

Appendix B: Forecast Comparison Tables

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

Supply, Disposition, and Prices	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Production							
Crude Oil and Lease Condensate.....	12.03	11.63	11.63	11.63	10.01	10.00	9.98
Natural Gas Plant Liquids	2.34	2.67	2.66	2.63	2.81	2.75	2.68
Dry Natural Gas.....	19.58	21.33	21.23	20.87	22.42	21.89	21.24
Coal	22.66	25.56	25.33	24.47	29.90	28.87	26.00
Nuclear Power	7.97	8.62	8.62	8.58	8.67	8.67	8.63
Renewable Energy ¹	5.89	7.13	7.07	6.96	8.10	8.15	7.81
Other ²	0.93	0.78	0.76	0.76	0.82	0.79	0.82
Total	71.42	77.73	77.31	75.90	82.73	81.12	77.16
Imports							
Crude Oil ³	21.08	28.98	28.58	28.55	35.16	33.80	33.72
Petroleum Products ⁴	5.16	6.32	5.39	5.32	8.27	7.19	7.11
Natural Gas.....	4.02	8.00	7.70	6.75	9.70	9.74	8.51
Other Imports ⁵	0.69	1.07	1.07	1.06	1.23	1.23	1.24
Total	30.95	44.37	42.74	41.68	54.36	51.96	50.59
Exports							
Petroleum ⁶	2.13	2.21	2.18	2.16	2.32	2.27	2.25
Natural Gas.....	0.70	0.81	0.82	0.89	0.83	0.85	0.95
Coal	1.12	0.88	0.88	0.88	0.65	0.65	0.65
Total	3.95	3.90	3.88	3.93	3.80	3.77	3.85
Discrepancy⁷	0.18	-0.09	-0.12	-0.12	0.10	0.05	0.06
Consumption							
Petroleum Products ⁸	39.09	48.07	46.77	46.66	54.42	51.99	51.78
Natural Gas.....	22.54	28.69	28.28	26.90	31.47	30.96	28.99
Coal	22.71	25.71	25.47	24.62	30.48	29.46	26.60
Nuclear Power	7.97	8.62	8.62	8.58	8.67	8.67	8.63
Renewable Energy ¹	5.89	7.13	7.07	6.96	8.10	8.15	7.81
Other ⁹	0.02	0.07	0.07	0.05	0.04	0.04	0.04
Total	98.22	118.29	116.29	113.78	133.18	129.26	123.84
Net Imports - Petroleum	24.10	33.10	31.79	31.71	41.11	38.72	38.58
Prices (2003 dollars per unit)							
World Oil Price (dollars per barrel) ¹⁰	27.73	26.75	26.75	26.75	30.31	30.31	30.31
Natural Gas Wellhead Price (dollars per thousand cubic feet) ¹¹	4.98	4.16	4.05	3.74	4.79	4.73	4.38
Coal Minemouth Price (dollars per ton).....	17.93	16.89	16.75	16.48	18.26	17.77	16.74

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.

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 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 natural gas supply values and natural gas wellhead price: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2004/07) (Washington, DC, July 2004). 2003 petroleum supply values: EIA, *Petroleum Supply Annual 2003*, DOE/EIA-0340(2003)/1 (Washington, DC, July 2004). Other 2003 values: EIA, *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004) and EIA, *Quarterly Coal Report, October-December 2003*, DOE/EIA-0121(2003/4Q) (Washington, DC, March 2004). Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

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

Sector and Source	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Energy Consumption								
Residential								
Distillate Fuel	0.96	0.88	0.87	0.87	0.77	0.78	0.77	
Kerosene	0.07	0.09	0.09	0.09	0.09	0.09	0.09	
Liquefied Petroleum Gas	0.54	0.61	0.60	0.60	0.67	0.65	0.64	
Petroleum Subtotal	1.58	1.58	1.57	1.56	1.53	1.51	1.50	
Natural Gas.....	5.25	5.90	5.83	5.66	6.17	5.97	5.47	
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
Renewable Energy ¹	0.40	0.39	0.39	0.39	0.38	0.38	0.37	
Electricity.....	4.37	5.40	5.30	5.15	6.18	5.96	5.55	
Delivered Energy	11.61	13.29	13.10	12.77	14.26	13.83	12.91	
Electricity Related Losses.....	9.71	11.29	11.13	10.61	12.35	12.05	11.13	
Total	21.31	24.58	24.23	23.38	26.62	25.88	24.04	
Commercial								
Distillate Fuel	0.52	0.66	0.66	0.64	0.77	0.76	0.72	
Residual Fuel.....	0.07	0.07	0.07	0.07	0.08	0.08	0.08	
Kerosene	0.02	0.03	0.03	0.03	0.03	0.03	0.03	
Liquefied Petroleum Gas	0.10	0.10	0.10	0.10	0.11	0.11	0.11	
Motor Gasoline ²	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Petroleum Subtotal	0.75	0.91	0.90	0.89	1.02	1.01	0.97	
Natural Gas.....	3.22	3.69	3.62	3.53	4.17	4.06	3.79	
Coal	0.10	0.10	0.10	0.10	0.10	0.10	0.10	
Renewable Energy ³	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Electricity.....	4.13	5.63	5.58	5.37	7.12	7.01	6.48	
Delivered Energy	8.29	10.41	10.29	9.97	12.49	12.27	11.42	
Electricity Related Losses.....	9.18	11.77	11.73	11.05	14.25	14.18	12.98	
Total	17.46	22.18	22.02	21.02	26.74	26.45	24.40	
Industrial⁴								
Distillate Fuel	1.03	1.08	1.06	1.05	1.19	1.16	1.15	
Liquefied Petroleum Gas	2.09	2.44	2.42	2.42	2.74	2.69	2.69	
Petrochemical Feedstock.....	1.32	1.52	1.51	1.52	1.57	1.54	1.56	
Residual Fuel.....	0.28	0.38	0.39	0.38	0.38	0.39	0.38	
Motor Gasoline ²	0.31	0.33	0.33	0.33	0.37	0.36	0.36	
Other Petroleum ⁵	4.30	4.69	4.59	4.57	5.23	4.91	4.92	
Petroleum Subtotal	9.31	10.43	10.28	10.28	11.47	11.05	11.05	
Natural Gas.....	7.19	8.50	8.38	8.19	9.26	8.98	8.36	
Lease and Plant Fuel ⁶	1.15	1.23	1.22	1.20	1.31	1.28	1.23	
Natural Gas Subtotal.....	8.34	9.73	9.60	9.39	10.57	10.26	9.59	
Metallurgical Coal	0.67	0.48	0.48	0.48	0.37	0.36	0.36	
Steam Coal	1.39	1.42	1.41	1.41	1.42	1.41	1.42	
Net Coal Coke Imports.....	0.05	0.05	0.05	0.06	0.05	0.05	0.06	
Coal Subtotal	2.11	1.95	1.94	1.95	1.83	1.82	1.84	
Renewable Energy ⁷	1.79	2.19	2.19	2.19	2.50	2.49	2.48	
Electricity.....	3.31	3.98	3.94	3.84	4.39	4.29	4.04	
Delivered Energy	24.86	28.27	27.95	27.65	30.76	29.91	29.01	
Electricity Related Losses.....	7.35	8.31	8.27	7.91	8.78	8.69	8.10	
Total	32.21	36.58	36.22	35.57	39.53	38.60	37.11	

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

Sector and Source	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Transportation							
Distillate Fuel ⁸	5.54	7.67	7.60	7.62	9.05	8.87	8.86
Jet Fuel ⁹	3.26	4.45	4.45	4.45	4.89	4.89	4.89
Motor Gasoline ²	16.64	20.81	19.76	19.77	24.04	22.29	22.32
Residual Fuel.....	0.62	0.57	0.57	0.57	0.58	0.58	0.58
Liquefied Petroleum Gas	0.02	0.07	0.06	0.06	0.09	0.08	0.08
Other Petroleum ¹⁰	0.24	0.27	0.27	0.27	0.31	0.31	0.31
Petroleum Subtotal	26.31	33.84	32.71	32.74	38.97	37.02	37.04
Pipeline Fuel Natural Gas	0.65	0.73	0.72	0.69	0.84	0.83	0.78
Compressed Natural Gas	0.02	0.08	0.08	0.08	0.11	0.10	0.10
Renewable Energy (E85) ¹¹	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquid Hydrogen.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	0.08	0.10	0.10	0.10	0.12	0.12	0.12
Delivered Energy	27.07	34.75	33.61	33.61	40.04	38.09	38.05
Electricity Related Losses.....	0.17	0.21	0.21	0.20	0.24	0.24	0.24
Total	27.24	34.96	33.82	33.81	40.28	38.33	38.29
Delivered Energy Consumption for All Sectors							
Distillate Fuel	8.04	10.28	10.19	10.18	11.78	11.57	11.49
Kerosene	0.11	0.14	0.14	0.14	0.13	0.13	0.13
Jet Fuel ⁹	3.26	4.45	4.45	4.45	4.89	4.89	4.89
Liquefied Petroleum Gas	2.75	3.22	3.19	3.19	3.60	3.53	3.52
Motor Gasoline ²	16.98	21.18	20.13	20.14	24.45	22.69	22.72
Petrochemical Feedstock.....	1.32	1.52	1.51	1.52	1.57	1.54	1.56
Residual Fuel.....	0.97	1.02	1.03	1.02	1.03	1.04	1.03
Other Petroleum ¹²	4.52	4.94	4.84	4.82	5.53	5.20	5.21
Petroleum Subtotal	37.96	46.75	45.47	45.46	52.98	50.60	50.56
Natural Gas.....	15.68	18.17	17.91	17.46	19.70	19.11	17.73
Lease and Plant Fuel Plant ⁶	1.15	1.23	1.22	1.20	1.31	1.28	1.23
Pipeline Natural Gas	0.65	0.73	0.72	0.69	0.84	0.83	0.78
Natural Gas Subtotal	17.48	20.13	19.85	19.34	21.85	21.22	19.74
Metallurgical Coal	0.67	0.48	0.48	0.48	0.37	0.36	0.36
Steam Coal	1.50	1.52	1.52	1.52	1.52	1.51	1.52
Net Coal Coke Imports.....	0.05	0.05	0.05	0.06	0.05	0.05	0.06
Coal Subtotal	2.22	2.06	2.05	2.06	1.94	1.93	1.95
Renewable Energy ¹³	2.28	2.67	2.67	2.67	2.97	2.96	2.95
Liquid Hydrogen.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	11.88	15.11	14.92	14.46	17.81	17.38	16.19
Delivered Energy	71.82	86.73	84.96	84.00	97.56	94.09	91.39
Electricity Related Losses.....	26.40	31.57	31.33	29.78	35.62	35.17	32.45
Total	98.22	118.29	116.29	113.78	133.18	129.26	123.84
Electric Power¹⁴							
Distillate Fuel	0.33	0.40	0.39	0.36	0.45	0.42	0.39
Residual Fuel.....	0.80	0.92	0.91	0.84	0.98	0.97	0.84
Petroleum Subtotal	1.13	1.32	1.30	1.20	1.43	1.39	1.23
Natural Gas.....	5.06	8.56	8.43	7.55	9.61	9.74	9.24
Steam Coal	20.49	23.65	23.43	22.56	28.54	27.53	24.65
Nuclear Power	7.97	8.62	8.62	8.58	8.67	8.67	8.63
Renewable Energy ¹⁵	3.62	4.46	4.41	4.29	5.14	5.19	4.86
Electricity Imports	0.02	0.07	0.07	0.05	0.04	0.04	0.04
Total	38.28	46.68	46.25	44.24	53.43	52.56	48.65

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

Sector and Source	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Total Energy Consumption							
Distillate Fuel	8.37	10.68	10.58	10.54	12.23	11.99	11.88
Kerosene	0.11	0.14	0.14	0.14	0.13	0.13	0.13
Jet Fuel ⁹	3.26	4.45	4.45	4.45	4.89	4.89	4.89
Liquefied Petroleum Gas	2.75	3.22	3.19	3.19	3.60	3.53	3.52
Motor Gasoline ²	16.98	21.18	20.13	20.14	24.45	22.69	22.72
Petrochemical Feedstock.....	1.32	1.52	1.51	1.52	1.57	1.54	1.56
Residual Fuel	1.77	1.94	1.94	1.86	2.02	2.01	1.88
Other Petroleum ¹²	4.52	4.94	4.84	4.82	5.53	5.20	5.21
Petroleum Subtotal	39.09	48.07	46.77	46.66	54.42	51.99	51.78
Natural Gas.....	20.74	26.73	26.33	25.01	29.32	28.85	26.98
Lease and Plant Fuel ⁸	1.15	1.23	1.22	1.20	1.31	1.28	1.23
Pipeline Natural Gas	0.65	0.73	0.72	0.69	0.84	0.83	0.78
Natural Gas Subtotal.....	22.54	28.69	28.28	26.90	31.47	30.96	28.99
Metallurgical Coal	0.67	0.48	0.48	0.48	0.37	0.36	0.36
Steam Coal	21.99	25.17	24.94	24.09	30.07	29.04	26.17
Net Coal Coke Imports.....	0.05	0.05	0.05	0.06	0.05	0.05	0.06
Coal Subtotal	22.71	25.71	25.47	24.62	30.48	29.46	26.60
Nuclear Power	7.97	8.62	8.62	8.58	8.67	8.67	8.63
Renewable Energy ¹⁶	5.89	7.13	7.07	6.96	8.10	8.15	7.81
Liquid Hydrogen.....	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Imports.....	0.02	0.07	0.07	0.05	0.04	0.04	0.04
Total	98.22	118.29	116.29	113.78	133.18	129.26	123.84
Energy Use and Related Statistics							
Delivered Energy Use	71.82	86.73	84.96	84.00	97.56	94.09	91.39
Total Energy Use	98.22	118.29	116.29	113.78	133.18	129.26	123.84
Population (millions).....	291.39	323.55	323.55	323.55	350.64	350.64	350.64
Carbon Dioxide Emissions (million metric tons).....	5788.7	7052.4	6922.7	6760.2	8062.3	7780.5	7391.5

¹Includes wood used for residential heating. See Table B15 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 B15 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

⁴Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

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 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol actually varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.

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 2003 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: 2003 consumption based on: Energy Information Administration (EIA), Annual Energy Review 2003, DOE/EIA-0384(2003) (Washington, DC, September 2004). 2003 population and gross domestic product: Global Insight macroeconomic model CTL0804, modified by EIA. 2003 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2003*, DOE/EIA-0573(2003) (Washington, DC, December 2004). **Projections:** EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B3. Residential Sector Key Indicators and End-Use Consumption
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Key Indicators								
Households (millions)								
Single-Family	76.15	89.62	89.62	89.63	99.50	99.49	99.49	
Multifamily	29.51	32.34	32.34	32.35	35.08	35.08	35.09	
Mobile Homes	6.35	7.15	7.15	7.15	7.90	7.90	7.89	
Total	112.01	129.11	129.11	129.12	142.48	142.46	142.47	
Average House Square Footage.....	1742	1871	1871	1871	1950	1950	1950	
Energy Intensity								
(million Btu per household)								
Delivered Energy Consumption	103.6	102.9	101.8	99.2	100.1	97.8	91.3	
Total Energy Consumption	190.3	190.4	188.0	181.4	186.8	182.4	169.4	
(thousand Btu per square foot)								
Delivered Energy Consumption	59.5	55.0	54.4	53.0	51.3	50.1	46.8	
Total Energy Consumption	109.2	101.8	100.5	97.0	95.8	93.5	86.9	
Delivered Energy Consumption by Fuel								
Electricity								
Space Heating	0.40	0.45	0.45	0.45	0.47	0.47	0.46	
Space Cooling	0.65	0.73	0.73	0.73	0.80	0.80	0.78	
Water Heating.....	0.37	0.38	0.38	0.39	0.37	0.38	0.38	
Refrigeration	0.40	0.35	0.35	0.35	0.36	0.36	0.36	
Cooking.....	0.10	0.12	0.12	0.12	0.13	0.13	0.13	
Clothes Dryers	0.24	0.26	0.27	0.27	0.29	0.29	0.29	
Freezers.....	0.13	0.12	0.12	0.12	0.13	0.13	0.13	
Lighting	0.78	0.99	0.97	0.98	1.13	1.10	1.11	
Clothes Washers ¹	0.03	0.05	0.05	0.05	0.06	0.06	0.06	
Dishwashers ¹	0.02	0.03	0.03	0.03	0.03	0.03	0.03	
Color Televisions	0.13	0.23	0.23	0.23	0.28	0.28	0.29	
Personal Computers	0.07	0.12	0.12	0.12	0.15	0.15	0.15	
Furnace Fans.....	0.08	0.10	0.10	0.10	0.12	0.10	0.10	
Other Uses ²	0.95	1.46	1.43	1.27	1.85	1.78	1.37	
Delivered Energy	4.37	5.40	5.30	5.15	6.18	5.96	5.55	
Natural Gas								
Space Heating	3.70	4.17	4.09	3.91	4.36	4.16	3.65	
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Water Heating.....	1.17	1.29	1.29	1.30	1.32	1.32	1.33	
Cooking.....	0.21	0.25	0.25	0.25	0.27	0.27	0.27	
Clothes Dryers	0.07	0.10	0.10	0.10	0.12	0.12	0.12	
Other Uses ³	0.10	0.10	0.10	0.10	0.09	0.09	0.09	
Delivered Energy	5.25	5.90	5.83	5.66	6.17	5.97	5.47	
Distillate								
Space Heating	0.84	0.77	0.76	0.76	0.68	0.68	0.67	
Water Heating.....	0.12	0.11	0.11	0.11	0.10	0.10	0.10	
Other Uses ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Delivered Energy	0.96	0.88	0.87	0.87	0.77	0.78	0.77	
Liquefied Petroleum Gas								
Space Heating	0.30	0.30	0.29	0.29	0.30	0.29	0.28	
Water Heating.....	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Cooking.....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Other Uses ³	0.17	0.23	0.23	0.23	0.28	0.28	0.28	
Delivered Energy	0.54	0.61	0.60	0.60	0.67	0.65	0.64	
Marketed Renewables (wood) ⁵	0.40	0.39	0.39	0.39	0.38	0.38	0.37	
Other Fuels ⁶	0.08	0.10	0.10	0.10	0.10	0.10	0.10	

Table B3. Residential Sector Key Indicators and End-Use Consumption (Continued)
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Delivered Energy Consumption by End Use							
Space Heating	5.72	6.19	6.10	5.90	6.29	6.07	5.53
Space Cooling.....	0.65	0.73	0.73	0.73	0.80	0.80	0.78
Water Heating.....	1.71	1.83	1.84	1.85	1.85	1.85	1.86
Refrigeration	0.40	0.35	0.35	0.35	0.36	0.36	0.36
Cooking.....	0.34	0.39	0.39	0.39	0.44	0.44	0.44
Clothes Dryers	0.31	0.37	0.37	0.37	0.40	0.40	0.41
Freezers.....	0.13	0.12	0.12	0.12	0.13	0.13	0.13
Lighting	0.78	0.99	0.97	0.98	1.13	1.10	1.11
Clothes Washers.....	0.03	0.05	0.05	0.05	0.06	0.06	0.06
Dishwashers	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Color Televisions	0.13	0.23	0.23	0.23	0.28	0.28	0.29
Personal Computers	0.07	0.12	0.12	0.12	0.15	0.15	0.15
Furnace Fans.....	0.08	0.10	0.10	0.10	0.12	0.10	0.10
Other Uses ⁷	1.22	1.79	1.76	1.60	2.23	2.15	1.75
Delivered Energy.....	11.61	13.29	13.14	12.81	14.26	13.93	13.01
Electricity Related Losses.....	9.71	11.29	11.13	10.61	12.35	12.05	11.13
Total Energy Consumption by End Use							
Space Heating	6.61	7.13	7.04	6.83	7.22	7.02	6.45
Space Cooling.....	2.11	2.27	2.27	2.24	2.41	2.42	2.36
Water Heating.....	2.53	2.63	2.64	2.65	2.60	2.61	2.63
Refrigeration	1.30	1.08	1.09	1.07	1.08	1.09	1.08
Cooking.....	0.57	0.64	0.64	0.64	0.70	0.70	0.70
Clothes Dryers	0.85	0.92	0.92	0.92	0.97	0.98	0.98
Freezers.....	0.42	0.37	0.37	0.36	0.38	0.38	0.38
Lighting	2.51	3.07	3.00	2.99	3.39	3.32	3.34
Clothes Washers.....	0.10	0.15	0.15	0.15	0.19	0.20	0.19
Dishwashers	0.08	0.09	0.09	0.09	0.09	0.09	0.09
Color Televisions	0.43	0.70	0.71	0.70	0.85	0.85	0.86
Personal Computers	0.23	0.37	0.37	0.36	0.45	0.45	0.45
Furnace Fans.....	0.27	0.32	0.30	0.30	0.35	0.31	0.31
Other Uses ⁷	3.32	4.83	4.76	4.21	5.93	5.75	4.50
Total	21.31	24.58	24.27	23.42	26.62	25.98	24.14
Non-Marketeted Renewables							
Geothermal ⁸	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Solar ⁹	0.02	0.03	0.03	0.03	0.04	0.04	0.04
Total	0.02	0.04	0.04	0.04	0.05	0.05	0.05

¹Does not include electric water heating portion of load.

²Includes small electric devices, heating elements, and motors not listed above.

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

⁴Includes such appliances as swimming pool and spa heaters.

⁵Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 2001*.

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 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 based on: Energy Information Administration (EIA), *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004).

Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B4. Commercial Sector Key Indicators and Consumption
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Key Indicators							
Total Floorspace (billion square feet)							
Surviving	70.1	85.9	85.9	85.9	101.8	101.8	101.9
New Additions	2.1	2.5	2.5	2.5	3.0	3.0	3.0
Total	72.1	88.4	88.4	88.4	104.8	104.8	104.9
Energy Consumption Intensity							
(thousand Btu per square foot)							
Delivered Energy Consumption	114.8	117.7	116.4	112.7	119.2	117.1	108.9
Electricity Related Losses	127.2	133.1	132.7	125.0	136.0	135.3	123.8
Total Energy Consumption	242.0	250.8	249.1	237.7	255.2	252.4	232.7
Delivered Energy Consumption by Fuel							
Purchased Electricity							
Space Heating ¹	0.15	0.16	0.16	0.16	0.16	0.16	0.16
Space Cooling ¹	0.42	0.48	0.46	0.47	0.54	0.51	0.52
Water Heating ¹	0.14	0.15	0.15	0.15	0.16	0.16	0.16
Ventilation	0.16	0.18	0.18	0.18	0.20	0.20	0.20
Cooking	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Lighting	1.10	1.37	1.38	1.34	1.52	1.53	1.44
Refrigeration	0.20	0.24	0.24	0.24	0.28	0.28	0.28
Office Equipment (PC)	0.14	0.29	0.29	0.29	0.36	0.36	0.36
Office Equipment (non-PC)	0.31	0.57	0.57	0.57	0.87	0.87	0.87
Other Uses ²	1.48	2.17	2.13	1.94	3.00	2.92	2.44
Delivered Energy	4.13	5.63	5.58	5.37	7.12	7.01	6.48
Natural Gas							
Space Heating ¹	1.36	1.47	1.45	1.34	1.56	1.52	1.22
Space Cooling ¹	0.01	0.02	0.02	0.02	0.03	0.03	0.03
Water Heating ¹	0.57	0.72	0.66	0.67	0.85	0.79	0.80
Cooking	0.26	0.34	0.34	0.34	0.40	0.40	0.41
Other Uses ³	1.02	1.15	1.15	1.16	1.33	1.33	1.34
Delivered Energy	3.22	3.69	3.62	3.53	4.17	4.06	3.79
Distillate							
Space Heating ¹	0.22	0.37	0.37	0.35	0.47	0.47	0.43
Water Heating ¹	0.07	0.07	0.07	0.07	0.08	0.07	0.07
Other Uses ⁴	0.23	0.22	0.22	0.22	0.21	0.21	0.21
Delivered Energy	0.52	0.66	0.66	0.64	0.77	0.76	0.72
Marketed Renewables (biomass)	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Other Fuels ⁵	0.33	0.34	0.34	0.34	0.35	0.35	0.35
Delivered Energy Consumption by End							
Space Heating ¹	1.73	2.00	1.98	1.85	2.20	2.15	1.81
Space Cooling ¹	0.43	0.49	0.48	0.48	0.57	0.54	0.55
Water Heating ¹	0.78	0.94	0.88	0.89	1.09	1.02	1.04
Ventilation	0.16	0.18	0.18	0.18	0.20	0.20	0.20
Cooking	0.29	0.37	0.37	0.37	0.43	0.43	0.44
Lighting	1.10	1.37	1.38	1.34	1.52	1.53	1.44
Refrigeration	0.20	0.24	0.24	0.24	0.28	0.28	0.28
Office Equipment (PC)	0.14	0.29	0.29	0.29	0.36	0.36	0.36
Office Equipment (non-PC)	0.31	0.57	0.57	0.57	0.87	0.87	0.87
Other Uses ⁶	3.15	3.96	3.93	3.75	4.98	4.89	4.43
Delivered Energy	8.29	10.41	10.29	9.97	12.49	12.27	11.42

Table B4. Commercial Sector Key Indicators and Consumption (Continued)
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Electricity Related Losses.....	9.18	11.77	11.73	11.05	14.25	14.18	12.98
Total Energy Consumption by End Use							
Space Heating ¹	2.06	2.32	2.31	2.17	2.52	2.48	2.13
Space Cooling ¹	1.37	1.49	1.45	1.45	1.66	1.58	1.60
Water Heating ¹	1.08	1.26	1.19	1.20	1.41	1.33	1.36
Ventilation.....	0.52	0.55	0.55	0.56	0.59	0.60	0.61
Cooking.....	0.36	0.43	0.43	0.44	0.49	0.49	0.50
Lighting.....	3.55	4.23	4.27	4.09	4.56	4.61	4.33
Refrigeration	0.65	0.75	0.75	0.75	0.85	0.85	0.85
Office Equipment (PC)	0.44	0.90	0.90	0.89	1.08	1.09	1.08
Office Equipment (non-PC)	1.00	1.75	1.75	1.74	2.61	2.63	2.63
Other Uses ⁶	6.44	8.49	8.41	7.74	10.98	10.79	9.32
Total	17.46	22.18	22.02	21.02	26.74	26.45	24.40
Non-Marketed Renewable Fuels							
Solar ⁷	0.02	0.03	0.03	0.03	0.04	0.04	0.04

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, 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 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 based on: Energy Information Administration (EIA), *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004).

Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B5. Industrial Sector Key Indicators and Consumption

Key Indicators and Consumption	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Key Indicators								
Value of Shipments (billion 1996 dollars)								
Manufacturing.....	3851	5392	5388	5408	6733	6702	6696	
Nonmanufacturing.....	1254	1458	1455	1451	1736	1729	1718	
Total	5105	6850	6843	6860	8469	8431	8415	
Energy Consumption (quadrillion Btu)¹								
Distillate	1.03	1.08	1.06	1.05	1.19	1.16	1.15	
Liquefied Petroleum Gas	2.09	2.44	2.42	2.42	2.74	2.69	2.69	
Petrochemical Feedstocks.....	1.32	1.52	1.51	1.52	1.57	1.54	1.56	
Residual Fuel.....	0.28	0.38	0.39	0.38	0.38	0.39	0.38	
Motor Gasoline	0.31	0.33	0.33	0.33	0.37	0.36	0.36	
Petroleum Coke	1.00	1.17	1.14	1.14	1.38	1.27	1.27	
Still Gas	1.48	1.57	1.55	1.54	1.68	1.59	1.59	
Asphalt and Road Oil.....	1.22	1.21	1.18	1.18	1.43	1.35	1.35	
Miscellaneous Petroleum ²	0.61	0.73	0.71	0.71	0.75	0.70	0.71	
Petroleum Subtotal	9.31	10.43	10.28	10.28	11.47	11.05	11.05	
Natural Gas.....	7.19	8.50	8.38	8.19	9.26	8.98	8.36	
Lease and Plant Fuel ³	1.15	1.23	1.22	1.20	1.31	1.28	1.23	
Natural Gas Subtotal.....	8.34	9.73	9.60	9.39	10.57	10.26	9.59	
Metallurgical Coal and Coke ⁴	0.72	0.53	0.53	0.54	0.42	0.41	0.43	
Steam Coal	1.39	1.42	1.41	1.41	1.42	1.41	1.42	
Coal Subtotal	2.11	1.95	1.94	1.95	1.83	1.82	1.84	
Renewables ⁵	1.79	2.19	2.19	2.19	2.50	2.49	2.48	
Purchased Electricity	3.31	3.98	3.94	3.84	4.39	4.29	4.04	
Delivered Energy	24.86	28.27	27.95	27.65	30.76	29.91	29.01	
Electricity Related Losses.....	7.35	8.31	8.27	7.91	8.78	8.69	8.10	
Total	32.21	36.58	36.22	35.57	39.53	38.60	37.11	
Energy Consumption per dollar of Shipments¹								
(thousand Btu per 1996 dollars)								
Distillate	0.20	0.16	0.15	0.15	0.14	0.14	0.14	
Liquefied Petroleum Gas	0.41	0.36	0.35	0.35	0.32	0.32	0.32	
Petrochemical Feedstocks.....	0.26	0.22	0.22	0.22	0.19	0.18	0.19	
Residual Fuel.....	0.05	0.06	0.06	0.06	0.04	0.05	0.04	
Motor Gasoline	0.06	0.05	0.05	0.05	0.04	0.04	0.04	
Petroleum Coke	0.20	0.17	0.17	0.17	0.16	0.15	0.15	
Still Gas	0.29	0.23	0.23	0.22	0.20	0.19	0.19	
Asphalt and Road Oil.....	0.24	0.18	0.17	0.17	0.17	0.16	0.16	
Miscellaneous Petroleum ²	0.12	0.11	0.10	0.10	0.09	0.08	0.08	
Petroleum Subtotal	1.82	1.52	1.50	1.50	1.35	1.31	1.31	
Natural Gas.....	1.41	1.24	1.22	1.19	1.09	1.06	0.99	
Lease and Plant Fuel ³	0.23	0.18	0.18	0.17	0.15	0.15	0.15	
Natural Gas Subtotal.....	1.63	1.42	1.40	1.37	1.25	1.22	1.14	
Metallurgical Coal and Coke ⁴	0.14	0.08	0.08	0.08	0.05	0.05	0.05	
Steam Coal	0.27	0.21	0.21	0.21	0.17	0.17	0.17	
Coal Subtotal	0.41	0.28	0.28	0.28	0.22	0.22	0.22	
Renewables ⁵	0.35	0.32	0.32	0.32	0.29	0.30	0.30	
Purchased Electricity	0.65	0.58	0.58	0.56	0.52	0.51	0.48	
Delivered Energy	4.87	4.13	4.08	4.03	3.63	3.55	3.45	
Electricity Related Losses.....	1.44	1.21	1.21	1.15	1.04	1.03	0.96	
Total	6.31	5.34	5.29	5.18	4.67	4.58	4.41	
Industrial Combined Heat and Power								
Capacity (gigawatts).....	24.87	32.23	32.20	31.67	40.09	39.50	37.72	
Generation (billion kilowatthours).....	139.59	192.47	192.32	187.96	250.10	245.57	232.27	

¹Fuel 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.

²Includes lubricants and miscellaneous petroleum products.

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

⁴Includes net coal coke imports.

⁵Includes 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 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 consumption values based on: EIA, Annual Energy Review 2003, DOE/EIA-0384(2003) (Washington, DC, September 2004). 2003 shipments: Global Insight industry model, August 2004. Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B6. Transportation Sector Key Indicators and Delivered Energy Consumption

Supply, Disposition, and Prices	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Key Indicators								
Level of Travel								
(billion vehicle miles traveled)								
Light-Duty Vehicles less than 8,500 pounds.....	2602	3354	3392	3393	4053	4143	4149	
Commercial Light Trucks ¹	65	87	87	87	107	107	107	
Freight Trucks greater than 10,000 pounds.....	214	300	300	302	373	372	373	
(billion seat miles available)								
Air.....	932	1327	1327	1327	1520	1520	1520	
(billion ton miles traveled)								
Rail	1352	1690	1685	1661	2001	1970	1892	
Domestic Shipping.....	592	669	669	667	733	724	712	
Energy Efficiency Indicators								
(miles per gallon)								
New Light-Duty Vehicle ²	25.1	26.1	24.8	24.8	26.9	25.0	25.0	
New Car ²	29.5	30.3	28.0	28.0	31.0	28.2	28.2	
New Light Truck ²	21.8	23.4	22.6	22.6	24.6	23.1	23.1	
Light-Duty Stock ³	20.0	20.4	21.8	21.8	21.0	23.3	23.3	
New Commercial Light Truck ¹	14.6	15.6	18.1	18.1	16.4	18.5	18.5	
Stock Commercial Light Truck ¹	14.0	15.1	16.4	16.4	15.9	18.1	18.1	
Freight Truck	6.0	6.2	6.1	6.1	6.6	6.6	6.6	
(seat miles per gallon)								
Aircraft.....	55.3	62.1	62.0	62.0	68.5	68.5	68.5	
(ton miles per thousand Btu)								
Rail	2.9	3.3	3.3	3.3	3.6	3.6	3.6	
Domestic Shipping.....	2.3	2.4	2.4	2.4	2.4	2.4	2.4	
Energy Use by Mode								
(quadrillion Btu)								
Light-Duty Vehicles.....	15.78	20.24	19.16	19.17	23.69	21.86	21.89	
Commercial Light Trucks ¹	0.58	0.72	0.67	0.67	0.84	0.74	0.74	
Bus Transportation	0.25	0.27	0.27	0.27	0.27	0.27	0.27	
Freight Trucks.....	4.46	6.11	6.11	6.14	7.10	7.09	7.10	
Rail, Passenger	0.12	0.15	0.15	0.15	0.17	0.17	0.17	
Rail, Freight	0.47	0.52	0.52	0.51	0.56	0.55	0.53	
Shipping, Domestic.....	0.26	0.29	0.29	0.29	0.31	0.30	0.30	
Shipping, International.....	0.56	0.52	0.52	0.52	0.52	0.52	0.52	
Recreational Boats	0.31	0.35	0.35	0.35	0.39	0.39	0.39	
Air	2.74	3.83	3.83	3.83	4.25	4.25	4.25	
Military Use.....	0.69	0.81	0.81	0.81	0.83	0.83	0.83	
Lubricants	0.20	0.23	0.23	0.23	0.27	0.27	0.27	
Pipeline Fuel.....	0.65	0.73	0.72	0.69	0.84	0.83	0.78	
Total	27.07	34.75	33.61	33.61	40.04	38.09	38.05	
(million barrels per day oil equivalent)								
Light-Duty Vehicles.....	8.29	10.65	10.09	10.09	12.45	11.49	11.51	
Commercial Light Trucks ¹	0.30	0.38	0.35	0.35	0.44	0.39	0.39	
Bus Transportation	0.12	0.13	0.13	0.13	0.13	0.13	0.13	
Freight Trucks.....	2.13	2.92	2.93	2.94	3.40	3.40	3.40	
Rail, Passenger	0.06	0.07	0.07	0.07	0.08	0.08	0.08	
Rail, Freight	0.22	0.25	0.25	0.24	0.26	0.26	0.25	
Shipping, Domestic.....	0.12	0.13	0.13	0.13	0.14	0.14	0.14	
Shipping, International.....	0.25	0.23	0.23	0.23	0.23	0.23	0.23	
Recreational Boats	0.16	0.19	0.19	0.19	0.20	0.20	0.20	
Air	1.33	1.85	1.85	1.85	2.06	2.06	2.06	
Military Use.....	0.33	0.39	0.39	0.39	0.40	0.40	0.40	
Lubricants	0.09	0.11	0.11	0.11	0.13	0.13	0.13	
Pipeline Fuel.....	0.33	0.37	0.37	0.35	0.43	0.42	0.39	
Total	13.73	17.67	17.07	17.06	20.36	19.33	19.32	

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

²Environmental Protection Agency rated miles per gallon.

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

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003: Energy Information Administration (EIA), *Natural Gas Annual 2002*, DOE/EIA-0131(2002) (Washington, DC, January 2004); Federal Highway Administration, *Highway Statistics 2001* (Washington, DC, November 2002); 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/cneaf/alt_trans98/table1.html; EIA, *State Energy Data Report 2001*, DOE/EIA-0214(2001) (Washington, DC, November 2004). U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly*, December 2003/2002 (Washington, DC, 2003); EIA, *Fuel Oil and Kerosene Sales 2002*, DOE/EIA-0535(2002) (Washington, DC, November 2003); and United States Department of Defense, Defense Fuel Supply Center. **Projections:** EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B7. Electricity Supply, Disposition, and Emissions
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Emissions	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Generation by Fuel Type								
Electric Power Sector¹								
Power Only²								
Coal	1916	2251	2228	2205	2836	2719	2452	
Petroleum	106	118	116	109	128	124	112	
Natural Gas ³	407	854	836	748	1048	1069	1003	
Nuclear Power	764	826	826	822	830	830	826	
Pumped Storage/Other	-9	-9	-9	-9	-9	-9	-9	
Renewable Sources ⁴	318	398	395	388	430	432	411	
Distributed Generation (Natural Gas)	0	0	0	0	3	2	1	
Total	3501	4438	4393	4264	5267	5167	4797	
Combined Heat and Power⁵								
Coal	34	34	33	33	33	33	33	
Petroleum	7	7	6	6	7	7	6	
Natural Gas	149	200	200	195	186	187	197	
Renewable Sources	6	4	4	4	4	4	4	
Total	197	244	243	237	230	231	240	
Total Net Generation	3699	4683	4636	4501	5497	5399	5037	
Less Direct Use	50	65	65	65	65	65	65	
Net Available to the Grid	3649	4617	4570	4436	5432	5334	4972	
Commercial and Industrial Generation⁶								
Coal	21	21	21	21	21	21	21	
Petroleum	6	10	10	9	13	11	11	
Natural Gas	76	117	117	113	169	166	152	
Other Gaseous Fuels ⁷	6	5	5	5	5	5	5	
Renewable Sources ⁴	35	45	45	45	55	55	54	
Other ⁸	10	10	10	10	10	10	10	
Total	153	208	208	203	273	268	253	
Less Direct Use	126	149	149	147	182	181	173	
Total Sales to the Grid	28	59	59	57	91	87	80	
Total Electricity Generation	3852	4890	4843	4704	5770	5667	5290	
Total Net Generation to the Grid	3677	4676	4629	4493	5522	5421	5052	
Net Imports	5	21	20	15	11	12	11	
Electricity Sales by Sector								
Residential	1280	1584	1553	1510	1810	1746	1628	
Commercial	1210	1651	1637	1573	2088	2055	1898	
Industrial	969	1166	1154	1126	1286	1259	1184	
Transportation	23	29	29	29	35	35	35	
Total	3481	4430	4372	4239	5220	5095	4746	
Direct Use	175	214	214	212	248	246	238	
Total Electricity Use	3657	4644	4586	4450	5467	5341	4984	
Electric Power Sector Emissions¹								
Sulfur Dioxide (million tons)	10.59	8.97	8.93	8.95	8.95	8.95	8.95	
Nitrogen Oxide (million tons)	4.12	4.09	4.07	3.93	4.29	4.24	4.05	
Mercury (tons)	49.70	55.12	54.27	53.17	55.97	55.11	54.58	

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; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.

⁷Other gaseous fuels include refinery and still gas.

⁸Other includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur and miscellaneous technologies.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 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 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004), and supporting databases. 2003 commercial and transportation electricity sales: EIA estimates based on Oak Ridge National Laboratory, *Transportation Energy Data Book 21* (Oak Ridge, TN, September 2001). **Projections:** EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

**Table B8. Electricity Generating Capacity
(Gigawatts)**

Net Summer Capacity ¹	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Electric Power Sector²								
Power Only³								
Coal Steam.....	305.2	310.6	308.0	305.6	389.2	373.0	336.3	
Other Fossil Steam ⁴	128.6	101.1	97.9	90.5	99.4	96.3	88.9	
Combined Cycle.....	106.9	147.9	145.7	139.8	189.4	192.4	171.5	
Combustion Turbine/Diesel.....	124.8	141.8	140.6	134.4	188.6	183.5	189.1	
Nuclear Power ⁵	99.2	102.2	102.2	101.7	102.7	102.7	102.2	
Pumped Storage.....	20.8	20.9	20.9	20.9	20.9	20.9	20.9	
Fuel Cells.....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Renewable Sources ⁶	92.0	96.3	95.8	95.1	102.9	102.7	99.0	
Distributed Generation ⁷	0.0	1.1	1.0	0.7	6.9	5.6	3.3	
Total	877.5	921.9	912.1	888.7	1100.0	1076.9	1011.0	
Combined Heat and Power⁸								
Coal Steam.....	5.1	5.0	4.9	4.7	5.0	4.9	4.7	
Other Fossil Steam ⁴	1.1	1.1	1.1	1.1	1.1	1.1	1.1	
Combined Cycle.....	31.3	33.5	33.5	33.5	33.5	33.5	33.5	
Combustion Turbine/Diesel.....	5.1	5.1	5.1	5.1	5.1	5.1	5.1	
Renewable Sources ⁶	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Total	42.8	45.0	44.8	44.6	45.0	44.8	44.6	
Cumulative Planned Additions⁹								
Coal Steam.....	0.0	1.8	1.8	1.8	1.8	1.8	1.8	
Other Fossil Steam ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Combined Cycle.....	0.0	28.3	28.3	28.3	28.3	28.3	28.3	
Combustion Turbine/Diesel.....	0.0	3.9	3.9	3.9	3.9	3.9	3.9	
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumped Storage.....	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	
Renewable Sources ⁶	0.0	2.8	2.8	2.8	3.0	3.0	3.0	
Distributed Generation ⁷	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total	0.0	36.8	36.8	36.8	37.0	37.0	37.0	
Cumulative Unplanned Additions⁹								
Coal Steam.....	0.0	6.5	4.5	2.4	85.1	69.4	33.1	
Other Fossil Steam ⁴	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Combined Cycle.....	0.0	15.3	13.4	7.8	56.8	60.1	39.5	
Combustion Turbine/Diesel.....	0.0	19.7	18.7	15.2	69.9	64.8	71.0	
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumped Storage.....	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	
Renewable Sources ⁶	0.0	1.3	0.8	0.2	7.7	7.5	3.8	
Distributed Generation ⁷	0.0	1.1	1.0	0.7	6.9	5.6	3.3	
Total	0.0	44.0	38.4	26.3	226.4	207.5	150.6	
Cumulative Electric Power Sector Additions	0.0	80.8	75.2	63.0	263.4	244.4	187.6	
Cumulative Retirements¹⁰								
Coal Steam.....	0.0	3.0	3.6	4.2	3.0	3.6	4.2	
Other Fossil Steam ⁴	0.0	27.5	30.7	38.1	29.2	32.4	39.7	
Combined Cycle.....	0.0	0.4	0.7	1.0	0.4	0.7	1.0	
Combustion Turbine/Diesel.....	0.0	6.6	6.8	9.5	9.9	10.1	10.6	
Nuclear Power	0.0	0.0	0.0	0.5	0.0	0.0	0.5	
Pumped Storage.....	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	
Renewable Sources ⁶	0.0	0.1	0.1	0.1	0.1	0.1	0.1	
Total	0.0	37.6	41.9	53.4	42.6	46.8	56.1	
Total Electric Power Sector Capacity.....	920.3	966.9	956.9	933.3	1145.0	1121.8	1055.6	

Table B8. Electricity Generating Capacity (Continued)
(Gigawatts)

Net Summer Capacity ¹	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Commercial and Industrial Generators¹¹							
Coal	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Petroleum	0.7	1.5	1.5	1.5	1.7	1.6	1.5
Natural Gas	14.4	19.7	19.6	19.1	26.7	26.3	24.4
Other Gaseous Fuels	1.8	1.6	1.6	1.6	1.7	1.7	1.6
Renewable Sources ⁶	5.4	7.3	7.3	7.3	9.9	9.8	9.4
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Total	27.1	34.9	34.9	34.3	44.8	44.1	41.9
Cumulative Capacity Additions⁹	0.0	7.8	7.8	7.2	17.7	17.0	14.8

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 capacity.

⁵Nuclear capacity reflects operating capacity of existing units, including 3.5 gigawatts of uprates through 2025.

⁶Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power. Facilities co-firing biomass and coal are classified as coal.

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, 2003.

¹⁰Cumulative total retirements after December 31, 2003.

¹¹Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model estimates and may differ slightly from official EIA data reports.

Sources: 2003 electric generating capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B9. Electricity Trade
(Billion Kilowatthours, Unless Otherwise Noted)

Electricity Trade	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Interregional Electricity Trade							
Gross Domestic Firm Power Trade.....	136.7	82.4	82.4	82.4	37.9	37.9	37.9
Gross Domestic Economy Trade	198.5	178.8	183.9	198.4	101.6	108.1	147.5
Gross Domestic Trade.....	335.2	261.2	266.3	280.8	139.5	146.0	185.4
Gross Domestic Firm Power Sales (million 2003 dollars).....	6926.5	4176.6	4176.6	4176.6	1919.7	1919.7	1919.7
Gross Domestic Economy Sales (million 2003 dollars).....	7959.8	7408.5	7500.6	7193.9	4682.6	4983.0	6112.0
Gross Domestic Sales (million 2003 dollars)	14886.3	11585.1	11677.2	11370.5	6602.3	6902.8	8031.7
International Electricity Trade							
Firm Power Imports From Canada and Mexico	11.3	1.5	1.5	1.5	0.0	0.0	0.0
Economy Imports From Canada and Mexico	18.2	38.7	37.6	32.7	25.1	25.6	25.0
Gross Imports From Canada and Mexico	29.5	40.2	39.1	34.2	25.2	25.7	25.0
Firm Power Exports To Canada and Mexico	5.5	0.7	0.7	0.7	0.0	0.0	0.0
Economy Exports To Canada and Mexico	19.5	18.3	18.3	18.3	14.0	14.0	14.0
Gross Exports To Canada and Mexico	24.9	18.9	18.9	18.9	14.0	14.0	14.0

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports. Firm Power Sales are capacity sales, meaning the delivery of the power is scheduled as part of the normal operating conditions of the affected electric systems. Economy Sales are subject to curtailment or cessation of delivery by the supplier in accordance with prior agreements or under specified conditions.

Sources: 2003 interregional firm electricity trade data: North American Electric Reliability Council (NERC), Electricity Sales and Demand Database 1999. 2003 Mexican electricity trade data: DOE Form FE-718R, "Annual Report of International Electrical Export/Import Data." 2003 Canadian electricity trade data: National Energy Board, *Annual Report 2002*. **Projections:** Energy Information Administration, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B10. Petroleum Supply and Disposition Balance
 (Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Crude Oil							
Domestic Crude Production ¹	5.68	5.49	5.49	5.50	4.73	4.72	4.71
Alaska.....	0.97	0.88	0.88	0.88	0.61	0.61	0.61
Lower 48 States	4.71	4.61	4.61	4.61	4.12	4.12	4.10
Net Imports.....	9.65	13.28	13.10	13.08	16.11	15.49	15.45
Gross Imports.....	9.66	13.29	13.11	13.09	16.12	15.50	15.46
Exports	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Other Crude Supply ²	-0.03	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply.....	15.31	18.77	18.59	18.58	20.84	20.21	20.17
Other Petroleum Supply							
Natural Gas Plant Liquids.....	1.72	1.96	1.96	1.93	2.04	2.00	1.95
Net Product Imports.....	1.58	2.12	1.64	1.63	3.00	2.47	2.45
Gross Refined Product Imports ³	1.85	1.87	1.42	1.40	2.47	2.04	2.02
Unfinished Oil Imports	0.34	0.76	0.74	0.74	1.02	0.93	0.93
Blending Components	0.41	0.52	0.49	0.49	0.60	0.55	0.55
Exports	1.01	1.03	1.01	1.00	1.08	1.06	1.05
Refinery Processing Gain ⁴	1.00	1.36	1.36	1.36	1.56	1.52	1.53
Other Supply ⁵	0.69	0.46	0.44	0.44	0.50	0.47	0.49
Total Primary Supply⁶	20.30	24.67	23.98	23.94	27.93	26.68	26.59
Refined Petroleum Products Supplied							
Motor Gasoline ⁷	8.93	11.17	10.61	10.62	12.89	11.96	11.98
Jet Fuel ⁸	1.57	2.15	2.15	2.15	2.36	2.36	2.36
Distillate Fuel ⁹	3.95	5.07	5.03	5.01	5.81	5.70	5.64
Residual Fuel	0.77	0.85	0.85	0.81	0.88	0.88	0.82
Other ¹⁰	4.77	5.42	5.35	5.35	5.98	5.77	5.78
Total.....	20.00	24.67	23.98	23.94	27.93	26.68	26.58
Refined Petroleum Products Supplied							
Residential and Commercial.....	1.28	1.38	1.37	1.36	1.42	1.41	1.38
Industrial ¹¹	4.87	5.49	5.42	5.42	6.05	5.85	5.85
Transportation	13.35	17.21	16.61	16.63	19.82	18.80	18.81
Electric Power ¹²	0.50	0.59	0.58	0.53	0.64	0.62	0.55
Total.....	20.00	24.67	23.98	23.94	27.93	26.68	26.58
Discrepancy¹³	0.29	0.00	0.00	0.00	-0.00	-0.00	0.00
World Oil Price (2003 dollars per barrel) ¹⁴	27.73	26.75	26.75	26.75	30.31	30.31	30.31
Import Share of Product Supplied	0.56	0.62	0.61	0.61	0.68	0.67	0.67
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2003 dollars).....	113.78	153.97	145.01	144.71	215.89	200.57	199.98
Domestic Refinery Distillation Capacity ¹⁵	16.8	20.2	20.0	20.0	22.3	21.6	21.6
Capacity Utilization Rate (percent)	93.0	94.2	94.2	94.2	94.9	94.8	94.8

¹Includes lease condensate.

²Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude products supplied.

³Includes other hydrocarbons and alcohols.

⁴Represents volumetric gain in refinery distillation and cracking processes.

⁵Includes petroleum product stock withdrawals; domestic sources of blending components, other hydrocarbons, alcohols, and ethers; natural gas converted to liquid fuel; and coal converted to liquid fuel.

⁶Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.

⁷Includes ethanol and ethers blended into gasoline.

⁸Includes only kerosene type.

⁹Includes distillate and kerosene.

¹⁰Includes 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.

¹¹Includes energy for combined heat and power (CHP) plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

¹²Includes 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.

¹³Balancing item. Includes unaccounted for supply, losses, and gains.

¹⁴Average refiner acquisition cost for imported crude oil.

¹⁵End-of-year operable capacity.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004). Other 2003 data: EIA, *Petroleum Supply Annual 2003*, DOE/EIA-0340(2003)/1 (Washington, DC, July 2004). Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B11. Natural Gas Supply and Disposition
 (Trillion Cubic Feet per Year)

Supply, Disposition, and Prices	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Production							
Dry Gas Production ¹	19.07	20.77	20.67	20.32	21.83	21.31	20.68
Supplemental Natural Gas ²	0.06	0.08	0.08	0.08	0.08	0.08	0.08
Net Imports							
Canada	3.13	2.98	2.90	2.53	2.55	2.50	2.09
Mexico	-0.33	-0.29	-0.30	-0.33	-0.25	-0.34	-0.43
Liquefied Natural Gas ³	0.44	4.33	4.12	3.51	6.37	6.51	5.72
Total Supply	22.37	27.86	27.47	26.11	30.56	30.06	28.14
Consumption by Sector							
Residential	5.10	5.74	5.66	5.50	5.99	5.80	5.32
Commercial	3.13	3.58	3.52	3.43	4.05	3.95	3.69
Industrial ⁴	6.99	8.26	8.14	7.96	9.00	8.72	8.12
Electric Power ⁵	4.96	8.39	8.26	7.41	9.43	9.54	9.06
Transportation ⁶	0.02	0.08	0.08	0.08	0.11	0.10	0.11
Pipeline Fuel	0.64	0.71	0.70	0.67	0.82	0.81	0.76
Lease and Plant Fuel ⁷	1.12	1.20	1.19	1.17	1.27	1.25	1.20
Total	21.95	27.96	27.56	26.21	30.67	30.17	28.25
Natural Gas to Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discrepancy⁸	0.42	-0.09	-0.09	-0.09	-0.11	-0.11	-0.11
Lower 48 Average Wellhead Price⁹							
(2003 dollars per thousand cubic feet)	4.98	4.16	4.05	3.74	4.79	4.73	4.38

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 any natural gas regassified in the Bahamas and transported via pipeline to Florida.

⁴Includes energy for combined heat and power (CHP) plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

⁵Includes 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.

⁶Compressed natural gas used as vehicle fuel.

⁷Represents natural gas used in the field gathering and processing plant machinery.

⁸Balancing 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, 2003 values include net storage injections.

⁹Represents lower 48 onshore and offshore supplies.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 supply values; and lease, plant, and pipeline fuel consumption; and residential and commercial delivered prices: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2004/07) (Washington, DC, July 2004). Other 2003 consumption based on: EIA, *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004). 2003 wellhead prices from the *Natural Gas Annual 2002*, DOE/EIA-0131(2002) (Washington, DC, January 2004) and the *Natural Gas Monthly*, DOE/EIA-0130(2004/07) (Washington, DC, July 2004). **Projections:** EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B12. Oil and Gas Supply

Production and Supply	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Crude Oil							
Lower 48 Average Wellhead Price¹ (2003 dollars per barrel)	28.60	26.27	26.26	26.29	30.00	29.88	29.85
Production (million barrels per day)²							
U.S. Total.....	5.68	5.49	5.49	5.50	4.73	4.72	4.71
Lower 48 Onshore	2.99	2.42	2.42	2.42	2.09	2.09	2.09
Lower 48 Offshore	1.72	2.19	2.19	2.19	2.03	2.03	2.01
Alaska.....	0.97	0.88	0.88	0.88	0.61	0.61	0.61
Lower 48 End of Year Reserves (billion barrels)²	18.94	18.89	18.89	18.90	16.47	16.37	16.27
Natural Gas							
Lower 48 Average Wellhead Price¹ (2003 dollars per thousand cubic feet)	4.98	4.16	4.05	3.74	4.79	4.73	4.38
Dry Production (trillion cubic feet)³							
U.S. Total.....	19.07	20.77	20.67	20.32	21.83	21.31	20.68
Lower 48 Onshore	13.89	15.38	15.29	14.96	14.71	14.22	14.15
Associated-Dissolved ⁴	1.54	1.22	1.22	1.22	1.08	1.08	1.08
Non-Associated	12.36	14.16	14.06	13.74	13.63	13.14	13.07
Conventional.....	5.77	5.62	5.60	5.54	5.02	4.86	4.92
Unconventional.....	6.59	8.54	8.46	8.19	8.61	8.27	8.15
Lower 48 Offshore	4.73	5.12	5.12	5.10	4.89	4.87	4.66
Associated-Dissolved ⁴	0.99	1.48	1.48	1.48	1.34	1.33	1.29
Non-Associated	3.74	3.64	3.64	3.62	3.56	3.54	3.37
Alaska.....	0.44	0.27	0.27	0.26	2.23	2.23	1.87
Lower 48 End of Year Dry Reserves³ (trillion cubic feet).....	180.77	194.93	194.14	191.09	178.29	176.50	171.07
Supplemental Gas Supplies (trillion cubic feet)⁵	0.06	0.08	0.08	0.08	0.08	0.08	0.08
Total Lower 48 Wells Drilled (thousands).....	30.08	29.33	28.71	25.64	26.96	26.08	27.68

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 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: Energy Information Administration (EIA), *Petroleum Supply Annual 2003*, DOE/EIA-0340(2003)/1 (Washington, DC, July 2004). 2003 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2004/07) (Washington, DC, July 2004). 2003 crude oil lower 48 average wellhead price: EIA, *Petroleum Marketing Annual 2003*, DOE/EIA-0487(2003) (Washington, DC, August 2004). Other 2003 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B13. Coal Supply, Disposition, and Prices
 (Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Production¹							
Appalachia	388	385	381	377	406	394	356
Interior.....	146	157	157	157	182	175	160
West.....	549	727	722	680	900	868	781
East of the Mississippi	481	493	487	485	538	519	468
West of the Mississippi	603	777	772	729	950	918	829
Total	1083	1270	1259	1213	1488	1437	1297
Net Imports							
Imports	25	38	38	38	46	46	46
Exports.....	43	35	35	35	26	26	26
Total	-18	3	3	3	20	20	20
Total Supply²	1065	1273	1262	1216	1507	1457	1316
Consumption by Sector							
Residential and Commercial	4	5	5	5	5	5	5
Industrial ³	62	66	65	66	66	65	66
Coke Plants.....	24	18	17	17	13	13	13
Electric Power ⁴	1004	1185	1175	1129	1425	1375	1234
Total Sectoral Consumption	1095	1273	1263	1217	1508	1458	1317
Coal to Liquids							
Heat and Power (included in Industrial)	0	0	0	0	0	0	0
Liquids Production	0	0	0	0	0	0	0
Total Coal Use.....	1095	1273	1263	1217	1508	1458	1317
Discrepancy and Stock Change⁵	-29	-0	-0	-0	-1	-1	-1
Average Minemouth Price							
(2003 dollars per short ton)	17.93	16.89	16.75	16.48	18.26	17.77	16.74
(2003 dollars per million Btu)	0.86	0.84	0.83	0.82	0.91	0.88	0.83

¹Includes anthracite, bituminous coal, lignite, and waste coal delivered to independent power producers. Waste coal deliveries totaled 11.1 million tons in 2002 and 11.6 million tons in 2003.

²Production plus net imports plus net storage withdrawals.

³Includes consumption for combined heat and power (CHP) 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 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.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 data based on: Energy Information Administration (EIA), *Annual Coal Report 2003*, DOE/EIA-0584(2003) (Washington, DC, September 2004); EIA, *Quarterly Coal Report, October-December 2003*, DOE/EIA-0121(2003/4Q) (Washington, DC, March 2004); and EIA, AEO2005 National Energy Modeling System run AEO2005.D102004A. **Projections:** EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B14. Renewable Energy Generating Capacity and Generation
 (Gigawatts, Unless Otherwise Noted)

Capacity and Generation	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Electric Power Sector¹								
Net Summer Capacity								
Conventional Hydropower.....	77.93	78.18	78.18	78.18	78.18	78.18	78.18	
Geothermal ²	2.18	2.66	2.51	2.26	4.62	4.86	4.17	
Municipal Solid Waste ³	3.34	3.63	3.58	3.57	3.67	3.67	3.63	
Wood and Other Biomass ^{4,5}	1.77	2.06	1.88	1.78	4.50	4.22	2.64	
Solar Thermal.....	0.39	0.47	0.47	0.47	0.51	0.51	0.51	
Solar Photovoltaic ⁵	0.04	0.23	0.23	0.23	0.40	0.40	0.40	
Wind.....	6.56	9.29	9.17	8.91	11.25	11.10	9.66	
Total	92.21	96.50	96.02	95.39	103.13	102.94	99.20	
Generation (billion kilowatthours)								
Conventional Hydropower.....	269.29	300.55	300.51	300.43	301.09	301.02	300.81	
Geothermal ²	13.15	16.09	14.84	12.75	32.78	34.85	29.03	
Municipal Solid Waste ³	20.28	26.07	25.68	25.63	26.49	26.48	26.18	
Wood and Other Biomass ⁵	9.40	30.01	29.07	26.02	37.35	37.51	28.02	
Dedicated Plants.....	5.73	11.67	10.62	10.08	27.29	25.82	15.99	
Cofiring	3.66	18.34	18.45	15.94	10.06	11.69	12.03	
Solar Thermal	0.53	0.86	0.86	0.86	0.99	0.99	0.99	
Solar Photovoltaic ⁶	0.00	0.52	0.52	0.52	0.96	0.96	0.96	
Wind.....	10.73	27.34	26.94	25.98	34.52	34.02	28.74	
Total	323.38	401.44	398.42	392.19	434.19	435.82	414.75	
Commercial and Industrial Generators⁷								
Net Summer Capacity								
Conventional Hydropower ⁸	1.03	1.03	1.03	1.03	1.03	1.03	1.03	
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Municipal Solid Waste.....	0.26	0.26	0.26	0.26	0.26	0.26	0.26	
Biomass.....	4.08	5.55	5.55	5.56	6.75	6.73	6.70	
Solar Photovoltaic ⁶	0.06	0.44	0.44	0.42	1.80	1.78	1.46	
Total	5.43	7.30	7.29	7.29	9.85	9.81	9.45	
Generation (billion kilowatthours)								
Conventional Hydropower ⁸	5.82	5.82	5.82	5.82	5.82	5.82	5.82	
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Municipal Solid Waste.....	1.86	2.24	2.24	2.24	2.24	2.24	2.24	
Biomass.....	27.59	36.19	36.20	36.25	43.21	43.04	42.87	
Solar Photovoltaic ⁶	0.12	0.95	0.94	0.91	3.74	3.71	3.05	
Total	35.39	45.20	45.19	45.22	55.00	54.81	53.97	

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.

⁴Facilities co-firing biomass and coal are classified as coal.

⁵Includes projections for energy crops after 2010.

⁶Does not include off-grid photovoltaics (PV). Based on annual PV shipments from 1989 through 2002, EIA estimates that as much as 134 megawatts of remote electricity generation PV applications (i.e., off-grid power systems) were in service in 2002, plus an additional 362 megawatts in communications, transportation, and assorted other non-grid-connected, specialized applications. See *Annual Energy Review 2003*, Table 10.6 (annual PV shipments, 1989-2002). The approach used to develop the estimate, based on shipment data, provides an upper estimate of the size of the PV stock, including both grid-based and off-grid PV. It will overestimate the size of the stock, because shipments include a substantial number of units that are exported, and each year some of the PV units installed earlier will be retired from service or abandoned.

⁷Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.

⁸Represents own-use industrial hydroelectric power.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 capacity: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). 2003 generation: EIA, *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004). Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B15. Renewable Energy Consumption by Sector and Source¹
(Quadrillion Btu per Year)

Sector and Source	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Marketed Renewable Energy²							
Residential (wood)	0.40	0.39	0.39	0.39	0.38	0.38	0.37
Commercial (biomass)	0.09						
Industrial³	1.79	2.19	2.19	2.19	2.50	2.49	2.48
Conventional Hydroelectric	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Municipal Solid Waste	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Biomass	1.72	2.12	2.12	2.12	2.42	2.42	2.41
Transportation	0.24	0.33	0.32	0.32	0.38	0.36	0.36
Ethanol used in E85 ⁴	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethanol used in Gasoline Blending	0.24	0.33	0.31	0.31	0.38	0.35	0.36
Electric Power⁵	3.62	4.46	4.41	4.29	5.14	5.19	4.86
Conventional Hydroelectric	2.72	3.08	3.08	3.08	3.08	3.08	3.08
Geothermal	0.28	0.39	0.35	0.28	0.92	0.99	0.80
Municipal Solid Waste ⁶	0.32	0.35	0.34	0.34	0.35	0.35	0.35
Biomass	0.18	0.35	0.34	0.30	0.40	0.40	0.31
Dedicated Plants	0.09	0.12	0.11	0.10	0.28	0.27	0.17
Cofiring	0.09	0.23	0.23	0.20	0.11	0.13	0.14
Solar Thermal	0.01	0.01	0.01	0.01	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.11	0.28	0.28	0.27	0.36	0.35	0.30
Total Marketed Renewable Energy	6.13	7.46	7.39	7.27	8.48	8.51	8.17
Sources of Ethanol							
From Corn	0.24	0.33	0.31	0.32	0.34	0.32	0.32
From Cellulose	0.00	0.01	0.00	0.00	0.04	0.03	0.04
Total	0.24	0.33	0.32	0.32	0.38	0.36	0.36
Non-Marketed Renewable Energy⁷							
Selected Consumption							
Residential	0.02	0.04	0.04	0.04	0.05	0.05	0.05
Solar Hot Water Heating	0.02	0.03	0.03	0.03	0.04	0.04	0.04
Geothermal Heat Pumps	0.00	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
Commercial	0.02	0.03	0.03	0.03	0.04	0.04	0.04
Solar Thermal	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Solar Photovoltaic	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 kilowatthour.

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.

³Includes all electricity production by industrial and other combined heat and power (CHP) 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 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 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 ethanol: Energy Information Administration (EIA), *Annual Energy Review 2003*, DOE/EIA-0384(2003) (Washington, DC, September 2004). 2003 electric power sector: EIA, Form EIA-860, "Annual Electric Generator Report" (preliminary). Other 2003 values: EIA, Office of Integrated Analysis and Forecasting.

Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B16. Carbon Dioxide Emissions by Sector and Source
 (Million Metric Tons)

Sector and Source	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
Residential							
Petroleum	106	108	108	107	104	103	102
Natural Gas.....	277	312	308	299	326	315	289
Coal	1	1	1	1	1	1	1
Electricity	840	998	981	936	1149	1104	1000
Total	1225	1419	1397	1343	1580	1524	1391
Commercial							
Petroleum	54	65	65	63	73	73	70
Natural Gas.....	171	195	191	186	220	214	200
Coal	9	9	9	9	9	9	9
Electricity	794	1040	1034	975	1326	1299	1166
Total	1028	1309	1299	1234	1628	1596	1445
Industrial¹							
Petroleum	422	476	470	468	521	501	501
Natural Gas ²	420	506	499	488	550	534	499
Coal	186	182	181	182	171	170	172
Electricity	636	735	729	698	817	796	727
Total	1664	1899	1879	1837	2059	2002	1899
Transportation							
Petroleum ³	1822	2364	2286	2288	2723	2588	2588
Natural Gas ⁴	35	43	42	41	50	50	47
Electricity	15	18	18	18	22	22	22
Total	1872	2425	2347	2347	2796	2660	2657
Electric Power⁵							
Petroleum	96	101	99	91	109	106	94
Natural Gas.....	267	451	444	398	507	513	487
Coal	1906	2219	2198	2117	2677	2582	2312
Other ⁶	17	21	21	20	22	22	21
Total	2286	2791	2762	2627	3314	3222	2914
Total Carbon Dioxide Emissions by Primary Fuel⁷							
Petroleum ³	2499	3115	3028	3019	3530	3371	3354
Natural Gas.....	1170	1506	1485	1412	1653	1626	1522
Coal	2103	2411	2389	2309	2858	2762	2494
Other.....	17	21	21	20	22	22	21
Total	5789	7052	6923	6760	8062	7781	7392
Carbon Dioxide Emissions (tons per person)...	19.9	21.8	21.4	20.9	23.0	22.2	21.1

¹Fuel consumption includes energy for combined heat and power (CHP) 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 2002, international bunker fuels accounted for 82 to 100 million metric tons of carbon dioxide annually.

⁴Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.

⁵Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

⁶Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.

⁷Emissions from the electric power sector are distributed to the primary fuels.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: 2003 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2003*, DOE/EIA-0573(2003) (Washington, DC, December 2004). Projections: EIA, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.

Table B17. International Petroleum Supply and Disposition Summary
 (Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2003	Projections					
		2015			2025		
		Reference	Case 1	Case 2	Reference	Case 1	Case 2
World Oil Price (2003 dollars per	27.73	26.75	26.75	26.75	30.31	30.31	30.31
Production (Conventional)²							
Mature Market Economies							
United States (50 states)	9.09	9.27	9.25	9.23	8.82	8.72	8.68
Canada	2.25	1.64	1.64	1.64	1.57	1.57	1.57
Mexico	3.80	4.55	4.55	4.55	4.85	4.85	4.85
Western Europe ³	6.69	5.89	5.89	5.89	5.00	5.00	5.00
Japan	0.13	0.07	0.07	0.07	0.06	0.06	0.06
Australia and New Zealand	0.66	0.91	0.91	0.91	0.86	0.86	0.86
Total Mature Market Economies .	22.62	22.33	22.31	22.29	21.16	21.06	21.02
Transitional Economies							
Former Soviet Union							
Russia	8.34	10.62	10.62	10.62	11.11	11.11	11.11
Caspian Area ⁴	1.87	4.46	4.46	4.46	6.22	6.22	6.22
Eastern Europe ⁵	0.22	0.38	0.38	0.38	0.45	0.45	0.45
Total Transitional Economies ...	10.44	15.46	15.46	15.46	17.78	17.78	17.78
Emerging Economies							
OPEC ⁶							
Asia	1.38	1.47	1.44	1.44	1.56	1.53	1.52
Middle East	20.95	26.87	26.40	26.38	38.47	37.64	37.61
North Africa	2.99	3.71	3.65	3.65	4.78	4.68	4.68
West Africa	1.98	2.64	2.59	2.59	3.74	3.66	3.66
South America	2.85	3.81	3.74	3.74	5.20	5.09	5.08
Non-OPEC							
China	3.10	3.50	3.50	3.50	3.41	3.41	3.41
Other Asia	2.59	2.76	2.76	2.76	2.64	2.64	2.64
Middle East ⁷	1.81	2.47	2.47	2.47	2.78	2.78	2.78
Africa	2.94	4.75	4.75	4.75	6.56	6.56	6.56
South and Central America	3.93	5.38	5.38	5.38	6.42	6.42	6.42
Total Emerging Economies	44.52	57.35	56.69	56.66	75.57	74.42	74.37
Total Production (Conventional)	77.58	95.14	94.46	94.41	114.51	113.26	113.17
Production⁶ (Nonconventional)							
United States (50 states)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other North America	0.93	3.09	3.09	3.09	3.46	3.46	3.46
Western Europe	0.04	0.05	0.05	0.05	0.05	0.05	0.05
Asia	0.03	0.04	0.04	0.04	0.07	0.07	0.07
Middle East ⁷	0.03	0.16	0.16	0.16	0.25	0.25	0.25
Africa	0.21	0.25	0.25	0.25	0.32	0.32	0.32
South and Central America	0.57	1.36	1.36	1.36	1.50	1.50	1.50
Total Production	1.79	4.94	4.94	4.94	5.65	5.65	5.65
Total Production	79.37	100.08	99.40	99.35	120.17	118.91	118.82

Table B17. International Petroleum Supply and Disposition Summary (Continued)
 (Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2003	Projections						
		2015			2025			
		Reference	Case 1	Case 2	Reference	Case 1	Case 2	
Consumption⁸								
Mature Market Economies								
United States (50 states)	20.00	24.67	23.98	23.94	27.93	26.68	26.58	
U.S. Territories.....	0.36	0.40	0.40	0.40	0.47	0.47	0.47	
Canada	2.17	2.46	2.46	2.46	2.80	2.80	2.80	
Mexico	2.02	2.63	2.63	2.63	3.48	3.48	3.48	
Western Europe ³	14.22	15.08	15.08	15.08	15.71	15.71	15.71	
Japan.....	5.58	5.72	5.72	5.72	5.84	5.84	5.84	
Australia and New Zealand.....	1.04	1.40	1.40	1.40	1.69	1.69	1.69	
Total Mature Market Economies	45.38	52.36	51.68	51.63	57.92	56.67	56.57	
Transitional Economies								
Former Soviet Union.....	4.18	5.02	5.02	5.02	6.45	6.45	6.45	
Eastern Europe ⁵	1.42	1.68	1.68	1.68	2.09	2.09	2.09	
Total Transitional Economies	5.59	6.70	6.70	6.70	8.54	8.54	8.54	
Emerging Economies								
China	5.54	9.20	9.20	9.20	12.79	12.79	12.79	
India.....	2.19	3.48	3.48	3.48	5.29	5.29	5.29	
South Korea.....	2.17	2.65	2.65	2.65	2.93	2.93	2.93	
Other Asia.....	5.74	8.36	8.36	8.36	10.66	10.66	10.66	
Middle East ⁷	5.58	7.53	7.53	7.53	9.08	9.08	9.08	
Africa.....	2.72	3.57	3.57	3.57	4.66	4.66	4.66	
South and Central America.....	4.69	6.53	6.53	6.53	8.61	8.61	8.61	
Total Emerging Economies.....	28.64	41.31	41.31	41.31	54.01	54.01	54.01	
Total Consumption.....	79.60	100.38	99.70	99.65	120.47	119.21	119.12	
OPEC Production ¹⁰	30.60	39.67	39.00	38.97	55.13	53.97	53.92	
Non-OPEC Production ¹⁰	48.77	60.41	60.39	60.38	65.04	64.94	64.90	
Net Exports, Transitional Economies	4.84	8.75	8.75	8.75	9.25	9.25	9.25	
OPEC Market Share	0.39	0.40	0.39	0.39	0.46	0.45	0.45	

¹Average refiner acquisition cost of imported crude oil.

²Includes production of crude oil (including lease condensates, natural gas plant liquids, other hydrogen and hydrocarbons for refinery feedstocks, alcohol and other sources, and refinery gains).

³Western Europe = Austria, Belgium, Bosnia and Herzegovina, Croatia, Denmark, Finland, France, the unified Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Macedonia, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, United Kingdom, and Yugoslavia.

⁴Caspian area includes Other Former Soviet Union.

⁵Eastern Europe = Albania, Bulgaria, Czech Republic, Hungary, Poland, Romania, and Slovakia.

⁶OPEC = Organization of Petroleum Exporting Countries - Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁷Non-OPEC Middle East includes Turkey.

⁸Includes liquids produced from energy crops, natural gas, coal, oil sands, and shale. Includes both OPEC and non-OPEC producers in the regional breakdown.

⁹Includes both OPEC and non-OPEC consumers in the regional breakdown.

¹⁰Includes both conventional and nonconventional liquids production.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 are model results and may differ slightly from official EIA data reports.

Sources: Energy Information Administration, AEO2005 National Energy Modeling System runs AEO2005.D102004A, DORG_V1.D031105A, and DORG_V2.D031105A.