

Table 5.1 – U.S. Total and Delivered Energy (Overview)

(Quadrillion Btu per year)

	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u> ^Z	<u>2010</u>	<u>2015</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>
Total Consumption by Source ¹												
Petroleum ²	34.20	33.55	38.26	38.19	38.23	38.81	39.83	43.14	45.69	48.14	50.57	53.58
Natural Gas	20.39	19.74	23.91	22.90	23.62	23.07	22.98	24.04	26.67	27.70	27.78	27.66
Coal ³	15.39	19.58	23.54	22.91	23.10	23.48	23.66	25.09	25.66	27.65	30.89	34.49
Nuclear	2.74	6.10	7.86	8.03	8.14	7.96	8.23	8.44	8.66	9.09	9.09	9.09
Renewable ⁴	5.49	6.13	6.16	5.33	5.84	6.08	6.12	7.08	7.43	8.00	8.61	9.02
Other ⁵	0.07	-0.03	0.06	-0.02	-0.01	-0.07	0.04	0.07	0.08	0.05	0.05	0.05
Total Primary	78.29	84.71	98.96	96.47	97.87	98.31	99.73	107.87	114.18	120.63	126.99	133.88
Total Consumption by Sector												
Residential	15.85	17.06	20.53	20.29	20.91	21.20	21.18	22.99	24.07	25.17	25.88	26.64
Commercial	10.59	13.32	17.18	17.37	17.58	17.45	17.51	19.51	21.23	23.02	24.82	26.73
Industrial	32.15	31.90	34.70	32.53	32.53	32.56	33.25	34.46	35.60	36.95	38.77	40.58
Transportation	19.70	22.42	26.55	26.28	26.85	27.10	27.79	30.90	33.29	35.50	37.52	39.93
Total Primary ⁶	78.29	84.71	98.96	96.47	97.87	98.31	99.73	107.87	114.18	120.63	126.99	133.88
Delivered Consumption by Sector												
Residential	7.50	6.60	7.20	6.91	6.89	7.19	7.02	12.25	12.81	13.31	13.64	14.04
Commercial	4.10	3.85	4.22	4.04	4.10	4.26	4.07	9.00	9.85	10.66	11.50	12.44
Industrial	22.67	21.21	22.80	21.80	21.77	21.48	22.08	26.67	27.72	28.91	30.58	32.19
Transportation	19.66	22.37	26.49	26.22	26.79	27.03	27.71	30.70	33.09	35.30	37.31	39.72
Total Delivered ⁶	53.93	54.03	60.72	58.96	59.54	59.95	60.88	78.62	83.46	88.19	93.04	98.40

Sources: EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383(2006) (Washington, D.C., February 2006), Tables A1 and A2; EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., August 2005), Tables 2.1a-f.

Notes:

¹ For historical figures, these values include the electric-power sector's consumption.

² Includes natural gas plant liquids, crude oil consumed as a fuel, and nonpetroleum-based liquids for blending, such as ethanol.

³ Includes coal in all sectors, as well as net imports of coal coke in the industrial sector.

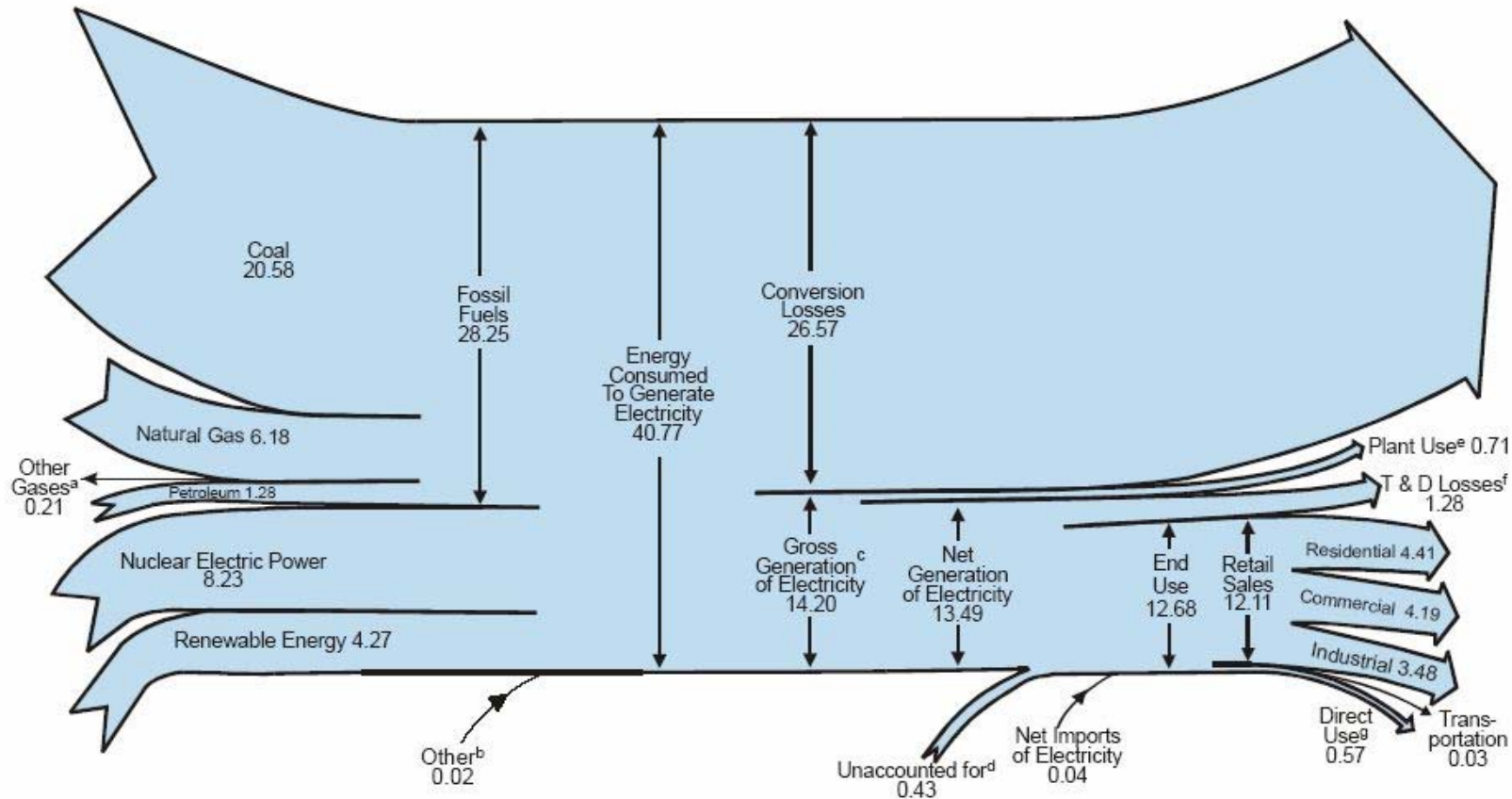
⁴ Includes grid-connected electricity from conventional hydroelectric; wood and wood waste; landfill gas; municipal solid waste; other biomass; wind; photovoltaic and solar-thermal sources; nonelectric energy from renewable sources, such as active and passive solar systems, and wood for residential heating; and both the ethanol and gasoline components of E85 (which, due to seasonal adjustments in mix, is E74, on average), but not lower percentage blends of ethanol (e.g. E10). Excludes electricity imports using renewable sources and nonmarketed renewable energy.

⁵ For historical figures, this value includes hydroelectric pumped storage and electricity net imports – except in 2004, where it only shows electricity net imports (*AER 2004* no longer includes hydroelectric pumped storage). For forecasted figures, this value includes net electricity imports, methanol, and liquid hydrogen.

⁶ For historical figures, this value does not include the electric-power sector's consumption.

⁷ All 2004 figures are preliminary.

Table 5.2 – Electricity Flow Diagram (Quadrillion Btu)



Source: EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., August 2005), Diagram 5.

Notes:

a Blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

b Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur and miscellaneous technologies.

e Electric energy used in the operation of power plants, estimated as 5% of gross generation.

f Transmission and distribution losses (electricity losses that occur between the point of generation and delivery to the customer) are estimated as 9% of gross generation.

c Estimated as net generation divided by 0.95.

g 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.

d Data collection frame differences and sampling error.

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

Table 5.3 – Electricity Overview

(Billion Kilowatthours, unless otherwise noted)

	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u> ⁷	<u>2010</u>	<u>2015</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>
Electric-Power Sector												
Generation ¹	2,286	2,901	3,638	3,580	3,698	3,721	3,794	4,196	4,501	4,827	5,121	5,497
End-Use Sector Generation	3	137	164	157	160	162	160	192	226	280	370	429
Total Generation	2,290	3,038	3,802	3,737	3,858	3,883	3,953	4,388	4,727	5,108	5,491	5,926
Capability (gigawatts)												
Electric-Power Sector ²	579	710	782	819	876	919	938	988	965	1,027	1,098	1,186
End-Use Sector ³	NA	24	30	29	29	30	30	32	37	44	56	64
Total Capability	579	734	812	848	905	949	968	1,021	1,002	1,072	1,154	1,250
Imports from Canada/Mexico	25	18	49	39	36	30	34	42	41	29	28	27
Exports to Canada/Mexico	4	16	15	16	14	24	22	21	18	15	13	13
Loss and Unaccounted for ⁴	216	203	243	226	253	233	248	NA	NA	NA	NA	NA
Retail Sales ⁵	2,094	2,713	3,421	3,370	3,463	3,488	3,551	3,978	4,300	4,629	4,956	5,341
Direct Use ⁶	NA	125	171	163	166	168	166	177	192	214	252	278
Total Use	2,094	2,838	3,592	3,533	3,629	3,656	3,717	4,155	4,491	4,844	5,208	5,619

Sources: EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383(2006) (Washington, D.C., February 2005), Tables A8, A9, and A10; EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., August 2005), Tables 8.1, 8.11a, 8.11b, and 8.11d.

Notes:

¹ 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.

² Through 1988, data are for net summer capacity at electric utilities only. Beginning in 1989, data also include net summer capacity at independent power producers. All data after 1989 include electric-sector combined-heat-and-power (CHP) plants.

³ Commercial and industrial combined-heat-and-power (CHP) and electricity-only plants; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Data begins in 1989.

⁴ Electricity losses that occur between the point of generation and delivery to the customer, and data collection frame differences and nonsampling error.

⁵ Electricity retail sales to ultimate customers reported by electric utilities and other energy-service providers.

⁶ Commercial and industrial facility use of on-site net electricity generation; and electricity sales among adjacent or colocated facilities for which revenue information is not available.

NA = not available

Table 5.4 – Consumption of Fossil Fuels by Electric Generators

	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u> ⁸	<u>2010</u>	<u>2015</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>
Coal (million short tons) ¹	569	781	983	962	975	1,003	1,013	1,140	1,161	1,235	1,354	1,502
Distillate Fuel Oil (million barrels) ²	29	16	30	29	22	27	18	40	40	41	44	46
Residual Fuel Oil (million barrels) ³	391	183	138	159	105	137	141	117	116	117	118	128
Petroleum Coke (million short tons)	0.2	1.0	3.2	3.3	5.7	5.7	6.8	NA	NA	NA	NA	NA
Other Liquids (million barrels) ⁴	NA	0.02	0.4	0.4	1.2	1.9	2.0	NA	NA	NA	NA	NA
Total Petroleum (million barrels) ⁵	421	205	184	205	156	195	195	157	156	158	162	173
Natural Gas (billion cubic feet)	3,682	3,147	5,014	5,142	5,408	4,909	5,217	5,509	7,142	7,459	7,052	6,381
Stocks of Coal and Petroleum (end of year)⁶												
Coal (million short tons)	183	156	102	138	142	122	107	NA	NA	NA	NA	NA
Petroleum (million barrels) ⁷	136	84	41	57	52	53	50	NA	NA	NA	NA	NA

Sources: EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383(2006) (Washington, D.C., February 2006), Tables A2, A13, and A15; EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., August 2005), Table 8.5b and 8.8.

Notes:

Data is for electric-power sector consumption only. Data include fuel consumption to produce electricity by combined-heat-and-power plants. Through 1988, consumption data are for electric utilities only. Beginning in 1989, consumption data also include independent power producers.

¹ Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and synthetic coal.

² Light 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. Forecast values calculated from quadrillion Btu using conversion factor 5.825 MMBtu/barrel.

³ Heavy 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. Forecast values calculated from quadrillion Btu using conversion factor 6.287 MMBtu/barrel.

⁴ Jet fuel, kerosene, other petroleum liquids, and waste oil.

⁵ Petroleum coke is converted from short tons to barrels by multiplying by 5. In forecasted values, total petroleum is calculated sum.

⁶ Through 1998, data are for electric utilities only. Beginning in 1999, data are for electric utilities and independent power producers.

⁷ Includes distillate fuel oil, residual fuel oil, other liquids, and petroleum coke.

⁸ All 2004 figures are preliminary

NA = not available

Table 5.5 – Electric-Power Sector Energy Consumption

(Trillion Btu)

	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u> ⁵	<u>2010</u>	<u>2015</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>
Coal	12,123	16,235	20,185	19,494	19,733	20,137	20,227	22,919	23,352	25,018	27,542	30,742
Natural Gas	3,810	3,224	5,120	5,271	5,522	5,009	5,351	5,647	7,320	7,645	7,228	6,541
Petroleum	2,634	1,281	1,145	1,270	955	1,199	1,196	971	960	972	998	1,068
Other Gas ¹	NA	6	19	9	25	30	30	NA	NA	NA	NA	NA
Total Fossil Fuels	18,567	20,746	26,470	26,044	26,235	26,374	26,804	29,537	31,633	33,635	35,768	38,351
Nuclear Electric Power	2,739	6,104	7,862	8,033	8,143	7,959	8,232	8,442	8,659	9,089	9,089	9,088
Hydroelectric Pumped Storage ²	---	-36	-57	-90	-88	-88	-- ⁶	NA	NA	NA	NA	NA
Conventional Hydroelectric	2,867	3,014	2,768	2,209	2,650	2,781	2,673	2,983	2,985	2,994	2,994	2,994
Wood	3	106	126	116	141	156	158	518	522	566	584	633
Waste	2	180	294	314	353	337	334	335	349	360	369	372
Geothermal	110	326	296	289	305	303	302	393	567	918	1,333	1,538
Solar ³	NA	4	5	6	6	5	6	10	13	15	18	21
Wind	NA	29	57	70	105	115	143	524	577	616	654	665
Total Renewable Energy	2,982	3,658	3,547	3,003	3,560	3,697	3,616	4,763	5,013	5,470	5,953	6,223
Electricity Imports	71	8	115	75	78	22	39	74	79	49	50	48
Other ⁴	NA	0.08	1.28	0.00	6.96	15.57	0.09	NA	NA	NA	NA	NA
Total Primary Consumption	24,359	30,517	37,995	37,154	38,022	38,068	38,692	42,817	45,383	48,244	50,860	53,710

Sources: EIA, *Annual Energy Review 2004*, DOE/EIA-0384(2004) (Washington, D.C., August 2005), Table 8.4b; and EIA, *Annual Energy Outlook 2006*, DOE/EIA-0383(2006) (Washington, D.C., February 2006), Tables A2 and A17.

Notes:

Data are for fuels consumed to produce electricity at both electricity-only and at combined-heat-and-power plants. Through 1988, data are for consumption at electric utilities only. Beginning in 1989, data also include consumption at independent power producers.

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

² Pumped storage facility production minus energy used for pumping. 1980 data included in Conventional Hydroelectric.

³ Solar-thermal and photovoltaic energy.

⁴ Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

⁵ All 2004 figures are preliminary

⁶ Starting with AER 2004 (August 2005), energy consumed by hydroelectric pumped storage plants is no longer included. According to EIA, 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 the tables (such as conventional hydroelectric power, coal, and natural gas). The data book has kept historical record of pumped storage hydroelectric pumped storage plants, because the information is useful to some analysts.

NA = not available

Table 5.6 – Fossil-Fuel Generation by Age of Generating Units

(Megawatts)

	<u>1980</u>	<u>1990</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
0-5	91,001	39,870	34,466	54,274	90,877	155,534	204,504	218,854	233,119
6-10	136,236	54,270	42,215	44,042	42,164	37,735	33,121	33,234	33,976
11-20	145,618	224,879	102,855	92,854	87,057	82,977	83,140	81,085	81,465
21-30	99,223	143,868	226,166	221,690	210,982	196,464	175,461	156,694	156,078
31-40	21,042	93,450	128,613	141,055	155,292	172,139	188,274	205,136	204,382
41-50	4,023	14,701	80,859	86,582	91,321	94,204	95,560	93,156	89,731
>50	4,232	2,566	8,291	11,634	15,259	18,161	24,487	33,967	31,676
Total:	501,376	573,603	623,465	652,129	692,952	757,214	804,546	822,128	830,427

Source: PowerDat, © 2005, Platts, a division of the McGraw-Hill companies.

Notes:

Total MW does not equal fossil-fuel generation capacity cited in Table 6.1.

Capacity reported in this table is nameplate capacity.

Table 5.7 – Nuclear Generation by Age of Generating Units

(Megawatts)

	<u>1980</u>	<u>1990</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
0-5	16,289	30,408	1,270	1,270	0	0	0	0	0
6-10	33,989	25,628	4,810	1,215	2,485	2,485	1,270	1,270	1,270
11-20	6,413	48,929	54,432	56,036	51,537	49,189	47,200	40,278	31,435
21-30	309	6,073	44,558	44,597	46,859	43,105	41,420	39,315	40,533
31-40	0	0	2,143	4,095	6,332	12,435	17,324	26,351	32,940
Total	57,000	111,039	107,214	107,214	107,214	107,214	107,214	107,214	106,177

Source: PowerDat, © 2005, Platts, a division of the McGraw-Hill companies.

Notes:

Total MW does not equal nuclear-generation capacity cited in Table 6.1.

Capacity reported in this table is nameplate capacity.

Table 5.8 – Operational Renewable Energy Generating Capacity

(Megawatts)

	<u>1980</u>	<u>1990</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u> ¹
Agricultural Residues ²	40	165	373	373	373	373
BioGas ³	18	361	933	999	1,030	1,053
Municipal Solid Waste ⁴	263	2,172	2,970	2,970	2,970	3,000
Timber Residues ⁵	3,576	6,305	7,447	7,458	7,497	7,497
Bioenergy Total ⁶	3,897	9,003	11,722	11,800	11,869	11,922
Geothermal	802	2,540	2,779	2,779	2,779	2,779
Photovoltaic ⁷	0.025	4.170	27.645	38.452	59.703	67.710
Solar Thermal	0	274	354	354	354	354
Hydro ⁸	80,491	90,955	94,324	94,335	94,335	94,356
Wind	0.06	1,569	2,780	4,623	5,078	5,090
Total	85,190	104,344	111,987	113,930	114,475	114,569

Source: Renewable Electric Plant Information System (REPiS Database), Version 7, National Renewable Energy Laboratory, 2003, <http://www.nrel.gov/analysis/repis/>.

Notes:

Totals do not equal renewable generation capacity cited in Table 6.1.

¹2003 data is preliminary; it is not verified at time of data book release

²Agricultural residues, cannery wastes, nut hulls, fruit pits, nut shells

³Biogas, alcohol (includes butanol, ethanol, and methanol), bagasse, hydrogen, landfill gas, livestock manure, wood gas (from wood gasifier)

⁴Municipal solid waste (includes industrial and medical), hazardous waste, scrap tires, wastewater sludge, refused-derived fuel

⁵Timber and logging residues (Includes tree bark, wood chips, saw dust, pulping liquor, peat, tree pitch, wood or wood waste)

⁶ There are an additional 65.45 MW of ag waste, 5.445 MW of bio gas, and 483.31 MW of wood residues that are not accounted for here, because they have no specific online date.

⁷ There are an additional 3.4 MW of photovoltaic capacity that are not accounted for here, because they have no specific online date.

⁸ There are an additional 24 MW of hydroelectric capacity that are not accounted for here, because they have no specific online date.

Table 5.9 – Number of Utilities by Class of Ownership and Nonutilities

	<u>1980</u>	<u>1990</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Investor-Owned Utilities	240	266	238	240	232	230	223	220
Federally Owned Utilities	41	10	9	9	9	9	9	9
Cooperatively Owned Utilities ¹	936	951	901	894	889	882	885	884
Other Publicly Owned Utilities	1,753	2,010	2,012	2,013	2,015	2,012	2,015	2,015
Total Number of Utilities	2,970	3,237	3,160	3,156	3,145	3,120	3,154	3,150
Nonutilities	NA	NA	381	446	1,380	1,500	1,538	1,150
Power Marketers	NA	NA	155	134	127	136	147	153

Sources: EIA, *The Changing Structure of the Electric Power Industry 2000: An Update (historical)*; EIA 861 report (1999+ for utilities) - <http://www.eia.doe.gov/cneaf/electricity/page/eia861.html>; and Form EIA-906 and EIA-920 databases (2001+ for IPPs) - http://www.eia.doe.gov/cneaf/electricity/page/eia906_920.html

Notes:

¹ Co-ops operate in all states except Connecticut, Hawaii, Rhode Island, and the District of Columbia

NA = not available

1999 and 2000 for nonutilities exclude commercial and industrial generators, while 2001-2004 include commercial and industrial generators.

Table 5.10 – Top 10 U.S. Investor-Owned Utilities & Power Marketers

Utility by Sales (Million kWh)	<u>1990</u>		<u>2000</u>		<u>2001</u>		<u>2002</u>		<u>2003</u>		<u>2004</u>	
	Rank	Million kWh	Rank	Million kWh	Rank	Million kWh	Rank	Million kWh	Rank	Million kWh	Rank	Million kWh
Florida Power & Light Co.	5	65,222	2	88,128	2	90,495	1	95,543	1	99,339	1	99,144
Georgia Power Co.	8	53,953	4	74,434	5	72,545	3	75,432	3	75,018	2	77,904
Duke Energy Corp	7	58,359	9	53,726	4	72,977	4	75,362	4	73,763	3	75,775
Virginia Electric & Power Co.	9	52,122	8	65,294	7	67,858	6	71,477	5	72,197	4	75,141
TXU Electric Co. ¹	1	78,340	1	100,885	1	102,526	2	90,522	2	79,050	5	71,544
Commonwealth Edison Co.	2	70,852	3	77,176	3	76,918	5	73,835	6	68,384	6	66,419
Alabama Power Co.	12	38,081	10	52,068	9	49,338	8	52,073	8	52,208	7	54,244
Pacific Gas & Electric Co.	3	70,597	7	72,121	12	46,680	9	49,830	10	47,881	8	53,897
Southern California Edison Co.	4	70,063	6	73,686	8	52,034	7	54,391	7	52,229	9	49,123
PacifiCorp	10	40,288	43	18,859	11	47,708	11	47,030	9	48,339	10	48,816

¹ In 2002, electric industry restructuring commenced in Texas and both TXU and Reliant became Power Marketers

Utility by Revenue (Million \$)	<u>1990</u>		<u>2000</u>		<u>2001</u>		<u>2002</u>		<u>2003</u>		<u>2004</u>	
	Rank	Million \$	Rank	Million \$	Rank	Million \$	Rank	Million \$	Rank	Million \$	Rank	Million \$
Florida Power & Light Co.	4	4,803	4	6,065	3	7,302	2	7,028	1	7,952	1	8,342
Pacific Gas & Electric Co.	2	6,513	2	6,988	4	7,171	3	6,821	4	6,369	2	6,738
TXU Electric Co. ¹	6	4,200	3	6,433	2	7,748	4	6,520	3	6,437	3	6,434
Southern California Edison Co.	1	6,767	1	7,416	1	7,782	1	7,848	2	6,845	4	5,648
Consolidated Edison Co-NY Inc	5	4,385	6	5,286	6	5,622	6	4,874	5	5,380	5	5,154
Commonwealth Edison Co.	3	5,668	5	5,723	5	5,703	5	5,457	6	5,123	6	5,028
Virginia Electric & Power Co.	10	3,299	9	4,022	7	4,340	7	4,611	7	4,665	7	5,015
Georgia Power Co.	9	3,426	8	4,283	8	4,305	9	4,288	9	4,310	8	4,777
Duke Energy Corp	7	3,681	12	3,151	9	4,159	8	4,345	8	4,335	9	4,502
Reliant Energy HL&P ¹	8	3,436	7	4,743	10	5,622	14	2,898	11	3,437	10	3,915

¹ In 2002, electric industry restructuring commenced in Texas and both TXU and Reliant became Power Marketers

Source: EIA, *Electric Sales and Revenue*, DOE/EIA -0540 (00) (Washington, D.C., December 2005), Table 10 (2005) and Table 17 (previous years)

Table 5.11 – Top 10 Independent Power Producers Worldwide

(Megawatts)

<u>Company</u>	2002 Capacity (MW)	2003 Capacity (MW)	2004 Capacity (MW)
SUEZ Energy International (formerly Tractebel Electricity & Gas Int'l)	50,000	48,317	46,841
AES	55,660	44,917	44,000
ENEL SpA.	46,456	45,744	42,000
Calpine	19,319	29,891	32,149
Dominion Generation	23,830	24,408	28,146
Entergy Wholesale Operations	21,323	30,000	27,086
Reliant	22,349	19,442	18,737
Mirant	22,100	23,254	17,889
NRG Energy	20,954	21,200	15,400
Edison Mission Energy ¹	18,688	18,733	8,834

¹ In 2004, Edison Mission Energy sold most of its international power-generating assets.

Source: Company 10K SEC filings at <http://www.sec.gov/> accessed 2/06

Table 5.12 – Utility Mergers and Acquisitions

	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u> ³
Mergers/Acquisitions																	
IOU-IOU	4	1	2	1	7	4	1	3	1	5	10	4	10	3	7	2	3
Co-op-Co-op	4	3	2	2	7	2	1	4	2	13	15	15	3	3		2	
IOU-Co-op				1	2			1		1					1		
IOU-Gas ¹									1	5	4	3	6	1			
Muni-Muni								1				2				1	
Muni-Co-op										1			1				
Power Authority-IOU											1						
Nonutility-IOU													6	1		3	1
Nonutility-Muni																1	
TransCo-IOU T assets																	2
Foreign-IOU ²												2	1	3	1		
Total	8	4	4	4	16	6	2	9	4	25	30	26	27	11	9	9	6
Related Activities																	
Name Changes									5	2	7	11	1	4	6	3	2
New Holding Company										1	5	4	2	3		4	3
Moved Headquarters						1											
Ceased Operations											1					1	

Source: Calculated from Electrical World, *Directory of Electric Power Producers*, The McGraw-Hill Companies

Notes:

¹ Gas local distribution company, pipeline, or developer

² Excludes Canadian mergers and acquisitions. Includes foreign acquisition of U.S. companies

³ Includes pending mergers and acquisitions

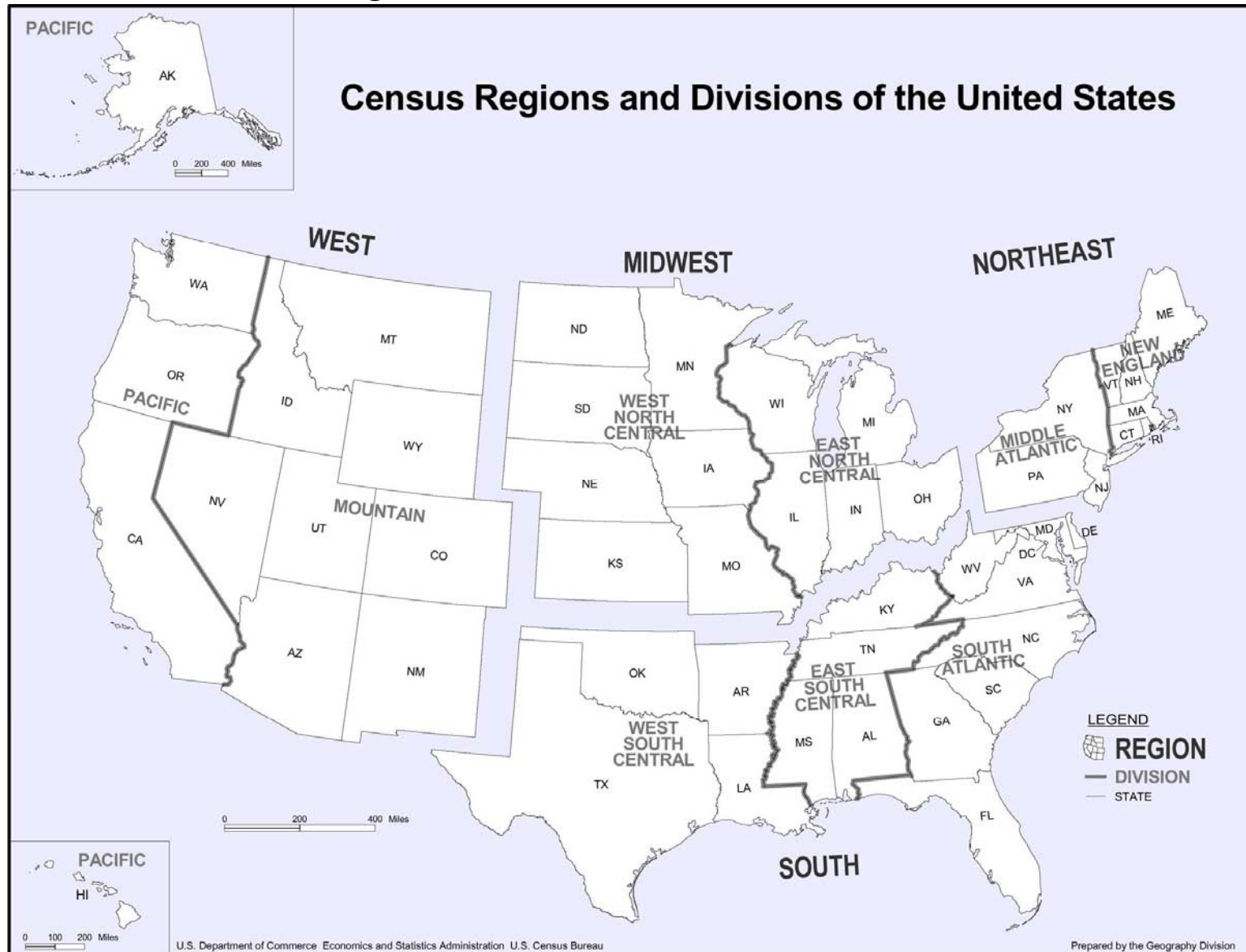
Table 5.13a – North American Electric Reliability Council Map for the United States



ECAR	ECAR East Central Area Reliability Coordination Agreement	NPCC	Northeast Power Coordinating Council
ERCOT	Electric Reliability Council of Texas	SERC	Southeastern Electric Reliability Council
FRCC	Florida Reliability Coordinating Council	SPP	Southwest Power Pool
MAAC	Mid-Atlantic Area Council	WECC	Western Electricity Coordinating Council
MAIN	Mid-Atlantic Interconnected Network	ASCC	Alaskan Systems Coordinating Council
MAPP	Mid-Continent Area Power Pool		

Source: North American Electric Reliability Council, www.nerc.com

Table 5.13b – Census Regions



Source: U.S. Department of Commerce, Bureau of the Census, www.census.gov