Table 9.1 – Price of Fuels Delivered to Electric Generators

(2004 Dollars per Million Btu) [1]

	1980	1993	2000	2001	2002	2003	2004	2010	2015	2020	2025	2030
Distillate Fuel	NA	NA	NA	NA	NA	6.65	9.23	9.04	9.02	9.62	10.05	10.28
Residual Fuel [2]	NA	2.88	4.48	3.87	3.44	4.40	4.29	5.70	5.72	6.02	6.43	6.73
Natural Gas [3]	NA	3.11	4.61	4.70	3.67	5.46	5.96	5.46	5.08	5.40	5.87	6.26
Steam Coal [4]	NA	1.69	1.29	1.29	1.29	1.29	1.36	1.48	1.40	1.39	1.44	1.51
Fossil Fuel Average [5]	NA	1.93	1.86	1.81	1.56	2.31	2.57	2.41	2.41	2.46	2.50	2.49

Sources: EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383(2006) (Washington, D.C., February 2006), Table A3; and EIA, *Electric Power Annual 2004*, DOE/EIA-0348(2004) (Washington, D.C., November 2005), Table 4.5.

Notes:

Includes electricity-only and combined-heat-and-power plants whose primary business is to sell electricity - or electricity and heat - to the public.

Data are for steam-electric plants with a generator nameplate capacity of 50 or more megawatts.

Beginning in 2002, data from the Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" for independent power producers and combined-heat-and-power producers are included in this data dissemination. Prior to 2002, these data were not collected; the data for 2001 and previous years include only data collected from electric utilities via the FERC Form 423.

[1] Historical data converted to 2003$/MMBtu using EIA *Annual Energy Review 2003*, Appendix D.

[2] 1990-2003 data are for distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum), and waste oil.

[3] Natural gas, including a small amount of supplemental gaseous fuels that cannot be identified separately.

[4] Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and synthetic coal.

[5] Weighted average price.

NA = not available

Table 9.2 – Electricity Retail Sales

(Billion Kilowatthours)

	1980	1990	2000	2001	2002	2003	2004	2010	2015	2020	2025	2030
Retail Sales [1]												
Residential	717	924	1,192	1,203	1,267	1,273	1,293	1,461	1,576	1,691	1,787	1,897
Commercial [2]	559	838	1,159	1,197	1,218	1,200	1,229	1,430	1,592	1,762	1,944	2,151
Industrial [3]	815	946	1,064	964	972	1,008	1,021	1,060	1,103	1,147	1,195	1,262
Transportation [4]	3	5	5	5	6	7	8	26	28	29	30	31
Total [5]	2,094	2,713	3,421	3,370	3,463	3,488	3,551	4,155	4,491	4,844	5,208	5,619

Sources: EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383 (2006), (Washington, D.C., February 2006), Table A8; and EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., September 2005), Table 8.9.

Notes:

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

[2] Commercial sector, including public street and highway lighting, interdepartmental sales, and other sales to public authorities.

[3] Industrial sector. Through 2002, excludes agriculture and irrigation; beginning in 2003, includes agriculture and irrigation.

[4] Transportation sector, including sales to railroads and railways.

[5] The sum of "Residential," "Commercial," "Industrial," and "Transportation."

Table 9.3 – Prices of Electricity Sold

(2003 cents per Kilowatthour) [1]

	1980	1990	2000	2001	2002	2003	2004	2010	2015	2020	2025	2030
Price by End-Use Sector[2]												
Residential	10.8	10.4	8.9	9.1	8.8	8.9	8.9	8.5	8.3	8.3	8.4	8.5
Commercial	11.0	9.7	8.0	8.4	8.2	8.1	8.2	7.6	7.4	7.5	7.7	7.8
Industrial	7.4	6.3	5.0	5.3	5.1	5.2	5.1	5.3	5.1	5.2	5.4	5.4
Transportation / Other[3]	9.6	8.5	7.1	7.4	7.0	7.7	6.5	7.1	6.9	7.0	7.1	7.2
End-Use Sector Average	9.4	8.7	7.4	7.7	7.5	7.6	7.6	7.3	7.1	7.2	7.4	7.5
Price by Service Category[2]												
Generation	NA	NA	NA	NA	NA	5.0	5.8	4.7	4.6	4.8	5.0	5.1
Transmission	NA	NA	NA	NA	NA	0.5	0.5	0.6	0.6	0.7	0.7	0.7
Distribution	NA	NA	NA	NA	NA	2.1	2.0	2.0	1.9	1.9	1.8	1.8

Sources: EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383 (2006), (Washington, D.C., February 2006), Table A8; and EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., August 2005), Table 8.10.

Notes:

For 1980, data are for selected Class A utilities whose electric operating revenues were $100 million or more during the previous year. For 1990, data are for a census of electric utilities. For 2000 onward, data also include energy-service providers selling to retail customers

[1] Historical data real prices expressed in chained (2004) dollars, calculated by using gross domestic product implicit price deflators using EIA Annual Energy Review 2004 Appendix D.

[2] Prices represent average revenue per kilowatthour.

[3] Public street and highway lighting, other sales to public authorities, sales to railroads and railways and interdepartmental sales.

NA = not available

Table 9.4 – Revenue from Electric-Utility Retail Sales by Sector

(Millions of 2004 Dollars)

	1980	1990	2000	2001	2002	2003	2004	2010	2015	2020	2025	2030
Residential	77,598	95,980	106,351	109,579	111,453	113,090	115,594	124,185	130,808	140,353	150,108	161,245
Commercial	61,537	81,624	93,235	100,369	99,536	97,760	100,369	108,680	117,808	132,150	149,688	167,778
Industrial	60,399	59,455	53,448	51,368	49,331	52,803	52,173	56,180	56,259	59,658	64,533	68,165
Transportation/Other [1]		289	424	355	372	420	542	519	1,846	1,932	2,030	2,130
All Sectors [2]	197,153	236,419	252,190	260,731	259,589	264,291	268,811	303,315	318,865	348,741	385,392	421,425

Sources: Calculated from EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383 (2006), (Washington, D.C., February 2006), Table A8; EIA, *Annual Energy Review 20*04, DOE/EIA-0384 (2004) (Washington, D.C., August 2005), Tables 8.9 and 8.10.

Notes:

[1] "Other" includes public street and highway lighting, other sales to public authorities, sales to railroads and railways, and interdepartmental sales through 2003.Transportation-sector revenue reported starting in 2010.

[2] For 1980, data are for selected Class A utilities whose electric operating revenues were $100 million or more during the previous year. For 1990, data are for a census of electric utilities. For 2000 onward, data also include energy-service providers selling to retail customers

Table 9.5 – Revenue from Sales to Ultimate Consumers by Sector, Census Division, and State, 2004

(Millions of 2004 Dollars)

Census Division/ State	Residential	Commercial	Industrial	Other[1]	All Sectors[2]
New England	**5,560**	**5,696**	**1,995**	**33**	**13,284**
Connecticut	1,537	1,332	423	14	3,305
Maine	527	428	244	-	1,198
Massachusetts	2,323	2,858	844	19	6,045
New Hampshire	535	480	233	-	1,248
Rhode Island	366	373	126	-	865
Vermont	273	226	126	-	624
Middle Atlantic	**14,890**	**17,221**	**5,266**	**302**	**37,679**
New Jersey	3,148	3,793	1,012	32	7,984
New York	6,890	9,654	1,455	210	18,209
Pennsylvania	4,853	3,774	2,799	60	11,486
East North Central	**14,847**	**12,855**	**10,187**	**32**	**37,920**
Illinois	3,638	3,570	2,232	25	9,465
Indiana	2,277	1,448	2,022	1	5,749
Michigan	2,759	2,925	1,717	0	7,401
Ohio	4,251	3,510	2,864	5	10,629
Wisconsin	1,922	1,401	1,353	-	4,677
West North Central	**7,044**	**5,505**	**3,544**	**1**	**16,095**
Iowa	1,132	731	756	-	2,619
Kansas	962	893	510	-	2,364
Minnesota	1,624	1,287	1,038	1	3,950
Missouri	2,185	1,648	661	0	4,494
Nebraska	610	497	369	-	1,475
East South Central	**7,934**	**5,551**	**5,134**	**0**	**18,618**
Alabama	2,295	1,506	1,477	0	5,278
Kentucky	1,538	1,034	1,432	0	4,004
Mississippi	1,444	1,019	759	0	3,221
Tennessee	2,657	1,992	1,466	0	6,115
West South Central	**16,701**	**11,299**	**8,945**	**7**	**36,952**
Arkansas	1,150	605	720	0	2,475
Louisiana	2,324	1,710	1,646	1	5,682
Oklahoma	1,520	1,116	677	0	3,313
Texas	11,707	7,867	5,902	6	25,482
Mountain	**6,732**	**5,975**	**3,596**	**3**	**16,306**
Arizona	2,447	1,901	637	0	4,985
Colorado	1,307	1,343	596	1	3,247
Idaho	446	294	344	0	1,085
Montana	319	321	190	0	830
Nevada	1,034	752	895	0	2,681
New Mexico	488	609	312	0	1,409
Utah	528	551	314	2	1,395
Wyoming	163	203	308	0	674
Pacific Contiguous	**13,990**	**16,307**	**6,063**	**46**	**36,407**
California	10,628	13,554	4,710	43	28,935
Oregon	1,293	1,010	529	1	2,833
Washington	2,069	1,742	825	3	4,638

North Dakota	249	225	124	-	599
South Dakota	283	224	87	-	594
South Atlantic	**27,510**	**18,973**	**8,310**	**80**	**54,874**
Delaware	378	300	207	-	885
District of Columbia	147	670	13	22	852
Florida	10,086	6,601	1,140	7	17,835
Georgia	4,016	2,912	1,587	9	8,525
Maryland	2,181	1,304	1,269	31	4,785
North Carolina	4,369	2,871	1,516	-	8,756
South Carolina	2,267	1,390	1,315	-	4,972
Virginia	3,397	2,530	843	10	6,780
West Virginia	670	394	419	0	1,483
Pacific Noncontiguous	**828**	**874**	**619**	**0**	**2,321**
Alaska	256	286	94	0	636
Hawaii	571	588	526	0	1,685
U.S. Total	**116,037**	**100,255**	**53,661**	**504**	**270,456**

Source: EIA, *Electric Sales and Revenue 2004 Spreadsheets,* Data Tables, http://www.eia.doe.gov/cneaf/electricity/esr/esr_tabs.html, Table 1c.

Notes:

[1] Includes sales for public street and highway lighting, to public authorities, railroads and railways, and interdepartmental sales.

[2] Includes bundled and unbundled consumers.

Table 9.6 – Production, Operation, and Maintenance Expenses for Major U.S. Investor-Owned and Publicly Owned Utilities

(Million of Nominal Dollars)

	Investor-Owned Utilities						Publicly Owned Utilities[1,3]				
	1990	1995	2000	2002	2003	2004	1990	1995	2000	2002	2003
Production Expenses											
Cost of Fuel	32,635	29,122	32,555	24,132	26,476	28,678	5,276	5,664	7,702	9,348	10,378
Purchased Power	20,341	29,981	61,969	58,828	62,173	67,354	10,542	11,988	16,481	24,446	26,078
Other Production Expenses	9,526	9,880	12,828	7,688	7,532	8,256	155	212	225	1,647	1,285
Total Production Expenses[2]	62,502	68,983	107,352	90,649	96,181	104,288	15,973	17,863	24,398	36,188	38,526
Operation and Maintenance Expenses											
Transmission Expenses	1,130	1,425	2,699	3,494	3,585	4,519	604	663	845	951	977
Distribution Expenses	2,444	2,561	3,115	3,113	3,185	3,301	950	630	854	1,000	1,044
Customer Accounts Expenses	3,247	3,613	4,246	4,165	4,180	4,087	375	448	662	700	754
Customer Service and Information Expenses	1,181	1,922	1,839	1,821	1,893	2,012	75	120	233	354	311
Sales Expenses	212	348	403	261	234	238	29	30	82	84	95
Administrative and General Expenses	10,371	13,028	13,009	12,872	13,466	13,519	1,619	2,127	2,097	2,594	2,742
Total Electric Operation and Maintenance Expenses	18,585	22,897	25,311	25,726	26,543	27,676	3,653	4,018	4,772	5,683	5,923

Source: EIA, *Electric Power Annual 2004,* DOE/EIA-0348(2004) (Washington, D.C., November 2005), Tables 8.1, 8.3, and 8.4; and EIA, *Electric Power Annual 2001*, DOE/EIA-0348(2001) (Washington, D.C., December 2002), Table 8.1; EIA, *Financial Statistics of Major US Publicly Owned Electric Utilities 1994,* DOE/EIA-0437(94)/2 (Washington, D.C., December 1995), Table 8 and Table 17; EIA, *Financial Statistics of Major US Publicly Owned Electric Utilities 1999*, DOE/EIA-0437(99)/2 (Washington, D.C., November 2000), Table 10 and Table 21; EIA, *Financial Statistics of Major US Publicly Owned Electric Utilities 2000*, DOE/EIA-0437(00)/2 (Washington, D.C., November 2001), Table 10 and Table 21.; EIA, Public Electric Utility Database (Form EIA-412) 2002 and 2003.

Notes:

[1] Publicly Owned Utilities include generator and nongenerator electric utilities.
[2] Totals may not equal sum of components, because of independent rounding.
[3] Collection of Form EIA-412 has been suspended, data for 2004 not available.

Table 9.6a – Operation and Maintenance Expenses for Major U.S. Investor-Owned Electric Utilities

(Million of Nominal Dollars, unless otherwise indicated)

	1990	1995	2000	2002	2003	2004
Utility Operating Expenses	142,471	165,321	210,324	188,745	197,459	207,161
Electric Utility	127,901	150,599	191,329	171,291	175,473	182,337
Operation	81,086	91,881	132,662	116,374	122,723	131,962
Production	62,501	68,983	107,352	90,649	96,181	104,287
Cost of Fuel	32,635	29,122	32,555	24,132	26,476	28,678
Purchased Power	20,341	29,981	61,969	58,828	62,173	67,354
Other	9,526	9,880	12,828	7,688	7,532	8,256
Transmission	1,130	1,425	2,699	3,494	3,585	4,519
Distribution	2,444	2,561	3,115	3,113	3,185	3,301
Customer Accounts	3,247	3,613	4,246	4,165	4,180	4,087
Customer Service	1,181	1,922	1,839	1,821	1,893	2,012
Sales	212	348	403	261	234	238
Administrative and General	10,371	13,028	13,009	12,872	13,466	13,519
Maintenance	11,779	11,767	12,185	10,843	11,141	11,774
Depreciation	14,889	19,885	22,761	17,319	16,962	16,373
Taxes and Other	20,146	27,065	23,721	26,755	24,648	22,228
Other Utility	14,571	14,722	18,995	17,454	21,986	24,823
Operation (Mills per Kilowatthour) [1]						
Nuclear	10.04	9.43	8.41	8.54	8.86	8.3
Fossil Steam	2.21	2.38	2.31	2.54	2.50	2.68
Hydroelectric and Pumped Storage	3.35	3.69	4.74	5.07	4.50	5.05
Gas Turbine and Small Scale [2]	8.76	3.57	4.57	2.72	2.76	2.73
Maintenance (Mills per Kilowatthour) [1]						
Nuclear	5.68	5.21	4.93	5.04	5.23	5.38
Fossil Steam	2.97	2.65	2.45	2.68	2.73	2.96
Hydroelectric and Pumped Storage	2.58	2.19	2.99	3.58	3.01	3.64
Gas Turbine and Small Scale [2]	12.23	4.28	3.50	2.38	2.26	2.16

Source: EIA, *Electric Power Annual 2004*, DOE/EIA-0348(2004) (Washington, D.C., November 2005), Tables 8.1 and 8.2; and EIA, *Electric Power Annual 2001*, Tables 8.1 and 8.2.

Notes:

[1] Operation and maintenance expenses are averages, weighed by net generation.

[2] Includes gas turbine, internal combustion, photovoltaic, and wind plants.

Table 9.6b – Operation and Maintenance Expenses for Major U.S. Publicly Owned Generator and Nongenerator Electric Utilities

(Million of Nominal Dollars, except employees)

	1990	1995	2000	2002	2003
Production Expenses					
Steam Power Generation	3,742	3,895	5,420	6,558	7,539
Nuclear Power Generation	1,133	1,277	1,347	1,646	1,739
Hydraulic Power Generation	205	261	332	746	785
Other Power Generation	196	231	603	1,144	1,100
Purchased Power	10,542	11,988	16,481	24,446	26,078
Other Production Expenses	155	212	225	1,647	1,285
Total Production Expenses[1]	15,973	17,863	24,398	36,188	38,526
Operation and Maintenance Expenses					
Transmission Expenses	604	663	845	951	977
Distribution Expenses	950	630	854	1,000	1,044
Customer Accounts Expenses	375	448	662	700	754
Customer Service and Information Expenses	75	120	233	354	311
Sales Expenses	29	30	82	84	95
Administrative and General Expenses	1,619	2,127	2,097	2,594	2,742
Total Electric Operation and Maintenance Expenses	3,653	4,018	4,772	5,683	5,923
Total Production and Operation and Maintenance Expenses	19,626	22,651	30,100	44,813	47,165
Fuel Expenses in Operation					
Steam Power Generation	2,395	2,163	4,150	4,818	5,624
Nuclear Power Generation	242	222	316	433	398
Other Power Generation	113	101	373	754	771
Total Electric Department Employees[2]	N/A	73,172	71,353	93,520	92,752

Source: EIA, *Financial Statistics of Major US Publicly Owned Electric Utilities* 1994, DOE/EIA-0437(94)/2 (Washington, D.C., December 1995), Table 8 and Table 17; EIA, *Financial Statistics of Major U.S. Publicly Owned Electric Utilities 1999*, DOE/EIA-0437(99)/2 (Washington, D.C., November 2000), Table 10 and Table 21; EIA, *Financial Statistics of Major U.S. Publicly Owned Electric Utilities 2000*, DOE/EIA-0437(00)/2 (Washington, D.C., November 2001), Table 10 and Table 21; EIA, Public Electric Utility Database (Form EIA-412) 2002 and 2003; EIA, *Electric Power Annual 2003*, DOE/EIA-0348(2003) (Washington, D.C., December 2004), Tables 8.3 and 8.4

Notes: EIA suspended collection of this dataset in 2004.

[1] Totals may not equal sum of components, because of independent rounding.

[2] Number of employees was not submitted by some publicly owned electric utilities, because the number of electric utility employees could not be separated from the other municipal employees, or the electric utility outsourced much of the work.

NA = not available

Table 9.7 – Environmental Compliance Equipment Costs

(Nominal Dollars)

	1990	1995	2000	2001	2002	2003	2004
Average Flue Gas Desulfurization Costs at Utilities							
Average Operation & Maintenance Costs (mills/kWh)	1.35	1.16	0.96	1.27	1.11	1.23	1.38
Average Installed Costs ($/kW)	118	126	124	131	124	124	145

Source: *Electric Power Annual 2004*, Table 5.3., DOE/EIA-0348(04) (November 2005). EIA, *Electric Power Annual 2001*, DOE/EIA-0348(01) (March 2003), Table 5.3.

Notes:

Includes plants under the Clean Air Act that were monitored by the Environmental Protection Agency, even if sold to an unregulated entity.

These data are for plants with a fossil-fueled, steam-electric capacity of 100 megawatts or more.