.2
1960	NA	NA	NA	NA	130.8	.4	( <sup>5</sup> )	35.8	.1	( <sup>10</sup> )	(s)	NA	NA	35.9	NA	167.1
1965	NA	NA	NA	NA	182.9	.8	( <sup>5</sup> )	51.0	.1	( <sup>10</sup> )	(s)	NA	NA	51.1	NA	234.8
1970	NA	NA	NA	NA	265.4	7.0	( <sup>5</sup> )	63.8	.1	( <sup>10</sup> )	.1	NA	NA	63.9	NA	336.4
1975	NA	NA	NA	NA	375.1	37.3	( <sup>5</sup> )	78.4	.1	( <sup>10</sup> )	.5	NA	NA	79.0	NA	491.3
1976	NA	NA	NA	NA	394.8	43.8	( <sup>5</sup> )	78.0	.1	( <sup>10</sup> )	.5	NA	NA	78.6	NA	517.2
1977	NA	NA	NA	NA	410.4	46.3	( <sup>5</sup> )	78.6	.1	( <sup>10</sup> )	.5	NA	NA	79.2	NA	535.9
1978	NA	NA	NA	NA	420.8	50.8	( <sup>5</sup> )	79.9	.1	( <sup>10</sup> )	.5	NA	NA	80.5	NA	552.1
1979	NA	NA	NA	NA	432.1	49.7	( <sup>5</sup> )	82.9	.1	( <sup>10</sup> )	.7	NA	NA	83.6	NA	565.5
1980	NA	NA	NA	NA	444.1	51.8	( <sup>5</sup> )	81.7	.1	( <sup>10</sup> )	.9	NA	NA	82.7	NA	578.6
1981	NA	NA	NA	NA	458.9	56.0	( <sup>5</sup> )	82.4	.1	( <sup>10</sup> )	.9	NA	(s)	83.4	NA	598.3
1982	NA	NA	NA	NA	469.6	60.0	( <sup>5</sup> )	83.0	.1	( <sup>10</sup> )	1.0	NA	(s)	84.1	NA	613.7
1983	NA	NA	NA	NA	472.8	63.0	( <sup>5</sup> )	83.9	.2	( <sup>10</sup> )	1.2	NA	(s)	85.3	NA	621.1
1984	NA	NA	NA	NA	478.6	69.7	( <sup>5</sup> )	85.3	.3	( <sup>10</sup> )	1.2	( <sup>11</sup> )	(s)	86.9	NA	635.1
1985	NA	NA	NA	NA	485.0	79.4	( <sup>5</sup> )	88.9	.2	.2	1.6	( <sup>11</sup> )	(s)	90.8	NA	655.2
1986	NA	NA	NA	NA	488.3	85.2	( <sup>5</sup> )	89.3	.2	.2	1.6	( <sup>11</sup> )	(s)	91.2	NA	664.8
1987	NA	NA	NA	NA	488.8	93.6	( <sup>5</sup> )	89.7	.2	.2	1.5	( <sup>11</sup> )	(s)	91.7	NA	674.1
1988	NA	NA	NA	NA	490.6	94.7	( <sup>5</sup> )	90.3	.2	.2	1.7	( <sup>11</sup> )	(s)	92.4	NA	677.7
1989 <sup>12</sup>	303.1	79.1	135.7	1.5	519.4	98.2	18.1	74.1	5.2	2.1	2.6	.2	1.5	85.7	.5	721.8
1990	307.4	77.9	140.8	1.6	527.8	99.6	19.5	73.9	5.5	2.5	2.7	.3	1.8	86.8	.5	734.1
1991	307.4	74.2	147.6	2.1	531.4	99.6	18.4	76.0	6.1	2.9	2.6	.3	1.9	89.9	.5	739.9
1992	309.4	73.1	152.2	2.1	536.7	99.0	21.2	74.8	6.2	3.0	2.9	.3	1.8	89.1	.5	746.5
1993	310.1	71.1	158.6	1.9	541.8	99.0	21.1	77.4	6.5	3.1	2.9	.3	1.8	92.1	.5	754.6
1994	311.4	71.7	164.8	2.1	550.0	99.1	21.2	78.0	6.7	3.3	3.0	.3	1.7	93.1	.5	764.0
1995	311.4	66.6	174.5	1.7	554.2	99.5	21.4	78.6	6.7	3.5	3.0	.3	1.7	93.9	.5	769.5
1996	313.4	72.5	174.1	1.7	561.7	100.8	21.1	76.4	6.8	3.6	2.9	.3	1.7	91.7	.5	775.9
1997	313.6	72.5	176.5	1.5	564.1	99.7	19.3	79.4	6.9	3.6	2.9	.3	1.6	94.8	.8	778.6
1998	315.8	66.3	180.3	1.5	563.9	97.1	19.5	79.2	6.8	3.7	2.9	.3	1.7	94.6	.8	775.9
1999	315.5	60.1	195.1	1.9	572.6	97.4	19.6	79.4	6.8	3.7	2.8	.4	2.3	95.3	1.0	785.9
2000	315.1	61.8	219.6	2.3	598.9	97.9	19.5	79.4	6.1	3.9	2.8	.4	2.4	94.9	.5	811.7
2001	314.2	66.2	252.8	1.7	634.9	98.2	19.7	78.9	5.9	3.7	2.2	.4	3.9	95.0	.5	848.3
2002	315.4	59.7	312.5	2.0	689.5	98.7	20.4	79.4	5.8	3.8	2.3	.4	4.4	96.1	.7	905.3
2003	313.0	60.7	355.4	2.0	731.2	99.2	20.5	78.7	5.9	3.8	2.1	.4	6.0	96.8	.7	948.4
2004	313.0	59.1	371.0	2.3	745.4	99.6	20.8	77.6	6.2	3.5	2.2	.4	6.5	96.4	.7	962.9
2005	313.4	58.5	383.1	2.1	757.1	100.0	21.3	77.5	6.2	3.6	2.3	.4	8.7	98.7	.9	978.0
2006	313.0	58.1	388.3	2.3	761.6	100.3	21.5	77.8	6.4	3.7	2.3	.4	11.3	101.9	.9	986.2
2007	312.7	56.1	392.9	2.3	764.0	100.3	21.9	77.9	6.7	4.1	2.2	.5	16.5	108.0	.8	994.9
2008	313.3	57.4	397.5	2.0	770.2	100.8	21.9	77.9	6.9	4.2	2.2	.5	24.7	116.4	.9	1,010.2
2009	314.3	56.8	401.3	1.9	774.3	101.0	22.2	78.5	6.9	4.3	2.4	.6	34.3	127.1	.9	1,025.4
2010	<sup>R</sup> 316.8	<sup>R</sup> 55.6	<sup>R</sup> 407.0	<sup>R</sup> 2.7	<sup>R</sup> 782.2	<sup>R</sup> 101.2	<sup>R</sup> 22.2	<sup>R</sup> 78.8	7.0	4.4	2.4	.9	<sup>R</sup> 39.1	<sup>R</sup> 132.6	<sup>R</sup> .9	<sup>R</sup> 1,039.1
2011 <sup>P</sup>	319.2	55.6	413.1	2.7	790.7	101.4	22.3	78.9	7.1	4.4	2.4	1.5	45.2	139.6	.9	1,054.8

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Through 1988, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."

<sup>6</sup> Wood and wood-derived fuels.

<sup>7</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. For all years, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>8</sup> Solar thermal and photovoltaic (PV) energy.

<sup>9</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

<sup>10</sup> Included in "Wood."

<sup>11</sup> Included in "Wind."

<sup>12</sup> Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial plants.

R=Revised. P=Preliminary. NA=Not available. (s)=Less than 0.05 million kilowatts.

Notes: • Data are at end of year. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one. • See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Generator Net Summer Capacity" in Glossary. • Totals may not equal sum of components due to independent rounding.

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

• For related information, see <http://www.eia.gov/electricity/>.

Sources: Tables 8.11b and 8.11d.

**Table 8.11b Electric Net Summer Capacity: Electric Power Sector, Selected Years, 1949-2011**

(Subset of Table 8.11a; Million Kilowatts)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage	Renewable Energy						Other <sup>9</sup>	Total	
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power <sup>5</sup>	Biomass		Geo-thermal	Solar/PV <sup>8</sup>	Wind			Total
									Wood <sup>6</sup>	Waste <sup>7</sup>						
1949	NA	NA	NA	NA	44.9	0.0	( <sup>5</sup> )	18.5	(s)	( <sup>10</sup> )	NA	NA	NA	18.5	NA	63.4
1950	NA	NA	NA	NA	50.0	.0	( <sup>5</sup> )	19.2	(s)	( <sup>10</sup> )	NA	NA	NA	19.2	NA	69.2
1955	NA	NA	NA	NA	86.8	.0	( <sup>5</sup> )	27.4	(s)	( <sup>10</sup> )	NA	NA	NA	27.4	NA	114.2
1960	NA	NA	NA	NA	130.8	.4	( <sup>5</sup> )	35.8	.1	( <sup>10</sup> )	(s)	NA	NA	35.9	NA	167.1
1965	NA	NA	NA	NA	182.9	.8	( <sup>5</sup> )	51.0	.1	( <sup>10</sup> )	(s)	NA	NA	51.1	NA	234.8
1970	NA	NA	NA	NA	265.4	7.0	( <sup>5</sup> )	63.8	.1	( <sup>10</sup> )	.1	NA	NA	63.9	NA	336.4
1975	NA	NA	NA	NA	375.1	37.3	( <sup>5</sup> )	78.4	.1	( <sup>10</sup> )	.5	NA	NA	79.0	NA	491.3
1976	NA	NA	NA	NA	394.8	43.8	( <sup>5</sup> )	78.0	.1	( <sup>10</sup> )	.5	NA	NA	78.6	NA	517.2
1977	NA	NA	NA	NA	410.4	46.3	( <sup>5</sup> )	78.6	.1	( <sup>10</sup> )	.5	NA	NA	79.2	NA	535.9
1978	NA	NA	NA	NA	420.8	50.8	( <sup>5</sup> )	79.9	.1	( <sup>10</sup> )	.5	NA	NA	80.5	NA	552.1
1979	NA	NA	NA	NA	432.1	49.7	( <sup>5</sup> )	82.9	.1	( <sup>10</sup> )	.7	NA	NA	83.6	NA	565.5
1980	NA	NA	NA	NA	444.1	51.8	( <sup>5</sup> )	81.7	.1	( <sup>10</sup> )	.9	NA	NA	82.7	NA	578.6
1981	NA	NA	NA	NA	458.9	56.0	( <sup>5</sup> )	82.4	.1	( <sup>10</sup> )	.9	NA	(s)	83.4	NA	598.3
1982	NA	NA	NA	NA	469.6	60.0	( <sup>5</sup> )	83.0	.1	( <sup>10</sup> )	1.0	NA	(s)	84.1	NA	613.7
1983	NA	NA	NA	NA	472.8	63.0	( <sup>5</sup> )	83.9	.2	( <sup>10</sup> )	1.2	NA	(s)	85.3	NA	621.1
1984	NA	NA	NA	NA	478.6	69.7	( <sup>5</sup> )	85.3	.3	( <sup>10</sup> )	1.2	( <sup>11</sup> )	(s)	86.9	NA	635.1
1985	NA	NA	NA	NA	485.0	79.4	( <sup>5</sup> )	88.9	.2	( <sup>11</sup> )	1.6	( <sup>11</sup> )	(s)	90.8	NA	655.2
1986	NA	NA	NA	NA	488.3	85.2	( <sup>5</sup> )	89.3	.2	( <sup>11</sup> )	1.6	( <sup>11</sup> )	(s)	91.2	NA	664.8
1987	NA	NA	NA	NA	488.8	93.6	( <sup>5</sup> )	89.7	.2	( <sup>11</sup> )	1.5	( <sup>11</sup> )	(s)	91.7	NA	674.1
1988	NA	NA	NA	NA	490.6	94.7	( <sup>5</sup> )	90.3	.2	( <sup>11</sup> )	1.7	( <sup>11</sup> )	(s)	92.4	NA	677.7
1989 <sup>12</sup>	298.0	78.1	125.4	.4	501.9	98.2	18.1	73.6	1.1	1.7	-2.6	.2	1.5	80.7	-	698.8
1990	302.3	76.8	129.9	.4	509.3	99.6	19.5	73.3	1.2	2.1	2.7	.3	1.8	81.4	(s)	709.9
1991	302.5	73.0	137.1	.7	513.3	99.6	18.4	75.4	1.3	2.5	2.6	.3	1.9	84.0	-	715.3
1992	304.3	71.8	141.0	.7	517.9	99.0	21.2	74.2	1.4	2.5	2.9	.3	1.8	83.1	-	721.2
1993	305.0	69.9	146.9	.7	522.5	99.0	21.1	76.8	1.5	2.6	2.9	.3	1.8	85.9	-	728.6
1994	306.1	70.5	152.5	.7	529.8	99.1	21.2	76.9	1.7	2.7	3.0	.3	1.7	86.4	-	736.5
1995	306.0	65.4	161.9	.3	533.7	99.5	21.4	77.4	1.8	3.0	3.0	.3	1.7	87.3	-	741.8
1996	308.1	71.3	161.4	.1	540.9	100.8	21.1	75.3	1.7	2.9	2.9	.3	1.7	84.9	-	747.7
1997	308.5	71.0	163.4	.2	543.1	99.7	19.3	78.3	1.8	2.9	2.9	.3	1.6	87.8	.2	750.1
1998	310.9	65.0	167.1	.1	543.0	97.1	19.5	78.0	1.8	3.0	2.9	.3	1.7	87.8	.2	747.6
1999	310.7	58.6	181.1	.2	550.7	97.4	19.6	78.3	1.8	3.0	2.8	.4	2.3	88.6	.2	756.5
2000	310.2	60.7	204.7	.3	575.9	97.9	19.5	78.2	1.7	3.3	2.8	.4	2.4	88.8	(s)	782.1
2001	309.8	64.7	236.8	.3	611.6	98.2	19.7	77.9	1.6	3.3	2.2	.4	3.9	89.2	.1	818.8
2002	311.0	58.6	296.6	.3	666.5	98.7	20.4	78.3	1.6	3.3	2.3	.4	4.4	90.2	.1	875.8
2003	308.5	59.6	339.1	.3	707.6	99.2	20.5	77.9	1.6	3.3	2.1	.4	6.0	91.3	.1	918.6
2004	308.8	58.0	355.2	.4	722.4	99.6	20.8	77.0	1.6	2.9	2.2	.4	6.5	90.6	.1	933.4
2005	309.0	57.4	367.5	.3	734.3	100.0	21.3	76.9	1.6	3.0	2.3	.4	8.7	92.9	.1	948.6
2006	309.2	56.8	372.0	.4	738.4	100.3	21.5	77.1	1.7	3.1	2.3	.4	11.3	95.9	.1	956.2
2007	309.1	54.8	377.1	.5	741.5	100.3	21.9	77.5	1.7	3.5	2.2	.5	16.5	102.0	.1	965.7
2008	309.6	56.4	381.8	.2	748.1	100.8	21.9	77.6	1.8	3.6	2.2	.5	24.7	110.5	.1	981.3
2009	310.5	55.7	385.5	.2	751.9	101.0	22.2	78.2	1.9	3.7	2.4	.6	34.3	121.1	.1	996.2
2010	R <sup>3</sup> 12.4	R <sup>5</sup> 4.6	R <sup>3</sup> 91.4	R <sup>7</sup>	R <sup>7</sup> 59.1	R <sup>4</sup> 101.2	R <sup>2</sup> 2.2	R <sup>7</sup> 8.5	R <sup>2</sup> 1	R <sup>3</sup> 7	2.4	.9	R <sup>3</sup> 9.1	R <sup>4</sup> 26.6	R <sup>1</sup>	1,009.2
2011 <sup>P</sup>	314.8	54.6	397.3	.7	767.4	101.4	22.3	78.6	2.1	3.8	2.4	1.5	45.2	133.5	.1	1,024.8

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Through 1988, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."

<sup>6</sup> Wood and wood-derived fuels.

<sup>7</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. For all years, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>8</sup> Solar thermal and photovoltaic (PV) energy.

<sup>9</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

<sup>10</sup> Included in "Wood."

<sup>11</sup> Included in "Wind."

<sup>12</sup> 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. - =No data reported. (s)=Less than 0.05 million

kilowatts.

Notes: • Data are at end of year. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one. • 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 Table 8.11d for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Generator Net Summer Capacity" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1949. • For related information, see <http://www.eia.gov/electricity/>.

Sources: • 1949-1984—U.S. Energy Information Administration (EIA) estimates. • 1985-1988—EIA, Form EIA-860, "Annual Electric Generator Report." • 1989-1997—EIA, Form EIA-860, "Annual Electric Generator Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860A, "Annual Electric Generator Report—Utility," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001 forward—EIA, Form EIA-860, "Annual Electric Generator Report."

**Table 8.11c Electric Net Summer Capacity: Electric Power Sector by Plant Type, Selected Years, 1989-2011**  
(Breakout of Table 8.11b; Million Kilowatts)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage	Renewable Energy							Other <sup>8</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power	Biomass		Geo-thermal	Solar/PV <sup>7</sup>	Wind	Total		
									Wood <sup>5</sup>	Waste <sup>6</sup>						
<b>Electricity-Only Plants <sup>9</sup></b>																
1989	296.5	78.0	119.3	0.4	494.2	98.2	18.1	73.6	0.9	1.5	2.6	0.2	1.5	80.3	—	690.7
1990	299.9	76.6	121.8	.4	498.6	99.6	19.5	73.3	1.0	1.9	2.7	.3	1.8	80.9	(s)	698.6
1995	301.3	64.7	145.3	.3	511.5	99.5	21.4	77.4	1.5	2.7	3.0	.3	1.7	86.6	—	719.1
1996	303.1	70.6	143.1	.1	516.9	100.8	21.1	75.3	1.4	2.6	2.9	.3	1.7	84.2	—	723.0
1997	303.6	70.2	144.7	.2	518.7	99.7	19.3	78.3	1.5	2.5	2.9	.3	1.6	87.1	.2	725.0
1998	305.9	64.2	147.5	.1	517.5	97.1	19.5	78.0	1.4	2.6	2.9	.3	1.7	87.0	.2	721.4
1999	305.5	57.5	161.7	.2	525.0	97.4	19.6	78.3	1.5	2.6	2.8	.4	2.3	87.8	.2	730.0
2000	305.2	59.8	184.0	.1	549.0	97.9	19.5	78.2	1.5	2.8	2.8	.4	2.4	88.1	(s)	754.5
2001	305.2	63.8	215.5	.1	584.5	98.2	19.7	77.9	1.5	2.9	2.2	.4	3.9	88.7	.1	791.1
2002	305.8	57.5	268.1	.1	631.5	98.7	20.4	78.3	1.4	2.9	2.3	.4	4.4	89.7	.1	840.3
2003	303.0	58.6	304.2	.1	665.9	99.2	20.5	77.9	1.4	2.8	2.1	.4	6.0	90.6	.1	876.3
2004	303.2	57.3	322.6	.1	683.2	99.6	20.8	77.0	1.5	2.6	2.2	.4	6.5	90.0	.1	893.7
2005	303.4	56.9	335.8	(s)	696.2	100.0	21.3	76.9	1.4	2.6	2.3	.4	8.7	92.3	.1	909.8
2006	303.4	55.8	341.9	.1	701.2	100.3	21.5	77.1	1.5	2.7	2.3	.4	11.3	95.3	.1	918.4
2007	303.2	53.9	347.6	.1	704.9	100.3	21.9	77.5	1.5	3.1	2.2	.5	16.5	101.3	.1	928.5
2008	303.7	55.5	352.3	—	711.5	100.8	21.9	77.6	1.6	3.2	2.2	.5	24.7	109.8	.1	944.0
2009	304.5	54.8	356.6	(s)	716.0	101.0	22.2	78.2	1.7	3.2	2.4	.6	34.3	120.3	.1	959.5
2010	<sup>R</sup> 306.9	<sup>R</sup> 53.8	<sup>R</sup> 362.4	<sup>R</sup> .5	<sup>R</sup> 723.7	<sup>R</sup> 101.2	<sup>R</sup> 22.2	<sup>R</sup> 78.5	1.7	3.3	2.4	.9	<sup>R</sup> 39.1	<sup>R</sup> 125.8	<sup>R</sup> .1	<sup>R</sup> 973.0
2011 <sup>P</sup>	309.4	53.8	368.3	.5	732.0	101.4	22.3	78.6	1.7	3.3	2.4	1.5	45.2	132.6	.1	988.5
<b>Combined-Heat-and-Power Plants <sup>10</sup></b>																
1989	1.5	0.2	6.1	—	7.7	—	—	—	0.2	0.2	—	—	—	0.4	—	8.1
1990	2.4	.2	8.1	—	10.7	—	—	—	.2	.2	—	—	—	.5	—	11.2
1995	4.8	.8	16.6	—	22.1	—	—	—	.4	.2	—	—	—	.6	—	22.7
1996	5.0	.7	18.4	—	24.0	—	—	—	.3	.3	—	—	—	.6	—	24.6
1997	4.9	.8	18.7	(s)	24.4	—	—	—	.3	.4	—	—	—	.7	—	25.1
1998	5.0	.8	19.6	—	25.5	—	—	—	.4	.4	—	—	—	.7	—	26.2
1999	5.2	1.1	19.4	—	25.7	—	—	—	.4	.4	—	—	—	.7	—	26.5
2000	5.0	.9	20.7	.3	26.9	—	—	—	.2	.5	—	—	—	.7	—	27.7
2001	4.6	1.0	21.2	.3	27.1	—	—	(s)	.1	.4	—	—	—	.5	(s)	27.6
2002	5.2	1.1	28.5	.2	34.9	—	—	—	.1	.4	—	—	—	.6	—	35.5
2003	5.5	1.1	34.9	.2	41.7	—	—	(s)	.2	.5	—	—	—	.7	—	42.3
2004	5.6	.7	32.6	.3	39.2	—	—	(s)	.2	.4	—	—	—	.6	—	39.7
2005	5.6	.5	31.7	.3	38.1	—	—	(s)	.2	.4	—	—	—	.6	—	38.7
2006	5.8	1.0	30.0	.3	37.2	—	—	(s)	.2	.4	—	—	—	.6	—	37.8
2007	5.9	.9	29.5	.3	36.6	—	—	—	.2	.4	—	—	—	.7	—	37.3
2008	5.9	.9	29.6	.2	36.6	—	—	—	.2	.5	—	—	—	.7	—	37.3
2009	5.9	.9	28.9	.2	35.9	—	—	—	.2	.5	—	—	—	.7	—	36.7
2010	<sup>R</sup> 5.5	<sup>R</sup> .8	<sup>R</sup> 29.0	.2	<sup>R</sup> 35.4	—	—	—	<sup>R</sup> .4	.5	—	—	—	.8	—	<sup>R</sup> 36.3
2011 <sup>P</sup>	5.5	.8	29.0	.2	35.4	—	—	—	.4	.5	—	—	—	.9	—	36.3

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Wood and wood-derived fuels.

<sup>6</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. For all years, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>7</sup> Solar thermal and photovoltaic (PV) energy.

<sup>8</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

<sup>9</sup> Electricity-only plants within the NAICS 22 category whose primary business is to sell electricity to the public. Data also include a small number of electric utility combined-heat-and-power (CHP) plants.

<sup>10</sup> Combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity and heat to the public. Data do not include electric utility CHP plants—these are included

under "Electricity-Only Plants."

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.05 million kilowatts.

Notes: • Data are at end of year. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one. • See Table 8.11d for commercial and industrial CHP and electricity-only data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Generator Net Summer Capacity" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989.

• For related information, see <http://www.eia.gov/electricity/>.

Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860A, "Annual Electric Generator Report—Utility," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001 forward—EIA, Form EIA-860, "Annual Electric Generator Report."

**Table 8.11d Electric Net Summer Capacity: Commercial and Industrial Sectors, Selected Years, 1989-2011**

(Subset of Table 8.11a; Million Kilowatts)

Year	Fossil Fuels					Nuclear Electric Power	Hydro-electric Pumped Storage	Renewable Energy							Other <sup>8</sup>	Total
	Coal <sup>1</sup>	Petroleum <sup>2</sup>	Natural Gas <sup>3</sup>	Other Gases <sup>4</sup>	Total			Conventional Hydroelectric Power	Biomass		Geo-thermal	Solar/PV <sup>7</sup>	Wind	Total		
									Wood <sup>5</sup>	Waste <sup>6</sup>						
<b>Commercial Sector <sup>9</sup></b>																
1989	0.3	0.2	0.6	—	1.0	—	—	(s)	(s)	0.2	—	—	—	0.2	—	1.2
1990	.3	.2	.7	—	1.2	—	—	(s)	(s)	.2	—	—	—	.2	—	1.4
1995	.3	.2	1.2	—	1.8	—	—	(s)	(s)	.3	—	—	—	.3	—	2.1
1996	.3	.3	1.2	—	1.8	—	—	(s)	(s)	.4	—	—	—	.5	—	2.3
1997	.3	.4	1.2	—	1.9	—	—	(s)	(s)	.4	—	—	—	.5	—	2.3
1998	.3	.3	1.2	—	1.8	—	—	(s)	(s)	.5	—	—	—	.5	—	2.3
1999	.3	.4	1.1	—	1.8	—	—	(s)	(s)	.5	—	—	—	.5	—	2.3
2000	.3	.3	1.2	—	1.8	—	—	(s)	(s)	.4	—	—	—	.4	—	2.2
2001	.3	.3	1.9	—	2.5	—	—	(s)	(s)	.3	—	—	—	.4	—	2.9
2002	.3	.3	1.2	—	1.8	—	—	(s)	(s)	.4	—	—	—	.4	—	2.2
2003	.3	.3	1.0	—	1.7	—	—	(s)	(s)	.4	—	—	—	.4	—	2.1
2004	.4	.3	1.1	(s)	1.8	—	—	(s)	(s)	.4	—	—	—	.4	—	2.2
2005	.4	.3	1.0	(s)	1.8	—	—	(s)	(s)	.4	—	—	—	.5	—	2.2
2006	.4	.3	1.0	(s)	1.8	—	—	(s)	(s)	.4	—	—	—	.5	—	2.3
2007	.4	.3	1.1	(s)	1.8	—	—	(s)	(s)	.4	—	—	—	.5	(s)	2.3
2008	.4	.4	1.1	(s)	1.8	—	—	(s)	(s)	.4	—	(s)	—	.5	(s)	2.3
2009	.4	.3	1.1	(s)	1.9	—	—	(s)	(s)	.5	—	(s)	(s)	.5	(s)	2.4
2010	.4	<sup>R</sup> .4	1.2	(s)	1.9	—	—	(s)	(s)	.5	—	(s)	(s)	.5	(s)	2.5
2011 <sup>P</sup>	.4	.4	1.1	(s)	1.9	—	—	(s)	(s)	.1	—	(s)	(s)	.2	(s)	2.1
<b>Industrial Sector <sup>10</sup></b>																
1989	4.8	0.7	9.7	1.2	16.5	—	—	0.5	4.1	0.2	—	—	—	4.8	0.5	21.8
1990	4.8	.9	10.3	1.3	17.3	—	—	.6	4.3	.2	—	—	—	5.1	.5	22.9
1995	5.0	1.0	11.3	1.4	18.7	—	—	1.1	4.9	.2	—	—	—	6.3	.5	25.5
1996	5.0	.9	11.5	1.6	19.0	—	—	1.1	5.1	.2	—	—	—	6.4	.5	25.9
1997	4.8	1.1	11.9	1.3	19.2	—	—	1.1	5.1	.2	—	—	—	6.5	.6	26.2
1998	4.6	1.0	12.0	1.5	19.1	—	—	1.1	5.0	.2	—	—	—	6.3	.6	26.0
1999	4.4	1.1	12.9	1.7	20.1	—	—	1.1	5.0	.2	—	—	—	6.2	.8	27.1
2000	4.6	.8	13.7	2.0	21.2	—	—	1.1	4.4	.2	—	—	—	5.7	.5	27.3
2001	4.2	1.1	14.1	1.3	20.7	—	—	1.0	4.2	.1	—	—	—	5.4	.4	26.6
2002	4.0	.7	14.7	1.8	21.2	—	—	1.0	4.3	.1	—	—	—	5.5	.6	27.3
2003	4.1	.7	15.3	1.7	21.9	—	—	.8	4.3	.1	—	—	—	5.2	.6	27.7
2004	3.8	.8	14.8	1.9	21.3	—	—	.6	4.5	.2	—	—	—	5.4	.7	27.4
2005	4.0	.8	14.5	1.8	21.0	—	—	.7	4.5	.2	—	—	—	5.4	.8	27.2
2006	3.3	1.0	15.3	1.8	21.4	—	—	.7	4.7	.2	—	—	—	5.6	.8	27.8
2007	3.2	.9	14.7	1.9	20.6	—	—	.3	5.0	.2	—	(s)	—	5.5	.7	26.8
2008	3.2	.7	14.6	1.8	20.3	—	—	.3	5.0	.1	—	(s)	—	5.4	.9	26.6
2009	3.4	.7	14.7	1.7	20.5	—	—	.3	5.0	.1	—	(s)	—	5.5	.8	26.8
2010	4.0	.7	<sup>R</sup> 14.4	<sup>R</sup> 2.0	<sup>R</sup> 21.1	—	—	.3	<sup>R</sup> 4.9	<sup>R</sup> .2	—	(s)	<sup>R</sup> (s)	5.5	.8	<sup>R</sup> 27.4
2011 <sup>P</sup>	4.0	.7	14.7	2.0	21.3	—	—	.3	5.0	.5	—	(s)	(s)	5.9	.7	28.0

<sup>1</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal symfuel.

<sup>2</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, and waste oil.

<sup>3</sup> Natural gas, plus a small amount of supplemental gaseous fuels.

<sup>4</sup> Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

<sup>5</sup> Wood and wood-derived fuels.

<sup>6</sup> Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. For all years, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

<sup>7</sup> Solar thermal and photovoltaic (PV) energy.

<sup>8</sup> Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

<sup>9</sup> Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

<sup>10</sup> Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

R=Revised. P=Preliminary. —=No data reported. (s)=Less than 0.05 million kilowatts.

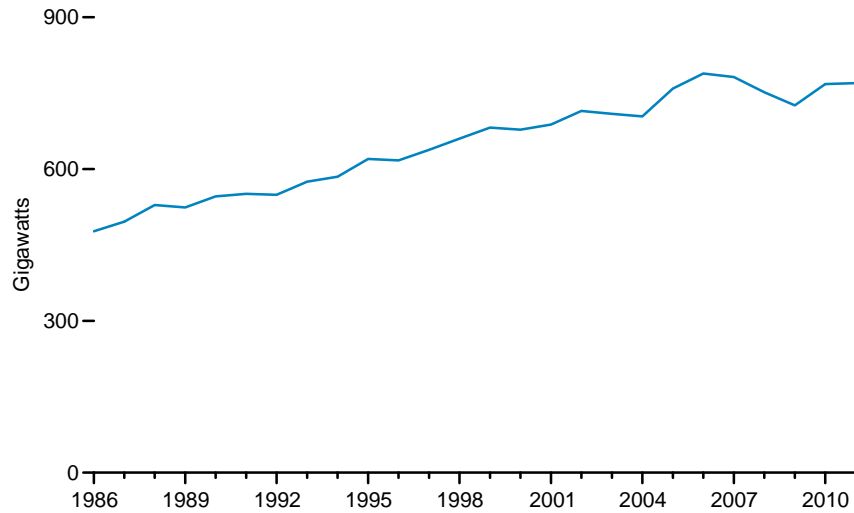
Notes: • Data are at end of year. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one. • See Tables 8.11b and 8.11c for electric power sector electricity-only and CHP data. • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • See "Generator Net Summer Capacity" in Glossary. • Totals may not equal sum of components due to independent rounding.

Web Pages: • See <http://www.eia.gov/totalenergy/data/annual/#electricity> for all data beginning in 1989. • For related information, see <http://www.eia.gov/electricity/>.

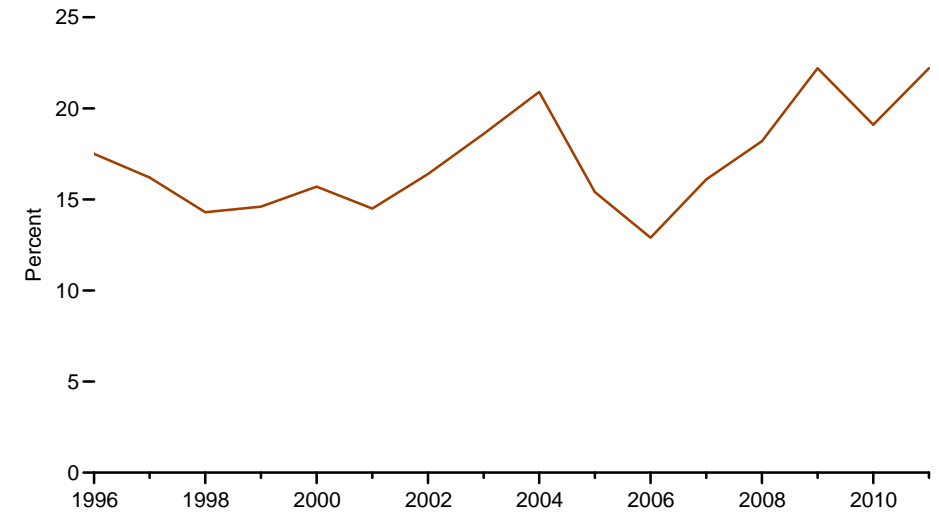
Sources: • 1989-1997—U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998-2000—EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001 forward—EIA, Form EIA-860, "Annual Electric Generator Report."

**Figure 8.12a Electric Noncoincident Peak Load and Capacity Margin: Summer Peak Period**

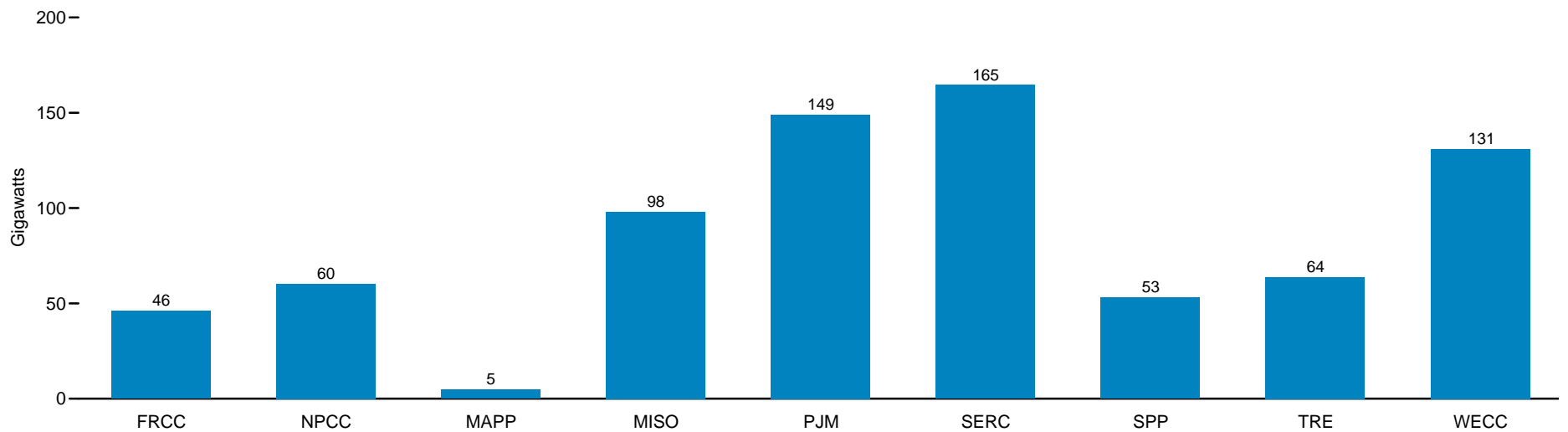
**U.S.<sup>1</sup> Summer Peak Load,<sup>2</sup> All Interconnections, 1986-2011**



**Summer Capacity Margin, 1996-2011**



**U.S.<sup>1</sup> Summer Peak Load<sup>2</sup> by NERC<sup>3</sup> Regional Assessment Area, 2011**



<sup>1</sup> United States excluding Alaska and Hawaii.

<sup>2</sup> See "Noncoincident Peak Load" in Glossary.

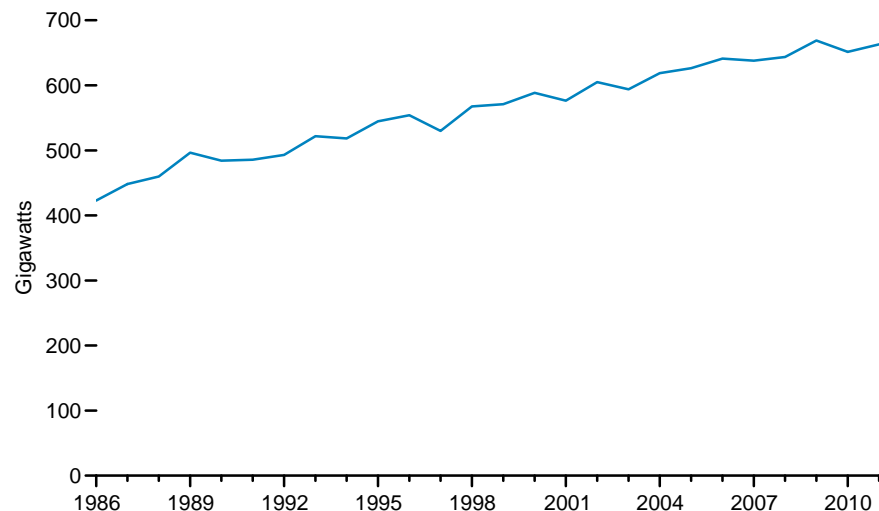
<sup>3</sup> See "North American Electric Reliability Corporation (NERC)" in Glossary.

Notes: • Values for 2011 are forecast. • The summer peak period is June through September.

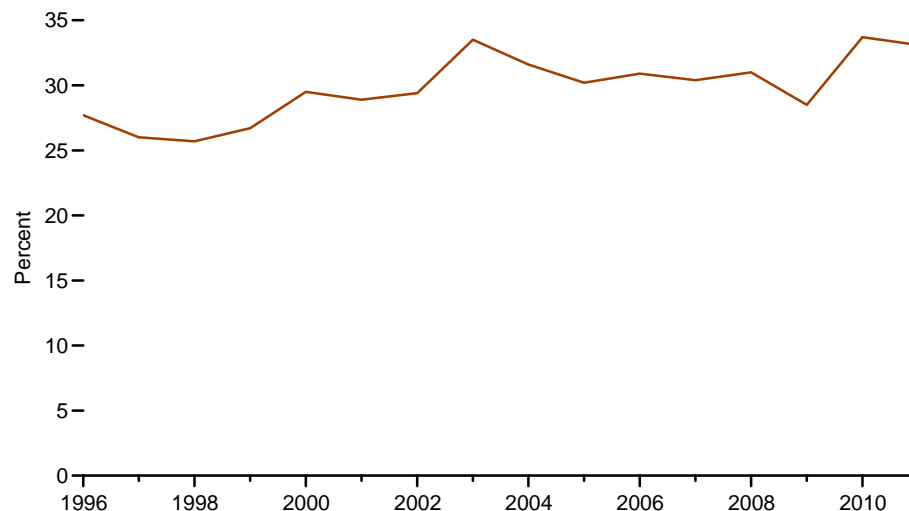
Source: Table 8.12a.

**Figure 8.12b Electric Noncoincident Peak Load and Capacity Margin: Winter Peak Period**

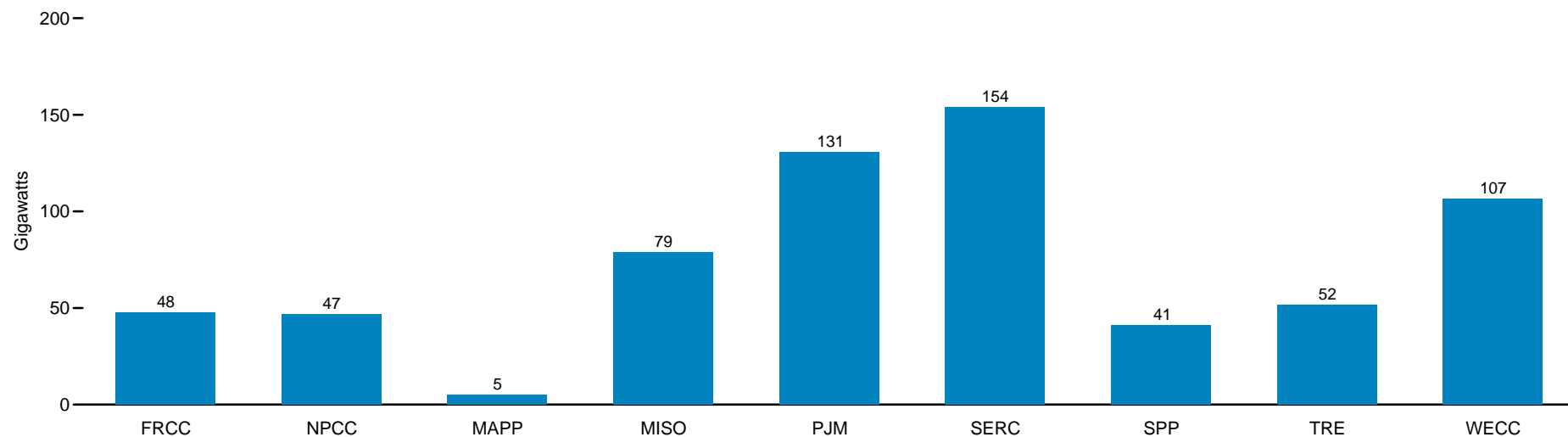
**U.S.<sup>1</sup> Winter Peak Load,<sup>2</sup> All Interconnections, 1986-2011**



**Winter Capacity Margin, 1996-2011**



**U.S.<sup>1</sup> Winter Peak Load<sup>2</sup> by NERC<sup>3</sup> Regional Assessment Area, 2011**



<sup>1</sup> United States excluding Alaska and Hawaii.

<sup>2</sup> See "Noncoincident Peak Load" in Glossary.

<sup>3</sup> See "North American Electric Reliability Corporation (NERC)" in Glossary.

Notes: • Values for 2011 are forecast. • The winter peak period is October through May.

Source: Table 8.12b.

**Table 8.12a Electric Noncoincident Peak Load and Capacity Margin: Summer Peak Period, 1986-2011**  
(Megawatts, Except as Noted)

Year	Noncoincident Peak Load <sup>1</sup> by North American Electric Reliability Corporation (NERC) <sup>2</sup> Regional Assessment Area																Capacity Margin <sup>21</sup> (percent)
	Eastern Interconnection													ERCOT <sup>4</sup>	Western Inter-connection	All Inter-connections	
	FRCC <sup>5</sup>	NPCC <sup>6</sup>	Balance of Eastern Region <sup>3</sup>										TRE <sup>18</sup>				
		ECAR <sup>7,8</sup>	MAAC <sup>8,9</sup>	MAIN <sup>8,10</sup>	MAPP <sup>11</sup>	MISO <sup>12</sup>	MRO <sup>13</sup>	PJM <sup>14</sup>	RFC <sup>8,15</sup>	SERC <sup>16</sup>	SPP <sup>17</sup>	Subtotal					
1986	--	39,026	69,606	37,564	35,943	--	--	21,029	--	--	105,570	47,123	316,835	39,335	81,787	476,983	NA
1987	--	42,651	72,561	40,526	37,446	--	--	23,162	--	--	109,798	47,723	331,216	39,339	82,967	496,173	NA
1988	--	45,245	79,149	43,110	41,139	--	--	24,899	--	--	115,168	49,356	352,821	40,843	90,551	529,460	NA
1989	--	45,031	75,442	41,614	39,460	--	--	24,336	--	--	117,729	49,439	348,020	40,402	90,657	524,110	NA
1990	--	44,116	79,258	42,613	40,740	--	--	24,994	--	--	121,943	52,541	362,089	42,737	97,389	546,331	21.6
1991	--	46,594	81,224	45,937	41,598	--	--	25,498	--	--	124,716	51,885	370,858	41,870	92,096	551,418	20.9
1992	--	43,658	78,550	43,658	38,819	--	--	22,638	--	--	128,236	51,324	363,225	42,619	99,205	548,707	20.5
1993	--	46,706	80,930	46,494	41,956	--	--	24,396	--	--	135,704	57,106	386,586	44,255	97,809	575,356	19.9
1994	--	47,581	87,165	46,019	42,562	--	--	27,000	--	--	132,584	56,035	391,365	44,162	102,212	585,320	18.7
1995	--	47,705	92,619	48,577	45,782	--	--	29,192	--	--	146,569	59,595	422,334	46,618	103,592	620,249	18.9
1996	--	45,094	90,798	44,302	46,402	--	--	28,253	--	--	145,650	60,072	415,477	47,480	108,739	616,790	17.5
1997	35,375	49,269	93,492	49,464	45,887	--	--	29,787	--	--	137,382	36,479	392,491	50,541	110,001	637,677	16.2
1998	38,730	49,566	93,784	48,445	47,509	--	--	30,722	--	--	143,226	37,724	401,410	54,666	115,921	660,293	14.3
1999	37,493	52,855	99,239	51,645	51,535	--	--	31,903	--	--	149,685	38,609	422,616	55,529	113,629	682,122	14.6
2000	37,194	50,057	92,033	49,477	52,552	--	--	28,605	--	--	156,088	40,199	418,954	57,606	114,602	678,413	15.7
2001	39,062	55,949	100,235	54,015	56,344	--	--	28,321	--	--	149,293	40,273	428,481	55,201	109,119	687,812	14.5
2002	40,696	56,012	102,996	55,569	56,396	--	--	29,119	--	--	158,767	39,688	442,535	56,248	119,074	714,565	16.4
2003	40,475	55,018	98,487	53,566	56,988	--	--	28,831	--	--	153,110	40,367	431,349	59,996	122,537	709,375	18.6
2004	42,383	52,549	95,300	52,049	53,439	--	--	29,351	--	--	157,615	40,106	427,860	58,531	123,136	704,459	20.9
2005	46,396	58,960	--	--	--	--	--	39,918	--	190,200	190,705	41,727	462,550	60,210	130,760	758,876	15.4
2006	45,751	63,241	--	--	--	--	--	42,194	--	191,920	199,052	42,882	476,048	62,339	142,096	789,475	12.9
2007	46,676	58,314	--	--	--	--	--	41,684	--	181,700	209,109	43,167	475,660	62,188	139,389	782,227	16.1
2008	44,836	58,543	--	--	--	--	--	39,677	--	169,155	199,779	43,476	452,087	62,174	134,829	752,470	18.2
2009	46,550	55,944	--	--	--	--	--	37,963	--	161,241	191,032	41,465	431,701	63,518	128,245	725,958	22.2
2010	<sup>R</sup> 45,722	<sup>R</sup> 60,554	--	--	--	4,598	108,346	<sup>R</sup> --	136,465	<sup>R</sup> --	<sup>R</sup> 164,058	<sup>R</sup> 53,077	466,543	<sup>R</sup> 65,776	<sup>R</sup> 129,352	<sup>R</sup> 767,948	<sup>R</sup> 19.1
2011 <sup>F</sup>	46,091	60,262	--	--	--	4,810	98,068	--	148,941	--	164,510	53,084	469,412	63,770	130,962	770,497	22.2

<sup>1</sup> Noncoincident peak load is the sum of two or more peak loads on individual systems that do not occur at the same time interval. Peak load represents one hour of a day during the associated peak period. See "Noncoincident Peak Load" in Glossary.

<sup>2</sup> See "North American Electric Reliability Corporation (NERC)" in Glossary. Data include the U.S. portion of NERC only.

<sup>3</sup> Historically, the MRO, RFC, SERC, and SPP regional boundaries were altered as utilities changed reliability organizations. The historical data series for these regions have not been adjusted. Instead, the "Balance of Eastern Region" category was introduced to provide a consistent trend of the Eastern Interconnection.

<sup>4</sup> Electric Reliability Council of Texas (ERCOT).

<sup>5</sup> Florida Reliability Coordinating Council (FRCC).

<sup>6</sup> Northeast Power Coordinating Council (NPCC).

<sup>7</sup> East Central Area Reliability Coordination Agreement (ECAR).

<sup>8</sup> ECAR, MAAC, and MAIN dissolved at the end of 2005. Many of the former utility members joined RFC, which came into existence on January 1, 2006. RFC submitted a consolidated filing covering the historical NERC regions of ECAR, MAAC, and MAIN.

<sup>9</sup> Mid-Atlantic Area Council (MAAC).

<sup>10</sup> Mid-America Interconnected Network (MAIN).

<sup>11</sup> Mid-Continent Area Power Pool (MAPP).

<sup>12</sup> Midwest Independent Transmission System Operator (MISO).

<sup>13</sup> Midwest Reliability Organization (MRO).

<sup>14</sup> PJM Interconnection (PJM).

<sup>15</sup> ReliabilityFirst Corporation (RFC).

<sup>16</sup> SERC Reliability Corporation (SERC).

<sup>17</sup> Southwest Power Pool (SPP).

<sup>18</sup> Texas Reliability Entity (TRE).

<sup>19</sup> Western Electricity Coordinating Council (WECC).

<sup>20</sup> United States excluding Alaska and Hawaii.

<sup>21</sup> Capacity margin is the amount of unused available capability of an electric power system at peak load as a percentage of capacity resources. Data are for the United States excluding Alaska and Hawaii.

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

Notes: • The summer peak period is June through September. • Totals may not equal sum of components due to independent rounding.

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

Sources: U.S. Energy Information Administration (EIA), *Electric Power Annual 2010* (November 2011), Tables 4.1.A., 4.1.B., 4.3.A., and 4.3.B.; and EIA, Form EIA-411, "Coordinated Bulk Power Supply and Demand Program Report," and predecessor forms.



**Table 8.12b Electric Noncoincident Peak Load and Capacity Margin: Winter Peak Period, 1986-2011**  
(Megawatts, Except as Noted)

Year	Noncoincident Peak Load <sup>1</sup> by North American Electric Reliability Corporation (NERC) <sup>2</sup> Regional Assessment Area																Capacity Margin <sup>21</sup> (percent)	
	Eastern Interconnection														ERCOT <sup>4</sup>	Western Inter-connection		All Inter-connections
	FRCC <sup>5</sup>	NPCC <sup>6</sup>	Balance of Eastern Region <sup>3</sup>											TRE <sup>18</sup>				
		ECAR <sup>7,8</sup>	MAAC <sup>8,9</sup>	MAIN <sup>8,10</sup>	MAPP <sup>11</sup>	MISO <sup>12</sup>	MRO <sup>13</sup>	PJM <sup>14</sup>	RFC <sup>8,15</sup>	SERC <sup>16</sup>	SPP <sup>17</sup>	Subtotal						
1986	--	37,976	64,561	32,807	28,036	--	--	18,850	--	--	101,849	33,877	279,980	28,730	76,171	422,857	NA	
1987	--	41,902	68,118	35,775	30,606	--	--	19,335	--	--	105,476	34,472	293,782	31,399	81,182	448,265	NA	
1988	--	42,951	67,771	36,363	30,631	--	--	20,162	--	--	108,649	35,649	299,225	34,621	82,937	459,734	NA	
1989	--	42,588	73,080	38,161	33,770	--	--	21,360	--	--	121,995	42,268	330,634	38,388	84,768	496,378	NA	
1990	--	40,545	67,097	36,551	32,461	--	--	21,113	--	--	117,448	38,949	313,619	35,815	94,252	484,231	NA	
1991	--	41,866	71,181	37,983	33,420	--	--	21,432	--	--	119,575	38,759	322,350	35,448	86,097	485,761	NA	
1992	--	41,125	72,885	37,915	31,289	--	--	21,866	--	--	121,250	39,912	325,117	35,055	91,686	492,983	NA	
1993	--	42,063	81,846	41,406	34,966	--	--	21,955	--	--	133,635	41,644	355,452	35,407	88,811	521,733	NA	
1994	--	42,547	75,638	40,653	33,999	--	--	23,033	--	--	132,661	42,505	348,489	36,180	91,037	518,253	NA	
1995	--	42,755	83,465	40,790	35,734	--	--	23,429	--	--	142,032	44,624	370,074	36,965	94,890	544,684	NA	
1996	--	41,208	84,534	40,468	37,162	--	--	24,251	--	--	143,060	49,095	378,570	38,868	95,435	554,081	27.7	
1997	33,076	41,338	75,670	37,217	34,973	--	--	25,390	--	--	122,649	27,437	323,336	37,966	94,158	529,874	26.0	
1998	39,975	44,199	84,401	36,532	37,410	--	--	26,080	--	--	127,416	27,847	339,686	41,876	101,822	567,558	25.7	
1999	40,178	45,227	86,239	40,220	39,081	--	--	25,200	--	--	128,563	27,963	347,266	39,164	99,080	570,915	26.7	
2000	38,606	43,852	84,546	43,256	41,943	--	--	24,536	--	--	139,146	30,576	364,003	44,641	97,324	588,426	29.5	
2001	40,922	42,670	85,485	39,458	40,529	--	--	21,815	--	--	135,182	29,614	352,083	44,015	96,622	576,312	28.9	
2002	45,635	46,009	87,300	46,551	42,412	--	--	23,645	--	--	141,882	30,187	371,977	45,414	95,951	604,986	29.4	
2003	36,841	48,079	86,332	45,625	41,719	--	--	24,134	--	--	137,972	28,450	364,232	42,702	102,020	593,874	33.5	
2004	44,839	48,176	91,800	45,905	42,929	--	--	24,526	--	--	144,337	29,490	378,987	44,010	102,689	618,701	31.6	
2005	42,657	46,828	--	--	--	--	--	33,748	--	151,600	164,638	31,260	381,246	48,141	107,493	626,365	30.2	
2006	42,526	46,697	--	--	--	--	--	34,677	--	149,631	175,163	30,792	390,263	50,402	111,093	640,981	30.9	
2007	41,701	46,795	--	--	--	--	--	33,191	--	141,900	179,888	31,322	386,301	50,408	112,700	637,905	30.4	
2008	45,275	46,043	--	--	--	--	--	36,029	--	142,395	179,596	32,809	390,829	47,806	113,605	643,557	31.0	
2009	53,022	44,864	--	--	--	--	--	35,351	--	143,827	193,135	32,863	405,176	56,191	109,565	668,818	28.5	
2010	<sup>R</sup> 46,135	<sup>R</sup> 45,712	--	--	--	5,069	86,728	<sup>R</sup> --	115,535	<sup>R</sup> --	<sup>R</sup> 152,030	<sup>R</sup> 41,226	400,589	<sup>R</sup> 57,315	<sup>R</sup> 101,668	<sup>R</sup> 651,418	<sup>R</sup> 33.7	
2011 <sup>F</sup>	47,613	46,788	--	--	--	5,118	79,052	--	130,711	--	154,150	41,138	410,168	51,642	106,717	662,928	33.1	

<sup>1</sup> Noncoincident peak load is the sum of two or more peak loads on individual systems that do not occur at the same time interval. Peak load represents one hour of a day during the associated peak period. See "Noncoincident Peak Load" in Glossary.

<sup>2</sup> See "North American Electric Reliability Corporation (NERC)" in Glossary. Data include the U.S. portion of NERC only.

<sup>3</sup> Historically, the MRO, RFC, SERC, and SPP regional boundaries were altered as utilities changed reliability organizations. The historical data series for these regions have not been adjusted. Instead, the "Balance of Eastern Region" category was introduced to provide a consistent trend of the Eastern Interconnection.

<sup>4</sup> Electric Reliability Council of Texas (ERCOT).

<sup>5</sup> Florida Reliability Coordinating Council (FRCC).

<sup>6</sup> Northeast Power Coordinating Council (NPCC).

<sup>7</sup> East Central Area Reliability Coordination Agreement (ECAR).

<sup>8</sup> ECAR, MAAC, and MAIN dissolved at the end of 2005. Many of the former utility members joined RFC, which came into existence on January 1, 2006. RFC submitted a consolidated filing covering the historical NERC regions of ECAR, MAAC, and MAIN.

<sup>9</sup> Mid-Atlantic Area Council (MAAC).

<sup>10</sup> Mid-America Interconnected Network (MAIN).

<sup>11</sup> Mid-Continent Area Power Pool (MAPP).

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<sup>19</sup> Western Electricity Coordinating Council (WECC).

<sup>20</sup> United States excluding Alaska and Hawaii.

<sup>21</sup> Capacity margin is the amount of unused available capability of an electric power system at peak load as a percentage of capacity resources. Data are for the United States excluding Alaska and Hawaii.

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

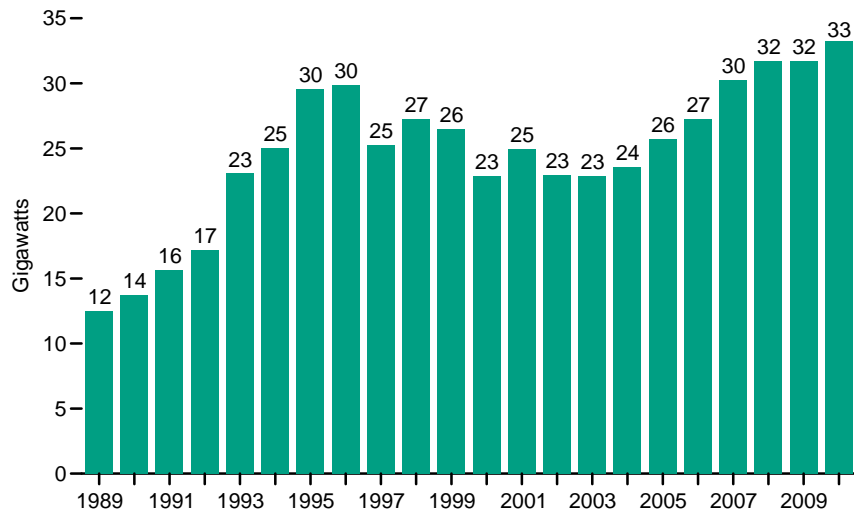
Notes: • The winter peak period is October through May of the following year. In this table, data years correspond to the beginning of the winter peak period; for example, data year 2011 represents October 2011–May 2012. • Totals may not equal sum of components due to independent rounding.

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

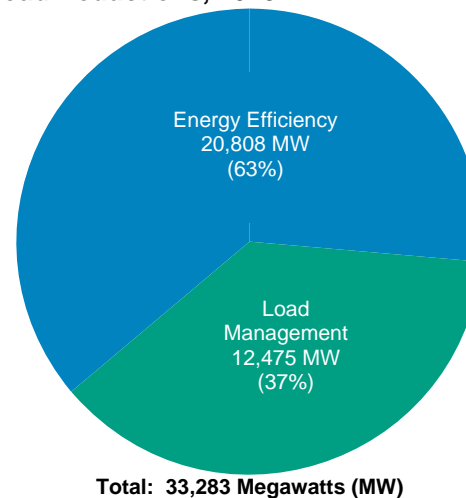
Sources: U.S. Energy Information Administration (EIA), *Electric Power Annual 2010* (November 2011), Tables 4.1.A., 4.1.B., 4.4.A., and 4.4.B.; and EIA, Form EIA-411, "Coordinated Bulk Power Supply and Demand Program Report," and predecessor forms.

**Figure 8.13 Electric Utility Demand-Side Management Programs**

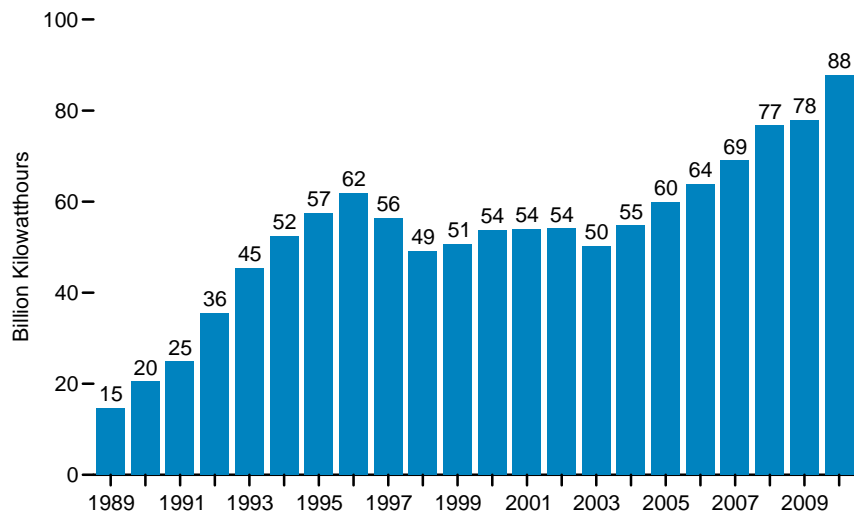
**Actual Peakload Reductions Total, 1989-2010**



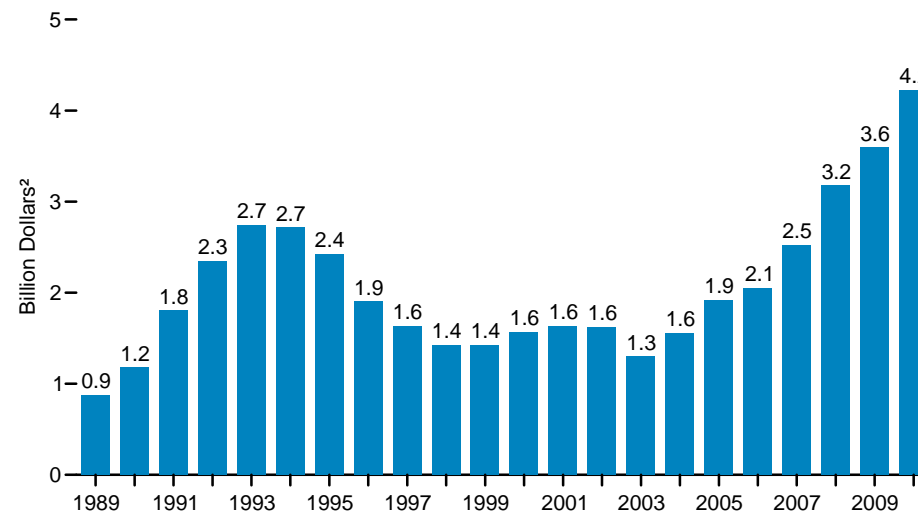
**Actual Peakload Reductions, 2010**



**Energy Savings, 1989-2010**



**Electric Utility Costs,<sup>1</sup> 1989-2010**



<sup>1</sup> Program costs consist of all costs associated with providing the various Demand-Side Management (DSM) programs or measures. The costs of DSM programs fall into these major categories: customer rebates/incentives, administration/marketing/training, performance incentives, research and evaluation, and other (most likely indirect) costs.

<sup>2</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary. Source: Table 8.13.

**Table 8.13 Electric Utility Demand-Side Management Programs, 1989-2010**

Year	Actual Peakload Reductions <sup>1</sup>			Energy Savings Million Kilowatthours	Electric Utility Costs <sup>4</sup> Thousand Dollars <sup>5</sup>
	Energy Efficiency <sup>2</sup>	Load Management <sup>3</sup>	Total		
	Megawatts				
1989	NA	NA	12,463	14,672	872,935
1990	NA	NA	13,704	20,458	1,177,457
1991	NA	NA	15,619	24,848	1,803,773
1992	7,890	9,314	17,204	35,563	2,348,094
1993	10,368	12,701	23,069	45,294	2,743,533
1994	11,662	13,340	25,001	52,483	2,715,657
1995	13,212	16,347	29,561	57,421	2,421,284
1996	14,243	15,650	29,893	61,842	1,902,197
1997	13,327	11,958	25,284	56,406	1,636,020
1998	13,591	13,640	27,231	49,167	1,420,920
1999	13,452	13,003	26,455	50,563	1,423,644
2000	12,873	10,027	22,901	53,701	1,564,901
2001	13,027	11,928	24,955	53,936	1,630,286
2002	13,420	9,516	22,936	54,075	1,625,537
2003	13,581	9,323	22,904	50,265	1,297,210
2004	14,272	9,260	23,532	54,710	1,557,466
2005	15,351	10,359	25,710	59,897	1,921,352
2006	15,959	11,281	27,240	63,817	2,051,394
2007	17,710	12,543	30,253	68,992	2,523,117
2008	19,707	12,028	31,735	76,674	3,175,410
2009	19,766	11,916	31,682	77,907	3,593,750
2010	20,808	12,475	33,283	87,839	4,220,064

<sup>1</sup> The actual reduction in peak load reflects the change in demand for electricity that results from a utility demand-side management (DSM) program that is in effect at the time that the utility experiences its actual peak load as opposed to the potential installed peakload reduction capacity. Differences between actual and potential peak reduction result from changes in weather, economic activity, and other variable conditions.

<sup>2</sup> "Energy Efficiency" refers to programs that are aimed at reducing the energy used by specific end-use devices and systems, typically without affecting the services provided. These programs reduce overall electricity consumption, often without explicit consideration for the timing of program-induced savings. Such savings are generally achieved by substituting technically more advanced equipment to produce the same level of end-use services (e.g., lighting, heating, motor drive) with less electricity. Examples include high-efficiency appliances, efficient lighting programs, high-efficiency heating, ventilating, and air conditioning systems or control modifications, efficient building design, advanced electric motor drives, and heat recovery systems.

<sup>3</sup> "Load Management" includes programs such as "Direct Load Control," "Interruptible Load Control," and "Other Types" of DSM programs. "Direct Load Control" refers to program activities that can interrupt consumer load at the time of annual peak load by direct control of the utility system operator by interrupting power supply to individual appliances or equipment on consumer premises. This type of control usually involves residential consumers. "Interruptible Load Control" refers to program activities that, in accordance with contractual arrangements, can interrupt consumer load at times of seasonal peak load by direct control of the utility system operator or by action of the consumer at the direct request of the system operator. It

usually involves commercial and industrial consumers. In some instances, the load reduction may be affected by direct action of the system operator (remote tripping) after notice to the consumer in accordance with contractual provisions. "Other Types" are programs that limit or shift peak loads from on-peak to off-peak time periods, such as space heating and water heating storage systems.

<sup>4</sup> Program costs consist of all costs associated with providing the various DSM programs or measures. The costs of DSM programs fall into these major categories: customer rebates/incentives, administration/marketing/training, performance, incentives, research and evaluation, and other (most likely indirect) costs.

<sup>5</sup> Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

NA=Not available.

Note: This table reports on the results of DSM programs operated by electric utilities. The decrease since 1998 in peakload reductions from DSM programs can be attributed in part to utilities cutting back or terminating these programs due to industry deregulation. Some State governments have created new programs to promote DSM. Examples include the "Energy Smart Loan Fund" administered by the New York Energy Research and Development Authority and the "Efficiency Vermont" program of the Vermont Public Service Board. Data on energy savings attributable to these non-utility programs are not collected by the U.S. Energy Information Administration (EIA).

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

Sources: • 1989-1998—EIA, Form EIA-861, "Annual Electric Utility Report." • 1999 forward—EIA, *Electric Power Annual 2010* (November 2011), Tables 9.1, 9.6, and 9.7.

## Electricity

**Note 1. Coverage of Electricity Statistics.** Through 1984, data for electric utilities also include institutions (such as universities) and military facilities that generated electricity primarily for their own use; beginning in 1985, data for electric utilities exclude institutions and military facilities. Data for independent power producers, commercial plants, and industrial plants include plants with a generator nameplate capacity of 1 megawatt or greater; they exclude plants with a generator nameplate capacity less than 1 megawatt. Also excluded from the electricity statistics in Section 8 are data for residential and commercial self-generation from solar energy, except for the small amount sold to the grid and included in data for the electric power sector.

**Note 2. Classification of Power Plants Into Energy-Use Sectors.** The U.S. Energy Information Administration (EIA) classifies power plants (both electricity-only and combined-heat-and-power plants) into energy-use sectors based on the North American Industry Classification System (NAICS), which replaced the Standard Industrial Classification (SIC) system in 1997. Plants with a NAICS code of 22 are assigned to the Electric Power Sector. Those with NAICS codes beginning with 11 (agriculture, forestry, fishing, and hunting); 21 (mining, including oil and gas extraction); 23 (construction); 31-33 (manufacturing); 2212 (natural gas distribution); and 22131 (water supply and irrigation systems) are assigned to the Industrial Sector. Those with all other codes are assigned to the Commercial Sector. Form EIA-860, "Annual Electric Generator Report," asks respondents to indicate the primary purpose of the facility by assigning a NAICS code from the list at: <http://www.eia.gov/cneaf/electricity/forms/eia860.doc>.

**Note 3. Electricity Imports and Exports.** Through the *Annual Energy Review* (AER) 2001, EIA estimated the proportions of traded electricity from fossil fuels and hydropower (and applied the fossil-fuel steam-electric-plant heat rate to convert from kilowatthours to Btu) and from geothermal (and applied the heat rate for geothermal energy plants). Beginning with the AER 2002, because of inadequate data, EIA is applying an overall rate of 3,412 Btu per kilowatthour to all traded electricity. In addition, electricity net imports derived from hydroelectric power and geothermal energy are no longer included in renewable energy

consumption data. They continue to be included in total U.S. energy consumption as components of electricity net imports, with energy sources unspecified (see Tables 1.3 and 2.1f). This change between AER 2001 and AER 2002 resulted in a 0.0-to-0.5 quadrillion Btu drop in total renewable energy consumption from 1949 forward.

**Table 8.1 Sources: Net Generation, Electric Power Sector:** Table 8.2b. **Net Generation, Commercial Sector:** Table 8.2d. **Net Generation, Industrial Sector:** • 1949-September 1977—Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FPC, Form FPC-12C, "Industrial Electric Generating Capacity," for all other plants. • October 1977-1978—Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FERC, Form FPC-12C, "Industrial Electric Generating Capacity," for all other plants. • 1979—FERC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and EIA estimates for all other plants. • 1980-1988—Estimated by U.S. Energy Information Administration (EIA) as the average generation over the 6-year period of 1974-1979. • 1989 forward—Table 8.2d. **Net Generation, Total:** Table 8.2a. **Imports and Exports:** • 1949-September 1977—Unpublished FPC data. • October 1977-1980—Unpublished Economic Regulatory Administration (ERA) data. • 1981—U.S. Department of Energy (DOE), Office of Energy Emergency Operations, "Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981," April 1982 (revised June 1982). • 1982 and 1983—DOE, ERA, *Electricity Exchanges Across International Borders*. • 1984-1986—DOE, ERA, *Electricity Transactions Across International Borders*. • 1987 and 1988—DOE, ERA, Form ERA-781R, "Annual Report of International Electrical Export/Import Data." • 1989—DOE, Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data." • 1990 forward—National Energy Board of Canada, and DOE, Office of Electricity Delivery and Energy Reliability, Form OE-781R, "Monthly Electricity Imports and Exports Report," and predecessor form. For 2001 forward, data from the California Independent System Operator are used in combination with the Form OE-781 values to estimate electricity trade with Mexico. **T & D Losses and Unaccounted for:** Calculated as the sum of total net generation and imports minus total end use and exports. **End Use:** Table 8.9.