

Table B1. Total Energy Supply and Disposition Summary
(Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Production										
Crude Oil and Lease Condensate . . .	12.29	11.94	11.92	11.93	11.50	11.45	11.45	11.23	11.15	11.00
Natural Gas Plant Liquids	2.65	3.12	3.21	3.17	3.53	3.75	3.61	3.70	3.84	3.80
Dry Natural Gas	19.97	22.11	22.81	22.49	25.52	27.33	26.34	27.08	28.06	27.79
Coal	23.97	25.69	22.57	23.94	27.83	10.46	17.57	29.61	6.82	12.92
Nuclear Power	8.03	8.25	8.37	8.37	8.28	9.75	9.05	8.28	12.39	10.50
Renewable Energy ¹	5.32	7.30	9.03	8.62	8.31	14.68	12.80	8.77	16.22	15.31
Other ²	0.57	0.85	0.82	0.83	0.79	0.62	0.66	0.80	0.59	0.60
Total	72.80	79.26	78.73	79.35	85.76	78.04	81.48	89.47	79.06	81.92
Imports										
Crude Oil ³	20.26	25.09	24.88	24.88	27.63	26.92	27.14	28.62	27.72	28.04
Petroleum Products ⁴	5.04	6.32	5.73	6.03	11.72	8.82	10.37	14.79	10.43	12.61
Natural Gas	4.18	5.43	5.53	5.34	7.41	9.37	8.12	8.44	11.48	9.81
Other Imports ⁵	0.71	0.92	0.81	0.81	0.95	0.94	0.84	0.93	0.79	0.71
Total	30.19	37.76	36.94	37.05	47.71	46.05	46.47	52.78	50.42	51.17
Exports										
Petroleum ⁶	2.01	2.25	2.21	2.23	2.38	2.29	2.32	2.43	2.32	2.36
Natural Gas	0.37	0.56	0.57	0.57	0.38	0.37	0.37	0.37	0.36	0.36
Coal	1.27	0.86	0.84	0.84	0.74	0.76	0.69	0.62	0.61	0.60
Total	3.64	3.67	3.61	3.64	3.50	3.42	3.38	3.42	3.29	3.33
Discrepancy⁷	2.06	0.22	0.39	0.26	0.23	0.18	0.14	0.20	0.22	-0.74
Consumption										
Petroleum Products ⁸	38.46	44.45	43.74	43.97	52.15	48.65	50.29	56.11	50.76	53.04
Natural Gas	23.26	27.35	28.12	27.63	32.95	36.69	34.46	35.55	39.54	37.54
Coal	22.02	25.47	22.00	23.50	27.88	10.23	17.44	29.86	6.74	13.86
Nuclear Power	8.03	8.25	8.37	8.37	8.28	9.75	9.05	8.28	12.39	10.50
Renewable Energy ¹	5.32	7.30	9.03	8.62	8.31	14.68	12.80	8.77	16.22	15.31
Other ⁹	0.21	0.31	0.43	0.42	0.17	0.50	0.40	0.06	0.32	0.24
Total	97.29	113.13	111.67	112.50	129.74	120.50	124.43	138.63	125.97	130.50
Net Imports - Petroleum	23.29	29.16	28.40	28.68	36.97	33.45	35.19	40.98	35.83	38.29
Prices (2001 dollars per unit)										
World Oil Price (dollars per barrel) ¹⁰ . .	22.01	23.99	23.77	23.77	25.48	24.15	24.15	26.57	24.58	24.58
Natural Gas Wellhead Price (dollars per thousand cubic feet) ¹¹ . .	4.12	3.39	3.51	3.41	3.70	3.97	3.71	3.95	4.36	4.19
Coal Minemouth Price (dollars per ton)	17.59	15.06	15.84	15.56	14.34	15.27	15.06	14.39	13.67	15.63
Average Electricity Price (cents per kilowatthour)	7.3	6.4	7.0	6.8	6.7	8.8	8.0	6.7	9.8	9.1

¹Includes grid-connected electricity from conventional hydroelectric; wood and wood waste; landfill gas; municipal solid waste; other biomass; wind; photovoltaic and solar thermal sources; non-electric energy from renewable sources, such as active and passive solar systems, and wood; and both the ethanol and gasoline components of E85, but not the ethanol components of blends less than 85 percent. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table B19 for selected nonmarketed residential and commercial renewable energy.

²Includes liquid hydrogen, methanol, supplemental natural gas, and some domestic inputs to refineries.

³Includes imports of crude oil for the Strategic Petroleum Reserve.

⁴Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, and blending components.

⁵Includes coal, coal coke (net), and electricity (net).

⁶Includes crude oil and petroleum products.

⁷Balancing item. Includes unaccounted for supply, losses, gains, net storage withdrawals, heat loss when natural gas is converted to liquid fuel, and heat loss when coal is converted to liquid fuel.

⁸Includes natural gas plant liquids, crude oil consumed as a fuel, and nonpetroleum-based liquids for blending, such as ethanol.

⁹Includes net electricity imports, methanol, and liquid hydrogen.

¹⁰Average refiner acquisition cost for imported crude oil.

¹¹Represents lower 48 onshore and offshore supplies.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 natural gas supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2002/08) (Washington, DC, August 2002), 2001 petroleum supply values: EIA, *Petroleum Supply Annual 2001*, DOE/EIA-0340(2001)/1 (Washington, DC, June 2002). Other 2001 values: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002) and EIA, *Quarterly Coal Report, October-December 2001*, DOE/EIA-0121(2001/4Q) (Washington, DC, May 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B2. Energy Consumption by Sector and Source
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Energy Consumption										
Residential										
Distillate Fuel	0.91	0.91	0.91	0.91	0.84	0.84	0.84	0.81	0.81	0.81
Kerosene	0.10	0.08	0.08	0.08	0.06	0.06	0.06	0.06	0.06	0.06
Liquefied Petroleum Gas	0.50	0.47	0.47	0.47	0.46	0.47	0.46	0.46	0.47	0.46
Petroleum Subtotal	1.50	1.46	1.46	1.46	1.36	1.37	1.36	1.33	1.33	1.32
Natural Gas	4.94	5.63	5.62	5.63	6.10	5.96	6.01	6.38	6.20	6.22
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy ¹	0.39	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.40
Electricity	4.10	4.93	4.88	4.89	5.60	5.05	5.24	5.95	5.11	5.33
Delivered Energy	10.94	12.45	12.38	12.40	13.48	12.80	13.03	14.08	13.06	13.29
Electricity Related Losses	9.15	10.37	10.11	10.32	11.03	9.29	10.04	11.42	9.26	10.05
Total	20.08	22.82	22.50	22.72	24.51	22.09	23.07	25.50	22.32	23.35
Commercial										
Distillate Fuel	0.46	0.51	0.51	0.51	0.52	0.54	0.53	0.52	0.56	0.53
Residual Fuel	0.09	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05
Kerosene	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Liquefied Petroleum Gas	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09
Motor Gasoline ²	0.05	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Petroleum Subtotal	0.71	0.70	0.70	0.70	0.72	0.75	0.73	0.72	0.76	0.73
Natural Gas	3.33	3.74	3.74	3.74	4.23	4.27	4.25	4.50	4.97	4.73
Coal	0.09	0.10	0.10	0.09	0.10	0.11	0.11	0.11	0.11	0.11
Renewable Energy ³	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Electricity	4.08	5.01	4.97	4.97	6.17	5.66	5.81	6.79	5.97	6.17
Delivered Energy	8.32	9.65	9.60	9.61	11.33	10.89	11.00	12.23	11.92	11.85
Electricity Related Losses	9.12	10.53	10.30	10.49	12.16	10.42	11.14	13.02	10.82	11.64
Total	17.44	20.19	19.90	20.10	23.50	21.31	22.14	25.25	22.74	23.49
Industrial⁴										
Distillate Fuel	1.13	1.21	1.20	1.20	1.36	1.30	1.32	1.44	1.36	1.39
Liquefied Petroleum Gas	2.10	2.55	2.54	2.54	3.06	2.99	3.01	3.28	3.14	3.19
Petrochemical Feedstock	1.14	1.44	1.41	1.41	1.70	1.53	1.55	1.82	1.57	1.59
Residual Fuel	0.23	0.19	0.18	0.18	0.20	0.17	0.18	0.20	0.17	0.18
Motor Gasoline ²	0.15	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.19	0.19
Other Petroleum ⁵	4.03	4.27	4.18	4.20	4.46	4.09	4.24	4.57	4.12	4.24
Petroleum Subtotal	8.79	9.82	9.67	9.71	10.96	10.26	10.47	11.50	10.55	10.77
Natural Gas	7.74	9.06	9.16	9.13	10.39	10.36	10.30	11.23	11.09	10.98
Lease and Plant Fuel ⁶	1.20	1.37	1.40	1.39	1.60	1.70	1.66	1.73	1.77	1.76
Natural Gas Subtotal	8.94	10.43	10.56	10.52	11.98	12.06	11.95	12.96	12.86	12.74
Metallurgical Coal	0.72	0.66	0.65	0.65	0.55	0.47	0.48	0.50	0.39	0.41
Steam Coal	1.42	1.46	1.33	1.38	1.51	1.28	1.34	1.54	1.26	1.32
Net Coal Coke Imports	0.03	0.11	0.11	0.11	0.16	0.18	0.18	0.18	0.21	0.21
Coal Subtotal	2.16	2.23	2.09	2.14	2.22	1.93	2.00	2.22	1.87	1.94
Renewable Energy ⁷	1.82	2.22	2.21	2.21	2.77	2.74	2.75	3.05	3.02	3.02
Electricity	3.39	3.97	3.89	3.91	4.65	4.41	4.49	5.01	4.66	4.74
Delivered Energy	25.10	28.67	28.41	28.48	32.58	31.40	31.67	34.75	32.96	33.22
Electricity Related Losses	7.57	8.35	8.06	8.25	9.17	8.12	8.61	9.61	8.45	8.95
Total	32.67	37.02	36.47	36.73	41.75	39.53	40.28	44.36	41.40	42.17

Table B2. Energy Consumption by Sector and Source (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Transportation										
Distillate Fuel ⁸	5.44	7.09	7.01	7.05	8.68	8.30	8.49	9.55	8.98	9.19
Jet Fuel ⁹	3.43	3.93	3.91	3.92	5.09	5.01	5.03	5.67	5.56	5.58
Motor Gasoline ²	16.26	19.81	19.58	19.70	23.57	21.55	22.76	25.48	22.10	23.89
Residual Fuel	0.84	0.83	0.83	0.83	0.85	0.85	0.85	0.87	0.86	0.86
Liquefied Petroleum Gas	0.02	0.05	0.05	0.05	0.07	0.08	0.08	0.09	0.09	0.09
Other Petroleum ¹⁰	0.24	0.26	0.26	0.26	0.30	0.30	0.30	0.32	0.32	0.32
Petroleum Subtotal	26.22	31.98	31.64	31.81	38.57	36.09	37.50	41.98	37.91	39.93
Pipeline Fuel Natural Gas	0.63	0.78	0.81	0.79	0.94	1.05	0.98	1.03	1.11	1.06
Compressed Natural Gas	0.01	0.06	0.06	0.06	0.10	0.09	0.09	0.11	0.10	0.10
Renewable Energy (E85) ¹¹	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.07	0.09	0.09	0.09	0.12	0.12	0.12	0.14	0.13	0.14
Delivered Energy	26.94	32.91	32.61	32.75	39.73	37.36	38.70	43.26	39.25	41.24
Electricity Related Losses	0.17	0.20	0.19	0.20	0.24	0.22	0.23	0.27	0.24	0.26
Total	27.10	33.10	32.80	32.95	39.98	37.58	38.94	43.53	39.50	41.50
Delivered Energy Consumption for All Sectors										
Distillate Fuel	7.94	9.74	9.64	9.67	11.40	10.99	11.17	12.32	11.71	11.91
Kerosene	0.15	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10
Jet Fuel ⁹	3.43	3.93	3.91	3.92	5.09	5.01	5.03	5.67	5.56	5.58
Liquefied Petroleum Gas	2.70	3.16	3.16	3.16	3.69	3.63	3.64	3.92	3.78	3.83
Motor Gasoline ²	16.46	20.01	19.78	19.90	23.79	21.77	22.97	25.71	22.33	24.12
Petrochemical Feedstock	1.14	1.44	1.41	1.41	1.70	1.53	1.55	1.82	1.57	1.59
Residual Fuel	1.15	1.06	1.05	1.05	1.10	1.07	1.07	1.12	1.08	1.09
Other Petroleum ¹²	4.24	4.51	4.41	4.44	4.74	4.36	4.51	4.87	4.42	4.53
Petroleum Subtotal	37.21	43.97	43.48	43.68	51.61	48.47	50.05	55.53	50.55	52.76
Natural Gas	16.02	18.49	18.57	18.56	20.82	20.68	20.66	22.23	22.36	22.03
Lease and Plant Fuel Plant ⁶	1.20	1.37	1.40	1.39	1.60	1.70	1.66	1.73	1.77	1.76
Pipeline Natural Gas	0.63	0.78	0.81	0.79	0.94	1.05	0.98	1.03	1.11	1.06
Natural Gas Subtotal	17.86	20.64	20.78	20.74	23.35	23.43	23.30	24.98	25.23	24.85
Metallurgical Coal	0.72	0.66	0.65	0.65	0.55	0.47	0.48	0.50	0.39	0.41
Steam Coal	1.53	1.56	1.44	1.48	1.63	1.40	1.46	1.66	1.39	1.45
Net Coal Coke Imports	0.03	0.11	0.11	0.11	0.16	0.18	0.18	0.18	0.21	0.21
Coal Subtotal	2.27	2.34	2.20	2.25	2.34	2.05	2.12	2.34	1.99	2.06
Renewable Energy ¹³	2.31	2.74	2.72	2.73	3.28	3.26	3.27	3.57	3.53	3.54
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	11.65	14.00	13.82	13.86	16.54	15.24	15.66	17.90	15.87	16.38
Delivered Energy	71.29	83.68	83.01	83.24	97.13	92.45	94.40	104.32	97.19	99.60
Electricity Related Losses	26.00	29.45	28.66	29.26	32.61	28.05	30.03	34.32	28.78	30.90
Total	97.29	113.13	111.67	112.50	129.74	120.50	124.43	138.63	125.97	130.50
Electric Power¹⁴										
Distillate Fuel	0.17	0.09	0.07	0.08	0.13	0.05	0.06	0.18	0.06	0.10
Residual Fuel	1.08	0.39	0.19	0.21	0.41	0.14	0.17	0.40	0.14	0.18
Petroleum Subtotal	1.25	0.48	0.26	0.29	0.54	0.19	0.23	0.58	0.21	0.28
Natural Gas	5.40	6.71	7.33	6.90	9.60	13.25	11.16	10.56	14.30	12.69
Steam Coal	19.75	23.13	19.79	21.25	25.54	8.18	15.32	27.52	4.74	11.80
Nuclear Power	8.03	8.25	8.37	8.37	8.28	9.75	9.05	8.28	12.39	10.50
Renewable Energy ¹⁵	3.01	4.57	6.30	5.89	5.02	11.42	9.54	5.21	12.69	11.77
Electricity Imports	0.21	0.31	0.43	0.42	0.17	0.50	0.40	0.06	0.32	0.24
Total	37.65	43.45	42.48	43.11	49.15	43.29	45.69	52.21	44.65	47.28

Table B2. Energy Consumption by Sector and Source (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Total Energy Consumption										
Distillate Fuel	8.10	9.83	9.71	9.76	11.53	11.04	11.23	12.50	11.77	12.00
Kerosene	0.15	0.12	0.12	0.12	0.11	0.11	0.11	0.10	0.10	0.10
Jet Fuel ⁹	3.43	3.93	3.91	3.92	5.09	5.01	5.03	5.67	5.56	5.58
Liquefied Petroleum Gas	2.70	3.16	3.16	3.16	3.69	3.63	3.64	3.92	3.78	3.83
Motor Gasoline ²	16.46	20.01	19.78	19.90	23.79	21.77	22.97	25.71	22.33	24.12
Petrochemical Feedstock	1.14	1.44	1.41	1.41	1.70	1.53	1.55	1.82	1.57	1.59
Residual Fuel	2.23	1.45	1.24	1.26	1.51	1.20	1.24	1.52	1.22	1.27
Other Petroleum ¹²	4.24	4.51	4.41	4.44	4.74	4.36	4.51	4.87	4.42	4.53
Petroleum Subtotal	38.46	44.45	43.74	43.97	52.15	48.65	50.29	56.11	50.76	53.04
Natural Gas	21.42	25.20	25.91	25.45	30.42	33.94	31.82	32.79	36.67	34.73
Lease and Plant Fuel ⁶	1.20	1.37	1.40	1.39	1.60	1.70	1.66	1.73	1.77	1.76
Pipeline Natural Gas	0.63	0.78	0.81	0.79	0.94	1.05	0.98	1.03	1.11	1.06
Natural Gas Subtotal	23.26	27.35	28.12	27.63	32.95	36.69	34.46	35.55	39.54	37.54
Metallurgical Coal	0.72	0.66	0.65	0.65	0.55	0.47	0.48	0.50	0.39	0.41
Steam Coal	21.28	24.70	21.24	22.73	27.17	9.58	16.77	29.18	6.13	13.25
Net Coal Coke Imports	0.03	0.11	0.11	0.11	0.16	0.18	0.18	0.18	0.21	0.21
Coal Subtotal	22.02	25.47	22.00	23.50	27.88	10.23	17.44	29.86	6.74	13.86
Nuclear Power	8.03	8.25	8.37	8.37	8.28	9.75	9.05	8.28	12.39	10.50
Renewable Energy ¹⁶	5.32	7.30	9.03	8.62	8.31	14.68	12.80	8.77	16.22	15.31
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Imports	0.21	0.31	0.43	0.42	0.17	0.50	0.40	0.06	0.32	0.24
Total	97.29	113.13	111.67	112.50	129.74	120.50	124.43	138.63	125.97	130.50
Energy Use and Related Statistics										
Delivered Energy Use	71.29	83.68	83.01	83.24	97.13	92.45	94.40	104.32	97.19	99.60
Total Energy Use	97.29	113.13	111.67	112.50	129.74	120.50	124.43	138.63	125.97	130.50
Population (millions)	278.18	300.24	300.24	300.24	325.32	325.32	325.32	338.24	338.24	338.24
Gross Domestic Product (billion 1996 dollars) ..	9215	12258	12211	12226	16444	16364	16408	18916	18810	18840
Carbon Dioxide Emissions (million metric tons carbon equivalent)	1558.6	1802.2	1710.1	1746.4	2077.7	1568.5	1797.5	2234.4	1482.2	1777.3

¹Includes wood used for residential heating. See Table B18 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

²Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.

³Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power. See Table B19 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

⁴Fuel consumption includes consumption for combined heat and power, which produces electricity, both for sale to the grid and for own use, and other useful thermal energy.

⁵Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

⁶Represents natural gas used in the field gathering and processing plant machinery.

⁷Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass.

⁸Diesel fuel containing 500 parts per million (ppm) or 15 ppm sulfur.

⁹Includes only kerosene type.

¹⁰Includes aviation gasoline and lubricants.

¹¹E85 is 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable).

¹²Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

¹³Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

¹⁴Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

¹⁵Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

¹⁶Includes hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, wind, photovoltaic and solar thermal sources. Includes ethanol components of E85; excludes ethanol blends (10 percent or less) in motor gasoline. Excludes net electricity imports and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports. Consumption values of 0.00 are values that round to 0.00, because they are less than 0.005.

Sources: 2001 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). 2001 population and gross domestic product: Global Insight macroeconomic model CTL0802. 2001 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2001*, DOE/EIA-0573(2001) (Washington, DC, December 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

**Table B3. Energy Prices by Sector and Source Including Greenhouse Gas Allowance Cost
Where Applicable
(2001 Dollars per Million Btu, Unless Otherwise Noted)**

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Residential	15.81	13.97	14.62	14.39	14.62	17.37	16.34	14.89	18.74	17.91
Primary Energy ¹	9.73	8.07	8.11	8.05	8.33	8.48	8.31	8.57	8.88	8.75
Petroleum Products ²	10.85	10.02	9.88	9.91	10.91	10.32	10.58	11.21	10.79	10.79
Distillate Fuel	8.99	7.99	7.95	7.94	8.70	8.23	8.42	8.93	8.58	8.61
Liquefied Petroleum Gas	14.84	14.35	13.97	14.11	15.28	14.44	14.87	15.52	14.96	14.92
Natural Gas	9.41	7.57	7.67	7.58	7.77	8.07	7.81	8.04	8.48	8.33
Electricity	25.37	22.48	24.10	23.59	23.03	30.32	27.68	23.09	33.29	30.90
Commercial	15.50	13.45	14.35	14.08	14.58	17.78	16.61	15.00	19.27	18.45
Primary Energy ¹	7.81	6.43	6.50	6.43	6.78	6.93	6.75	7.05	7.33	7.21
Petroleum Products ²	7.27	6.78	6.70	6.70	7.51	6.96	7.19	7.81	7.28	7.35
Distillate Fuel	6.40	5.67	5.63	5.62	6.45	5.96	6.15	6.75	6.30	6.37
Residual Fuel	3.46	4.01	3.93	3.94	4.23	3.96	3.97	4.39	4.02	4.03
Natural Gas	8.09	6.49	6.59	6.50	6.79	7.07	6.81	7.07	7.48	7.33
Electricity	23.28	19.81	21.51	21.07	20.98	27.61	25.24	21.25	30.97	28.60
Industrial³	7.11	6.39	7.55	7.18	7.01	9.89	8.93	7.25	11.03	10.09
Primary Energy	5.83	5.18	6.28	5.92	5.74	8.16	7.39	5.99	9.06	8.26
Petroleum Products ²	7.72	7.07	7.87	7.62	7.85	9.55	9.11	8.13	10.34	9.75
Distillate Fuel	6.55	5.75	7.27	6.79	6.74	9.70	8.84	7.19	10.89	10.00
Liquefied Petroleum Gas	12.34	9.93	10.93	10.64	10.85	13.19	12.65	11.13	14.38	13.40
Residual Fuel	3.28	3.71	5.34	4.83	3.94	7.49	6.35	4.10	8.46	7.33
Natural Gas ⁴	4.87	4.00	5.23	4.80	4.39	7.20	6.17	4.63	8.19	7.25
Metallurgical Coal	1.69	1.50	3.50	2.90	1.39	5.91	4.54	1.34	6.92	5.57
Steam Coal	1.46	1.39	3.38	2.78	1.31	5.67	4.41	1.30	6.64	5.41
Electricity	14.13	12.82	14.34	13.92	13.37	18.65	16.67	13.48	20.86	19.13
Transportation	10.28	10.22	11.73	11.28	10.37	13.28	12.40	10.82	14.17	13.28
Primary Energy	10.25	10.19	11.70	11.25	10.35	13.24	12.37	10.79	14.13	13.24
Petroleum Products ²	10.25	10.20	11.71	11.26	10.35	13.25	12.37	10.80	14.14	13.25
Distillate Fuel ⁵	10.05	10.19	11.71	11.23	10.27	13.17	12.23	10.64	14.37	13.32
Jet Fuel ⁶	6.20	5.66	7.10	6.64	6.34	9.26	8.35	6.72	10.35	9.42
Motor Gasoline ⁷	11.57	11.45	12.98	12.54	11.55	14.52	13.62	12.07	15.31	14.41
Residual Fuel	3.90	3.56	5.19	4.69	3.78	7.36	6.21	3.94	8.32	7.18
Liquefied Petroleum Gas ⁸	16.93	15.55	16.35	16.12	16.06	18.30	17.77	15.99	19.15	18.09
Natural Gas ⁹	7.65	7.19	8.38	7.98	7.75	10.29	9.32	8.09	11.26	10.39
Electricity	21.87	19.10	20.82	20.29	18.45	24.39	22.30	17.90	26.05	24.16
Average End-Use Energy	10.75	9.97	11.17	10.80	10.47	13.38	12.42	10.82	14.50	13.60
Primary Energy	8.52	8.07	9.18	8.83	8.46	10.70	10.01	8.84	11.49	10.83
Electricity	21.34	18.76	20.40	19.94	19.52	25.89	23.57	19.66	28.70	26.57
Electric Power¹⁰										
Fossil Fuel Average	2.14	1.82	3.75	3.14	2.04	6.68	5.09	2.13	7.93	6.37
Petroleum Products	4.73	4.28	6.13	5.60	4.72	8.74	7.48	5.04	9.77	8.51
Distillate Fuel	6.20	5.13	6.57	6.08	5.94	8.91	8.04	6.16	9.99	9.02
Residual Fuel	4.50	4.08	5.97	5.41	4.33	8.68	7.28	4.55	9.68	8.24
Natural Gas	4.78	3.88	5.20	4.74	4.35	7.36	6.25	4.64	8.37	7.37
Steam Coal	1.25	1.17	3.17	2.58	1.12	5.53	4.22	1.11	6.53	5.24

Table B3. Energy Prices by Sector and Source Including Greenhouse Gas Allowance Cost Where Applicable (Continued)
(2001 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Average Price to All Users¹¹										
Petroleum Products ²	9.54	9.46	10.76	10.37	9.81	12.34	11.61	10.22	13.20	12.43
Distillate Fuel	9.16	9.15	10.45	10.04	9.52	12.01	11.24	9.90	13.17	12.28
Jet Fuel	6.20	5.66	7.10	6.64	6.34	9.26	8.35	6.72	10.35	9.42
Liquefied Petroleum Gas	12.85	10.75	11.51	11.29	11.58	13.44	13.05	11.81	14.52	13.68
Motor Gasoline ⁷	11.57	11.45	12.98	12.53	11.55	14.52	13.62	12.07	15.31	14.41
Residual Fuel	4.11	3.73	5.29	4.80	3.96	7.39	6.29	4.14	8.33	7.23
Natural Gas	6.40	5.15	5.96	5.66	5.40	7.41	6.60	5.64	8.22	7.51
Coal	1.26	1.18	3.18	2.59	1.13	5.50	4.21	1.12	6.44	5.22
Electricity	21.34	18.76	20.40	19.94	19.52	25.89	23.57	19.66	28.70	26.57
Non-Renewable Energy and Allowance Expenditures by Sector (billion 2001 dollars)										
Residential	166.77	168.16	175.14	172.54	191.19	215.33	206.32	203.68	237.11	230.84
Commercial	127.30	128.40	136.28	133.84	163.77	191.81	180.97	181.88	227.72	216.67
Industrial	135.32	137.86	162.27	154.55	172.27	235.92	214.13	190.69	277.18	255.19
Transportation	270.41	328.32	372.97	360.38	402.37	482.08	467.59	456.80	540.60	533.37
Total Non-Renewable Expenditures	699.80	762.73	846.66	821.30	929.60	1125.14	1069.01	1033.06	1282.60	1236.07
Transportation Renewable Expenditures	0.01	0.05	0.05	0.05	0.10	0.12	0.11	0.13	0.16	0.15
Total Expenditures	699.81	762.78	846.72	821.36	929.70	1125.26	1069.12	1033.19	1282.76	1236.22

¹Weighted average price includes fuels below as well as coal.

²This quantity is the weighted average for all petroleum products, not just those listed below.

³Includes combined heat and power, which produces electricity and other useful thermal energy.

⁴Excludes use for lease and plant fuel.

⁵Diesel fuel containing 500 parts per million (ppm) or 15 ppm sulfur. Price includes Federal and State taxes while excluding county and local taxes.

⁶Kerosene-type jet fuel. Price includes Federal and State taxes while excluding county and local taxes.

⁷Sales weighted-average price for all grades. Includes Federal, State and local taxes.

⁸Includes Federal and State taxes while excluding county and local taxes.

⁹Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

¹⁰Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

¹¹Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

Note: Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 prices for motor gasoline, distillate, and jet fuel are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2001*, http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_annual/current/pdf/pmaall.pdf (September 2002). 2001 residential, commercial, and transportation natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2002/08) (Washington, DC, August 2002). 2001 electric power prices: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2001 industrial natural gas delivered prices based on: EIA, *Manufacturing Energy Consumption Survey 1998*. 2001 coal prices based on EIA, *Quarterly Coal Report, October-December 2001*, DOE/EIA-0121(2001/4Q) (Washington, DC, May 2002) and EIA, AEO2003 National Energy Modeling System run MLBILL.D050503A. 2001 electricity prices: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). 2001 ethanol prices derived from weekly spot prices in the Oxy Fuel News. **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B4. Greenhouse Gas Allowance Cost by End-Use Sector and Source
(2001 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Residential										
Petroleum Products ²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Distillate Fuel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquefied Petroleum Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial										
Petroleum Products ²	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Distillate Fuel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residual Fuel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Industrial³										
Petroleum Products ²	0.00	0.00	0.94	0.66	0.00	2.15	1.50	0.00	2.66	2.02
Distillate Fuel	0.00	0.00	1.56	1.09	0.00	3.52	2.46	0.00	4.36	3.30
Liquefied Petroleum Gas	0.00	0.00	1.35	0.94	0.00	3.05	2.13	0.00	3.77	2.86
Residual Fuel	0.00	0.00	1.68	1.17	0.00	3.80	2.65	0.00	4.70	3.56
Natural Gas ⁴	0.00	0.00	1.11	0.78	0.00	2.52	1.76	0.00	3.12	2.37
Metallurgical Coal	0.00	0.00	2.00	1.39	0.00	4.51	3.15	0.00	5.58	4.23
Steam Coal	0.00	0.00	2.00	1.40	0.00	4.53	3.16	0.00	5.60	4.24
Transportation										
Petroleum Products ²	0.00	0.00	1.52	1.06	0.00	3.44	2.40	0.00	4.25	3.22
Distillate Fuel ⁵	0.00	0.00	1.56	1.09	0.00	3.52	2.46	0.00	4.36	3.30
Jet Fuel ⁶	0.00	0.00	1.51	1.05	0.00	3.41	2.38	0.00	4.22	3.20
Motor Gasoline ⁷	0.00	0.00	1.51	1.05	0.00	3.42	2.38	0.00	4.23	3.20
Residual Fuel	0.00	0.00	1.68	1.17	0.00	3.80	2.65	0.00	4.70	3.56
Liquefied Petroleum Gas ⁸	0.00	0.00	1.35	0.94	0.00	3.05	2.13	0.00	3.77	2.86
Natural Gas ⁹	0.00	0.00	1.14	0.79	0.00	2.57	1.79	0.00	3.18	2.41
Electric Power¹⁰										
Fossil Fuel Average	0.00	0.00	1.78	1.26	0.00	3.32	2.59	0.00	3.80	3.30
Petroleum Products	0.00	0.00	1.65	1.15	0.00	3.72	2.60	0.00	4.60	3.47
Distillate Fuel	0.00	0.00	1.56	1.09	0.00	3.52	2.46	0.00	4.36	3.30
Residual Fuel	0.00	0.00	1.68	1.17	0.00	3.80	2.65	0.00	4.70	3.56
Natural Gas	0.00	0.00	1.14	0.79	0.00	2.57	1.79	0.00	3.18	2.41
Steam Coal	0.00	0.00	2.02	1.41	0.00	4.54	3.18	0.00	5.62	4.26

¹Weighted average allowance cost includes fuels below as well as coal.

²This quantity is the weighted average for all petroleum products, not just those listed below.

³Includes combined heat and power, which produces electricity and other useful thermal energy.

⁴Excludes use for lease and plant fuel.

⁵Diesel fuel containing 500 parts per million (ppm) or 15 ppm sulfur. Price includes Federal and State taxes while excluding county and local taxes.

⁶Kerosene-type jet fuel. Price includes Federal and State taxes while excluding county and local taxes.

⁷Sales weighted-average price for all grades. Includes Federal, State and local taxes.

⁸Includes Federal and State taxes while excluding county and local taxes.

⁹Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

¹⁰Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Btu = British thermal unit.

Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B5. Delivered Energy Prices by Sector and Source Excluding Greenhouse Gas Allowance Costs in the Industrial and Electric Power Sectors
(2001 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Residential	15.81	13.97	14.62	14.39	14.62	17.37	16.34	14.89	18.74	17.91
Primary Energy ¹	9.73	8.07	8.11	8.05	8.33	8.48	8.31	8.57	8.88	8.75
Petroleum Products ²	10.85	10.02	9.88	9.91	10.91	10.32	10.58	11.21	10.79	10.79
Distillate Fuel	8.99	7.99	7.95	7.94	8.70	8.23	8.42	8.93	8.58	8.61
Liquefied Petroleum Gas	14.84	14.35	13.97	14.11	15.28	14.44	14.87	15.52	14.96	14.92
Natural Gas	9.41	7.57	7.67	7.58	7.77	8.07	7.81	8.04	8.48	8.33
Electricity	25.37	22.48	24.10	23.59	23.03	30.32	27.68	23.09	33.29	30.90
Commercial	15.50	13.45	14.35	14.08	14.58	17.78	16.61	15.00	19.27	18.45
Primary Energy ¹	7.81	6.43	6.50	6.43	6.78	6.93	6.75	7.05	7.33	7.21
Petroleum Products ²	7.27	6.78	6.70	6.70	7.51	6.96	7.19	7.81	7.28	7.35
Distillate Fuel	6.40	5.67	5.63	5.62	6.45	5.96	6.15	6.75	6.30	6.37
Residual Fuel	3.46	4.01	3.93	3.94	4.23	3.96	3.97	4.39	4.02	4.03
Natural Gas	8.09	6.49	6.59	6.50	6.79	7.07	6.81	7.07	7.48	7.33
Electricity	23.28	19.81	21.51	21.07	20.98	27.61	25.24	21.25	30.97	28.60
Industrial³	7.11	6.39	6.61	6.52	7.01	7.80	7.47	7.25	8.45	8.14
Primary Energy	5.83	5.18	5.16	5.14	5.74	5.65	5.64	5.99	5.97	5.91
Petroleum Products ²	7.72	7.07	6.93	6.96	7.85	7.40	7.61	8.13	7.68	7.72
Distillate Fuel	6.55	5.75	5.71	5.70	6.74	6.18	6.38	7.19	6.53	6.69
Liquefied Petroleum Gas	12.34	9.93	9.58	9.70	10.85	10.14	10.52	11.13	10.60	10.54
Residual Fuel	3.28	3.71	3.66	3.66	3.94	3.70	3.70	4.10	3.77	3.77
Natural Gas ⁴	4.87	4.00	4.11	4.02	4.39	4.68	4.41	4.63	5.07	4.88
Metallurgical Coal	1.69	1.50	1.51	1.51	1.39	1.40	1.39	1.34	1.34	1.33
Steam Coal	1.46	1.39	1.38	1.39	1.31	1.14	1.25	1.30	1.04	1.17
Electricity	14.13	12.82	14.34	13.92	13.37	18.65	16.67	13.48	20.86	19.13
Transportation	10.28	10.22	11.73	11.28	10.37	13.27	12.39	10.82	14.17	13.27
Primary Energy	10.25	10.19	11.70	11.25	10.35	13.24	12.36	10.79	14.12	13.23
Petroleum Products ²	10.25	10.20	11.71	11.26	10.35	13.25	12.37	10.80	14.14	13.25
Distillate Fuel ⁵	10.05	10.19	11.71	11.23	10.27	13.17	12.23	10.64	14.37	13.32
Jet Fuel ⁶	6.20	5.66	7.10	6.64	6.34	9.26	8.35	6.72	10.35	9.42
Motor Gasoline ⁷	11.57	11.45	12.98	12.54	11.55	14.52	13.62	12.07	15.31	14.41
Residual Fuel	3.90	3.56	5.19	4.69	3.78	7.36	6.21	3.94	8.32	7.18
Liquefied Petroleum Gas ⁸	16.93	15.55	16.35	16.12	16.06	18.30	17.77	15.99	19.15	18.09
Natural Gas ⁹	7.65	7.19	7.25	7.19	7.75	7.72	7.53	8.09	8.08	7.98
Electricity	21.87	19.10	20.82	20.29	18.45	24.39	22.30	17.90	26.05	24.16
Average End-Use Energy	10.75	9.97	10.87	10.59	10.47	12.73	11.97	10.82	13.71	13.01
Primary Energy	8.52	8.07	8.82	8.58	8.46	9.90	9.47	8.84	10.52	10.11
Electricity	21.34	18.76	20.40	19.94	19.52	25.89	23.57	19.66	28.70	26.57
Electric Power¹⁰										
Fossil Fuel Average	2.14	1.82	1.97	1.88	2.04	3.36	2.50	2.13	4.13	3.07
Petroleum Products	4.73	4.28	4.49	4.45	4.72	5.02	4.88	5.04	5.18	5.03
Distillate Fuel	6.20	5.13	5.01	4.99	5.94	5.39	5.58	6.16	5.64	5.72
Residual Fuel	4.50	4.08	4.29	4.24	4.33	4.88	4.63	4.55	4.98	4.68
Natural Gas	4.78	3.88	4.07	3.95	4.35	4.79	4.46	4.64	5.19	4.96
Steam Coal	1.25	1.17	1.16	1.17	1.12	0.99	1.04	1.11	0.90	0.99

Table B5. Delivered Energy Prices by Sector and Source Excluding Greenhouse Gas Allowance Costs in the Industrial and Electric Power Sectors (Continued)
(2001 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Average Price to All Users¹¹										
Petroleum Products ²	9.54	9.46	10.54	10.22	9.81	11.85	11.28	10.22	12.61	11.99
Distillate Fuel	9.16	9.15	10.25	9.89	9.52	11.58	10.94	9.90	12.64	11.87
Jet Fuel	6.20	5.66	7.10	6.64	6.34	9.26	8.35	6.72	10.35	9.42
Liquefied Petroleum Gas	12.85	10.75	10.43	10.53	11.58	10.93	11.29	11.81	11.40	11.30
Motor Gasoline ⁷	11.57	11.45	12.97	12.53	11.55	14.49	13.60	12.07	15.27	14.38
Residual Fuel	4.11	3.73	4.79	4.44	3.96	6.42	5.55	4.14	7.12	6.22
Natural Gas	6.40	5.15	5.24	5.16	5.40	5.63	5.40	5.64	6.03	5.87
Coal	1.26	1.18	1.17	1.19	1.13	1.02	1.06	1.12	0.94	1.01
Electricity	21.34	18.76	20.40	19.94	19.52	25.89	23.57	19.66	28.70	26.57
Non-Renewable Energy Expenditures by Sector (billion 2001 dollars)										
Residential	166.77	168.16	175.14	172.54	191.19	215.33	206.32	203.68	237.11	230.84
Commercial	127.30	128.40	136.28	133.84	163.77	191.81	180.97	181.88	227.72	216.67
Industrial	135.32	137.86	141.86	140.25	172.27	185.88	178.88	190.69	212.44	205.69
Transportation	270.41	328.32	372.90	360.33	402.37	481.84	467.41	456.80	540.27	533.12
Total Non-Renewable Expenditures	699.80	762.73	826.18	806.96	929.60	1074.86	1033.59	1033.06	1217.53	1186.31
Transportation Renewable Expenditures	0.01	0.05	0.05	0.05	0.10	0.11	0.11	0.13	0.15	0.14
Total Expenditures	699.81	762.78	826.23	807.01	929.70	1074.97	1033.70	1033.19	1217.69	1186.46

¹Weighted average price includes fuels below as well as coal.

²This quantity is the weighted average for all petroleum products, not just those listed below.

³Includes combined heat and power, which produces electricity and other useful thermal energy.

⁴Excludes use for lease and plant fuel.

⁵Diesel fuel containing 500 parts per million (ppm) or 15 ppm sulfur. Price includes Federal and State taxes while excluding county and local taxes.

⁶Kerosene-type jet fuel. Price includes Federal and State taxes while excluding county and local taxes.

⁷Sales weighted-average price for all grades. Includes Federal, State and local taxes.

⁸Includes Federal and State taxes while excluding county and local taxes.

⁹Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

¹⁰Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

¹¹Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

Note: Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 prices for motor gasoline, distillate, and jet fuel are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2001*, http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_annual/current/pdf/pmaall.pdf (September 2002). 2001 residential, commercial, and transportation natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2002/08) (Washington, DC, August 2002). 2001 electric power prices: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2001 industrial natural gas delivered prices based on: EIA, *Manufacturing Energy Consumption Survey 1998*. 2001 coal prices based on EIA, *Quarterly Coal Report, October-December 2001*, DOE/EIA-0121(2001/4Q) (Washington, DC, May 2002) and EIA, AEO2003 National Energy Modeling System run MLBILL.D050503A. 2001 electricity prices: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). 2001 ethanol prices derived from weekly spot prices in the Oxy Fuel News. **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B6. Residential Sector Key Indicators and End-Use Consumption
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Key Indicators										
Households (millions)										
Single-Family	77.50	86.16	86.14	86.14	94.13	93.99	94.04	97.63	97.43	97.49
Multifamily	22.19	24.15	24.13	24.14	27.09	26.99	27.03	28.82	28.71	28.74
Mobile Homes	6.57	7.11	7.10	7.10	7.86	7.86	7.86	8.11	8.11	8.11
Total	106.27	117.42	117.37	117.38	129.08	128.83	128.93	134.55	134.25	134.34
Average House Square Footage	1685	1740	1740	1740	1782	1782	1782	1798	1798	1798
Energy Intensity										
(million Btu per household)										
Delivered Energy Consumption	102.9	106.0	105.5	105.6	104.4	99.3	101.1	104.6	97.3	99.0
Total Energy Consumption	189.0	194.3	191.7	193.6	189.9	171.4	179.0	189.5	166.3	173.8
(thousand Btu per square foot)										
Delivered Energy Consumption	61.1	60.9	60.7	60.7	58.6	55.7	56.7	58.2	54.1	55.0
Total Energy Consumption	112.2	111.7	110.2	111.3	106.6	96.2	100.4	105.4	92.5	96.7
Delivered Energy Consumption by Fuel										
Electricity										
Space Heating	0.39	0.46	0.46	0.46	0.50	0.46	0.47	0.52	0.45	0.47
Space Cooling	0.52	0.60	0.60	0.60	0.65	0.59	0.61	0.69	0.59	0.61
Water Heating	0.45	0.47	0.46	0.47	0.44	0.38	0.40	0.44	0.33	0.36
Refrigeration	0.42	0.34	0.34	0.34	0.32	0.32	0.32	0.33	0.33	0.33
Cooking	0.10	0.11	0.11	0.11	0.12	0.12	0.12	0.13	0.13	0.13
Clothes Dryers	0.22	0.25	0.24	0.25	0.27	0.25	0.25	0.28	0.25	0.26
Freezers	0.11	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Lighting	0.74	0.93	0.91	0.92	1.03	0.81	0.90	1.07	0.74	0.84
Clothes Washers ¹	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Dishwashers ¹	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Color Televisions	0.13	0.20	0.19	0.19	0.25	0.24	0.24	0.27	0.24	0.25
Personal Computers	0.06	0.08	0.08	0.08	0.10	0.10	0.10	0.11	0.11	0.11
Furnace Fans	0.07	0.09	0.09	0.09	0.10	0.09	0.10	0.11	0.10	0.10
Other Uses ²	0.83	1.26	1.25	1.25	1.66	1.54	1.58	1.87	1.69	1.74
Delivered Energy	4.10	4.93	4.88	4.89	5.60	5.05	5.24	5.95	5.11	5.33
Natural Gas										
Space Heating	3.13	3.70	3.69	3.70	4.10	3.97	4.01	4.30	4.11	4.15
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Heating	1.48	1.55	1.55	1.55	1.59	1.58	1.59	1.65	1.62	1.64
Cooking	0.20	0.23	0.23	0.23	0.25	0.25	0.25	0.26	0.26	0.26
Clothes Dryers	0.06	0.08	0.08	0.08	0.10	0.10	0.10	0.10	0.10	0.10
Other Uses ³	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.11	0.08
Delivered Energy	4.94	5.63	5.62	5.63	6.10	5.96	6.01	6.38	6.20	6.22
Distillate										
Space Heating	0.74	0.76	0.76	0.76	0.71	0.71	0.71	0.69	0.69	0.69
Water Heating	0.16	0.14	0.14	0.14	0.12	0.12	0.12	0.11	0.11	0.11
Other Uses ⁴	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Delivered Energy	0.91	0.91	0.91	0.91	0.84	0.84	0.84	0.81	0.81	0.81
Liquefied Petroleum Gas										
Space Heating	0.26	0.25	0.25	0.25	0.24	0.24	0.24	0.24	0.24	0.24
Water Heating	0.09	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06
Cooking	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Other Uses ³	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.14	0.14
Delivered Energy	0.50	0.47	0.47	0.47	0.46	0.47	0.46	0.46	0.47	0.46
Marketed Renewables (wood) ⁵	0.39	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.40
Other Fuels ⁶	0.11	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.07	0.07

Table B6. Residential Sector Key Indicators and End-Use Consumption (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Delivered Energy Consumption by End-Use										
Space Heating	5.01	5.68	5.66	5.67	6.04	5.86	5.91	6.22	5.96	6.01
Space Cooling	0.52	0.60	0.60	0.60	0.65	0.59	0.61	0.69	0.59	0.61
Water Heating	2.19	2.24	2.23	2.24	2.21	2.14	2.17	2.26	2.13	2.17
Refrigeration	0.42	0.34	0.34	0.34	0.32	0.32	0.32	0.33	0.33	0.33
Cooking	0.33	0.36	0.36	0.36	0.39	0.39	0.39	0.40	0.40	0.40
Clothes Dryers	0.28	0.33	0.33	0.33	0.36	0.34	0.35	0.38	0.35	0.36
Freezers	0.11	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Lighting	0.74	0.93	0.91	0.92	1.03	0.81	0.90	1.07	0.74	0.84
Clothes Washers	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Dishwashers	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Color Televisions	0.13	0.20	0.19	0.19	0.25	0.24	0.24	0.27	0.24	0.25
Personal Computers	0.06	0.08	0.08	0.08	0.10	0.10	0.10	0.11	0.11	0.11
Furnace Fans	0.07	0.09	0.09	0.09	0.10	0.09	0.10	0.11	0.10	0.10
Other Uses ⁷	1.01	1.46	1.45	1.45	1.87	1.76	1.80	2.09	1.94	1.96
Delivered Energy	10.94	12.45	12.38	12.40	13.48	12.80	13.03	14.08	13.06	13.29
Electricity Related Losses	9.15	10.37	10.11	10.32	11.03	9.29	10.04	11.42	9.26	10.05
Total Energy Consumption by End-Use										
Space Heating	5.89	6.64	6.61	6.63	7.03	6.70	6.81	7.22	6.78	6.89
Space Cooling	1.68	1.86	1.83	1.85	1.94	1.68	1.77	2.00	1.67	1.76
Water Heating	3.20	3.23	3.20	3.22	3.08	2.84	2.93	3.10	2.74	2.84
Refrigeration	1.36	1.06	1.05	1.06	0.96	0.91	0.94	0.97	0.93	0.95
Cooking	0.55	0.59	0.59	0.59	0.63	0.61	0.62	0.65	0.63	0.64
Clothes Dryers	0.78	0.85	0.84	0.85	0.89	0.80	0.84	0.91	0.81	0.85
Freezers	0.36	0.28	0.27	0.28	0.26	0.25	0.26	0.27	0.25	0.26
Lighting	2.40	2.90	2.81	2.86	3.06	2.31	2.63	3.12	2.09	2.42
Clothes Washers	0.10	0.10	0.10	0.10	0.09	0.08	0.08	0.08	0.08	0.08
Dishwashers	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08
Color Televisions	0.43	0.61	0.60	0.60	0.75	0.67	0.71	0.78	0.68	0.72
Personal Computers	0.19	0.25	0.25	0.25	0.31	0.29	0.30	0.33	0.32	0.33
Furnace Fans	0.23	0.27	0.26	0.27	0.30	0.27	0.28	0.31	0.27	0.29
Other Uses ⁷	2.86	4.10	4.03	4.08	5.14	4.59	4.83	5.67	4.99	5.23
Total	20.08	22.82	22.50	22.72	24.51	22.09	23.07	25.50	22.32	23.35
Non-Marketed Renewables										
Geothermal ⁸	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Solar ⁹	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Total	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06

¹Does not include electric water heating portion of load.

²Includes small electric devices, heating elements, and motors.

³Includes such appliances as swimming pool heaters, outdoor grills, and outdoor lighting (natural gas).

⁴Includes such appliances as swimming pool and hot tub heaters.

⁵Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 1997*.

⁶Includes kerosene and coal.

⁷Includes all other uses listed above.

⁸Includes primary energy displaced by geothermal heat pumps in space heating and cooling applications.

⁹Includes primary energy displaced by solar thermal water heaters and electricity generated using photovoltaics.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 based on: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B7. Commercial Sector Key Indicators and Consumption
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Key Indicators										
Total Floorspace (billion square feet)										
Surviving	66.6	79.0	79.0	79.0	91.2	90.8	91.0	97.4	97.1	97.3
New Additions	3.6	3.0	3.0	3.0	3.4	3.4	3.4	3.4	3.4	3.4
Total	70.2	82.0	82.0	82.0	94.6	94.2	94.5	100.8	100.6	100.7
Energy Consumption Intensity (thousand Btu per square foot)										
Delivered Energy Consumption	118.4	117.8	117.1	117.2	119.8	115.6	116.5	121.3	118.6	117.6
Electricity Related Losses	129.9	128.5	125.6	128.0	128.5	110.6	117.9	129.1	107.6	115.5
Total Energy Consumption	248.3	246.2	242.7	245.2	248.3	226.1	234.4	250.4	226.2	233.1
Delivered Energy Consumption by Fuel										
Purchased Electricity										
Space Heating ¹	0.14	0.16	0.15	0.15	0.15	0.14	0.14	0.15	0.13	0.13
Space Cooling ¹	0.43	0.43	0.42	0.42	0.45	0.41	0.43	0.46	0.40	0.42
Water Heating ¹	0.15	0.16	0.15	0.15	0.16	0.14	0.15	0.15	0.13	0.14
Ventilation	0.17	0.18	0.18	0.18	0.19	0.17	0.18	0.19	0.16	0.17
Cooking	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03
Lighting	1.02	1.21	1.18	1.18	1.30	0.99	1.06	1.33	0.88	0.96
Refrigeration	0.21	0.24	0.24	0.24	0.26	0.24	0.25	0.27	0.23	0.24
Office Equipment (PC)	0.16	0.24	0.24	0.24	0.32	0.31	0.31	0.36	0.34	0.35
Office Equipment (non-PC)	0.31	0.47	0.47	0.47	0.75	0.72	0.73	0.92	0.87	0.89
Other Uses ²	1.46	1.90	1.90	1.90	2.57	2.51	2.53	2.92	2.80	2.85
Delivered Energy	4.08	5.01	4.97	4.97	6.17	5.66	5.81	6.79	5.97	6.17
Natural Gas										
Space Heating ¹	1.32	1.53	1.53	1.53	1.65	1.58	1.62	1.71	1.56	1.63
Space Cooling ¹	0.01	0.02	0.02	0.02	0.03	0.03	0.03	0.04	0.03	0.03
Water Heating ¹	0.57	0.69	0.69	0.69	0.81	0.77	0.79	0.86	0.78	0.81
Cooking	0.25	0.30	0.30	0.30	0.35	0.33	0.34	0.37	0.35	0.35
Other Uses ³	1.17	1.20	1.20	1.20	1.39	1.57	1.48	1.52	2.25	1.90
Delivered Energy	3.33	3.74	3.74	3.74	4.23	4.27	4.25	4.50	4.97	4.73
Distillate										
Space Heating ¹	0.17	0.24	0.23	0.23	0.25	0.27	0.25	0.25	0.28	0.25
Water Heating ¹	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Other Uses ⁴	0.22	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Delivered Energy	0.46	0.51	0.51	0.51	0.52	0.54	0.53	0.52	0.56	0.53
Other Fuels⁵	0.34	0.29	0.29	0.29	0.30	0.31	0.31	0.31	0.32	0.31
Marketed Renewable Fuels										
Biomass	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Delivered Energy	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Delivered Energy Consumption by End-Use										
Space Heating ¹	1.63	1.92	1.92	1.92	2.05	1.98	2.01	2.11	1.97	2.02
Space Cooling ¹	0.44	0.45	0.44	0.44	0.48	0.44	0.46	0.50	0.43	0.45
Water Heating ¹	0.79	0.92	0.92	0.92	1.04	0.99	1.01	1.09	0.99	1.02
Ventilation	0.17	0.18	0.18	0.18	0.19	0.17	0.18	0.19	0.16	0.17
Cooking	0.29	0.33	0.33	0.33	0.38	0.36	0.37	0.40	0.37	0.38
Lighting	1.02	1.21	1.18	1.18	1.30	0.99	1.06	1.33	0.88	0.96
Refrigeration	0.21	0.24	0.24	0.24	0.26	0.24	0.25	0.27	0.23	0.24
Office Equipment (PC)	0.16	0.24	0.24	0.24	0.32	0.31	0.31	0.36	0.34	0.35
Office Equipment (non-PC)	0.31	0.47	0.47	0.47	0.75	0.72	0.73	0.92	0.87	0.89
Other Uses ⁶	3.30	3.69	3.69	3.69	4.56	4.69	4.62	5.05	5.68	5.37
Delivered Energy	8.32	9.65	9.60	9.61	11.33	10.89	11.00	12.23	11.92	11.85

Table B7. Commercial Sector Key Indicators and Consumption (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Electricity Related Losses	9.12	10.53	10.30	10.49	12.16	10.42	11.14	13.02	10.82	11.64
Total Energy Consumption by End-Use										
Space Heating ¹	1.95	2.25	2.24	2.24	2.36	2.24	2.29	2.40	2.20	2.27
Space Cooling ¹	1.39	1.34	1.32	1.34	1.38	1.21	1.28	1.39	1.15	1.24
Water Heating ¹	1.12	1.25	1.24	1.25	1.35	1.25	1.29	1.39	1.23	1.29
Ventilation	0.55	0.56	0.55	0.56	0.56	0.48	0.51	0.57	0.45	0.49
Cooking	0.37	0.40	0.40	0.40	0.44	0.41	0.42	0.45	0.41	0.42
Lighting	3.31	3.74	3.62	3.67	3.86	2.80	3.09	3.88	2.48	2.76
Refrigeration	0.69	0.74	0.73	0.73	0.77	0.68	0.72	0.78	0.66	0.70
Office Equipment (PC)	0.52	0.75	0.74	0.75	0.95	0.88	0.92	1.05	0.96	1.01
Office Equipment (non-PC)	0.99	1.45	1.43	1.45	2.21	2.06	2.14	2.69	2.45	2.57
Other Uses ⁶	6.56	7.70	7.63	7.70	9.62	9.31	9.48	10.65	10.76	10.74
Total	17.44	20.19	19.90	20.10	23.50	21.31	22.14	25.25	22.74	23.49
Non-Marketed Renewable Fuels										
Solar ⁷	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Total	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

¹Includes fuel consumption for district services.

²Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, and medical equipment.

³Includes miscellaneous uses, such as pumps, emergency electric generators, combined heat and power in commercial buildings, and manufacturing performed in commercial buildings.

⁴Includes miscellaneous uses, such as cooking, emergency electric generators, and combined heat and power in commercial buildings.

⁵Includes residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

⁶Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, lighting, emergency electric generators, combined heat and power in commercial buildings, manufacturing performed in commercial buildings, and cooking (distillate), plus residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

⁷Includes primary energy displaced by solar thermal space heating and water heating, and electricity generation by solar photovoltaic systems.

Btu = British thermal unit.

PC = Personal computer.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 based on: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B8. Industrial Sector Key Indicators and Consumption
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Key Indicators										
Value of Shipments (billion 1996 dollars)										
Manufacturing	4079	5466	5420	5435	7226	7160	7188	8258	8162	8183
Nonmanufacturing	1346	1510	1500	1503	1744	1714	1726	1870	1828	1841
Total	5425	6977	6920	6938	8969	8874	8914	10128	9990	10024
Delivered Energy Prices Including Greenhouse Gas Allowance Cost¹										
(2001 dollars per million Btu)										
Electricity	14.13	12.82	14.34	13.92	13.37	18.65	16.67	13.48	20.86	19.13
Natural Gas	4.87	4.00	5.23	4.80	4.39	7.20	6.17	4.63	8.19	7.25
Steam Coal	1.46	1.39	3.38	2.78	1.31	5.67	4.41	1.30	6.64	5.41
Residual Oil	3.28	3.71	5.34	4.83	3.94	7.49	6.35	4.10	8.46	7.33
Distillate Oil	6.55	5.75	7.27	6.79	6.74	9.70	8.84	7.19	10.89	10.00
Liquefied Petroleum Gas	12.34	9.93	10.93	10.64	10.85	13.19	12.65	11.13	14.38	13.40
Motor Gasoline	11.57	11.40	12.94	12.49	11.52	14.49	13.59	12.05	15.28	14.38
Metallurgical Coal	1.69	1.50	3.50	2.90	1.39	5.91	4.54	1.34	6.92	5.57
Energy Consumption²										
Purchased Electricity	3.39	3.97	3.89	3.91	4.65	4.41	4.49	5.01	4.66	4.74
Natural Gas	7.74	9.06	9.16	9.13	10.39	10.36	10.30	11.23	11.09	10.98
Lease and Plant Fuel ³	1.20	1.37	1.40	1.39	1.60	1.70	1.66	1.73	1.77	1.76
Natural Gas Subtotal	8.94	10.43	10.56	10.52	11.98	12.06	11.95	12.96	12.86	12.74
Steam Coal	1.42	1.46	1.33	1.38	1.51	1.28	1.34	1.54	1.26	1.32
Metallurgical Coal and Coke ⁴	0.74	0.77	0.76	0.76	0.71	0.65	0.66	0.68	0.60	0.61
Residual Fuel	0.23	0.19	0.18	0.18	0.20	0.17	0.18	0.20	0.17	0.18
Distillate	1.13	1.21	1.20	1.20	1.36	1.30	1.32	1.44	1.36	1.39
Liquefied Petroleum Gas	2.10	2.55	2.54	2.54	3.06	2.99	3.01	3.28	3.14	3.19
Petrochemical Feedstocks	1.14	1.44	1.41	1.41	1.70	1.53	1.55	1.82	1.57	1.59
Other Petroleum ⁵	4.18	4.44	4.34	4.37	4.64	4.27	4.42	4.76	4.32	4.43
Renewables ⁵	1.82	2.22	2.21	2.21	2.77	2.74	2.75	3.05	3.02	3.02
Delivered Energy	25.10	28.67	28.41	28.48	32.58	31.40	31.67	34.75	32.96	33.22
Electricity Related Losses	7.57	8.35	8.06	8.25	9.17	8.12	8.61	9.61	8.45	8.95
Total	32.67	37.02	36.47	36.73	41.75	39.53	40.28	44.36	41.40	42.17
Energy Consumption per dollar of Shipments²										
(thousand Btu per 1996 dollars)										
Purchased Electricity	0.63	0.57	0.56	0.56	0.52	0.50	0.50	0.49	0.47	0.47
Natural Gas	1.43	1.30	1.32	1.32	1.16	1.17	1.16	1.11	1.11	1.10
Lease and Plant Fuel ³	0.22	0.20	0.20	0.20	0.18	0.19	0.19	0.17	0.18	0.18
Natural Gas Subtotal	1.65	1.49	1.53	1.52	1.34	1.36	1.34	1.28	1.29	1.27
Steam Coal	0.26	0.21	0.19	0.20	0.17	0.14	0.15	0.15	0.13	0.13
Metallurgical Coal and Coke ⁴	0.14	0.11	0.11	0.11	0.08	0.07	0.07	0.07	0.06	0.06
Residual Fuel	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Distillate	0.21	0.17	0.17	0.17	0.15	0.15	0.15	0.14	0.14	0.14
Liquefied Petroleum Gas	0.39	0.37	0.37	0.37	0.34	0.34	0.34	0.32	0.31	0.32
Petrochemical Feedstocks	0.21	0.21	0.20	0.20	0.19	0.17	0.17	0.18	0.16	0.16
Other Petroleum ⁵	0.77	0.64	0.63	0.63	0.52	0.48	0.50	0.47	0.43	0.44
Renewables ⁶	0.33	0.32	0.32	0.32	0.31	0.31	0.31	0.30	0.30	0.30
Delivered Energy	4.63	4.11	4.11	4.10	3.63	3.54	3.55	3.43	3.30	3.31
Electricity Related Losses	1.40	1.20	1.16	1.19	1.02	0.92	0.97	0.95	0.85	0.89
Total	6.02	5.31	5.27	5.29	4.65	4.45	4.52	4.38	4.14	4.21

¹Allowance costs would apply to those industrial entities with at least one facility emitting greenhouse gas greater than 10,000 metric tons carbon dioxide equivalent. Exempt entities would not be required to submit allowances and their cost of consuming fuel would exclude the allowance cost.

²Fuel consumption includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

³Represents natural gas used in the field gathering and processing plant machinery.

⁴Includes net coal coke imports.

⁵Includes petroleum coke, asphalt, road oil, lubricants, motor gasoline, still gas, and miscellaneous petroleum products.

⁶Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 prices for motor gasoline and distillate are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2001*, http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_annual/current/pdf/pmaall.pdf (September 2002). 2001 coal prices are based on EIA, *Quarterly Coal Report, October-December 2001*, DOE/EIA-0121(2001/4Q) (Washington, DC, May 2002) and EIA, AEO2003 National Energy Modeling System run MLBILL.D050503A. 2001 electricity prices: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). 2001 natural gas prices based on: EIA, *Manufacturing Energy Consumption Survey 1998*. 2001 consumption values based on: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). 2001 shipments: Global Insight macroeconomic model CTL0802. Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B9. Transportation Sector Key Indicators and Delivered Energy Consumption

Key Indicators and Consumption	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Key Indicators										
Level of Travel (billions)										
Light-Duty Vehicles <8,500 pounds (VMT)	2409	3006	2975	2992	3752	3547	3663	4133	3795	3945
Commercial Light Trucks (VMT) ¹	66	84	83	83	107	104	106	120	115	117
Freight Trucks >10,000 pounds (VMT)	206	265	263	264	339	335	337	382	377	378
Air (seat miles available)	1109	1356	1348	1353	1944	1928	1933	2258	2231	2237
Rail (ton miles traveled)	1448	1691	1579	1625	2003	1467	1677	2173	1486	1650
Domestic Shipping (ton miles traveled)	788	882	869	874	1012	950	974	1088	992	1032
Energy Efficiency Indicators										
New Light-Duty Vehicle (miles per gallon) ²	24.1	25.1	25.3	25.2	26.0	28.1	26.6	26.4	29.0	27.2
New Car (miles per gallon) ²	28.1	28.5	28.8	28.6	29.7	32.6	30.4	30.1	32.9	30.9
New Light Truck (miles per gallon) ²	20.7	22.3	22.5	22.4	23.1	24.6	23.6	23.5	25.8	24.3
Light-Duty Fleet (miles per gallon) ³	19.8	19.6	19.6	19.6	20.3	20.9	20.5	20.5	21.8	20.9
New Commercial Light Truck (MPG) ¹	13.8	14.7	14.8	14.8	15.2	16.3	15.6	15.5	17.1	16.0
Stock Commercial Light Truck (MPG) ¹	13.7	14.3	14.3	14.3	14.9	15.4	15.1	15.2	16.2	15.5
Aircraft Efficiency (seat miles per gallon)	51.2	54.3	54.3	54.3	58.6	59.1	59.1	60.7	61.2	61.2
Freight Truck Efficiency (miles per gallon)	6.0	6.0	6.0	6.0	6.3	6.4	6.4	6.5	6.6	6.6
Rail Efficiency (ton miles per thousand Btu)	2.8	3.1	3.1	3.1	3.4	3.4	3.4	3.6	3.6	3.6
Domestic Shipping Efficiency (ton miles per thousand Btu)	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4
Energy Use by Mode (quadrillion Btu)										
Light-Duty Vehicles	15.28	18.88	18.86	18.98	22.76	20.99	22.20	24.71	21.55	23.38
Commercial Light Trucks ¹	0.60	0.73	0.73	0.73	0.89	0.84	0.87	0.98	0.89	0.94
Freight Trucks ⁴	4.68	5.92	5.88	5.89	7.11	6.94	7.02	7.81	7.55	7.61
Air ⁵	3.47	3.98	3.96	3.97	5.15	5.07	5.08	5.73	5.63	5.64
Rail ⁶	0.63	0.68	0.65	0.66	0.75	0.59	0.65	0.78	0.59	0.63
Marine ⁷	1.45	1.49	1.49	1.49	1.59	1.56	1.57	1.64	1.60	1.62
Pipeline Fuel	0.63	0.78	0.81	0.79	0.94	1.05	0.98	1.03	1.11	1.06
Lubricants	0.19	0.22	0.21	0.22	0.26	0.26	0.26	0.28	0.28	0.28
Total	26.94	32.68	32.58	32.73	39.45	37.30	38.64	42.96	39.19	41.16
Energy Use by Mode (million barrels per day oil equivalent)										
Light-Duty Vehicles	8.05	9.93	9.96	10.03	11.96	11.07	11.71	12.98	11.36	12.33
Commercial Light Trucks ¹	0.32	0.39	0.38	0.38	0.47	0.45	0.46	0.52	0.47	0.50
Freight Trucks	2.05	2.61	2.59	2.60	3.16	3.09	3.12	3.49	3.37	3.40
Railroad	0.24	0.26	0.24	0.25	0.28	0.20	0.23	0.28	0.19	0.22
Domestic Shipping	0.16	0.17	0.17	0.17	0.20	0.18	0.19	0.21	0.19	0.20
International Shipping	0.34	0.33	0.33	0.33	0.34	0.34	0.34	0.34	0.34	0.34
Air ⁵	1.44	1.65	1.64	1.65	2.19	2.15	2.16	2.45	2.40	2.41
Military Use	0.30	0.34	0.34	0.34	0.38	0.38	0.38	0.40	0.40	0.40
Bus Transportation	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Rail Transportation ⁶	0.05	0.06	0.06	0.06	0.08	0.08	0.08	0.08	0.08	0.08
Recreational Boats	0.16	0.18	0.18	0.18	0.19	0.19	0.19	0.20	0.20	0.20
Lubricants	0.09	0.10	0.10	0.10	0.12	0.12	0.12	0.13	0.13	0.13
Pipeline Fuel	0.32	0.39	0.41	0.40	0.47	0.53	0.50	0.52	0.56	0.54
Total	13.64	16.54	16.54	16.62	19.97	18.90	19.60	21.74	19.83	20.87

¹Commercial trucks 8,500 to 10,000 pounds.

²Environmental Protection Agency rated miles per gallon.

³Combined car and light truck "on-the-road" estimate.

⁴Includes energy use by buses and military distillate consumption.

⁵Includes jet fuel and aviation gasoline.

⁶Includes passenger rail.

⁷Includes military residual fuel use and recreational boats.

Btu = British thermal unit.

VMT=Vehicle miles traveled.

MPG = Miles per gallon.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001: Energy Information Administration (EIA), *Natural Gas Annual 2000*, DOE/EIA-0131(2000) (Washington, DC, November 2001); Federal Highway Administration, *Highway Statistics 2000* (Washington, DC, November 2001); Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 22 and Annual* (Oak Ridge, TN, September 2002); National Highway Traffic and Safety Administration, *Summary of Fuel Economy Performance* (Washington, DC, February 2000); EIA, *Household Vehicle Energy Consumption 1994*, DOE/EIA-0464(94) (Washington, DC, August 1997); U.S. Department of Commerce, Bureau of the Census, "Vehicle Inventory and Use Survey" EC97TV (Washington, DC, October 1999); EIA, *Describing Current and Potential Markets for Alternative-Fuel Vehicles*, DOE/EIA-0604(96) (Washington, DC, March 1996); EIA, *Alternatives to Traditional Transportation Fuels 1998*, http://www.eia.doe.gov/ceaf/alt_trans98/table1.html; EIA, *State Energy Data Report 1999*, DOE/EIA-0214(99) (Washington, DC, May 2001); U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly, December 2001/2000* (Washington, DC, 2001); EIA, *Fuel Oil and Kerosene Sales 2001*, http://www.eia.doe.gov/oil_gas/petroleum/data_publications/fuel_oil_and_kerosene_sales/historical/foks.html; and United States Department of Defense, Defense Fuel Supply Center. **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B10. Electricity Supply, Disposition, Prices, and Emissions
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Generation by Fuel Type										
Electric Power Sector¹										
Power Only²										
Coal	1848	2237	1927	2057	2512	836	1510	2747	526	1174
Petroleum	113	40	19	22	47	11	16	52	13	23
Natural Gas ³	411	671	811	724	1143	1745	1466	1314	1889	1646
Nuclear Power	769	790	801	801	793	934	866	793	1186	1005
Pumped Storage/Other	-9	-1	-1	-1	-1	-1	-1	-1	-1	-1
Renewable Sources ⁴	258	394	517	475	414	991	800	423	1122	1039
Distributed Generation (Natural Gas)	0	1	5	2	5	13	5	8	13	6
Non-Utility Generation for Own Use ..	-21	-24	-26	-27	-24	-26	-26	-24	-25	-26
Total	3370	4107	4053	4053	4889	4503	4635	5312	4725	4867
Combined Heat and Power⁵										
Coal	33	33	30	32	33	16	23	33	10	18
Petroleum	7	4	3	4	3	3	3	3	3	3
Natural Gas	124	171	161	173	156	131	137	149	115	136
Renewable Sources	5	4	4	4	4	4	4	4	4	4
Non-Utility Generation for Own Use ..	-9	-18	-18	-18	-18	-17	-17	-18	-16	-17
Total	162	193	181	195	178	138	151	171	116	145
Net Available to the Grid	3532	4301	4234	4247	5067	4641	4786	5483	4841	5011
End-Use Sector Generation										
Combined Heat and Power⁶										
Coal	23	23	23	23	23	23	23	23	23	23
Petroleum	6	6	6	6	6	6	6	6	6	6
Natural Gas	84	105	122	116	142	201	173	174	328	259
Other Gaseous Fuels ⁷	6	7	7	7	7	7	7	8	7	7
Renewable Sources ⁴	31	40	39	40	51	50	50	56	55	55
Other ⁸	11	11	11	11	11	11	11	11	11	11
Total	160	192	209	203	240	298	270	278	431	362
Other End-Use Generators ⁹	4	5	5	5	6	6	6	6	7	6
Generation for Own Use	-138	-154	-173	-168	-183	-241	-221	-207	-328	-286
Total Sales to the Grid	27	43	41	39	63	63	55	78	110	83
Net Imports	20	30	41	41	16	48	39	6	31	24
Electricity Sales by Sector										
Residential	1201	1445	1429	1433	1640	1479	1535	1745	1498	1562
Commercial	1197	1468	1455	1456	1808	1659	1703	1990	1750	1808
Industrial	994	1164	1139	1145	1364	1293	1317	1469	1366	1390
Transportation	22	27	27	27	36	35	36	42	39	40
Total	3414	4104	4050	4061	4848	4467	4591	5246	4653	4801
End-Use Prices¹⁰ (2001 cents per kilowatthour)										
Residential	8.7	7.7	8.2	8.1	7.9	10.3	9.4	7.9	11.4	10.5
Commercial	7.9	6.8	7.3	7.2	7.2	9.4	8.6	7.2	10.6	9.8
Industrial	4.8	4.4	4.9	4.7	4.6	6.4	5.7	4.6	7.1	6.5
Transportation	7.5	6.5	7.1	6.9	6.3	8.3	7.6	6.1	8.9	8.2
All Sectors Average	7.3	6.4	7.0	6.8	6.7	8.8	8.0	6.7	9.8	9.1
Prices by Service Category¹⁰ (2001 cents per kilowatthour)										
Generation	4.7	3.9	4.4	4.3	4.2	6.1	5.4	4.2	7.1	6.5
Transmission	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.8	0.7
Distribution	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0

Table B10. Electricity Supply, Disposition, Prices, and Emissions (Continued)
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Emissions										
Sulfur Dioxide (million tons)	10.63	9.69	9.84	9.48	8.95	5.87	8.95	8.95	1.93	8.41
Nitrogen Oxide (million tons)	4.75	3.90	3.50	3.73	4.02	1.48	2.75	4.08	0.67	2.17
Mercury (tons)	53.52	53.60	48.66	51.32	54.05	19.07	37.58	54.82	7.18	26.36

¹Includes electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.
²Includes plants that only produce electricity.
³Includes electricity generation from fuel cells.
⁴Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power.
⁵Includes combined heat and power plants whose primary business is to sell electricity and heat to the public (i.e., those that report NAICS code 22).
⁶Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors.
⁷Other gaseous fuels include refinery and still gas.
⁸Other includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur and miscellaneous technologies.
⁹Other end-use generators include 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.
¹⁰Prices represent average revenue per kilowatthour.
 Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.
Source: 2001 power only and combined heat and power generation, sales to utilities, net imports, residential, industrial, and total electricity sales, and emissions: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002), and supporting databases. 2001 commercial and transportation electricity sales: EIA estimates based on Oak Ridge National Laboratory, *Transportation Energy Data Book 21* (Oak Ridge, TN, September 2001). 2001 prices: EIA, National Energy Modeling System run MLBILL.D050503A. **Projections:** EIA, AEO2003 National Energy Modeling System run MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

**Table B11. Electricity Generating Capacity
(Gigawatts)**

Net Summer Capacity ¹	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Electric Power Sector²										
Power Only³										
Coal Steam	305.3	310.6	289.0	291.2	343.9	209.3	253.5	376.0	139.9	219.7
Other Fossil Steam ⁴	133.8	77.9	80.7	77.0	71.9	64.8	64.7	71.1	53.0	62.4
Combined Cycle	43.2	148.4	175.9	160.5	233.0	319.1	280.6	278.1	374.1	313.7
Combustion Turbine/Diesel	97.6	126.4	123.2	128.5	148.0	121.4	130.9	164.3	118.2	134.3
Nuclear Power ⁵	98.2	98.7	100.3	100.3	99.0	117.2	108.6	99.0	149.2	126.7
Pumped Storage	19.9	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
Fuel Cells	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Renewable Sources ⁶	90.4	97.2	129.0	116.3	101.0	225.0	187.1	102.6	245.6	228.4
Distributed Generation ⁷	0.0	1.7	1.7	1.6	11.7	4.9	6.5	17.7	5.0	9.3
Total	788.3	881.2	920.2	895.9	1029.0	1082.2	1052.4	1129.3	1105.4	1115.1
Combined Heat and Power⁸										
Coal Steam	5.2	4.7	4.4	4.7	4.7	3.3	3.6	4.7	2.6	3.3
Other Fossil Steam ⁴	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Combined Cycle	22.6	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9
Combustion Turbine/Diesel	4.6	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Renewable Sources ⁶	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total	33.7	44.3	44.0	44.2	44.3	42.9	43.2	44.3	42.2	42.9
Total Electric Power Industry	822.0	925.6	964.2	940.1	1073.4	1125.1	1095.6	1173.7	1147.6	1158.0
Cumulative Planned Additions⁹										
Coal Steam	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Fossil Steam ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined Cycle	0.0	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1	83.1
Combustion Turbine/Diesel	0.0	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5	31.5
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pumped Storage	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Fuel Cells	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Renewable Sources ⁶	0.0	4.9	4.9	4.9	6.5	6.5	6.5	6.6	6.6	6.6
Distributed Generation ⁷	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	120.0	120.0	120.0	121.7	121.7	121.7	121.8	121.8	121.8
Cumulative Unplanned Additions⁹										
Coal Steam	0.0	12.3	0.0	0.0	47.5	12.2	0.4	80.7	37.7	2.4
Other Fossil Steam ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined Cycle	0.0	32.0	59.7	44.0	116.7	203.0	164.2	161.8	259.6	197.3
Combustion Turbine/Diesel	0.0	9.0	3.7	8.4	33.7	3.7	12.9	52.3	3.7	16.5
Nuclear Power	0.0	0.0	0.0	0.0	0.0	16.5	7.9	0.0	48.5	26.1
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources ⁶	0.0	1.5	33.3	20.6	3.8	127.8	89.8	5.2	148.2	131.1
Distributed Generation ⁷	0.0	1.7	1.7	1.6	11.7	4.9	6.5	17.7	5.0	9.3
Total	0.0	56.5	98.4	74.6	213.3	368.1	281.7	317.8	502.8	382.6
Cumulative Total Additions	0.0	176.6	218.4	194.7	334.9	489.8	403.4	439.5	624.6	504.4
Cumulative Retirements¹⁰										
Coal Steam	0.0	7.6	17.2	14.8	9.4	110.2	53.8	10.5	205.8	89.9
Other Fossil Steam ⁴	0.0	54.4	51.6	55.3	60.4	67.5	67.6	61.2	79.3	69.9
Combined Cycle	0.0	0.7	0.9	0.6	0.7	0.9	0.6	0.7	2.6	0.6
Combustion Turbine/Diesel	0.0	11.2	9.1	8.4	14.3	10.9	10.6	16.7	14.2	10.8
Nuclear Power	0.0	2.4	0.8	0.8	3.4	1.8	1.8	3.4	1.8	1.8
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources ⁶	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	0.0	76.5	79.7	80.0	88.3	191.4	134.5	92.6	303.8	173.1

Table B11. Electricity Generating Capacity (Continued)
(Gigawatts)

Net Summer Capacity ¹	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
End-Use Sector										
Combined Heat and Power ¹¹										
Coal	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Petroleum	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Natural Gas	14.6	17.0	19.4	18.4	22.1	30.1	26.3	26.4	48.7	38.2
Other Gaseous Fuels	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2
Renewable Sources ⁶	4.7	6.2	6.2	6.2	8.1	8.0	8.0	9.0	8.9	8.9
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Total	27.8	31.8	34.2	33.2	38.8	46.7	42.9	44.2	66.2	55.8
Other End-Use Generators¹²										
Renewable Sources ¹³	1.1	1.5	1.5	1.5	1.7	1.9	1.8	2.0	2.2	2.2
Cumulative Additions⁹										
Combined Heat and Power ¹¹	0.0	4.1	6.4	5.6	11.1	19.0	15.2	16.6	38.5	28.1
Other End-Use Generators ¹²	0.0	0.4	0.4	0.4	0.6	0.7	0.7	0.9	1.1	1.0

¹Net summer capacity is the steady hourly output that generating equipment is expected to supply to system load (exclusive of auxiliary power), as demonstrated by tests during summer peak demand.

²Includes electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.

³Includes plants that only produce electricity. Includes capacity increases (uprates) at existing units.

⁴Includes oil-, gas-, and dual-fired capability.

⁵Nuclear capacity reflects operating capacity of existing units, including 4.3 gigawatts of uprates through 2025.

⁶Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power.

⁷Primarily peak-load capacity fueled by natural gas

⁸Includes combined heat and power plants whose primary business is to sell electricity and heat to the public(i.e., those that report NAICS code 22).

⁹Cumulative additions after December 31, 2001.

¹⁰Cumulative total retirements after December 31, 2001.

¹¹Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors.

¹²Other end-use generators include 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.

¹³See Table B17 for more detail.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model estimates and may differ slightly from official EIA data reports. Net summer capacity has been estimated for nonutility generators to be consistent with capability for electric utility generators.

Source: 2001 electric generating capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report" (preliminary). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B12. Petroleum Supply and Disposition Balance
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Crude Oil										
Domestic Crude Production ¹	5.80	5.64	5.63	5.64	5.43	5.41	5.41	5.30	5.27	5.20
Alaska	0.97	0.64	0.64	0.64	1.23	1.23	1.23	1.17	1.17	1.17
Lower 48 States	4.84	5.00	4.99	4.99	4.20	4.18	4.18	4.13	4.09	4.02
Net Imports	9.31	11.49	11.40	11.40	12.67	12.35	12.45	13.14	12.72	12.87
Gross Imports	9.33	11.56	11.46	11.46	12.73	12.40	12.50	13.18	12.77	12.92
Exports	0.02	0.06	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.04
Other Crude Supply ²	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply	15.13	17.13	17.03	17.03	18.10	17.76	17.86	18.44	17.99	18.07
Natural Gas Plant Liquids	1.87	2.20	2.27	2.24	2.48	2.63	2.53	2.59	2.69	2.66
Other Inputs³	0.30	0.44	0.43	0.43	0.44	0.36	0.37	0.44	0.35	0.35
Refinery Processing Gain⁴	0.90	0.91	0.89	0.90	0.96	0.94	0.95	0.96	0.93	0.96
Net Product Imports⁵	1.59	2.17	1.89	2.03	4.88	3.42	4.22	6.48	4.22	5.32
Gross Refined Product Imports ⁶	2.08	2.55	2.32	2.37	4.89	3.40	4.21	6.51	4.26	5.38
Unfinished Oil Imports	0.38	0.63	0.55	0.65	1.07	1.06	1.06	1.08	1.01	1.02
Ether Imports	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports	0.95	1.00	0.98	0.99	1.08	1.03	1.05	1.11	1.05	1.08
Total Primary Supply⁷	19.80	22.86	22.52	22.63	26.86	25.10	25.93	28.90	26.17	27.36
Refined Petroleum Products Supplied										
Motor Gasoline ⁸	8.67	10.54	10.42	10.48	12.53	11.47	12.10	13.55	11.76	12.71
Jet Fuel ⁹	1.66	1.90	1.89	1.89	2.46	2.42	2.43	2.74	2.69	2.70
Distillate Fuel ¹⁰	3.81	4.62	4.57	4.59	5.42	5.19	5.28	5.88	5.54	5.65
Residual Fuel	0.97	0.63	0.54	0.55	0.66	0.52	0.54	0.66	0.53	0.55
Other ¹¹	4.58	5.18	5.12	5.13	5.80	5.50	5.59	6.09	5.66	5.76
Total	19.69	22.87	22.53	22.65	26.87	25.11	25.94	28.92	26.18	27.37
Refined Petroleum Products Supplied										
Residential and Commercial	1.21	1.18	1.18	1.18	1.14	1.16	1.14	1.13	1.15	1.13
Industrial ¹²	4.67	5.28	5.21	5.23	5.96	5.62	5.72	6.28	5.79	5.91
Transportation	13.27	16.19	16.02	16.11	19.53	18.25	18.98	21.25	19.14	20.20
Electric Power ¹³	0.55	0.21	0.12	0.13	0.24	0.08	0.10	0.26	0.09	0.12
Total	19.69	22.87	22.53	22.65	26.87	25.11	25.94	28.92	26.18	27.37
Discrepancy¹⁴	0.10	-0.02	-0.02	-0.02	-0.02	-0.01	-0.01	-0.02	-0.01	-0.01
World Oil Price (2001 dollars per barrel)¹⁵	22.01	23.99	23.77	23.77	25.48	24.15	24.15	26.57	24.58	24.58
Import Share of Product Supplied	0.55	0.60	0.59	0.59	0.65	0.63	0.64	0.68	0.65	0.66
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2001 dollars)	89.20	122.23	117.95	119.27	172.92	144.08	154.82	205.85	158.78	174.62
Domestic Refinery Distillation Capacity¹⁶	16.8	18.7	18.7	18.7	19.5	19.1	19.2	19.8	19.3	19.4
Capacity Utilization Rate (percent)	93.0	93.1	92.8	92.8	94.6	94.5	94.6	94.6	94.6	94.6

¹Includes lease condensate.
²Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude products supplied.
³Includes alcohols, ethers, petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, natural gas converted to liquid fuel, and coal converted to liquid fuel.
⁴Represents volumetric gain in refinery distillation and cracking processes.
⁵Includes net imports of finished petroleum products, unfinished oils, other hydrocarbons, alcohols, ethers, and blending components.
⁶Includes other hydrocarbons, alcohols, and blending components.
⁷Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
⁸Includes ethanol and ethers blended into gasoline.
⁹Includes only kerosene type.
¹⁰Includes distillate and kerosene.
¹¹Includes aviation gasoline, liquefied petroleum gas, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, and miscellaneous petroleum products.
¹²Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.
¹³Includes consumption of energy by electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.
¹⁴Balancing item. Includes unaccounted for supply, losses, and gains.
¹⁵Average refiner acquisition cost for imported crude oil.
¹⁶End-of-year capacity.
Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.
Sources: 2001 product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). Other 2001 data: EIA, *Petroleum Supply Annual 2001*, DOE/EIA-0340(2001)/1 (Washington, DC, June 2002). **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B13. Petroleum Product Prices
(2001 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
World Oil Price (2001 dollars per barrel)	22.01	23.99	23.77	23.77	25.48	24.15	24.15	26.57	24.58	24.58
Delivered Sector Prices Including Greenhouse Gas Allowance Cost										
Residential										
Distillate Fuel	124.6	110.9	110.3	110.1	120.7	114.2	116.8	123.8	119.0	119.4
Liquefied Petroleum Gas	127.3	123.1	119.8	121.0	131.1	123.9	127.6	133.1	128.3	128.0
Commercial										
Distillate Fuel	88.7	78.6	78.0	77.9	89.5	82.6	85.3	93.7	87.3	88.3
Residual Fuel	51.8	60.1	58.9	58.9	63.3	59.3	59.4	65.7	60.2	60.3
Residual Fuel (2001 dollars per barrel)	21.75	25.24	24.73	24.74	26.57	24.92	24.94	27.58	25.30	25.32
Industrial¹										
Distillate Fuel	90.8	79.7	100.8	94.1	93.4	134.6	122.6	99.7	151.0	138.6
Liquefied Petroleum Gas	105.9	85.2	93.8	91.2	93.1	113.1	108.5	95.4	123.3	114.9
Residual Fuel	49.1	55.6	79.9	72.3	58.9	112.2	95.1	61.4	126.7	109.7
Residual Fuel (2001 dollars per barrel)	20.61	23.35	33.55	30.37	24.75	47.12	39.94	25.77	53.20	46.07
Transportation										
Diesel Fuel (distillate) ²	139.4	141.4	162.4	155.7	142.4	182.6	169.6	147.5	199.3	184.7
Jet Fuel ³	83.7	76.3	95.9	89.7	85.6	125.0	112.7	90.7	139.7	127.1
Motor Gasoline ⁴	143.3	141.8	160.8	155.3	143.1	179.9	168.7	149.4	189.6	178.4
Liquid Petroleum Gas	145.2	133.4	140.3	138.3	137.8	157.0	152.5	137.1	164.3	155.2
Residual Fuel	58.4	53.4	77.8	70.2	56.6	110.1	92.9	59.0	124.5	107.5
Residual Fuel (2001 dollars per barrel)	24.52	22.41	32.66	29.47	23.76	46.25	39.03	24.80	52.31	45.13
Electric Power⁵										
Distillate Fuel	86.0	71.2	91.1	84.3	82.4	123.6	111.5	85.4	138.6	125.1
Residual Fuel	67.4	61.0	89.4	81.0	64.8	129.9	109.0	68.1	144.9	123.3
Residual Fuel (2001 dollars per barrel)	28.30	25.63	37.53	34.00	27.23	54.57	45.76	28.60	60.84	51.80
Delivered Sector Prices Excluding Greenhouse Gas Allowance Cost										
Residential										
Distillate Fuel	124.6	110.9	110.3	110.1	120.7	114.2	116.8	123.8	119.0	119.4
Liquefied Petroleum Gas	127.3	123.1	119.8	121.0	131.1	123.9	127.6	133.1	128.3	128.0
Commercial										
Distillate Fuel	88.7	78.6	78.0	77.9	89.5	82.6	85.3	93.7	87.3	88.3
Residual Fuel	51.8	60.1	58.9	58.9	63.3	59.3	59.4	65.7	60.2	60.3
Residual Fuel (2001 dollars per barrel)	21.75	25.24	24.73	24.74	26.57	24.92	24.94	27.58	25.30	25.32
Industrial¹										
Distillate Fuel	90.8	79.7	79.2	79.1	93.4	85.7	88.5	99.7	90.6	92.8
Liquefied Petroleum Gas	105.9	85.2	82.2	83.2	93.1	87.0	90.3	95.4	91.0	90.4
Residual Fuel	49.1	55.6	54.7	54.8	58.9	55.4	55.4	61.4	56.4	56.4
Residual Fuel (2001 dollars per barrel)	20.61	23.35	22.99	23.01	24.75	23.26	23.28	25.77	23.67	23.70
Transportation										
Diesel Fuel (distillate) ²	139.4	141.4	140.8	140.6	142.4	133.8	135.5	147.5	138.8	138.9
Jet Fuel ³	83.7	76.3	75.5	75.5	85.6	78.9	80.6	90.7	82.7	83.9
Motor Gasoline ⁴	143.3	141.8	142.1	142.2	143.1	137.6	139.1	149.4	137.3	138.8
Liquid Petroleum Gas	145.2	133.4	128.7	130.2	137.8	130.9	134.2	137.1	131.9	130.7
Residual Fuel	58.4	53.4	52.6	52.6	56.6	53.3	53.3	59.0	54.2	54.2
Residual Fuel (2001 dollars per barrel)	24.52	22.41	22.11	22.11	23.76	22.38	22.37	24.80	22.78	22.76
Electric Power⁵										
Distillate Fuel	86.0	71.2	69.5	69.3	82.4	74.7	77.4	85.4	78.2	79.3
Residual Fuel	67.4	61.0	64.2	63.4	64.8	73.1	69.3	68.1	74.6	70.1
Residual Fuel (2001 dollars per barrel)	28.30	25.63	26.98	26.63	27.23	30.71	29.11	28.60	31.31	29.42

Table B13. Petroleum Product Prices (Continued)
(2001 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Greenhouse Gas Allowance Cost										
Residential										
Distillate Fuel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquefied Petroleum Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Commercial										
Distillate Fuel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residual Fuel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Residual Fuel (2001 dollars per barrel)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Industrial¹										
Distillate Fuel	0.0	0.0	21.6	15.1	0.0	48.9	34.1	0.0	60.5	45.8
Liquefied Petroleum Gas	0.0	0.0	11.6	8.1	0.0	26.1	18.3	0.0	32.4	24.5
Residual Fuel	0.0	0.0	25.1	17.5	0.0	56.8	39.7	0.0	70.3	53.3
Residual Fuel (2001 dollars per barrel)	0.00	0.00	10.55	7.37	0.00	23.86	16.66	0.00	29.53	22.37
Transportation										
Diesel Fuel (distillate) ²	0.0	0.0	21.6	15.1	0.0	48.9	34.1	0.0	60.5	45.8
Jet Fuel ³	0.0	0.0	20.4	14.2	0.0	46.1	32.2	0.0	57.0	43.2
Motor Gasoline ⁴	0.0	0.0	18.7	13.1	0.0	42.3	29.5	0.0	52.3	39.7
Liquid Petroleum Gas	0.0	0.0	11.6	8.1	0.0	26.1	18.3	0.0	32.4	24.5
Residual Fuel	0.0	0.0	25.1	17.5	0.0	56.8	39.7	0.0	70.3	53.3
Residual Fuel (2001 dollars per barrel)	0.00	0.00	10.55	7.37	0.00	23.86	16.66	0.00	29.53	22.37
Electric Power⁵										
Distillate Fuel	0.0	0.0	21.6	15.1	0.0	48.9	34.1	0.0	60.5	45.8
Residual Fuel	0.0	0.0	25.1	17.5	0.0	56.8	39.7	0.0	70.3	53.3
Residual Fuel (2001 dollars per barrel)	0.00	0.00	10.55	7.37	0.00	23.86	16.66	0.00	29.53	22.37

¹Includes combined heat and power, which produces electricity and other useful thermal energy.

²Diesel fuel containing 500 part per million (ppm) or 15 ppm sulfur. Includes Federal and State taxes while excluding county and local taxes.

³Kerosene-type jet fuel.

⁴Sales weighted-average price for all grades. Includes Federal, State and local taxes.

⁵Includes electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

⁶Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.

Note: Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 prices for motor gasoline, distillate, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2001*, http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_current/pdf/pmaall.pdf (September 2002). 2001 residential, commercial, industrial, and transportation sector petroleum product prices are derived from: EIA, Form EIA-782A: "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report." 2001 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2001 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2001 world oil price: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B14. Natural Gas Supply and Disposition
(Trillion Cubic Feet per Year)

Supply and Disposition	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Production										
Dry Gas Production ¹	19.45	21.53	22.21	21.90	24.85	26.61	25.65	26.36	27.32	27.06
Supplemental Natural Gas ²	0.08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Net Imports	3.73	4.76	4.85	4.66	6.88	8.80	7.58	7.90	10.87	9.24
Canada	3.61	4.16	4.20	4.10	5.14	5.44	5.20	5.21	5.61	5.43
Mexico	-0.13	-0.20	-0.21	-0.21	-0.02	0.16	-0.01	0.29	0.66	0.33
Liquefied Natural Gas	0.26	0.80	0.86	0.77	1.76	3.21	2.38	2.40	4.60	3.47
Total Supply	23.26	26.39	27.15	26.66	31.83	35.51	33.32	34.36	38.29	36.39
Consumption by Sector										
Residential	4.81	5.48	5.47	5.48	5.93	5.80	5.85	6.21	6.03	6.05
Commercial	3.24	3.64	3.63	3.64	4.12	4.16	4.14	4.38	4.84	4.60
Industrial ³	7.53	8.81	8.91	8.88	10.10	10.08	10.02	10.93	10.79	10.68
Electric Power ⁴	5.30	6.58	7.20	6.77	9.42	13.00	10.95	10.37	14.03	12.45
Transportation ⁵	0.01	0.06	0.06	0.06	0.10	0.09	0.09	0.11	0.10	0.10
Pipeline Fuel	0.61	0.76	0.79	0.77	0.91	1.02	0.96	1.00	1.08	1.03
Lease and Plant Fuel ⁶	1.17	1.33	1.36	1.35	1.56	1.66	1.61	1.68	1.72	1.71
Total	22.67	26.66	27.42	26.94	32.14	35.80	33.62	34.67	38.59	36.63
Natural Gas to Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discrepancy⁷	0.59	-0.28	-0.26	-0.28	-0.31	-0.30	-0.30	-0.31	-0.30	-0.24

¹Marketed production (wet) minus extraction losses.

²Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

³Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.

⁴Includes consumption of energy by electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

⁵Compressed natural gas used as vehicle fuel.

⁶Represents natural gas used in the field gathering and processing plant machinery.

⁷Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. In addition, 2001 values include net storage injections.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2002/08) (Washington, DC, August 2002). 2001 consumption based on: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B15. Natural Gas Prices, Margins, and Revenue
(2001 Dollars per Thousand Cubic Feet, Unless Otherwise Noted)

Prices, Margins, and Revenue	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Source Price										
Average Lower 48 Wellhead Price ¹	4.12	3.39	3.51	3.41	3.70	3.97	3.71	3.95	4.36	4.19
Average Import Price	4.43	3.40	3.46	3.40	3.88	4.17	3.91	4.19	4.65	4.47
Average²	4.17	3.39	3.50	3.41	3.74	4.02	3.76	4.01	4.45	4.26
Delivered Prices Including Greenhouse Gas Allowance Cost										
Residential	9.68	7.79	7.89	7.80	7.99	8.30	8.02	8.26	8.72	8.57
Commercial	8.32	6.67	6.78	6.69	6.98	7.27	7.00	7.26	7.69	7.53
Industrial ³	5.01	4.11	5.37	4.94	4.51	7.40	6.34	4.76	8.42	7.45
Electric Power ⁴	4.87	3.95	5.30	4.83	4.44	7.50	6.37	4.73	8.53	7.51
Transportation ⁵	7.87	7.39	8.62	8.21	7.97	10.58	9.58	8.32	11.57	10.68
Average⁶	6.57	5.28	6.12	5.81	5.55	7.61	6.78	5.80	8.44	7.71
Delivered Prices Excluding Greenhouse Gas Allowance Cost										
Residential	9.68	7.79	7.89	7.80	7.99	8.30	8.02	8.26	8.72	8.57
Commercial	8.32	6.67	6.78	6.69	6.98	7.27	7.00	7.26	7.69	7.53
Industrial ³	5.01	4.11	4.23	4.14	4.51	4.81	4.53	4.76	5.21	5.02
Electric Power ⁴	4.87	3.95	4.14	4.02	4.44	4.88	4.54	4.73	5.29	5.06
Transportation ⁵	7.87	7.39	7.45	7.39	7.97	7.94	7.74	8.32	8.30	8.21
Average⁶	6.57	5.28	5.38	5.30	5.55	5.78	5.54	5.80	6.19	6.03
Transmission & Distribution Margins⁷										
Residential	5.50	4.39	4.39	4.39	4.25	4.27	4.26	4.25	4.28	4.30
Commercial	4.14	3.28	3.28	3.27	3.24	3.24	3.24	3.25	3.24	3.27
Industrial ³	0.83	0.72	0.73	0.72	0.77	0.79	0.77	0.75	0.77	0.76
Electric Power ⁴	0.70	0.56	0.65	0.61	0.70	0.86	0.78	0.72	0.84	0.80
Transportation ⁵	3.69	4.00	3.95	3.98	4.23	3.92	3.98	4.31	3.86	3.95
Average⁶	2.40	1.89	1.88	1.89	1.81	1.76	1.78	1.79	1.75	1.77
Transmission & Distribution Revenue (billion 2001 dollars)										
Residential	26.45	24.08	24.00	24.01	25.22	24.78	24.94	26.39	25.78	26.05
Commercial	13.42	11.94	11.91	11.91	13.33	13.48	13.39	14.25	15.68	15.04
Industrial ³	6.28	6.36	6.49	6.43	7.82	7.94	7.70	8.23	8.27	8.08
Electric Power ⁴	3.69	3.70	4.64	4.14	6.57	11.18	8.54	7.42	11.80	9.91
Transportation ⁵	0.04	0.23	0.22	0.23	0.41	0.36	0.37	0.47	0.39	0.41
Total	49.88	46.31	47.27	46.72	53.36	57.74	54.94	56.76	61.91	59.49
Greenhouse Gas Allowance Cost										
Residential	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Industrial ³	0.00	0.00	1.15	0.80	0.00	2.59	1.81	0.00	3.21	2.43
Electric Power ⁴	0.00	0.00	1.16	0.81	0.00	2.62	1.83	0.00	3.24	2.45
Transportation ⁵	0.00	0.00	1.17	0.82	0.00	2.64	1.84	0.00	3.27	2.48
Average⁶	0.00	0.00	0.74	0.51	0.00	1.83	1.24	0.00	2.25	1.68

¹Represents lower 48 onshore and offshore supplies.

²Quantity-weighted average of the average lower 48 wellhead price and the average price of imports at the U.S. border.

³Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.

⁴Includes consumption of energy by electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

⁵Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

⁶Weighted average allowance cost. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.

⁷Within the table, "transmission and distribution" margins equal the difference between the delivered price and the source price (average of the wellhead price and the price of imports at the U.S. border) of natural gas and, thus, reflect the total cost of bringing natural gas to market. When the term "transmission and distribution" margins is used in today's natural gas market, it generally does not include the cost of independent natural gas marketers or costs associated with aggregation of supplies, provisions of storage, and other services. As used here, the term includes the cost of all services and the cost of pipeline fuel used in compressor stations.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 electric generators delivered price: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2001 industrial delivered prices based on Energy Information Administration (EIA), *Manufacturing Energy Consumption Survey 1998*. 2001 residential, commercial, and transportation delivered prices, average lower 48 wellhead price, and average import price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2002/08) (Washington, DC, August 2002). Other 2001 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B16. Oil and Gas Supply

Production and Supply	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Crude Oil										
Lower 48 Average Wellhead Price¹ (2001 dollars per barrel)	22.91	23.89	23.56	23.57	24.98	23.65	23.54	26.22	24.11	23.98
Production (million barrels per day)²										
U.S. Total	5.80	5.64	5.63	5.64	5.43	5.41	5.41	5.30	5.27	5.20
Lower 48 Onshore	3.13	2.47	2.47	2.47	2.06	2.05	2.05	1.92	1.90	1.90
Lower 48 Offshore	1.71	2.52	2.52	2.52	2.14	2.13	2.13	2.22	2.19	2.13
Alaska	0.97	0.64	0.64	0.64	1.23	1.23	1.23	1.17	1.17	1.17
Lower 48 End of Year Reserves (billion barrels)² ..	19.48	17.72	17.70	17.71	15.39	15.34	15.31	15.04	14.92	14.74
Natural Gas										
Lower 48 Average Wellhead Price¹ (2001 dollars per thousand cubic feet)	4.12	3.39	3.51	3.41	3.70	3.97	3.71	3.95	4.36	4.19
Dry Production (trillion cubic feet)³										
U.S. Total	19.45	21.54	22.21	21.90	24.86	26.61	25.65	26.37	27.32	27.06
Lower 48 Onshore	13.72	15.57	16.17	15.90	17.96	18.65	17.73	17.77	18.72	18.28
Associated-Dissolved ⁴	1.77	1.37	1.36	1.37	1.19	1.19	1.19	1.13	1.13	1.13
Non-Associated	11.94	14.20	14.81	14.54	16.77	17.46	16.54	16.64	17.59	17.15
Conventional	6.54	7.04	7.32	7.15	7.15	7.37	7.16	7.04	7.13	7.22
Unconventional	5.40	7.16	7.49	7.39	9.61	10.09	9.38	9.60	10.46	9.94
Lower 48 Offshore	5.30	5.49	5.56	5.52	5.43	5.58	5.53	5.74	5.77	5.94
Associated-Dissolved ⁴	1.08	0.96	0.96	0.96	0.80	0.79	0.79	0.82	0.81	0.78
Non-Associated	4.22	4.53	4.60	4.56	4.63	4.78	4.74	4.93	4.96	5.15
Alaska	0.43	0.48	0.48	0.48	1.47	2.39	2.39	2.85	2.84	2.84
Lower 48 End of Year Dry Reserves³ (trillion cubic feet)	174.04	186.42	185.39	185.58	194.24	195.87	192.82	190.10	192.41	189.09
Supplemental Gas Supplies (trillion cubic feet)⁵ ..	0.08	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Total Lower 48 Wells (thousands)	33.94	25.73	25.75	25.56	26.21	27.25	26.22	27.53	29.30	27.97

¹Represents lower 48 onshore and offshore supplies.
²Includes lease condensate.
³Marketed production (wet) minus extraction losses.
⁴Gas which occurs in crude oil reserves either as free gas (associated) or as gas in solution with crude oil (dissolved).
⁵Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.
Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.
Sources: 2001 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: Energy Information Administration (EIA), *Petroleum Supply Annual 2001*, DOE/EIA-0340(2001)/1 (Washington, DC, June 2002). 2001 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2002/08) (Washington, DC, August 2002). Other 2001 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B17. Coal Supply, Disposition, and Prices
(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Production¹										
Appalachia	443	420	415	422	416	212	320	433	145	253
Interior	147	161	153	158	151	88	130	159	42	112
West	548	669	513	576	801	185	387	865	128	236
East of the Mississippi	539	527	518	527	529	286	415	554	182	345
West of the Mississippi	599	723	563	628	839	199	422	902	132	255
Total	1138	1250	1081	1155	1367	485	838	1456	315	600
Net Imports										
Imports	19	20	11	11	25	11	11	28	10	10
Exports	49	33	33	33	29	29	27	24	24	23
Total	-30	-14	-22	-22	-4	-19	-16	3	-13	-13
Total Supply²	1109	1236	1060	1133	1363	466	821	1460	301	587
Consumption by Sector										
Residential and Commercial	4	5	5	5	5	5	5	5	6	6
Industrial ³	63	67	61	63	70	59	62	71	58	61
of which: Coal to Liquids	0	0	0	0	0	0	0	0	0	0
Coke Plants	26	24	24	24	20	17	18	18	14	15
Electric Power ⁴	957	1146	966	1044	1274	390	744	1371	227	558
Total	1050	1242	1055	1136	1369	471	829	1466	306	640
Discrepancy and Stock Change⁵	58	-6	4	-2	-6	-6	-7	-6	-4	-53
Average Minemouth Price										
(2001 dollars per short ton)	17.59	15.06	15.84	15.56	14.34	15.27	15.06	14.39	13.67	15.63
(2001 dollars per million Btu)	0.83	0.73	0.76	0.75	0.70	0.71	0.72	0.71	0.63	0.73
Delivered Prices Including Greenhouse Gas Allowance Cost (2001 dollars per short ton)⁶										
Industrial	32.82	30.11	73.69	60.61	28.45	123.14	95.85	28.04	143.97	117.22
Coke Plants	46.42	41.27	96.11	79.52	38.08	162.07	124.51	36.67	189.79	152.64
Electric Power										
(2001 dollars per short ton)	25.06	23.63	65.08	52.54	22.44	116.04	86.78	22.27	136.11	110.86
(2001 dollars per million Btu)	1.25	1.17	3.17	2.58	1.12	5.53	4.22	1.11	6.53	5.24
Average	26.06	24.33	66.29	53.56	22.98	118.63	88.26	22.74	140.21	112.46
Delivered Prices Excluding Greenhouse Gas Allowance Cost (2001 dollars per short ton)⁶										
Industrial	32.82	30.11	30.10	30.19	28.45	24.86	27.11	28.04	22.55	25.27
Coke Plants	46.42	41.27	41.37	41.31	38.08	38.31	38.12	36.67	36.64	36.60
Electric Power										
(2001 dollars per short ton)	25.06	23.63	23.76	23.87	22.44	20.83	21.36	22.27	18.81	20.87
(2001 dollars per million Btu)	1.25	1.17	1.16	1.17	1.12	0.99	1.04	1.11	0.90	0.99
Average	26.06	24.33	24.53	24.59	22.98	21.98	22.15	22.74	20.39	21.67
Exports ⁷	36.97	32.68	32.41	32.51	30.94	28.76	30.28	30.36	27.46	28.68
Greenhouse Gas Allowance Cost (2001 dollars per short ton)⁶										
Industrial	0.00	0.00	43.59	30.42	0.00	98.28	68.74	0.00	121.42	91.96
Coke Plants	0.00	0.00	54.74	38.21	0.00	123.76	86.39	0.00	153.14	116.04
Electric Power										
(2001 dollars per short ton)	0.00	0.00	41.32	28.66	0.00	95.21	65.42	0.00	117.30	89.99
(2001 dollars per million Btu)	0.00	0.00	2.02	1.41	0.00	4.54	3.18	0.00	5.62	4.26
Average	0.00	0.00	41.76	28.96	0.00	96.65	66.12	0.00	119.82	90.79

¹Includes anthracite, bituminous coal, lignite, and waste coal delivered to independent power producers. Waste coal deliveries totaled 10.1 million tons in 2000 and 10.6 million tons in 2001.

²Production plus net imports and net storage withdrawals.

³Includes consumption for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public.

⁴Includes all electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.

⁵Balancing item: the sum of production, net imports, and net storage withdrawals minus total consumption.

⁶Sectoral prices weighted by consumption tonnage; weighted average excludes residential/ commercial prices and export free-alongside-ship (f.a.s.) prices.

⁷F.a.s. price at U.S. port of exit.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 data based on Energy Information Administration (EIA), *Quarterly Coal Report, October-December 2001*, DOE/EIA-0121(2001/4Q) (Washington, DC, May 2002) and EIA, AEO2003 National Energy Modeling System run MLBILL.D050503A. Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B18. Renewable Energy Generating Capacity and Generation
(Gigawatts, Unless Otherwise Noted)

Capacity and Generation	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Electric Power Sector¹										
Net Summer Capacity										
Conventional Hydropower	78.10	78.66	78.66	78.66	78.65	78.65	78.65	78.65	78.65	78.65
Geothermal ²	2.83	3.81	6.68	6.58	5.19	10.06	9.56	5.77	10.55	9.87
Municipal Solid Waste ³	3.25	4.08	4.84	4.78	4.41	5.17	5.17	4.42	5.19	5.19
Wood and Other Biomass ⁴	1.80	2.09	3.96	3.27	2.20	48.03	31.71	2.33	67.38	64.08
Solar Thermal	0.33	0.44	0.44	0.44	0.48	0.48	0.48	0.50	0.50	0.50
Solar Photovoltaic ⁵	0.02	0.10	0.10	0.10	0.27	0.27	0.27	0.36	0.36	0.36
Wind	4.29	8.24	34.53	22.71	10.05	82.60	61.48	10.81	83.22	70.02
Total	90.62	97.42	129.20	116.54	101.24	225.26	187.31	102.83	245.84	228.67
Generation (billion kilowatthours)										
Conventional Hydropower	213.82	300.90	300.89	300.89	300.07	299.92	299.96	300.36	300.10	300.17
Geothermal ²	13.81	22.04	44.61	43.85	33.43	73.14	69.13	38.12	77.22	71.94
Municipal Solid Waste ³	19.55	29.20	35.17	34.78	31.67	37.63	37.64	31.81	37.83	37.86
Wood and Other Biomass ⁴	9.38	21.47	27.11	24.55	22.06	304.95	188.02	22.82	429.32	396.20
Dedicated Plants	7.66	12.47	19.52	17.15	13.22	304.95	188.02	14.09	429.32	396.20
Cofiring	1.72	9.00	7.59	7.40	8.84	0.00	0.00	8.73	0.00	0.00
Solar Thermal	0.49	0.77	0.77	0.77	0.90	0.90	0.90	0.97	0.97	0.97
Solar Photovoltaic ⁵	0.00	0.24	0.24	0.24	0.66	0.66	0.66	0.88	0.88	0.88
Wind	5.78	22.91	112.46	73.69	29.20	277.70	207.45	32.03	280.10	234.93
Total	262.85	397.53	521.25	478.78	417.98	994.90	803.75	427.00	1126.43	1042.96
End- Use Sector										
Net Summer Capacity										
Combined Heat and Power⁶										
Municipal Solid Waste	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Biomass	4.41	5.93	5.89	5.90	7.79	7.67	7.72	8.74	8.60	8.63
Total	4.69	6.21	6.17	6.18	8.07	7.95	8.00	9.03	8.88	8.92
Other End-Use Generators⁷										
Conventional Hydropower ⁸	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.02	0.38	0.38	0.38	0.61	0.76	0.70	0.94	1.15	1.07
Total	1.12	1.47	1.47	1.47	1.71	1.85	1.79	2.04	2.25	2.16
Generation (billion kilowatthours)										
Combined Heat and Power⁶										
Municipal Solid Waste	2.46	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15	2.15
Biomass	28.67	37.53	37.31	37.37	48.39	47.72	48.01	53.98	53.13	53.34
Total	31.13	39.68	39.46	39.53	50.54	49.87	50.16	56.13	55.28	55.49
Other End-Use Generators⁷										
Conventional Hydropower ⁸	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23	4.23
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.02	0.82	0.82	0.82	1.32	1.61	1.50	1.99	2.42	2.26
Total	4.25	5.05	5.05	5.05	5.55	5.85	5.73	6.23	6.66	6.49

¹Includes electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public.

²Includes hydrothermal resources only (hot water and steam).

³Includes landfill gas.

⁴Includes projections for energy crops after 2010.

⁵Does not include off-grid photovoltaics (PV). See Annual Energy Review 2001 Table 10.6 for estimates of 1989-2000 PV shipments, including exports, for both grid-connected and off-grid applications.

⁶Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors.

⁷Includes 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.

⁸Represents own-use industrial hydroelectric power.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports. Net summer capacity has been estimated for nonutility generators for AEO2003. Net summer capacity is used to be consistent with electric utility capacity estimates. Additional retirements are determined on the basis of the size and age of the units.

Sources: 2001 capacity: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report" (preliminary). 2001 generation: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B19. Renewable Energy Consumption by Sector and Source¹
(Quadrillion Btu per Year)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Marketed Renewable Energy²										
Residential	0.39	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.40
Wood	0.39	0.41	0.41	0.41	0.41	0.40	0.40	0.40	0.40	0.40
Commercial	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Biomass	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Industrial³	1.82	2.22	2.21	2.21	2.77	2.74	2.75	3.05	3.02	3.02
Conventional Hydroelectric	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Municipal Solid Waste	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Biomass	1.77	2.17	2.16	2.16	2.72	2.69	2.71	3.00	2.97	2.98
Transportation	0.15	0.26	0.26	0.26	0.31	0.28	0.30	0.33	0.29	0.31
Ethanol used in E85 ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Ethanol used in Gasoline Blending	0.15	0.26	0.26	0.26	0.30	0.28	0.29	0.33	0.28	0.31
Electric Power⁵	3.01	4.57	6.30	5.89	5.02	11.42	9.54	5.21	12.69	11.77
Conventional Hydroelectric	2.16	3.09	3.09	3.09	3.07	3.07	3.07	3.07	3.07	3.07
Geothermal	0.29	0.57	1.30	1.28	0.93	2.23	2.07	1.07	2.36	2.16
Municipal Solid Waste ⁶	0.31	0.40	0.48	0.47	0.43	0.51	0.51	0.43	0.51	0.51
Biomass	0.15	0.26	0.31	0.29	0.27	2.78	1.74	0.28	3.89	3.59
Dedicated Plants	0.12	0.14	0.21	0.19	0.15	2.78	1.74	0.16	3.89	3.59
Cofiring	0.03	0.12	0.09	0.10	0.12	0.00	0.00	0.12	0.00	0.00
Solar Thermal	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.08	0.24	1.12	0.76	0.30	2.82	2.13	0.33	2.84	2.41
Total Marketed Renewable Energy	5.46	7.56	9.28	8.88	8.61	14.95	13.10	9.10	16.50	15.62
Sources of Ethanol										
From Corn	0.15	0.26	0.26	0.26	0.28	0.26	0.27	0.28	0.24	0.27
From Cellulose	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.05	0.05	0.05
Total	0.15	0.26	0.26	0.26	0.31	0.28	0.30	0.33	0.29	0.31
Non-Marketed Renewable Energy⁷										
Selected Consumption										
Residential	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.06	0.06
Solar Hot Water Heating	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04
Geothermal Heat Pumps	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Thermal	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01

¹Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 10,280 Btu per kilowatt-hour.

²Includes nonelectric renewable energy groups for which the energy source is bought and sold in the marketplace, although all transactions may not necessarily be marketed, and marketed renewable energy inputs for electricity entering the marketplace on the electric power grid. Excludes electricity imports; see Table B8.

³Includes all electricity production by industrial and other combined heat and power for the grid and for own use.

⁴Excludes motor gasoline component of E85.

⁵Includes consumption of energy by electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.

⁶Includes landfill gas.

⁷Includes selected renewable energy consumption data for which the energy is not bought or sold, either directly or indirectly as an input to marketed energy. The Energy Information Administration does not estimate or project total consumption of nonmarketed renewable energy.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.

Sources: 2001 ethanol: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002). 2001 electric generators: EIA, Form EIA-860: "Annual Electric Generator Report" (preliminary). Other 2001 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B20. Greenhouse Gas Emissions and Allowance Cost
(Million Metric Tons Carbon Equivalent)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Carbon Dioxide Emissions										
Residential										
Petroleum	27.2	27.6	27.6	27.6	25.7	25.8	25.6	25.0	25.0	24.9
Natural Gas	71.1	81.1	81.0	81.0	87.9	85.8	86.6	91.9	89.3	89.6
Coal	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
Total	98.7	109.1	109.0	109.0	113.9	112.0	112.6	117.2	114.7	114.9
Commercial										
Petroleum	14.0	13.7	13.7	13.7	14.1	14.5	14.2	14.1	14.8	14.3
Natural Gas	48.0	53.9	53.8	53.9	60.9	61.5	61.2	64.8	71.6	68.1
Coal	2.3	2.4	2.5	2.4	2.7	2.8	2.7	2.8	2.9	2.9
Total	64.3	70.0	69.9	70.0	77.7	78.8	78.1	81.7	89.3	85.2
Industrial¹										
Petroleum	97.9	97.9	96.0	96.5	105.5	99.1	101.3	109.1	101.1	103.6
Natural Gas ²	123.4	147.7	149.8	148.9	169.4	171.0	169.4	183.3	182.4	180.5
Coal	52.1	56.5	53.1	54.2	56.2	48.9	50.7	56.2	47.3	49.2
Total	273.4	302.1	298.9	299.6	331.2	319.0	321.3	348.6	330.8	333.3
Transportation										
Petroleum ³	501.4	611.5	605.1	608.2	737.5	690.4	717.1	802.8	725.3	763.7
Natural Gas ⁴	9.2	12.0	12.5	12.2	14.9	16.4	15.5	16.4	17.4	16.8
Other ⁵	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	510.6	623.6	617.6	620.5	752.5	706.8	732.7	819.2	742.7	780.5
Total Carbon Dioxide Emissions by Delivered Fuel										
Petroleum ³	640.5	750.8	742.5	746.0	882.8	829.8	858.2	950.9	866.2	906.5
Natural Gas	251.7	294.7	297.0	296.1	333.1	334.8	332.7	356.4	360.7	355.0
Coal	54.7	59.3	55.9	57.0	59.3	52.0	53.8	59.4	50.5	52.3
Other ⁵	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	947.0	1104.8	1095.4	1099.1	1275.2	1216.6	1244.7	1366.7	1277.4	1313.9
Electric Power⁶										
Petroleum	27.5	10.1	5.4	6.0	11.3	3.9	4.8	12.0	3.9	5.8
Natural Gas	77.7	96.6	105.0	99.3	138.2	158.0	160.2	152.1	132.6	178.1
Coal	506.4	590.8	504.4	542.0	653.0	190.0	387.8	703.6	68.3	279.5
Total	611.6	697.4	614.8	647.3	802.5	351.9	552.8	867.8	204.8	463.4
Total Carbon Dioxide Emissions by Primary Fuel⁷										
Petroleum ³	668.0	760.8	747.9	752.0	894.1	833.7	863.0	962.9	870.2	912.2
Natural Gas	329.4	391.3	402.0	395.4	471.3	492.8	492.9	508.5	493.3	533.1
Coal	561.1	650.1	560.3	599.0	712.2	242.0	441.6	763.0	118.8	331.9
Other ⁵	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1558.6	1802.2	1710.1	1746.4	2077.7	1568.5	1797.5	2234.4	1482.2	1777.3
Non-Energy Related Carbon Dioxide Emissions										
	36.3	39.5	39.5	39.5	43.9	43.9	43.9	46.2	46.2	46.2
Total Carbon Dioxide Emissions	1594.9	1841.7	1749.7	1786.0	2121.6	1612.4	1841.4	2280.6	1528.4	1823.5
Other Greenhouse Gas Emissions										
Methane	332.9	388.3	286.4	292.6	466.6	339.5	333.7	525.0	362.9	357.7
Nitrous Oxide	175.2	177.6	115.2	119.8	174.3	126.4	115.3	172.2	120.0	113.1
High Global Warming Potential Gases	118.9	126.5	121.0	121.0	137.3	131.4	131.4	143.4	137.2	137.2
	38.8	84.2	50.2	51.8	155.0	81.8	87.0	209.4	105.8	107.4
Total Greenhouse Gas Emissions	1927.8	2230.1	2036.1	2078.6	2588.2	1951.9	2175.1	2805.6	1891.4	2181.2

Table B20. Greenhouse Gas Emissions and Allowance Cost (Continued)
(Million Metric Tons Carbon Equivalent)

Sector and Source	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
Greenhouse Gas Emission Cap Compliance										
Covered Emissions										
Energy-Related Carbon Dioxide	1378.2	1605.0	1513.1	1549.3	1866.0	1357.5	1586.7	2014.2	1256.9	1555.8
Other Greenhouse Gases	75.2	123.5	70.1	72.2	195.7	102.8	108.4	250.7	127.6	129.4
Offsets Purchased	0.0	0.0	234.7	198.7	0.0	126.1	219.8	0.0	125.6	219.9
Non-Covered Greenhouse Gas Offsets . . .	0.0	0.0	48.5	44.4	0.0	34.3	45.7	0.0	39.0	46.0
U.S. Sequestration Offsets	0.0	0.0	112.8	103.6	0.0	91.8	127.9	0.0	86.5	112.3
International Offsets	0.0	0.0	73.4	50.7	0.0	0.0	46.2	0.0	0.1	61.6
Covered Emissions less Offsets	1453.4	1728.5	1348.5	1422.8	2061.6	1334.2	1475.2	2264.9	1258.9	1465.3
Covered Emissions Goal	N/A	N/A	1465.1	1465.1	N/A	1257.9	1465.1	N/A	1257.9	1465.1
Allowance Bank Activity	0.0	0.0	116.5	42.2	0.0	-76.3	-10.2	0.0	-1.0	-0.2
Cumulative Bank Balance	0.0	0.0	116.5	42.2	0.0	98.9	8.5	0.0	7.3	-1.8
Allowance Cost (2001 dollars per ton)										
Emissions Allowance Cost	0.00	0.00	78.89	55.07	0.00	178.36	124.50	0.00	220.71	167.24
Offset Price	0.00	0.00	71.49	55.07	0.00	34.84	89.00	0.00	51.73	106.48

¹Fuel consumption includes energy for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public.
²Includes lease and plant fuel.
³This includes international bunker fuel, which by convention are excluded from the international accounting of carbon dioxide emissions. In the years from 1990 through 2000, international bunker fuels accounted for 24 to 30 million metric tons carbon equivalent of carbon dioxide annually.
⁴Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.
⁵Includes methanol and liquid hydrogen.
⁶Includes electricity-only and combined heat and power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public. Does not include emissions from the nonbiogenic component of municipal solid waste because under international guidelines these are accounted for as waste, not energy.
⁷Emissions from electric power generators are distributed to the primary fuels.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2001 are model results and may differ slightly from official EIA data reports.
Sources: 2001 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2001*, DOE/EIA-0573(2001) (Washington, DC, December 2002). **Projections:** EIA, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.

Table B21. Macroeconomic Indicators
(Billion 1996 Chain-Weighted Dollars, Unless Otherwise Noted)

Indicators	2001	Projections								
		2010			2020			2025		
		Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case	Reference Case	S.139 Case	SA.2028 Case
GDP Chain-Type Price Index (1996=1.000)	1.094	1.313	1.321	1.319	1.708	1.735	1.726	1.981	2.028	2.019
Potential Gross Domestic Product	9456	12454	12458	12458	16772	16729	16750	19240	19150	19185
Real Gross Domestic Product	9215	12258	12211	12226	16444	16364	16408	18916	18810	18840
Real Consumption	6377	8412	8375	8387	11346	11284	11325	13008	12954	12982
Real Investment	1575	2499	2478	2485	3755	3724	3738	4496	4447	4456
Real Government Spending	1640	1895	1897	1896	2211	2204	2207	2429	2417	2421
Real Exports	1076	1784	1781	1782	3361	3329	3338	4696	4621	4636
Real Imports	1492	2302	2292	2294	4060	4027	4047	5395	5376	5395
Real Disposable Personal Income	6748	8635	8607	8617	11693	11648	11687	13425	13432	13446
Federal Funds Rate (percent)	3.89	5.48	5.63	5.59	6.37	6.58	6.58	6.49	6.97	6.88
AA Utility Bond Rate (percent)										
Nominal	7.57	7.22	7.38	7.33	9.00	9.17	9.16	9.61	9.99	9.94
Real	5.60	5.26	5.20	5.22	6.12	6.18	6.19	6.54	6.76	6.71
Energy Intensity (thousand Btu per 1996 dollar of GDP)										
Delivered Energy	7.74	6.83	6.80	6.81	5.91	5.65	5.76	5.52	5.17	5.29
Total Energy	10.56	9.24	9.15	9.21	7.89	7.37	7.59	7.33	6.70	6.93
Consumer Price Index (1982-84=1.00)	1.77	2.19	2.20	2.20	2.93	2.97	2.96	3.47	3.55	3.53
Unemployment Rate (percent)	4.79	4.42	4.55	4.52	5.88	6.03	5.94	5.77	5.85	5.85
Housing Starts (millions)	1.80	2.18	2.12	2.14	1.93	1.92	1.93	2.01	2.01	2.00
Single-Family	1.27	1.34	1.31	1.32	1.12	1.11	1.11	1.12	1.11	1.11
Multifamily	0.33	0.47	0.45	0.45	0.49	0.49	0.49	0.57	0.57	0.56
Mobile Home Shipments	0.19	0.37	0.36	0.37	0.32	0.33	0.33	0.33	0.33	0.33
Commercial Floorspace, Total (billion square feet)	70.2	82.0	82.0	82.0	94.6	94.2	94.5	100.8	100.6	100.7
Value of Shipments (billion 1996 dollars)										
Total Industrial	5425	6977	6920	6938	8969	8874	8914	10128	9990	10024
Nonmanufacturing	1346	1510	1500	1503	1744	1714	1726	1870	1828	1841
Manufacturing	4079	5466	5420	5435	7226	7160	7188	8258	8162	8183
Energy-Intensive Manufacturing	1086	1264	1255	1259	1451	1434	1441	1538	1515	1522
Non-Energy-Intensive Manufacturing ..	2993	4203	4164	4177	5774	5726	5748	6720	6647	6662
United Sales of Light-Duty Vehicles	17.11	18.29	17.87	18.01	20.02	20.06	20.06	20.00	20.15	20.11
Population (millions)										
Population with Armed Forces Overseas ..	278.2	300.2	300.2	300.2	325.3	325.3	325.3	338.2	338.2	338.2
Population (aged 16 and over)	215.4	236.6	236.6	236.6	256.5	256.5	256.5	266.6	266.6	266.6
Employment, Non-Agriculture	131.7	147.3	147.1	147.1	159.1	158.8	159.0	165.8	165.5	165.6
Employment, Manufacturing	17.5	17.7	17.7	17.7	17.8	17.7	17.8	18.5	18.4	18.4
Labor Force	141.8	156.5	156.5	156.5	169.8	169.6	169.7	177.4	177.3	177.3

GDP = Gross domestic product.

Btu = British thermal unit.

Sources: 2001: Global Insight macroeconomic model CTL0802. Projections: Energy Information Administration, AEO2003 National Energy Modeling System runs MLBASE.D050303A, MLBILL.D050503A, and SA2028.D051104A.