

Appendix B

Comparison Tables for Reference, Clear Skies, and Jeffords Cases

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

Supply, Disposition, and Prices	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Production										
Crude Oil and Lease Condensate . . .	11.91	12.61	12.60	12.61	10.52	10.53	10.55	9.81	9.82	9.83
Natural Gas Plant Liquids	2.56	3.19	3.19	3.17	3.44	3.46	3.46	3.44	3.47	3.49
Dry Natural Gas	19.56	21.76	21.76	21.59	24.20	24.42	24.42	24.38	24.64	24.85
Coal	22.70	25.11	24.90	17.00	27.88	27.05	15.82	30.88	29.72	15.81
Nuclear Power	8.15	8.42	8.42	8.42	8.61	8.61	9.72	8.61	8.61	13.17
Renewable Energy ¹	5.84	7.22	7.27	9.27	8.56	8.92	15.80	9.20	9.85	17.08
Other ²	1.13	0.89	0.89	0.91	0.81	0.81	0.81	0.84	0.84	0.84
Total	71.85	79.19	79.03	72.96	84.03	83.81	80.59	87.16	86.94	85.06
Imports										
Crude Oil ³	19.84	24.53	24.53	24.07	31.43	31.44	31.24	34.07	34.03	33.63
Petroleum Products ⁴	4.76	5.69	5.59	5.29	8.25	8.08	7.52	10.10	9.94	9.53
Natural Gas	4.10	5.67	5.69	6.96	7.50	7.60	8.18	8.17	8.27	8.71
Other Imports ⁵	0.52	0.95	0.96	0.44	1.12	1.12	0.27	1.18	1.18	0.16
Total	29.22	36.84	36.78	36.76	48.30	48.25	47.20	53.52	53.42	52.03
Exports										
Petroleum ⁶	2.03	2.14	2.14	2.08	2.13	2.12	2.10	2.14	2.13	2.11
Natural Gas	0.52	0.81	0.81	0.79	0.80	0.79	0.73	0.72	0.70	0.62
Coal	1.03	0.89	0.89	0.90	0.69	0.69	0.61	0.58	0.55	0.52
Total	3.58	3.85	3.85	3.77	3.61	3.60	3.44	3.44	3.39	3.25
Discrepancy⁷	-0.23	0.32	0.32	0.09	0.47	0.48	0.16	0.56	0.58	0.28
Consumption										
Petroleum Products ⁸	38.11	44.25	44.14	43.44	51.64	51.52	50.78	55.34	55.16	54.40
Natural Gas	23.37	26.78	26.80	27.93	31.09	31.41	32.04	32.02	32.40	33.13
Coal	22.18	25.08	24.88	16.55	28.27	27.44	15.69	31.49	30.35	15.73
Nuclear Power	8.15	8.42	8.42	8.42	8.61	8.61	9.72	8.61	8.61	13.17
Renewable Energy ¹	5.84	7.22	7.27	9.27	8.56	8.92	15.80	9.20	9.85	17.08
Other ⁹	0.07	0.11	0.12	0.25	0.07	0.08	0.14	0.03	0.03	0.04
Total	97.72	111.86	111.64	105.86	128.24	127.97	124.18	136.68	136.40	133.56
Net Imports - Petroleum	22.57	28.07	27.98	27.28	37.55	37.40	36.65	42.04	41.84	41.05
Prices (2002 dollars per unit)										
World Oil Price (dollars per barrel) ¹⁰ . .	23.68	24.17	24.17	24.17	26.02	26.02	26.02	27.00	27.00	27.00
Natural Gas Wellhead Price (dollars per thousand cubic feet) ¹¹ . .	2.95	3.40	3.41	4.03	4.15	4.21	4.31	4.43	4.44	4.40
Coal Minemouth Price (dollars per ton)	17.90	16.71	16.86	19.05	16.51	16.15	16.47	16.58	16.23	15.03
Average Electricity Price (cents per kilowatthour)	7.2	6.7	6.8	9.8	6.8	7.1	8.9	6.9	7.1	8.7

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 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2002 natural gas supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2003/06) (Washington, DC, June 2003). 2002 petroleum supply values: EIA, *Petroleum Supply Annual 2002*, DOE/EIA-0340(2002)/1 (Washington, DC, June 2003). Other 2002 values: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, October 2002) and EIA, *Quarterly Coal Report, October-December 2002*, DOE/EIA-0121(2002/4Q) (Washington, DC, March 2003). Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

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

Sector and Source	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Energy Consumption										
Residential										
Distillate Fuel	0.89	0.93	0.93	0.93	0.85	0.85	0.85	0.80	0.81	0.81
Kerosene	0.07	0.11	0.11	0.11	0.10	0.10	0.10	0.09	0.09	0.09
Liquefied Petroleum Gas	0.53	0.56	0.56	0.56	0.62	0.62	0.62	0.64	0.64	0.64
Petroleum Subtotal	1.48	1.60	1.60	1.60	1.57	1.57	1.57	1.53	1.53	1.54
Natural Gas	5.06	5.70	5.70	5.58	6.13	6.12	6.13	6.30	6.30	6.34
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	0.40	0.40	0.40	0.41	0.41	0.41	0.40	0.40	0.41
Electricity	4.33	4.86	4.83	4.45	5.57	5.52	5.19	5.91	5.87	5.54
Delivered Energy	11.28	12.58	12.55	12.05	13.68	13.63	13.31	14.16	14.12	13.83
Electricity Related Losses	9.60	10.46	10.38	8.95	11.39	11.33	10.35	11.88	11.81	11.13
Total	20.88	23.04	22.94	21.00	25.07	24.96	23.65	26.04	25.93	24.95
Commercial										
Distillate Fuel	0.49	0.63	0.63	0.64	0.68	0.68	0.69	0.70	0.71	0.72
Residual Fuel	0.08	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Kerosene	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Liquefied Petroleum Gas	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Motor Gasoline ²	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Petroleum Subtotal	0.72	0.93	0.93	0.94	0.98	0.98	0.99	1.01	1.01	1.02
Natural Gas	3.21	3.55	3.55	3.47	3.94	3.93	4.16	4.14	4.14	4.52
Coal	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Renewable Energy ³	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Electricity	4.12	5.04	5.01	4.69	6.23	6.17	5.74	6.83	6.76	6.27
Delivered Energy	8.25	9.72	9.69	9.29	11.34	11.29	11.09	12.17	12.11	12.01
Electricity Related Losses	9.15	10.84	10.78	9.44	12.75	12.66	11.46	13.71	13.61	12.61
Total	17.40	20.56	20.47	18.73	24.09	23.95	22.55	25.89	25.72	24.62
Industrial⁴										
Distillate Fuel	1.16	1.18	1.18	1.15	1.34	1.34	1.30	1.43	1.43	1.38
Liquefied Petroleum Gas	2.22	2.36	2.36	2.29	2.74	2.74	2.69	2.95	2.95	2.89
Petrochemical Feedstock	1.22	1.35	1.35	1.30	1.54	1.54	1.51	1.63	1.63	1.60
Residual Fuel	0.20	0.21	0.21	0.21	0.22	0.22	0.21	0.23	0.23	0.21
Motor Gasoline ²	0.16	0.16	0.16	0.16	0.18	0.18	0.18	0.19	0.19	0.19
Other Petroleum ⁵	4.03	4.40	4.39	4.31	4.97	4.97	4.88	5.17	5.17	5.04
Petroleum Subtotal	9.00	9.65	9.64	9.41	10.99	10.99	10.77	11.60	11.59	11.31
Natural Gas	7.43	8.62	8.63	8.49	9.83	9.89	10.49	10.54	10.65	11.52
Lease and Plant Fuel ⁶	1.35	1.34	1.34	1.33	1.52	1.53	1.53	1.54	1.55	1.56
Natural Gas Subtotal	8.78	9.96	9.97	9.81	11.35	11.42	12.01	12.08	12.20	13.09
Metallurgical Coal	0.62	0.65	0.65	0.64	0.53	0.53	0.51	0.47	0.47	0.46
Steam Coal	1.47	1.43	1.43	1.41	1.47	1.46	1.42	1.49	1.49	1.43
Net Coal Coke Imports	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Coal Subtotal	2.12	2.09	2.09	2.05	2.00	1.99	1.93	1.97	1.96	1.89
Renewable Energy ⁷	1.66	2.00	2.00	1.95	2.48	2.48	2.47	2.70	2.70	2.69
Electricity	3.39	3.84	3.83	3.57	4.49	4.45	4.12	4.87	4.82	4.44
Delivered Energy	24.94	27.54	27.52	26.79	31.31	31.34	31.30	33.22	33.28	33.41
Electricity Related Losses	7.53	8.26	8.23	7.18	9.18	9.13	8.23	9.79	9.71	8.92
Total	32.47	35.80	35.75	33.97	40.49	40.46	39.53	43.01	42.99	42.34

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

Sector and Source	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Transportation										
Distillate Fuel ⁶	5.12	6.43	6.43	6.22	8.03	8.03	7.87	8.94	8.93	8.77
Jet Fuel ⁹	3.34	3.93	3.92	3.90	4.69	4.69	4.68	4.91	4.91	4.91
Motor Gasoline ²	16.62	19.94	19.96	19.90	23.38	23.40	23.41	25.32	25.34	25.35
Residual Fuel	0.71	0.79	0.79	0.79	0.82	0.81	0.81	0.83	0.83	0.82
Liquefied Petroleum Gas	0.02	0.06	0.06	0.06	0.08	0.08	0.08	0.09	0.09	0.09
Other Petroleum ¹⁰	0.24	0.26	0.25	0.25	0.30	0.30	0.29	0.32	0.32	0.32
Petroleum Subtotal	26.06	31.41	31.42	31.12	37.30	37.31	37.14	40.40	40.41	40.25
Pipeline Fuel Natural Gas	0.65	0.72	0.72	0.72	0.85	0.86	0.88	0.86	0.87	0.91
Compressed Natural Gas	0.01	0.06	0.06	0.06	0.10	0.10	0.10	0.11	0.11	0.11
Renewable Energy (E85) ¹¹	0.00	0.00	0.00	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	0.00	0.00	0.00
Electricity	0.08	0.09	0.09	0.09	0.11	0.11	0.11	0.12	0.12	0.12
Delivered Energy	26.79	32.27	32.29	31.98	38.36	38.38	38.23	41.50	41.52	41.40
Electricity Related Losses	0.17	0.19	0.19	0.18	0.22	0.22	0.22	0.24	0.24	0.24
Total	26.96	32.47	32.48	32.16	38.58	38.60	38.45	41.74	41.76	41.64
Delivered Energy Consumption for All Sectors										
Distillate Fuel	7.66	9.17	9.17	8.94	10.90	10.90	10.72	11.88	11.87	11.68
Kerosene	0.09	0.16	0.16	0.16	0.14	0.14	0.15	0.13	0.13	0.13
Jet Fuel ⁹	3.34	3.93	3.92	3.90	4.69	4.69	4.68	4.91	4.91	4.91
Liquefied Petroleum Gas	2.86	3.07	3.07	3.00	3.54	3.54	3.49	3.77	3.77	3.72
Motor Gasoline ²	16.83	20.15	20.17	20.10	23.61	23.63	23.64	25.56	25.58	25.59
Petrochemical Feedstock	1.22	1.35	1.35	1.30	1.54	1.54	1.51	1.63	1.63	1.60
Residual Fuel	1.00	1.13	1.13	1.13	1.17	1.17	1.15	1.19	1.19	1.17
Other Petroleum ¹²	4.26	4.63	4.62	4.53	5.24	5.24	5.15	5.47	5.47	5.34
Petroleum Subtotal	37.26	43.59	43.59	43.07	50.84	50.85	50.48	54.54	54.55	54.13
Natural Gas	15.71	17.94	17.94	17.59	20.00	20.05	20.87	21.10	21.20	22.48
Lease and Plant Fuel Plant ⁶	1.35	1.34	1.34	1.33	1.52	1.53	1.53	1.54	1.55	1.56
Pipeline Natural Gas	0.65	0.72	0.72	0.72	0.85	0.86	0.88	0.86	0.87	0.91
Natural Gas Subtotal	17.72	19.99	20.00	19.63	22.36	22.43	23.27	23.49	23.63	24.96
Metallurgical Coal	0.62	0.65	0.65	0.64	0.53	0.53	0.51	0.47	0.47	0.46
Steam Coal	1.58	1.54	1.54	1.52	1.58	1.57	1.53	1.60	1.59	1.54
Net Coal Coke Imports	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Coal Subtotal	2.23	2.20	2.20	2.16	2.11	2.10	2.04	2.08	2.07	2.00
Renewable Energy ¹³	2.15	2.50	2.50	2.45	2.99	2.99	2.98	3.21	3.21	3.20
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity	11.92	13.82	13.76	12.79	16.39	16.25	15.17	17.73	17.57	16.37
Delivered Energy	71.27	82.11	82.05	80.11	94.69	94.63	93.93	101.06	101.03	100.65
Electricity Related Losses	26.45	29.75	29.59	25.75	33.55	33.34	30.24	35.62	35.37	32.91
Total	97.72	111.86	111.64	105.86	128.24	127.97	124.17	136.68	136.40	133.55
Electric Power¹⁴										
Distillate Fuel	0.16	0.16	0.16	0.21	0.24	0.29	0.08	0.25	0.27	0.06
Residual Fuel	0.69	0.50	0.40	0.16	0.56	0.37	0.22	0.55	0.34	0.21
Petroleum Subtotal	0.85	0.66	0.55	0.37	0.80	0.66	0.30	0.80	0.61	0.27
Natural Gas	5.65	6.79	6.80	8.30	8.72	8.97	8.77	8.52	8.77	8.17
Steam Coal	19.96	22.88	22.68	14.39	26.16	25.34	13.65	29.41	28.28	13.74
Nuclear Power	8.15	8.42	8.42	8.42	8.61	8.61	9.72	8.61	8.61	13.17
Renewable Energy ¹⁵	3.69	4.72	4.77	6.82	5.57	5.93	12.82	5.99	6.65	13.88
Electricity Imports	0.07	0.11	0.12	0.25	0.07	0.08	0.14	0.03	0.03	0.04
Total	38.36	43.57	43.35	38.55	49.94	49.59	45.41	53.35	52.94	49.28

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

Sector and Source	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Total Energy Consumption										
Distillate Fuel	7.82	9.33	9.32	9.15	11.14	11.19	10.80	12.13	12.14	11.73
Kerosene	0.09	0.16	0.16	0.16	0.14	0.14	0.15	0.13	0.13	0.13
Jet Fuel ⁹	3.34	3.93	3.92	3.90	4.69	4.69	4.68	4.91	4.91	4.91
Liquefied Petroleum Gas	2.86	3.07	3.07	3.00	3.54	3.54	3.49	3.77	3.77	3.72
Motor Gasoline ²	16.83	20.15	20.17	20.10	23.61	23.63	23.64	25.56	25.58	25.59
Petrochemical Feedstock	1.22	1.35	1.35	1.30	1.54	1.54	1.51	1.63	1.63	1.60
Residual Fuel	1.69	1.64	1.53	1.29	1.73	1.54	1.38	1.73	1.52	1.38
Other Petroleum ¹²	4.26	4.63	4.62	4.53	5.24	5.24	5.15	5.47	5.47	5.34
Petroleum Subtotal	38.11	44.25	44.14	43.44	51.64	51.52	50.78	55.34	55.16	54.40
Natural Gas	21.36	24.73	24.74	25.88	28.72	29.02	29.64	29.63	29.98	30.66
Lease and Plant Fuel ⁶	1.35	1.34	1.34	1.33	1.52	1.53	1.53	1.54	1.55	1.56
Pipeline Natural Gas	0.65	0.72	0.72	0.72	0.85	0.86	0.88	0.86	0.87	0.91
Natural Gas Subtotal	23.37	26.78	26.80	27.93	31.09	31.41	32.04	32.02	32.40	33.13
Metallurgical Coal	0.62	0.65	0.65	0.64	0.53	0.53	0.51	0.47	0.47	0.46
Steam Coal	21.54	24.42	24.22	15.91	27.74	26.91	15.18	31.01	29.88	15.27
Net Coal Coke Imports	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Coal Subtotal	22.18	25.08	24.88	16.55	28.27	27.44	15.69	31.49	30.35	15.73
Nuclear Power	8.15	8.42	8.42	8.42	8.61	8.61	9.72	8.61	8.61	13.17
Renewable Energy ¹⁶	5.84	7.22	7.27	9.27	8.56	8.92	15.80	9.20	9.85	17.08
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Imports	0.07	0.11	0.12	0.25	0.07	0.08	0.14	0.03	0.03	0.04
Total	97.72	111.86	111.64	105.86	128.24	127.97	124.18	136.68	136.40	133.56
Energy Use and Related Statistics										
Delivered Energy Use	71.27	82.11	82.05	80.11	94.69	94.63	93.93	101.06	101.03	100.65
Total Energy Use	97.72	111.86	111.64	105.86	128.24	127.97	124.17	136.68	136.40	133.55
Population (millions)	288.93	309.28	309.28	309.28	334.61	334.61	334.61	347.53	347.53	347.53
Gross Domestic Product (billion 1996 dollars)	9440	12198	12191	12013	16194	16192	16176	18523	18519	18510
Carbon Dioxide Emissions (million metric tons)	5729.4	6550.5	6524.3	5752.9	7545.1	7473.9	6344.5	8133.4	8032.2	6638.2

¹Includes wood used for residential heating.

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.

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 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 2002 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: 2002 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, October 2002). 2002 population and gross domestic product: Global Insight macroeconomic model T250803. 2002 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003). Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B3. Energy Prices by Sector and Source
(2002 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Residential	14.73	14.18	14.40	18.17	14.94	15.24	17.46	15.27	15.55	17.48
Primary Energy ¹	8.14	8.14	8.14	8.62	8.64	8.68	8.79	8.90	8.91	8.89
Petroleum Products ²	9.87	9.89	9.88	9.87	10.86	10.86	10.83	11.27	11.27	11.26
Distillate Fuel	8.23	7.82	7.81	7.81	8.37	8.38	8.33	8.54	8.53	8.53
Liquefied Petroleum Gas	12.92	13.86	13.84	13.80	14.82	14.81	14.80	15.20	15.19	15.16
Natural Gas	7.64	7.66	7.67	8.27	8.09	8.14	8.28	8.33	8.35	8.32
Electricity	24.73	23.28	23.89	33.62	23.66	24.39	30.33	23.72	24.43	29.72
Commercial	14.70	13.79	14.05	18.71	14.87	15.23	17.66	15.21	15.54	17.49
Primary Energy ¹	6.38	6.46	6.47	6.93	6.99	7.03	7.10	7.23	7.24	7.21
Petroleum Products ²	6.88	6.33	6.32	6.29	6.81	6.81	6.75	6.98	6.97	6.95
Distillate Fuel	6.07	5.45	5.45	5.44	5.99	6.00	5.93	6.15	6.15	6.15
Residual Fuel	4.21	4.13	4.11	4.07	4.41	4.38	4.34	4.55	4.52	4.49
Natural Gas	6.40	6.63	6.64	7.24	7.17	7.22	7.32	7.42	7.44	7.39
Electricity	22.83	20.46	20.98	30.02	21.22	21.90	27.30	21.35	21.99	26.73
Industrial³	6.31	6.45	6.51	9.28	7.18	7.27	9.10	7.42	7.49	9.14
Primary Energy	4.77	5.13	5.13	7.21	5.83	5.86	7.39	6.08	6.07	7.49
Petroleum Products ²	6.35	6.83	6.82	8.39	7.56	7.56	8.90	7.79	7.78	9.08
Distillate Fuel	6.21	5.68	5.67	8.20	6.24	6.24	8.39	6.40	6.40	8.53
Liquefied Petroleum Gas	8.28	9.68	9.66	11.83	10.67	10.66	12.60	11.10	11.03	12.86
Residual Fuel	3.89	3.74	3.73	6.45	4.03	4.00	6.40	4.17	4.15	6.43
Natural Gas ⁴	3.75	4.06	4.08	6.43	4.76	4.82	6.39	5.03	5.05	6.46
Metallurgical Coal	1.87	1.96	1.96	5.30	1.84	1.84	4.76	1.77	1.77	4.54
Steam Coal	1.48	1.57	1.58	4.94	1.54	1.52	4.32	1.52	1.50	4.10
Electricity	14.74	13.42	13.83	20.83	14.01	14.54	18.73	14.04	14.57	18.37
Transportation	9.91	10.52	10.51	10.50	10.58	10.59	10.56	10.74	10.74	10.75
Primary Energy	9.88	10.49	10.49	10.45	10.55	10.56	10.51	10.72	10.72	10.71
Petroleum Products ²	9.88	10.49	10.49	10.46	10.56	10.56	10.52	10.72	10.72	10.72
Distillate Fuel ⁵	9.41	10.16	10.13	10.11	10.09	10.10	9.96	10.12	10.13	10.13
Jet Fuel ⁶	5.97	5.76	5.76	5.75	6.09	6.09	5.99	6.31	6.29	6.30
Motor Gasoline ⁷	11.15	11.88	11.88	11.83	11.90	11.91	11.90	12.06	12.06	12.05
Residual Fuel	3.77	3.60	3.59	3.58	3.87	3.87	3.86	4.02	4.01	4.00
Liquefied Petroleum Gas ⁸	15.00	14.94	14.92	14.84	15.55	15.53	15.51	15.84	15.83	15.76
Natural Gas ⁹	7.38	8.24	8.25	8.84	8.91	8.97	9.05	9.11	9.12	9.08
Ethanol (E85) ¹⁰	15.19	17.21	17.22	17.96	18.24	18.27	18.73	18.66	18.68	18.98
Electricity	20.89	19.62	20.09	28.16	20.05	20.66	25.41	19.88	20.47	24.76
Average End-Use Energy	10.10	10.23	10.31	12.30	10.73	10.84	12.00	10.95	11.05	12.05
Primary Energy	7.70	8.22	8.22	8.96	8.63	8.65	9.10	8.86	8.86	9.26
Electricity	21.21	19.49	20.01	28.69	20.07	20.72	25.99	20.12	20.76	25.46
Electric Power¹¹										
Fossil Fuel Average	1.89	1.92	1.95	5.43	2.15	2.22	5.05	2.13	2.19	4.90
Petroleum Products	4.33	4.21	4.30	7.30	4.66	4.89	7.23	4.85	5.10	7.33
Distillate Fuel	5.58	4.91	4.91	7.39	5.46	5.45	7.70	5.63	5.62	7.85
Residual Fuel	4.04	3.99	4.06	7.17	4.32	4.45	7.07	4.50	4.68	7.19
Natural Gas	3.77	4.08	4.09	6.74	4.75	4.84	6.58	4.99	5.04	6.62
Steam Coal	1.25	1.22	1.26	4.62	1.21	1.22	4.02	1.22	1.24	3.83

Table B3. Energy Prices by Sector and Source (Continued)
(2002 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Average Price to All Users¹²										
Petroleum Products ²	8.94	9.58	9.58	9.95	9.84	9.87	10.17	10.04	10.06	10.38
Distillate Fuel	8.52	8.95	8.93	9.25	9.15	9.14	9.37	9.26	9.25	9.58
Jet Fuel	5.97	5.76	5.76	5.75	6.09	6.09	5.99	6.31	6.29	6.30
Liquefied Petroleum Gas	9.27	10.61	10.59	12.26	11.56	11.56	13.06	11.96	11.90	13.33
Motor Gasoline ⁷	11.15	11.88	11.88	11.85	11.90	11.91	11.91	12.06	12.06	12.07
Residual Fuel	3.92	3.78	3.78	4.54	4.08	4.07	4.82	4.23	4.23	4.92
Natural Gas	5.08	5.27	5.29	7.04	5.81	5.86	6.98	6.07	6.08	7.03
Coal	1.27	1.24	1.28	4.63	1.23	1.24	4.03	1.24	1.25	3.84
Ethanol (E85) ¹⁰	15.19	17.21	17.22	17.96	18.24	18.27	18.73	18.66	18.68	18.98
Electricity	21.21	19.49	20.01	28.69	20.07	20.72	25.99	20.12	20.76	25.46
Non-Renewable Energy Expenditures by Sector (billion 2002 dollars)										
Residential	160.36	172.65	174.96	211.52	198.31	201.58	225.15	210.08	213.26	234.60
Commercial	119.80	132.62	134.80	171.98	167.25	170.43	194.10	183.65	186.67	208.33
Industrial	120.90	133.42	134.82	189.45	168.58	171.16	215.60	185.98	188.28	232.48
Transportation	259.09	331.86	331.88	328.42	396.83	397.23	394.30	436.57	436.66	435.37
Total Non-Renewable Expenditures	660.15	770.54	776.45	901.36	930.96	940.40	1029.15	1016.28	1024.88	1110.78
Transportation Renewable Expenditures	0.01	0.03	0.03	0.03	0.06	0.06	0.06	0.07	0.07	0.07
Total Expenditures	660.16	770.58	776.48	901.40	931.02	940.46	1029.21	1016.35	1024.95	1110.85

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.

¹⁰E85 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.

¹¹Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

¹²Weighted 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 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2002 prices for motor gasoline, distillate, and jet fuel are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2002*, http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_annual/current/pdf/pmaall.pdf (August 2003). 2002 residential, commercial, and transportation natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2003/06) (Washington, DC, June 2003). 2002 electric power sector natural gas prices: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2002 industrial natural gas delivered prices based on: EIA, *Manufacturing Energy Consumption Survey 1998*. 2002 coal prices based on EIA, *Quarterly Coal Report, October-December 2002*, DOE/EIA-0121(2002/4Q) (Washington, DC, March 2003) and EIA, AEO2004 National Energy Modeling System run INBASE.D040904A. 2002 electricity prices: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, October 2002). 2002 ethanol prices derived from weekly spot prices in the Oxy Fuel News. **Projections:** EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B4. Electricity Supply, Disposition, Prices, and Emissions
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Generation by Fuel Type										
Electric Power Sector¹										
Power Only²										
Coal	1875	2181	2157	1410	2556	2443	1313	2954	2808	1316
Petroleum	77	62	52	36	76	65	27	76	59	24
Natural Gas ³	450	643	645	884	957	997	977	966	1010	877
Nuclear Power	780	806	806	806	824	824	931	824	824	1261
Pumped Storage/Other	-9	-9	-9	-9	-9	-9	-9	-9	-9	-9
Renewable Sources ⁴	304	404	409	581	449	481	1129	471	531	1241
Distributed Generation (Natural Gas) ..	0	0	0	2	4	4	52	6	6	87
Non-Utility Generation for Own Use ..	-34	-37	-37	-41	-37	-37	-40	-37	-37	-40
Total	3443	4050	4022	3669	4820	4767	4379	5250	5191	4756
Combined Heat and Power⁵										
Coal	32	34	33	15	34	33	26	33	33	26
Petroleum	6	1	1	3	2	2	2	2	2	1
Natural Gas	148	176	179	198	163	166	153	148	147	138
Renewable Sources	5	4	4	4	4	4	4	4	4	4
Non-Utility Generation for Own Use ..	-11	-24	-24	-25	-24	-24	-24	-24	-24	-24
Total	183	190	192	196	179	181	161	164	162	146
Net Available to the Grid	3626	4240	4215	3865	4999	4948	4540	5414	5353	4901
End-Use Sector Generation										
Combined Heat and Power⁶										
Coal	21	21	21	21	21	21	21	21	21	21
Petroleum	5	12	12	15	18	19	20	19	19	21
Natural Gas	84	105	107	124	146	159	285	174	193	380
Other Gaseous Fuels ⁷	5	9	9	9	12	12	10	13	13	11
Renewable Sources ⁴	30	39	39	37	50	50	49	54	54	54
Other ⁸	11	11	11	11	11	11	11	11	11	11
Total	157	197	200	218	259	272	397	292	312	497
Other End-Use Generators ⁹	4	5	5	5	6	6	8	7	8	11
Generation for Own Use	-134	-156	-157	-166	-187	-194	-267	-207	-218	-328
Total Sales to the Grid	27	46	47	57	77	84	138	91	102	181
Total Electricity Generation	3831	4504	4481	4153	5325	5287	5010	5774	5734	5474
Net Imports	22	32	36	74	21	23	42	7	9	13
Electricity Sales by Sector										
Residential	1268	1424	1415	1303	1631	1618	1520	1733	1720	1622
Commercial	1208	1476	1469	1375	1825	1809	1684	2000	1981	1839
Industrial	994	1125	1122	1045	1315	1304	1209	1428	1414	1301
Transportation	22	26	26	26	32	32	32	35	35	35
Total	3492	4051	4033	3750	4803	4764	4445	5196	5150	4798
End-Use Prices¹⁰ (2002 cents per kilowatthour)										
Residential	8.4	7.9	8.2	11.5	8.1	8.3	10.3	8.1	8.3	10.1
Commercial	7.8	7.0	7.2	10.2	7.2	7.5	9.3	7.3	7.5	9.1
Industrial	5.0	4.6	4.7	7.1	4.8	5.0	6.4	4.8	5.0	6.3
Transportation	7.1	6.7	6.9	9.6	6.8	7.1	8.7	6.8	7.0	8.4
All Sectors Average	7.2	6.7	6.8	9.8	6.8	7.1	8.9	6.9	7.1	8.7
Prices by Service Category¹⁰ (2002 cents per kilowatthour)										
Generation	4.6	4.1	4.3	7.1	4.5	4.7	6.4	4.5	4.7	6.3
Transmission	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Distribution	2.0	1.9	1.9	2.0	1.8	1.8	1.8	1.7	1.7	1.7

Table B4. Electricity Supply, Disposition, Prices, and Emissions (Continued)
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Electric Power Sector Emissions¹										
Sulfur Dioxide (million tons)	10.19	9.62	6.18	3.63	8.95	4.18	1.25	8.95	3.62	1.18
Nitrogen Oxide (million tons)	4.39	3.48	2.19	1.50	3.66	1.79	0.61	3.72	1.79	0.61
Mercury (tons)	50.81	52.60	39.55	3.97	53.50	28.87	3.70	54.60	29.01	3.73

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 2002 are model results and may differ slightly from official EIA data reports.
Source: 2002 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, October 2002), and supporting databases. 2002 commercial and transportation electricity sales: EIA estimates based on Oak Ridge National Laboratory, *Transportation Energy Data Book 21* (Oak Ridge, TN, September 2001). 2002 prices: EIA, National Energy Modeling System run INBASE.D040904A. **Projections:** EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B5. Electricity Generating Capacity
(Gigawatts)

Net Summer Capacity ¹	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Electric PowerSector²										
Power Only³										
Coal Steam	305.7	302.4	302.6	292.3	348.0	336.2	185.9	403.6	386.5	185.7
Other Fossil Steam ⁴	132.5	102.2	100.2	113.6	97.5	94.3	87.1	95.5	92.1	84.0
Combined Cycle	81.0	126.6	126.9	149.8	180.0	185.1	195.8	200.7	208.0	201.4
Combustion Turbine/Diesel	122.7	130.4	127.8	136.4	162.2	161.9	147.9	176.1	174.6	158.0
Nuclear Power ⁵	98.7	100.6	100.6	100.6	102.6	102.6	117.2	102.6	102.6	160.9
Pumped Storage	20.2	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	0.1	0.1	0.1	0.1	0.1	0.1
Renewable Sources ⁶	91.4	98.1	97.9	146.7	107.1	112.9	250.2	112.3	124.9	264.1
Distributed Generation ⁷	0.0	0.5	0.5	0.6	8.4	8.4	12.0	13.8	13.1	19.9
Total	852.3	881.2	876.8	960.5	1026.3	1021.9	1016.7	1124.9	1122.0	1094.3
Combined Heat and Power⁸										
Coal Steam	5.2	5.2	4.7	4.7	5.2	4.7	3.7	5.2	4.7	3.7
Other Fossil Steam ⁴	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Combined Cycle	29.4	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9	32.9
Combustion Turbine/Diesel	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Renewable Sources ⁶	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total	41.4	44.9	44.4	44.4	44.9	44.4	43.4	44.9	44.4	43.4
Total Electric Power Industry	893.7	926.1	921.2	1004.8	1071.1	1066.3	1060.1	1169.8	1166.4	1137.8
Cumulative Planned Additions⁹										
Coal Steam	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
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	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5
Combustion Turbine/Diesel	0.0	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cells	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Renewable Sources ⁶	0.0	4.3	4.3	4.3	4.7	4.7	4.7	4.8	4.8	4.8
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	57.1	57.1	57.1	57.5	57.5	57.5	57.6	57.6	57.6
Cumulative Unplanned Additions⁹										
Coal Steam	0.0	2.9	3.5	0.2	50.4	39.1	1.7	107.1	90.4	1.9
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	6.7	7.0	29.4	60.0	65.2	77.0	80.8	88.1	82.6
Combustion Turbine/Diesel	0.0	10.7	8.5	14.4	43.8	45.2	33.0	61.6	60.8	43.1
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0	58.3
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	2.1	1.9	50.7	10.7	16.5	153.8	15.7	28.3	167.6
Distributed Generation ⁷	0.0	0.5	0.5	0.6	8.4	8.4	12.0	13.8	13.1	19.9
Total	0.0	22.9	21.3	95.3	173.4	174.4	292.3	279.0	280.6	373.4
Cumulative Total Additions	0.0	80.0	78.4	152.3	230.9	231.9	349.8	336.6	338.2	431.0
Cumulative Retirements¹⁰										
Coal Steam	0.0	7.4	8.2	15.3	9.2	10.2	124.1	10.4	11.3	124.5
Other Fossil Steam ⁴	0.0	28.4	30.4	17.0	33.1	36.3	43.5	35.1	38.5	46.6
Combined Cycle	0.0	1.7	1.7	1.1	1.7	1.7	2.8	1.7	1.7	2.8
Combustion Turbine/Diesel	0.0	10.3	10.8	10.6	11.6	13.3	17.7	15.6	16.2	17.7
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	0.0	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	47.9	51.2	44.1	55.8	61.6	188.3	62.9	67.9	191.8

Table B5. Electricity Generating Capacity (Continued)
(Gigawatts)

Net Summer Capacity ¹	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
End-Use Sector										
Combined Heat and Power ¹¹										
Coal	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Petroleum	1.0	1.6	1.6	2.0	2.3	2.4	2.5	2.4	2.5	2.6
Natural Gas	14.1	17.1	17.5	19.8	22.7	24.4	42.0	26.4	29.1	55.1
Other Gaseous Fuels	1.8	2.2	2.2	2.2	2.5	2.6	2.3	2.7	2.7	2.4
Renewable Sources ⁶	4.2	5.6	5.6	5.4	7.5	7.5	7.4	8.3	8.3	8.2
Other	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total	25.5	31.0	31.4	33.8	39.6	41.3	58.7	44.2	47.0	72.8
Other End-Use Generators¹²										
Renewable Sources ¹³	1.1	1.4	1.4	1.5	1.9	1.9	3.1	2.5	2.6	4.5
Cumulative Additions⁹										
Combined Heat and Power ¹¹	0.0	5.5	5.9	8.3	14.1	15.9	33.2	18.7	21.5	47.3
Other End-Use Generators ¹²	0.0	0.4	0.4	0.4	0.8	0.9	2.1	1.5	1.6	3.4

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 3.9 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, 2002.

¹⁰Cumulative total retirements after December 31, 2002.

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 B10 for more detail.

Note: Totals may not equal sum of components due to independent rounding. Data for 2002 are model estimates and may differ slightly from official EIA data reports.

Source: 2002 electric generating capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report" (preliminary). Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B6. Natural Gas Supply and Disposition
(Trillion Cubic Feet per Year)

Supply and Disposition	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Production										
Dry Gas Production ¹	19.05	21.19	21.19	21.03	23.56	23.78	23.77	23.74	24.00	24.19
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	3.49	4.74	4.76	6.03	6.55	6.65	7.27	7.28	7.39	7.90
Canada	3.59	2.86	2.87	2.79	2.68	2.71	2.93	2.80	2.84	2.93
Mexico	-0.26	-0.30	-0.29	-0.27	-0.09	-0.09	-0.03	-0.02	0.00	0.08
Liquefied Natural Gas	0.17	2.17	2.18	3.50	3.96	4.03	4.38	4.50	4.56	4.90
Total Supply	22.62	26.02	26.04	27.15	30.21	30.53	31.14	31.11	31.49	32.19
Consumption by Sector										
Residential	4.92	5.55	5.55	5.43	5.96	5.96	5.96	6.13	6.13	6.16
Commercial	3.12	3.46	3.46	3.37	3.83	3.83	4.04	4.03	4.03	4.39
Industrial ³	7.23	8.39	8.40	8.26	9.56	9.62	10.20	10.26	10.36	11.21
Electric Power ⁴	5.55	6.66	6.67	8.14	8.56	8.81	8.61	8.36	8.61	8.02
Transportation ⁵	0.01	0.06	0.06	0.06	0.10	0.10	0.10	0.11	0.11	0.11
Pipeline Fuel	0.63	0.70	0.70	0.70	0.82	0.84	0.86	0.84	0.85	0.88
Lease and Plant Fuel ⁶	1.32	1.30	1.30	1.29	1.48	1.49	1.48	1.50	1.51	1.52
Total	22.78	26.11	26.13	27.24	30.32	30.63	31.25	31.23	31.60	32.30
Natural Gas to Liquids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Discrepancy ⁷	-0.16	-0.09	-0.09	-0.09	-0.11	-0.11	-0.11	-0.11	-0.11	-0.11

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, 2002 values include net storage injections.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2002 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2003/06) (Washington, DC, June 2003). 2002 consumption based on: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, October 2002). Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B7. Oil and Gas Supply

Production and Supply	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Crude Oil										
Lower 48 Average Wellhead Price¹ (2002 dollars per barrel)	24.54	23.64	23.64	23.63	25.61	25.61	25.63	26.86	26.86	26.91
Production (million barrels per day)²										
U.S. Total	5.62	5.96	5.95	5.95	4.97	4.98	4.99	4.63	4.64	4.64
Lower 48 Onshore	3.11	2.61	2.61	2.61	2.20	2.20	2.20	2.04	2.04	2.05
Lower 48 Offshore	1.53	2.43	2.42	2.42	2.03	2.04	2.04	2.08	2.08	2.08
Alaska	0.98	0.92	0.92	0.92	0.74	0.74	0.74	0.51	0.51	0.51
Lower 48 End of Year Reserves (billion barrels)² .	19.05	18.42	18.41	18.43	16.17	16.19	16.11	15.04	15.06	15.06
Natural Gas										
Lower 48 Average Wellhead Price¹ (2002 dollars per thousand cubic feet)	2.95	3.40	3.41	4.03	4.15	4.21	4.31	4.43	4.44	4.40
Dry Production (trillion cubic feet)³										
U.S. Total	19.05	21.19	21.19	21.03	23.57	23.78	23.78	23.74	24.00	24.19
Lower 48 Onshore	13.76	15.13	15.14	15.15	16.33	16.52	16.62	16.47	16.53	16.63
Associated-Dissolved ⁴	1.60	1.41	1.41	1.41	1.23	1.23	1.23	1.17	1.17	1.17
Non-Associated	12.16	13.72	13.73	13.74	15.10	15.29	15.39	15.31	15.36	15.46
Conventional	6.14	5.94	5.95	6.07	6.07	6.12	6.22	5.92	5.94	5.92
Unconventional	6.02	7.78	7.78	7.67	9.02	9.17	9.17	9.38	9.41	9.54
Lower 48 Offshore	4.86	5.62	5.61	5.44	5.14	5.16	5.06	5.15	5.18	5.10
Associated-Dissolved ⁴	1.05	1.64	1.64	1.64	1.34	1.34	1.33	1.43	1.43	1.45
Non-Associated	3.81	3.98	3.97	3.80	3.80	3.82	3.74	3.72	3.75	3.65
Alaska	0.43	0.45	0.45	0.44	2.10	2.10	2.09	2.12	2.29	2.47
Lower 48 End of Year Dry Reserves³ (trillion cubic feet)	180.03	201.99	201.90	205.85	198.74	198.24	201.11	191.26	190.34	192.54
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)	24.47	25.36	25.39	28.80	26.64	26.72	26.37	26.09	26.11	25.80

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 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2002 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: Energy Information Administration (EIA), *Petroleum Supply Annual 2002*, DOE/EIA-0340(2002)/1 (Washington, DC, June 2003). 2002 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2003/06) (Washington, DC, June 2003). Other 2002 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B8. Coal Supply, Disposition, and Prices
(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2002	Projections								
		2010			2020			2025		
		Reference	Inhofs	Jeffords	Reference	Inhofs	Jeffords	Reference	Inhofs	Jeffords
Production¹										
Appalachia	408	404	387	270	406	391	243	418	403	230
Interior	147	166	151	97	171	120	107	177	134	91
West	550	655	676	439	796	812	399	937	931	439
East of the Mississippi	504	517	488	351	528	491	335	546	511	302
West of the Mississippi	601	708	726	456	845	833	415	987	956	459
Total	1105	1225	1214	807	1373	1324	750	1532	1467	761
Net Imports										
Imports	17	33	33	8	42	42	5	46	46	5
Exports	40	35	35	35	27	27	24	24	22	21
Total	-23	-2	-2	-28	14	14	-19	22	23	-16
Total Supply²	1083	1223	1212	779	1387	1338	730	1554	1491	745
Consumption by Sector										
Residential and Commercial	4	5	5	5	5	5	5	5	5	5
Industrial ³	63	66	66	65	68	67	65	69	68	66
of which: Coal to Liquids	0	0	0	0	0	0	0	0	0	0
Coke Plants	23	24	24	23	19	19	19	17	17	17
Electric Power ⁴	976	1129	1118	698	1296	1247	658	1464	1401	673
Total	1066	1223	1213	791	1388	1339	747	1555	1491	760
Discrepancy and Stock Change⁵	17	-0	-0	-12	-1	-1	-16	-1	-1	-15
Average Minemouth Price										
(2002 dollars per short ton)	17.90	16.71	16.86	19.05	16.51	16.15	16.47	16.58	16.23	15.03
(2002 dollars per million Btu)	0.87	0.82	0.82	0.90	0.81	0.79	0.78	0.82	0.80	0.72
Delivered Prices (2002 dollars per short ton)⁶										
Industrial	32.39	34.11	34.28	107.31	33.45	32.97	93.74	33.09	32.55	89.14
Coke Plants	51.27	53.70	53.88	145.31	50.45	50.58	130.54	48.44	48.55	124.56
Electric Power										
(2002 dollars per short ton)	25.88	24.55	25.30	95.17	24.16	24.61	83.39	24.33	24.83	78.19
(2002 dollars per million Btu)	1.25	1.22	1.26	4.62	1.21	1.22	4.02	1.22	1.24	3.83
Average	26.80	25.63	26.35	97.67	24.98	25.41	85.50	24.98	25.46	80.18
Exports ⁷	40.44	36.44	36.42	37.95	34.13	34.23	34.81	32.23	32.33	32.57

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

²Production plus net imports plus 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 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2002 data based on Energy Information Administration (EIA), *Quarterly Coal Report, October-December 2002*, DOE/EIA-0121(2002/4Q) (Washington, DC, March 2003); EIA, *Annual Coal Report 2002*, DOE/EIA-0584(2002) (Washington, DC, November 2003); and EIA, AEO2004 National Energy Modeling System run INBASE.D040904A. Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B9. Coal Production by Region and Type
(Million Short Tons)

Supply Regions and Coal Types	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Northern Appalachia	139.9	173.6	169.2	106.9	186.2	173.1	126.7	202.1	185.3	122.1
Medium Sulfur (Premium) ¹	2.8	3.1	3.1	3.1	2.8	2.8	2.8	2.8	2.8	2.8
Low Sulfur (Bituminous) ²	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0
Medium Sulfur (Bituminous) ²	66.6	86.4	78.4	37.9	86.9	83.4	54.0	92.1	90.0	53.0
High Sulfur (Bituminous)	59.4	75.7	81.6	65.8	88.1	80.4	67.8	98.4	85.4	64.1
High Sulfur (Gob) ³	11.1	8.5	6.0	0.1	8.5	5.8	2.1	8.8	6.4	2.2
Central Appalachia	249.1	218.8	204.4	152.8	208.8	207.3	109.2	206.1	206.8	101.4
Medium Sulfur (Premium) ¹	34.0	34.5	34.5	34.4	29.1	29.1	28.0	23.6	23.4	23.0
Low Sulfur (Bituminous)	63.9	51.4	64.9	62.2	53.7	51.9	22.0	52.3	55.4	19.8
Medium Sulfur (Bituminous)	151.2	132.8	105.0	56.2	126.0	126.3	59.2	130.2	128.1	58.7
Southern Appalachia	19.1	11.9	13.6	10.4	11.0	10.7	7.2	9.8	10.9	6.6
Low Sulfur (Premium) ¹	4.6	4.8	4.8	4.9	1.1	1.1	1.0	1.0	0.9	0.9
Low Sulfur (Bituminous)	3.1	0.7	2.3	2.6	2.0	2.1	1.6	1.8	2.2	1.6
Medium Sulfur (Bituminous)	11.4	6.5	6.5	2.9	7.9	7.6	4.5	7.1	7.7	4.0
Eastern Interior	96.0	113.1	101.0	80.6	121.9	99.5	91.9	127.7	107.8	71.6
Medium Sulfur (Bituminous)	33.0	35.1	33.4	27.9	37.3	36.9	28.0	39.7	38.3	10.9
High Sulfur (Bituminous)	60.7	74.3	67.1	52.7	80.7	60.2	63.9	88.1	66.9	60.7
Medium Sulfur (Lignite)	2.3	3.8	0.4	0.0	3.9	2.4	0.0	0.0	2.7	0.0
Western Interior High Sulfur (Bituminous)	1.9	1.7	1.6	0.3	1.5	1.3	1.5	1.9	0.5	1.1
Gulf	49.0	50.7	48.3	16.5	47.9	19.6	13.9	47.3	25.4	18.6
Medium Sulfur (Lignite)	26.7	18.3	20.3	3.3	16.5	8.2	0.2	17.9	12.9	2.3
High Sulfur (Lignite)	22.3	32.4	28.1	13.1	31.4	11.4	13.7	29.5	12.5	16.3
Dakota Medium Sulfur (Lignite)	31.1	32.9	29.4	23.8	30.3	31.7	26.3	32.9	32.9	25.0
Powder/Green River	410.2	512.7	520.8	305.2	628.1	627.0	263.9	751.5	728.9	298.4
Low Sulfur (Bituminous)	0.0	1.0	1.0	0.9	1.1	1.1	0.2	0.0	0.3	0.2
Low Sulfur (Sub-Bituminous)	372.1	464.9	490.7	281.3	581.1	579.9	245.7	691.7	677.4	275.3
Medium Sulfur (Sub-Bituminous)	38.2	46.7	29.1	22.9	46.0	46.0	18.0	59.8	51.3	22.9
Rocky Mountain	60.4	62.4	78.7	73.0	90.3	103.7	81.9	102.6	117.3	87.5
Low Sulfur (Bituminous)	50.4	54.2	67.8	63.7	78.8	91.1	76.5	91.1	105.6	81.4
Low Sulfur (Sub-Bituminous)	10.0	8.2	10.9	9.2	11.6	12.6	5.4	11.5	11.7	6.0
Arizona/New Mexico	41.7	41.8	41.7	35.7	41.6	44.3	25.3	44.9	46.0	24.7
Low Sulfur (Bituminous)	23.0	22.7	23.3	24.1	17.8	24.9	13.6	21.5	24.6	13.4
Medium Sulfur (Bituminous)	1.8	8.3	8.3	3.5	9.8	9.8	2.0	9.4	9.5	1.9
Medium Sulfur (Sub-bituminous)	17.0	10.9	10.0	8.2	13.9	9.6	9.7	13.9	11.9	9.4
Washington/Alaska Medium Sulfur (Sub-Bituminous)	7.0	5.3	5.3	1.6	5.4	5.4	1.7	5.4	5.4	3.8

Table B9. Coal Production by Region and Type (Continued)
(Million Short Tons)

Supply Regions and Coal Types	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Subtotals: All Regions										
Premium Metallurgical ¹	41.4	42.4	42.4	42.3	33.0	33.0	31.8	27.3	27.1	26.7
Bituminous	526.2	550.7	541.4	400.9	591.5	577.7	394.8	633.6	615.2	370.7
Sub-Bituminous	444.2	536.1	546.1	323.3	657.9	653.4	280.6	782.3	757.6	317.4
Lignite	93.6	95.8	84.2	40.3	90.6	59.5	42.3	89.0	67.4	45.8
Low Sulfur	527.0	607.9	665.8	449.1	747.1	765.3	366.0	870.9	878.7	398.7
Medium Sulfur	423.0	424.6	363.8	225.6	415.8	399.2	234.5	434.8	416.9	217.5
High Sulfur	155.4	192.5	184.5	132.1	210.2	159.1	149.1	226.5	171.7	144.4
Underground	356.9	382.4	377.0	292.7	419.6	412.9	271.9	452.1	440.5	277.6
Surface	748.5	842.6	837.1	514.1	953.4	910.7	477.6	1080.1	1026.8	483.0
U.S. Total	1105.4	1225.0	1214.1	806.8	1373.0	1323.6	749.6	1532.2	1467.3	760.6

¹"Premium" coal is used to make metallurgical coke.

²Includes Pennsylvania anthracite.

³Waste coal delivered to Independent Power Producers (IPP) that is not included in other Energy Information Administration coal production tables. The totals for this table include this waste coal tonnage.

Northern Appalachia: Pennsylvania, Maryland, Ohio, Northern West Virginia (Pennsylvania anthracite is included under low and medium sulfur bituminous).

Central Appalachia: Southern West Virginia, Virginia, Eastern Kentucky, Northern Tennessee.

Southern Appalachia: Alabama, Southern Tennessee.

Eastern Interior: Illinois, Indiana, Mississippi, Western Kentucky.

Western Interior (Bituminous only): Iowa, Missouri, Kansas, Oklahoma, Arkansas, Texas.

Gulf (Lignite only): Texas, Louisiana, Arkansas.

Dakota: North Dakota, Eastern Montana (Lignite only).

Powder/Green River: Wyoming, Montana (Sub-Bituminous and Bituminous)

Rocky Mountain: Colorado, Utah.

Sulfur Definitions:

Low Sulfur: 0 - 0.60 pounds of sulfur per million British thermal unit.

Medium Sulfur: 0.61 - 1.67 pounds of sulfur per million British thermal unit.

High Sulfur: Over 1.67 pounds of sulfur per million British thermal unit.

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

Sources: Energy Information Administration, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B10. Renewable Energy Generating Capacity and Generation
(Gigawatts, Unless Otherwise Noted)

Capacity and Generation	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Electric Power Sector¹										
Net Summer Capacity										
Conventional Hydropower	78.29	78.69	78.69	78.69	78.68	78.68	78.68	78.68	78.68	78.68
Geothermal ²	2.89	4.05	4.05	5.51	6.28	6.39	10.09	7.36	7.44	10.37
Municipal Solid Waste ³	3.49	3.91	3.91	4.79	3.95	3.91	4.84	3.95	3.92	4.85
Wood and Other Biomass ^{4,5}	1.83	2.46	2.28	4.15	3.47	2.92	62.63	5.07	3.92	75.91
Solar Thermal	0.33	0.43	0.43	0.43	0.49	0.49	0.49	0.52	0.52	0.52
Solar Photovoltaic ⁵	0.02	0.15	0.15	0.15	0.32	0.32	0.32	0.41	0.41	0.41
Wind	4.83	8.72	8.64	53.23	14.19	20.42	93.43	16.54	30.25	93.67
Total	91.69	98.41	98.15	146.95	107.39	113.15	250.49	112.53	125.13	264.41
Generation (billion kilowatthours)										
Conventional Hydropower	255.78	304.37	304.37	304.32	304.63	304.62	304.57	304.80	304.79	304.72
Geothermal ²	13.36	23.54	23.55	35.04	41.95	42.92	71.31	50.84	51.53	73.50
Municipal Solid Waste ³	20.02	28.09	28.08	34.99	28.44	28.18	35.47	28.50	28.24	35.54
Wood and Other Biomass ⁵	8.67	24.21	29.58	32.60	30.79	39.39	406.38	34.56	44.16	514.70
Dedicated Plants	6.33	14.26	13.08	20.53	21.50	17.82	406.38	31.22	23.59	514.70
Cofiring	2.34	9.95	16.50	12.06	9.30	21.57	0.00	3.34	20.58	0.00
Solar Thermal	0.54	0.84	0.84	0.84	1.04	1.04	1.04	1.11	1.11	1.11
Solar Photovoltaic ⁶	0.00	0.36	0.36	0.36	0.79	0.79	0.79	1.02	1.02	1.02
Wind	10.51	26.41	26.14	177.28	45.77	68.09	313.51	54.29	104.27	314.43
Total	308.87	407.81	412.92	585.42	453.42	485.03	1133.07	475.11	535.11	1245.02
End- Use Sector										
Net Summer Capacity										
Combined Heat and Power⁷										
Municipal Solid Waste	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Biomass	3.91	5.36	5.35	5.14	7.27	7.26	7.19	8.04	8.03	7.97
Total	4.16	5.61	5.61	5.39	7.52	7.51	7.45	8.29	8.28	8.22
Other End-Use Generators⁸										
Conventional Hydropower ⁹	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.04	0.40	0.40	0.47	0.85	0.90	2.12	1.52	1.62	3.48
Total	1.06	1.42	1.42	1.49	1.88	1.92	3.14	2.54	2.64	4.50
Generation (billion kilowatthours)										
Combined Heat and Power⁷										
Municipal Solid Waste	1.84	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Biomass	28.16	36.65	36.61	35.38	47.79	47.75	47.36	52.31	52.25	51.90
Total	30.00	38.75	38.71	37.48	49.89	49.85	49.46	54.41	54.35	54.00
Other End-Use Generators⁸										
Conventional Hydropower ⁹	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11	4.11
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar Photovoltaic	0.09	0.86	0.86	1.00	1.84	1.94	4.39	3.25	3.46	7.19
Total	4.20	4.97	4.97	5.11	5.95	6.05	8.49	7.35	7.57	11.29

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). See Annual Energy Review 2002 Table 10.6 for estimates of 1989-2001 PV shipments, including exports, for both grid-connected and off-grid applications.

⁷Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors.

⁸Includes 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.

⁹Represents own-use industrial hydroelectric power.

Note: Totals may not equal sum of components due to independent rounding. Data for 2002 are model results and may differ slightly from official EIA data reports. Net summer capacity has been estimated for nonutility generators for AEO2004. 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: 2002 capacity: Energy Information Administration (EIA), Form EIA-860: "Annual Electric Generator Report" (preliminary). 2002 generation: EIA, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, October 2002). Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B11. Carbon Dioxide Emissions by Sector and Source
(Million Metric Tons)

Sector and Source	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Residential										
Petroleum	104.0	110.6	110.6	110.6	107.4	107.5	107.8	104.7	104.8	105.1
Natural Gas	267.2	301.0	301.0	294.5	323.7	323.4	323.4	332.8	332.6	334.5
Coal	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1
Electricity	816.7	897.8	887.3	628.6	1010.7	985.6	600.8	1091.2	1056.6	585.9
Total	1189.0	1310.6	1300.1	1034.9	1443.0	1417.6	1033.2	1529.8	1495.1	1026.6
Commercial										
Petroleum	52.6	66.9	67.0	67.4	70.8	70.9	71.7	72.6	72.9	73.6
Natural Gas	169.4	187.6	187.6	183.0	207.9	207.6	219.5	218.7	218.8	238.5
Coal	9.2	9.3	9.3	9.3	9.2	9.2	9.2	9.2	9.2	9.1
Electricity	778.0	930.8	921.0	663.0	1131.2	1101.8	665.3	1259.6	1217.2	664.0
Total	1009.1	1194.5	1184.8	922.7	1419.1	1389.6	965.6	1560.2	1518.0	985.3
Industrial¹										
Petroleum	412.8	366.4	366.0	361.4	409.8	409.9	398.6	428.7	428.7	413.8
Natural Gas ²	432.7	519.2	519.7	511.6	591.7	595.5	626.8	629.8	636.1	683.0
Coal	185.1	194.6	194.2	190.6	185.8	185.0	178.7	183.4	182.5	175.1
Electricity	640.0	709.4	703.1	504.2	814.7	794.4	477.7	898.9	868.4	469.8
Total	1670.6	1789.6	1782.9	1567.7	2002.0	1984.7	1681.8	2140.7	2115.7	1741.6
Transportation										
Petroleum ³	1811.2	2198.2	2199.0	2174.1	2611.3	2612.0	2599.7	2829.1	2829.5	2818.0
Natural Gas ⁴	35.2	41.0	41.1	40.8	49.9	50.6	51.6	51.4	52.1	53.9
Other ⁵	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	14.2	16.6	16.5	12.7	19.8	19.5	12.7	22.3	21.7	12.8
Total	1860.6	2255.7	2256.5	2227.6	2681.0	2682.1	2664.0	2902.7	2903.4	2884.7
Total Carbon Dioxide Emissions by Delivered Fuel										
Petroleum ³	2380.5	2742.1	2742.5	2713.5	3199.3	3200.3	3177.9	3435.0	3435.9	3410.5
Natural Gas	904.4	1048.8	1049.4	1030.0	1173.2	1177.0	1221.3	1232.7	1239.7	1309.9
Coal	195.4	205.0	204.6	201.0	196.1	195.3	189.0	193.7	192.8	185.3
Other ⁵	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	2249.0	2554.6	2527.9	1808.4	2976.5	2901.3	1756.4	3271.9	3163.9	1732.5
Total	5729.3	6550.5	6524.3	5752.9	7545.1	7473.9	6344.5	8133.4	8032.2	6638.2
Electric Power⁶										
Petroleum	72.2	50.6	42.1	27.8	61.2	50.0	22.9	60.8	45.8	20.8
Natural Gas	299.1	358.5	359.1	437.8	460.5	473.8	463.3	450.0	463.1	431.2
Coal	1877.8	2145.4	2126.7	1342.7	2454.7	2377.5	1270.2	2761.1	2655.1	1280.4
Total	2249.0	2554.6	2527.9	1808.4	2976.5	2901.3	1756.4	3271.9	3163.9	1732.5
Total Carbon Dioxide Emissions by Primary Fuel⁷										
Petroleum ³	2452.7	2792.7	2784.6	2741.4	3260.5	3250.3	3200.7	3495.9	3481.6	3431.4
Natural Gas	1203.4	1407.4	1408.4	1467.8	1633.8	1650.8	1684.5	1682.7	1702.7	1741.1
Coal	2073.2	2350.4	2331.3	1543.8	2650.8	2572.8	1459.3	2954.8	2847.8	1465.7
Other ⁵	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	5729.4	6550.5	6524.3	5752.9	7545.1	7473.9	6344.5	8133.4	8032.2	6638.2
Carbon Dioxide Emissions (tons per person)										
	19.8	21.2	21.1	18.6	22.5	22.3	19.0	23.4	23.1	19.1

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 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.

Note: Totals may not equal sum of components due to independent rounding. Data for 2002 are model results and may differ slightly from official EIA data reports.

Sources: 2002 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2002*, DOE/EIA-0573(2002) (Washington, DC, October 2003). Projections: EIA, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.

Table B12. Emissions, Allowance Prices, and Emission Controls in the Electric Power Sector

Supply and Disposition	2002	Projections								
		2010			2020			2025		
		Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords	Reference	Inhofe	Jeffords
Emissions										
Nitrogen Oxides (million tons)	4.39	3.48	2.19	1.50	3.66	1.79	0.61	3.72	1.79	0.61
Sulfur Dioxide (million tons)	10.19	9.62	6.18	3.63	8.95	4.18	1.25	8.95	3.62	1.18
From Coal	9.95	9.41	6.03	3.60	8.72	4.05	1.20	8.73	3.52	1.14
From Oil/Other	0.24	0.21	0.16	0.03	0.23	0.13	0.06	0.21	0.11	0.04
Mercury (tons)	50.81	52.60	39.55	3.97	53.50	28.87	3.70	54.60	29.01	3.73
Carbon Dioxide (million metric tons) . . .	2248.9	2554.56	2527.85	1808.41	2976.48	2901.26	1756.39	3271.93	3163.87	1732.50
Allowance Prices										
Nitrogen Oxides (2002 dollars per ton)										
Regional/Seasonal	0.00	4347.54	0.00	0.00	4929.66	0.00	0.00	5114.85	0.00	0.00
East/Annual	0.00	0.00	2039.54	1388.28	0.00	2492.62	0.00	0.00	2775.56	0.00
West/Annual	0.00	0.00	1123.82	1388.31	0.00	1572.96	0.00	0.00	1715.38	0.00
Sulfur Dioxide										
(2002 dollars per ton)	108.61	150.41	604.84	372.57	258.59	1392.61	0.00	173.48	1414.07	0.00
Mercury										
(thousand 2002 dollars per pound)	0.00	0.00	15.11	0.00	0.00	35.00	0.00	0.00	35.00	0.00
Carbon Dioxide (2002 dollars per million metric ton)										
	0.00	0.00	0.00	35.21	0.00	0.00	30.86	0.00	0.00	29.41
Retrofits (gigawatts)										
Scrubber ⁶										
Planned	2.26	20.20	20.20	20.20	23.05	23.05	23.05	23.05	23.05	23.05
Unplanned	0.00	1.60	37.10	50.48	1.60	82.46	106.80	1.60	100.33	106.80
Total	2.26	21.80	57.29	70.68	24.65	105.50	129.85	24.65	123.38	129.85
Nitrogen Oxides Controls										
Combustion	0.00	14.85	29.13	19.44	15.41	32.41	20.01	15.76	32.76	20.56
SCR Post-combustion	6.32	82.04	116.70	143.51	90.14	154.52	206.22	92.89	160.09	206.22
SNCR Post-combustion	0.00	11.43	10.24	4.53	16.75	24.41	4.53	22.81	37.88	4.53
Coal Production by Sulfur Category (million tons)										
Low Sulfur (< .61 lbs per million Btu) . .	527.04	607.94	665.78	449.08	747.05	765.31	366.00	870.88	878.70	398.69
Medium Sulfur	422.96	424.57	363.81	225.64	415.78	399.17	234.50	434.80	416.93	217.53
High Sulfur (> 1.67 lbs per million Btu) .	155.38	192.53	184.50	132.06	210.16	159.08	149.06	226.54	171.70	144.37
Interregional Sulfur Dioxide Allowances										
Target (million tons)	9.48	8.95	4.50	2.25	8.95	3.00	2.25	8.95	3.00	2.25
Cumulative Banked Allowances	9.23	2.38	18.81	4.96	0.00	9.62	0.00	0.00	5.11	0.00
Coal Characteristics										
SO ₂ Content (lbs per million Btu)	1.86	1.89	1.82	1.93	1.82	1.68	2.20	1.78	1.64	2.11
Mercury Content (lbs per trillion Btu) . . .	7.55	7.23	7.01	6.57	7.00	6.72	6.98	6.91	6.68	6.95
ACI Controls (gigawatts)										
Spray Cooling	0.00	0.00	0.00	134.35	0.00	0.00	145.87	0.00	0.00	146.88
Supplemental Fabric Filter	0.00	0.00	0.00	46.58	0.00	0.00	58.14	0.00	0.00	59.73
ACI Mercury Removal (tons)	0.00	0.00	2.49	9.73	0.00	9.35	6.04	0.00	9.57	6.57
Allowance Revenues (billion 2002 dollars)										
Nitrogen Oxides	0.00	2.06	3.88	2.10	2.33	3.88	0.00	2.42	4.29	0.00
Sulfur Dioxide	1.42	1.61	3.65	2.08	2.67	6.47	0.00	1.90	5.94	0.00
Mercury	0.00	0.00	1.63	0.00	0.00	2.02	0.00	0.00	2.03	0.00
Carbon Dioxide	0.00	0.00	0.00	63.67	0.00	0.00	54.20	0.00	0.00	50.96
Total	1.42	3.67	9.16	67.84	5.00	12.37	54.20	4.32	12.26	50.96

ACI: Activated carbon injection.
 SCR: Selective catalytic reduction.
 SNCR: Selective non-catalytic reduction.

Note: Totals may not equal sum of components due to independent rounding. Data for 2002 are model results and may differ slightly from official EIA data reports.

Sources: Energy Information Administration, AEO2004 National Energy Modeling System runs INBASE.D040904A, INCS3PWS.D040904A, and INJF4P.D041604A.