Table A1. Total Energy Supply and Disposition Summary
(Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Production								
Crude Oil and Lease Condensate	11.58	10.96	11.99	12.52	12.48	11.82	11.40	0.2%
Natural Gas Plant Liquids	2.46	2.33	2.43	2.45	2.38	2.32	2.31	-0.0%
Dry Natural Gas	19.32	18.77	19.93	20.19	21.41	21.21	21.15	0.5%
Coal[1]	22.85	23.20	24.47	25.74	26.61	30.09	33.52	1.5%
Nuclear Power	8.22	8.13	8.23	8.47	9.23	9.23	9.33	0.6%
Hydropower	2.71	2.71	3.02	3.07	3.08	3.09	3.09	0.5%
Biomass[2]	2.81	2.71	4.22	4.45	4.69	5.04	5.26	2.7%
Other Renewable Energy[3]	0.74	0.76	1.18	1.26	1.33	1.37	1.44	2.6%
Other[4]	0.29	0.22	0.67	0.98	0.89	0.89	1.12	6.8%
Total	**70.98**	**69.80**	**76.13**	**79.12**	**82.09**	**85.06**	**88.63**	**1.0%**
Imports								
Crude Oil[5]	22.02	22.09	21.88	22.96	24.72	26.70	28.63	1.0%
Liquid Fuels and Other Petroleum[6]	6.11	7.16	6.02	6.56	7.05	7.81	9.02	0.9%
Natural Gas	4.36	4.42	5.36	6.43	6.17	6.53	6.47	1.5%
Other Imports[7]	0.82	0.85	0.92	1.02	1.73	1.89	2.26	4.0%
Total	**33.30**	**34.52**	**34.18**	**36.97**	**39.66**	**42.93**	**46.37**	**1.2%**
Exports								
Petroleum[8]	2.07	2.31	2.71	2.77	2.84	2.85	2.90	0.9%
Natural Gas	0.87	0.75	0.69	0.66	0.69	0.80	0.87	0.6%
Coal	1.25	1.27	1.12	0.96	0.80	0.67	0.69	-2.4%
Total	**4.19**	**4.33**	**4.52**	**4.39**	**4.33**	**4.32**	**4.47**	**0.1%**
Discrepancy[9]	**-0.58**	**-0.20**	**-0.70**	**-0.58**	**-0.74**	**-0.73**	**-0.63**	**N/A**
Consumption								
Liquid Fuels and Other Petroleum[10]	40.79	40.61	41.76	44.26	46.52	49.05	52.17	1.0%
Natural Gas	23.05	22.63	24.73	26.07	27.04	27.08	26.89	0.7%
Coal	22.60	22.87	24.24	25.64	27.29	30.62	34.14	1.6%
Nuclear Power	8.22	8.13	8.23	8.47	9.23	9.23	9.33	0.6%
Hydropower	2.71	2.71	3.02	3.07	3.08	3.09	3.09	0.5%
Biomass[11]	2.53	2.38	3.30	3.48	3.64	3.91	4.06	2.2%
Other Renewable Energy[3]	0.74	0.76	1.18	1.26	1.33	1.37	1.44	2.6%
Other[12]	0.04	0.08	0.04	0.03	0.04	0.04	0.04	-2.6%
Total	**100.67**	**100.19**	**106.50**	**112.28**	**118.16**	**124.39**	**131.16**	**1.1%**

Table A1. Total Energy Supply and Disposition Summary (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Prices (2005 dollars per unit)								
Petroleum (dollars per barrel)								
Imported Low Sulfur Light Crude Oil Price[13]	42.87	56.76	57.47	49.87	52.04	56.37	59.12	0.2%
Imported Crude Oil Price[13]	37.09	49.19	51.20	44.61	46.47	49.57	51.63	0.2%
Natural Gas (dollars per million Btu)								
Price at Henry Hub	6.08	8.60	6.28	5.46	5.71	6.14	6.52	-1.1%
Wellhead Price[14]	5.63	7.29	5.59	4.84	5.07	5.46	5.80	-0.9%
Natural Gas (dollars per thousand cubic feet)								
Wellhead Price[14]	5.80	7.51	5.76	4.99	5.22	5.62	5.98	-0.9%
Coal (dollars per ton)								
Minemouth Price[15]	20.68	23.34	24.20	22.41	21.58	21.55	22.60	-0.1%
Coal (dollars per million Btu)								
Minemouth Price[15]	1.01	1.15	1.18	1.11	1.08	1.09	1.15	-0.0%
Average Delivered Price[16]	1.45	1.61	1.77	1.65	1.62	1.66	1.71	0.2%
Average Electricity Price (cents per kilowatthour)	7.9	8.1	8.1	7.7	7.9	8.0	8.1	-0.0%

[1]Includes waste coal.
[2]Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.
[3]Includes grid-connected electricity from landfill gas; municipal solid waste; wind; photovoltaic and solar thermal sources; and non-electric energy from renewable sources, such as active and passive solar systems. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table A17 for selected nonmarketed residential and commercial renewable energy.
[4]Includes liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes imports of crude oil for the Strategic Petroleum Reserve.
[6]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[7]Includes coal, coal coke (net), and electricity (net).
[8]Includes crude oil and petroleum products.
[9]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[10]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.
[11]Includes grid-connected electricity from wood and wood waste, non-electric energy from wood, and biofuels heat and coproducts used in the production of liquid fuels, but excludes the energy content of the liquid fuels.
[12]Includes net electricity imports.
[13]Weighted average price delivered to U.S. refiners.
[14]Represents lower 48 onshore and offshore supplies.
[15]Includes reported prices for both open market and captive mines.
[16]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
Btu = British thermal unit.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 natural gas supply values: Energy Information Administration (EIA), *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2005 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2004 natural gas wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2004 and 2005 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2005,* DOE/EIA-0584(2005) (Washington, DC, October 2006). 2005 petroleum supply values and 2004 crude oil and lease condensate production: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). Other 2004 petroleum supply values: EIA, *Petroleum Supply Annual 2004,* DOE/EIA-0340(2004)/1 (Washington, DC, June 2005). 2004 and 2005 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2004 and 2005 coal values: *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006). Other 2004 and 2005 values: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A2. Energy Consumption by Sector and Source
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Energy Consumption								
Residential								
Liquefied Petroleum Gases	0.54	0.51	0.53	0.56	0.58	0.60	0.62	0.8%
Kerosene	0.09	0.10	0.10	0.10	0.10	0.09	0.09	-0.3%
Distillate Fuel Oil	0.93	0.93	0.90	0.89	0.85	0.80	0.76	-0.8%
Liquid Fuels and Other Petroleum Subtotal	1.55	1.54	1.53	1.55	1.53	1.49	1.46	-0.2%
Natural Gas	5.02	4.98	5.18	5.35	5.43	5.45	5.47	0.4%
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-1.2%
Renewable Energy[1]	0.40	0.41	0.43	0.41	0.40	0.40	0.39	-0.2%
Electricity	4.41	4.66	5.06	5.43	5.80	6.13	6.47	1.3%
Delivered Energy	**11.39**	**11.60**	**12.21**	**12.74**	**13.17**	**13.48**	**13.80**	**0.7%**
Electricity Related Losses	9.75	10.15	10.90	11.44	12.08	12.50	12.89	1.0%
Total	**21.15**	**21.75**	**23.11**	**24.18**	**25.26**	**25.98**	**26.70**	**0.8%**
Commercial								
Liquefied Petroleum Gases	0.10	0.09	0.09	0.09	0.10	0.10	0.10	0.4%
Motor Gasoline[2]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.6%
Kerosene	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.4%
Distillate Fuel Oil	0.47	0.48	0.45	0.48	0.48	0.48	0.49	0.1%
Residual Fuel Oil	0.12	0.14	0.14	0.14	0.14	0.14	0.14	0.2%
Liquid Fuels and Other Petroleum Subtotal	0.76	0.77	0.75	0.79	0.80	0.81	0.81	0.2%
Natural Gas	3.23	3.15	3.31	3.64	3.86	4.10	4.36	1.3%
Coal	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-0.1%
Renewable Energy[3]	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.0%
Electricity	4.19	4.32	4.77	5.28	5.78	6.36	7.03	2.0%
Delivered Energy	**8.40**	**8.46**	**9.05**	**9.93**	**10.66**	**11.48**	**12.43**	**1.6%**
Electricity Related Losses	9.27	9.42	10.27	11.13	12.03	12.97	14.01	1.6%
Total	**17.67**	**17.88**	**19.33**	**21.06**	**22.69**	**24.45**	**26.44**	**1.6%**
Industrial[4]								
Liquefied Petroleum Gases	2.27	2.13	2.26	2.24	2.26	2.31	2.40	0.5%
Motor Gasoline[2]	0.32	0.32	0.32	0.32	0.33	0.35	0.36	0.4%
Distillate Fuel Oil	1.21	1.23	1.18	1.19	1.22	1.23	1.26	0.1%
Residual Fuel Oil	0.22	0.23	0.18	0.18	0.17	0.18	0.18	-0.9%
Petrochemical Feedstocks	1.54	1.38	1.48	1.49	1.50	1.52	1.57	0.5%
Other Petroleum[5]	4.53	4.45	4.05	4.26	4.34	4.48	4.78	0.3%
Liquid Fuels and Other Petroleum Subtotal	10.09	9.73	9.47	9.68	9.82	10.07	10.55	0.3%
Natural Gas	7.45	6.84	7.86	7.90	8.26	8.68	8.90	1.1%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Lease and Plant Fuel[6]	1.13	1.10	1.10	1.10	1.21	1.17	1.15	0.2%
Natural Gas Subtotal	8.58	7.94	8.95	9.00	9.46	9.85	10.05	0.9%
Metallurgical Coal	0.65	0.62	0.60	0.59	0.57	0.57	0.57	-0.3%
Other Industrial Coal	1.40	1.35	1.37	1.35	1.34	1.35	1.36	0.0%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.12	0.21	0.67	0.93	N/A
Net Coal Coke Imports	0.14	0.04	0.02	0.02	0.02	0.02	0.02	-3.4%
Coal Subtotal	2.18	2.01	2.00	2.07	2.14	2.61	2.89	1.5%
Biofuels Heat and Coproducts	0.21	0.24	0.69	0.74	0.78	0.83	0.88	5.2%
Renewable Energy[7]	1.70	1.44	1.60	1.71	1.81	1.93	2.05	1.4%
Electricity	3.48	3.48	3.63	3.76	3.83	3.94	4.09	0.6%
Delivered Energy	**26.24**	**24.85**	**26.33**	**26.97**	**27.84**	**29.23**	**30.51**	**0.8%**
Electricity Related Losses	7.68	7.60	7.81	7.93	7.98	8.03	8.15	0.3%
Total	**33.92**	**32.45**	**34.14**	**34.89**	**35.82**	**37.26**	**38.66**	**0.7%**

Table A2. Energy Consumption by Sector and Source (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Transportation								
Liquefied Petroleum Gases	0.03	0.04	0.05	0.05	0.06	0.07	0.08	2.8%
E85[8]	0.00	0.00	0.00	0.00	0.01	0.02	0.02	11.8%
Motor Gasoline[2]	17.01	17.00	17.37	18.57	19.95	21.38	22.89	1.2%
Jet Fuel[9]	3.38	3.37	4.04	4.34	4.54	4.59	4.70	1.3%
Distillate Fuel Oil[10]	5.93	6.02	6.64	7.28	7.81	8.59	9.58	1.9%
Residual Fuel Oil	0.74	0.81	0.82	0.84	0.85	0.86	0.87	0.3%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.1%
Other Petroleum[11]	0.15	0.18	0.18	0.19	0.19	0.19	0.19	0.2%
Liquid Fuels and Other Petroleum Subtotal	27.25	27.42	29.11	31.26	33.41	35.69	38.34	1.3%
Pipeline Fuel Natural Gas	0.59	0.58	0.66	0.70	0.79	0.79	0.79	1.3%
Compressed Natural Gas	0.03	0.03	0.06	0.08	0.09	0.11	0.12	5.5%
Electricity	0.02	0.02	0.03	0.03	0.03	0.04	0.04	1.8%
Delivered Energy	**27.89**	**28.05**	**29.86**	**32.07**	**34.33**	**36.63**	**39.29**	**1.4%**
Electricity Related Losses	0.05	0.05	0.06	0.07	0.07	0.07	0.08	1.5%
Total	**27.94**	**28.11**	**29.92**	**32.14**	**34.40**	**36.71**	**39.37**	**1.4%**
Delivered Energy Consumption for All Sectors								
Liquefied Petroleum Gases	2.93	2.77	2.93	2.95	2.99	3.07	3.19	0.6%
E85[8]	0.00	0.00	0.00	0.00	0.01	0.02	0.02	11.8%
Motor Gasoline[2]	17.38	17.37	17.74	18.94	20.34	21.78	23.30	1.2%
Jet Fuel[9]	3.38	3.37	4.04	4.34	4.54	4.59	4.70	1.3%
Kerosene	0.13	0.14	0.14	0.15	0.14	0.14	0.14	-0.2%
Distillate Fuel Oil	8.54	8.65	9.17	9.84	10.36	11.11	12.09	1.3%
Residual Fuel Oil	1.08	1.17	1.13	1.15	1.16	1.18	1.19	0.1%
Petrochemical Feedstocks	1.54	1.38	1.48	1.49	1.50	1.52	1.57	0.5%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.1%
Other Petroleum[12]	4.66	4.61	4.22	4.42	4.51	4.65	4.96	0.3%
Liquid Fuels and Other Petroleum Subtotal	39.65	39.46	40.86	43.29	45.55	48.06	51.17	1.0%
Natural Gas	15.71	15.01	16.41	16.96	17.65	18.33	18.86	0.9%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Lease and Plant Fuel[6]	1.13	1.10	1.10	1.10	1.21	1.17	1.15	0.2%
Pipeline Natural Gas	0.59	0.58	0.66	0.70	0.79	0.79	0.79	1.3%
Natural Gas Subtotal	17.44	16.68	18.17	18.76	19.64	20.30	20.80	0.9%
Metallurgical Coal	0.65	0.62	0.60	0.59	0.57	0.57	0.57	-0.3%
Other Coal	1.51	1.46	1.48	1.46	1.45	1.46	1.47	0.0%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.12	0.21	0.67	0.93	N/A
Net Coal Coke Imports	0.14	0.04	0.02	0.02	0.02	0.02	0.02	-3.4%
Coal Subtotal	2.30	2.12	2.11	2.18	2.24	2.71	2.99	1.4%
Biofuels Heat and Coproducts	0.21	0.24	0.69	0.74	0.78	0.83	0.88	5.2%
Renewable Energy[13]	2.21	1.97	2.14	2.24	2.34	2.44	2.56	1.1%
Electricity	12.11	12.49	13.49	14.51	15.45	16.47	17.63	1.4%
Delivered Energy	**73.92**	**72.97**	**77.46**	**81.71**	**86.00**	**90.82**	**96.03**	**1.1%**
Electricity Related Losses	26.75	27.23	29.04	30.56	32.17	33.57	35.13	1.0%
Total	**100.67**	**100.19**	**106.50**	**112.28**	**118.16**	**124.39**	**131.16**	**1.1%**
Electric Power[14]								
Distillate Fuel Oil	0.15	0.19	0.24	0.24	0.25	0.28	0.28	1.5%
Residual Fuel Oil	0.99	0.96	0.67	0.74	0.72	0.71	0.72	-1.1%
Liquid Fuels and Other Petroleum Subtotal	1.14	1.16	0.90	0.97	0.97	0.99	1.01	-0.6%
Natural Gas	5.61	5.95	6.56	7.31	7.40	6.78	6.09	0.1%
Steam Coal	20.30	20.75	22.13	23.45	25.05	27.90	31.14	1.6%
Nuclear Power	8.22	8.13	8.23	8.47	9.23	9.23	9.33	0.6%
Renewable Energy[15]	3.55	3.64	4.67	4.83	4.93	5.09	5.15	1.4%
Electricity Imports	0.04	0.08	0.04	0.03	0.04	0.04	0.04	-2.6%
Total	**38.86**	**39.71**	**42.53**	**45.07**	**47.62**	**50.04**	**52.77**	**1.1%**

Table A2. Energy Consumption by Sector and Source (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Total Energy Consumption								
Liquefied Petroleum Gases	2.93	2.77	2.93	2.95	2.99	3.07	3.19	0.6%
E85[8]	0.00	0.00	0.00	0.00	0.01	0.02	0.02	11.8%
Motor Gasoline[2]	17.38	17.37	17.74	18.94	20.34	21.78	23.30	1.2%
Jet Fuel[9]	3.38	3.37	4.04	4.34	4.54	4.59	4.70	1.3%
Kerosene	0.13	0.14	0.14	0.15	0.14	0.14	0.14	-0.2%
Distillate Fuel Oil	8.69	8.84	9.40	10.08	10.61	11.38	12.37	1.4%
Residual Fuel Oil	2.07	2.14	1.80	1.89	1.88	1.89	1.91	-0.4%
Petrochemical Feedstocks	1.54	1.38	1.48	1.49	1.50	1.52	1.57	0.5%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.1%
Other Petroleum[12]	4.66	4.61	4.22	4.42	4.51	4.65	4.96	0.3%
Liquid Fuels and Other Petroleum Subtotal	40.79	40.61	41.76	44.26	46.52	49.05	52.17	1.0%
Natural Gas	21.33	20.96	22.97	24.27	25.05	25.11	24.95	0.7%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Lease and Plant Fuel[6]	1.13	1.10	1.10	1.10	1.21	1.17	1.15	0.2%
Pipeline Natural Gas	0.59	0.58	0.66	0.70	0.79	0.79	0.79	1.3%
Natural Gas Subtotal	23.05	22.63	24.73	26.07	27.04	27.08	26.89	0.7%
Metallurgical Coal	0.65	0.62	0.60	0.59	0.57	0.57	0.57	-0.3%
Other Coal	21.81	22.21	23.61	24.91	26.50	29.36	32.61	1.5%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.12	0.21	0.67	0.93	N/A
Net Coal Coke Imports	0.14	0.04	0.02	0.02	0.02	0.02	0.02	-3.4%
Coal Subtotal	22.60	22.87	24.24	25.64	27.29	30.62	34.14	1.6%
Nuclear Power	8.22	8.13	8.23	8.47	9.23	9.23	9.33	0.6%
Biofuels Heat and Coproducts	0.21	0.24	0.69	0.74	0.78	0.83	0.88	5.2%
Renewable Energy[16]	5.76	5.61	6.81	7.07	7.27	7.54	7.71	1.3%
Electricity Imports	0.04	0.08	0.04	0.03	0.04	0.04	0.04	-2.6%
Total	**100.67**	**100.19**	**106.50**	**112.28**	**118.16**	**124.39**	**131.16**	**1.1%**
Energy Use and Related Statistics								
Delivered Energy Use	73.92	72.97	77.46	81.71	86.00	90.82	96.03	1.1%
Total Energy Use	100.67	100.19	106.50	112.28	118.16	124.39	131.16	1.1%
Ethanol Consumed in Motor Gasoline and E85	0.29	0.33	0.91	0.98	1.06	1.15	1.22	5.3%
Population (millions)	294.23	296.94	310.26	323.70	337.13	350.78	364.94	0.8%
Gross Domestic Product (billion 2000 dollars)	10704	11049	12790	14698	17077	19666	22494	2.9%
Carbon Dioxide Emissions (million metric tons)	5923.1	5945.3	6214.0	6588.9	6944.5	7424.6	7950.2	1.2%

[1]Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.
[2]Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
[3]Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes petroleum coke, asphalt, road oil, lubricants, still gas, tire-derived fuel, and miscellaneous petroleum products.
[6]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[7]Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal solid waste, and other biomass sources.
[8]E85 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.
[9]Includes only kerosene type.
[10]Diesel fuel for on- and off- road use.
[11]Includes aviation gasoline and lubricants.
[12]Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, tire-derived fuel, and miscellaneous petroleum products.
[13]Includes 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.
[14]Includes 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.
[15]Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
[16]Includes 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.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 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: 2004 and 2005 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 population and gross domestic product: Global Insight macroeconomic model CTL0806. 2004 and 2005 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2005,* DOE/EIA-0573(2005) (Washington, DC, November 2006). **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A3. Energy Prices by Sector and Source
(2005 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Residential								
Liquefied Petroleum Gases	18.21	19.29	23.67	22.88	23.18	23.53	23.91	0.9%
Distillate Fuel Oil	12.89	14.73	14.87	12.60	13.15	13.56	14.13	-0.2%
Natural Gas	10.72	12.43	10.98	10.24	10.54	10.97	11.43	-0.3%
Electricity	27.10	27.59	26.91	25.99	26.37	26.61	26.76	-0.1%
Commercial								
Distillate Fuel Oil	10.48	12.68	12.72	10.73	11.35	11.85	12.45	-0.1%
Residual Fuel Oil	6.25	8.41	7.54	6.49	7.07	7.17	7.31	-0.6%
Natural Gas	9.40	11.20	9.34	8.48	8.67	8.96	9.30	-0.7%
Electricity	24.59	25.25	24.50	23.33	23.95	24.23	24.27	-0.2%
Industrial[1]								
Liquefied Petroleum Gases	11.18	16.96	16.42	15.57	15.91	16.22	16.55	-0.1%
Distillate Fuel Oil	10.99	13.08	12.95	11.40	12.04	12.62	13.25	0.1%
Residual Fuel Oil	5.77	7.77	9.50	8.21	8.91	9.26	9.58	0.8%
Natural Gas[2]	6.47	8.16	6.43	5.65	5.90	6.21	6.56	-0.9%
Metallurgical Coal	2.31	3.06	3.09	2.72	2.71	2.70	2.75	-0.4%
Other Industrial Coal	1.80	2.15	2.26	2.20	2.18	2.23	2.29	0.2%
Coal to Liquids	0.00	0.00	0.00	0.89	0.97	1.23	1.33	N/A
Electricity	15.88	16.69	18.01	16.46	17.07	17.35	17.43	0.2%
Transportation								
Liquefied Petroleum Gases[3]	19.68	23.92	24.34	23.49	23.66	23.95	24.29	0.1%
E85[4]	20.91	23.10	21.29	20.09	20.61	21.26	21.50	-0.3%
Motor Gasoline[5]	15.72	18.64	17.90	16.06	16.63	17.32	17.76	-0.2%
Jet Fuel[6]	9.22	13.14	10.91	9.89	10.51	11.10	11.75	-0.4%
Distillate Fuel Oil[7]	13.58	17.52	16.81	14.86	15.42	15.91	16.47	-0.2%
Residual Fuel Oil	4.85	5.51	8.05	7.04	7.36	7.90	8.27	1.6%
Natural Gas[8]	11.91	14.76	13.97	12.86	12.98	13.22	13.45	-0.4%
Electricity	26.10	25.22	24.86	23.81	24.22	24.47	24.46	-0.1%
Electric Power[9]								
Distillate Fuel Oil	9.52	11.38	11.71	9.26	9.84	10.25	10.79	-0.2%
Residual Fuel Oil	4.99	6.96	6.58	5.60	6.08	6.58	6.85	-0.1%
Natural Gas	6.11	8.18	6.22	5.50	5.76	6.05	6.33	-1.0%
Steam Coal	1.40	1.53	1.71	1.60	1.58	1.63	1.69	0.4%
Average Price to All Users[10]								
Liquefied Petroleum Gases	12.69	17.48	18.02	17.24	17.62	17.96	18.30	0.2%
E85[4]	20.91	23.10	21.29	20.09	20.61	21.26	21.50	-0.3%
Motor Gasoline[5]	15.71	18.60	17.90	16.06	16.63	17.32	17.75	-0.2%
Jet Fuel	9.22	13.14	10.91	9.89	10.51	11.10	11.75	-0.4%
Distillate Fuel Oil	12.91	16.22	15.70	13.92	14.53	15.08	15.70	-0.1%
Residual Fuel Oil	5.10	6.59	7.61	6.55	7.00	7.47	7.79	0.7%
Natural Gas	7.83	9.65	7.83	7.06	7.32	7.68	8.09	-0.7%
Metallurgical Coal	2.31	3.06	3.09	2.72	2.71	2.70	2.75	-0.4%
Other Coal	1.43	1.57	1.74	1.63	1.61	1.66	1.72	0.4%
Coal to Liquids	N/A	N/A	N/A	0.89	0.97	1.23	1.33	N/A
Electricity	23.01	23.73	23.66	22.55	23.15	23.47	23.60	-0.0%

Table A3. Energy Prices by Sector and Source (Continued)
(2005 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Non-Renewable Energy Expenditures by Sector (billion 2005 dollars)								
Residential	195.99	215.13	220.44	221.00	236.03	248.99	262.21	0.8%
Commercial	141.78	154.38	157.97	163.37	181.74	201.11	222.08	1.5%
Industrial	184.23	196.07	200.48	184.11	194.88	206.98	222.08	0.5%
Transportation	385.00	474.66	476.38	459.42	511.07	570.28	632.79	1.2%
Total Non-Renewable Expenditures	907.00	1040.25	1055.27	1027.91	1123.73	1227.35	1339.16	1.0%
Transportation Renewable Expenditures	0.02	0.03	0.06	0.09	0.15	0.32	0.51	11.5%
Total Expenditures	**907.02**	**1040.29**	**1055.33**	**1028.00**	**1123.89**	**1227.67**	**1339.68**	**1.0%**

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Excludes use for lease and plant fuel.
[3]Includes Federal and State taxes while excluding county and local taxes.
[4]E85 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.
[5]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[6]Kerosene-type jet fuel. Includes Federal and State taxes while excluding county and local taxes.
[7]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[8]Compressed natural gas used as a vehicle fuel. Includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[9]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[10]Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.
Btu = British thermal unit.
N/A = Not applicable.
Note: Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2004 residential and commercial natural gas delivered prices: EIA,*Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2005 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2004 and 2005 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and the *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2004 transportation sector natural gas delivered prices are based on: EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and estimated state taxes, federal taxes, and dispensing costs or charges. 2005 transportation sector natural gas delivered prices are model results. 2004 and 2005 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2003 through April 2004, Table 4.11.A. 2004 and 2005 coal prices based on: EIA, *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006) and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. 2004 and 2005 electricity prices: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 ethanol prices derived from weekly spot prices in the Oxy Fuel News. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A4. Residential Sector Key Indicators and Consumption
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Key Indicators								
Households (millions)								
Single-Family	77.46	78.95	84.84	90.34	95.57	100.32	104.76	1.1%
Multifamily	27.37	27.67	29.10	30.39	31.81	33.31	34.88	0.9%
Mobile Homes	6.72	6.70	6.77	7.03	7.32	7.59	7.85	0.6%
Total	**111.56**	**113.32**	**120.71**	**127.75**	**134.70**	**141.21**	**147.49**	**1.1%**
Average House Square Footage	**1755**	**1770**	**1830**	**1883**	**1929**	**1969**	**2004**	**0.5%**
Energy Intensity								
(million Btu per household)								
Delivered Energy Consumption	102.1	102.3	101.1	99.7	97.8	95.4	93.6	-0.4%
Total Energy Consumption	189.6	191.9	191.4	189.3	187.5	184.0	181.0	-0.2%
(thousand Btu per square foot)								
Delivered Energy Consumption	58.2	57.8	55.3	53.0	50.7	48.5	46.7	-0.9%
Total Energy Consumption	108.0	108.4	104.6	100.5	97.2	93.4	90.3	-0.7%
Delivered Energy Consumption by Fuel								
Electricity								
Space Heating	0.39	0.40	0.44	0.47	0.49	0.50	0.51	1.0%
Space Cooling	0.65	0.74	0.73	0.76	0.80	0.85	0.90	0.8%
Water Heating	0.37	0.37	0.39	0.40	0.41	0.41	0.42	0.4%
Refrigeration	0.40	0.39	0.36	0.35	0.35	0.36	0.38	-0.1%
Cooking	0.10	0.11	0.12	0.12	0.13	0.14	0.15	1.3%
Clothes Dryers	0.24	0.25	0.26	0.27	0.29	0.30	0.32	1.0%
Freezers	0.13	0.12	0.12	0.12	0.12	0.13	0.13	0.2%
Lighting	0.72	0.73	0.79	0.87	0.94	0.99	1.03	1.3%
Clothes Washers[1]	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.8%
Dishwashers[1]	0.02	0.02	0.03	0.03	0.03	0.03	0.03	1.2%
Color Televisions and Set-Top Boxes	0.30	0.30	0.38	0.39	0.40	0.45	0.50	2.0%
Personal Computers	0.07	0.08	0.12	0.14	0.17	0.20	0.21	4.1%
Furnace Fans	0.08	0.08	0.10	0.11	0.11	0.12	0.13	1.6%
Other Uses[2]	0.89	1.01	1.21	1.36	1.53	1.63	1.74	2.2%
Delivered Energy	**4.41**	**4.66**	**5.06**	**5.43**	**5.80**	**6.13**	**6.47**	**1.3%**
Natural Gas								
Space Heating	3.53	3.52	3.69	3.82	3.88	3.89	3.89	0.4%
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.8%
Water Heating	1.16	1.14	1.15	1.17	1.18	1.18	1.20	0.2%
Cooking	0.21	0.22	0.23	0.23	0.24	0.25	0.26	0.7%
Clothes Dryers	0.07	0.07	0.07	0.08	0.08	0.09	0.09	1.0%
Other Uses[3]	0.04	0.04	0.04	0.04	0.04	0.04	0.04	-0.3%
Delivered Energy	**5.02**	**4.98**	**5.18**	**5.35**	**5.43**	**5.45**	**5.47**	**0.4%**
Distillate Fuel Oil								
Space Heating	0.81	0.82	0.79	0.79	0.76	0.72	0.68	-0.7%
Water Heating	0.12	0.12	0.11	0.10	0.09	0.08	0.08	-1.6%
Other Uses[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.5%
Delivered Energy	**0.93**	**0.93**	**0.90**	**0.89**	**0.85**	**0.80**	**0.76**	**-0.8%**
Liquefied Petroleum Gases								
Space Heating	0.29	0.26	0.27	0.27	0.27	0.27	0.27	0.1%
Water Heating	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.2%
Cooking	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.7%
Other Uses[3]	0.17	0.17	0.18	0.21	0.23	0.25	0.27	1.8%
Delivered Energy	**0.54**	**0.51**	**0.53**	**0.56**	**0.58**	**0.60**	**0.62**	**0.8%**
Marketed Renewables (wood)[5]	0.40	0.41	0.43	0.41	0.40	0.40	0.39	-0.2%
Other Fuels[6]	0.10	0.11	0.11	0.11	0.11	0.10	0.10	-0.4%

Table A4. Residential Sector Key Indicators and Consumption (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Delivered Energy Consumption by End Use								
Space Heating	5.52	5.51	5.73	5.87	5.91	5.87	5.83	0.2%
Space Cooling	0.65	0.74	0.73	0.76	0.80	0.85	0.90	0.8%
Water Heating	1.70	1.68	1.69	1.72	1.73	1.73	1.74	0.2%
Refrigeration	0.40	0.39	0.36	0.35	0.35	0.36	0.38	-0.1%
Cooking	0.35	0.35	0.37	0.39	0.41	0.42	0.44	0.9%
Clothes Dryers	0.31	0.32	0.34	0.35	0.37	0.39	0.41	1.0%
Freezers	0.13	0.12	0.12	0.12	0.12	0.13	0.13	0.2%
Lighting	0.72	0.73	0.79	0.87	0.94	0.99	1.03	1.3%
Clothes Washers	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.8%
Dishwashers	0.02	0.02	0.03	0.03	0.03	0.03	0.03	1.2%
Color Televisions and Set-Top Boxes	0.30	0.30	0.38	0.39	0.40	0.45	0.50	2.0%
Personal Computers	0.07	0.08	0.12	0.14	0.17	0.20	0.21	4.1%
Furnace Fans	0.08	0.08	0.10	0.11	0.11	0.12	0.13	1.6%
Other Uses[7]	1.11	1.22	1.43	1.61	1.80	1.92	2.05	2.1%
Delivered Energy	**11.39**	**11.60**	**12.21**	**12.74**	**13.17**	**13.48**	**13.80**	**0.7%**
Electricity Related Losses	**9.75**	**10.15**	**10.90**	**11.44**	**12.08**	**12.50**	**12.89**	**1.0%**
Total Energy Consumption by End Use								
Space Heating	6.39	6.40	6.67	6.85	6.92	6.89	6.86	0.3%
Space Cooling	2.08	2.36	2.30	2.37	2.47	2.57	2.70	0.5%
Water Heating	2.52	2.49	2.53	2.57	2.59	2.57	2.57	0.1%
Refrigeration	1.28	1.24	1.15	1.09	1.09	1.10	1.13	-0.4%
Cooking	0.58	0.58	0.62	0.65	0.68	0.71	0.73	0.9%
Clothes Dryers	0.86	0.86	0.90	0.93	0.97	1.01	1.05	0.8%
Freezers	0.41	0.40	0.37	0.37	0.38	0.39	0.39	-0.1%
Lighting	2.33	2.34	2.48	2.69	2.89	3.00	3.07	1.1%
Clothes Washers	0.11	0.11	0.10	0.09	0.08	0.08	0.08	-1.0%
Dishwashers	0.08	0.08	0.08	0.09	0.09	0.10	0.10	1.0%
Color Televisions and Set-Top Boxes	0.95	0.96	1.20	1.21	1.24	1.35	1.49	1.8%
Personal Computers	0.24	0.25	0.37	0.45	0.52	0.60	0.63	3.9%
Furnace Fans	0.27	0.27	0.30	0.33	0.35	0.36	0.38	1.3%
Other Uses[7]	3.07	3.42	4.03	4.49	4.98	5.24	5.51	1.9%
Total	**21.15**	**21.75**	**23.11**	**24.18**	**25.26**	**25.98**	**26.70**	**0.8%**
Nonmarketed Renewables[8]								
Geothermal Heat Pumps	0.00	0.00	0.01	0.01	0.01	0.01	0.02	6.8%
Solar Hot Water Heating	0.03	0.03	0.03	0.04	0.05	0.06	0.06	3.5%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.1%
Total	**0.03**	**0.03**	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**4.0%**

[1]Does not include water heating portion of load.
[2]Includes small electric devices, heating elements, and motors not listed above.
[3]Includes such appliances as swimming pool heaters, outdoor grills, and outdoor lighting (natural gas).
[4]Includes such appliances as swimming pool and spa heaters.
[5]Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 2001*.
[6]Includes kerosene and coal.
[7]Includes all other uses listed above.
[8]Represents primary energy displaced.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006).
Projections: EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A5. Commercial Sector Key Indicators and Consumption
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Key Indicators								
Total Floorspace (billion square feet)								
Surviving	71.1	72.4	78.5	84.6	90.8	97.8	105.5	1.5%
New Additions	1.9	1.9	1.8	1.9	2.1	2.3	2.5	1.1%
Total	**73.0**	**74.3**	**80.4**	**86.5**	**92.9**	**100.1**	**108.0**	**1.5%**
Energy Consumption Intensity (thousand Btu per square foot)								
Delivered Energy Consumption	115.1	113.9	112.6	114.8	114.7	114.7	115.1	0.0%
Electricity Related Losses	127.0	126.8	127.8	128.6	129.6	129.5	129.7	0.1%
Total Energy Consumption	242.1	240.8	240.4	243.4	244.3	244.2	244.8	0.1%
Delivered Energy Consumption by Fuel								
Purchased Electricity								
Space Heating[1]	0.17	0.17	0.17	0.18	0.18	0.18	0.19	0.4%
Space Cooling[1]	0.46	0.55	0.50	0.52	0.54	0.57	0.61	0.4%
Water Heating[1]	0.18	0.18	0.18	0.18	0.19	0.19	0.20	0.5%
Ventilation	0.19	0.19	0.19	0.21	0.22	0.23	0.25	1.1%
Cooking	0.04	0.04	0.04	0.04	0.04	0.04	0.04	-0.2%
Lighting	1.19	1.18	1.19	1.26	1.33	1.41	1.51	1.0%
Refrigeration	0.23	0.23	0.24	0.25	0.26	0.28	0.30	1.0%
Office Equipment (PC)	0.14	0.18	0.30	0.35	0.38	0.39	0.40	3.2%
Office Equipment (non-PC)	0.32	0.35	0.48	0.57	0.67	0.78	0.92	3.9%
Other Uses[2]	1.28	1.25	1.48	1.72	1.98	2.28	2.62	3.0%
Delivered Energy	**4.19**	**4.32**	**4.77**	**5.28**	**5.78**	**6.36**	**7.03**	**2.0%**
Natural Gas								
Space Heating[1]	1.38	1.35	1.45	1.57	1.64	1.71	1.78	1.1%
Space Cooling[1]	0.02	0.02	0.02	0.03	0.03	0.04	0.04	2.3%
Water Heating[1]	0.59	0.57	0.56	0.64	0.69	0.75	0.82	1.5%
Cooking	0.24	0.23	0.26	0.29	0.31	0.34	0.36	1.8%
Other Uses[3]	1.00	0.97	1.02	1.12	1.19	1.26	1.36	1.3%
Delivered Energy	**3.23**	**3.15**	**3.31**	**3.64**	**3.86**	**4.10**	**4.36**	**1.3%**
Distillate Fuel Oil								
Space Heating[1]	0.20	0.20	0.20	0.22	0.22	0.22	0.23	0.6%
Water Heating[1]	0.07	0.07	0.06	0.07	0.07	0.07	0.07	-0.0%
Other Uses[4]	0.20	0.21	0.18	0.19	0.19	0.19	0.19	-0.4%
Delivered Energy	**0.47**	**0.48**	**0.45**	**0.48**	**0.48**	**0.48**	**0.49**	**0.1%**
Marketed Renewables (biomass)	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.0%
Other Fuels[5]	0.39	0.40	0.40	0.41	0.41	0.42	0.42	0.2%
Delivered Energy Consumption by End Use								
Space Heating[1]	1.75	1.71	1.83	1.96	2.04	2.12	2.20	1.0%
Space Cooling[1]	0.48	0.57	0.53	0.55	0.57	0.61	0.65	0.5%
Water Heating[1]	0.84	0.82	0.80	0.89	0.95	1.02	1.09	1.2%
Ventilation	0.19	0.19	0.19	0.21	0.22	0.23	0.25	1.1%
Cooking	0.27	0.27	0.29	0.33	0.35	0.37	0.40	1.6%
Lighting	1.19	1.18	1.19	1.26	1.33	1.41	1.51	1.0%
Refrigeration	0.23	0.23	0.24	0.25	0.26	0.28	0.30	1.0%
Office Equipment (PC)	0.14	0.18	0.30	0.35	0.38	0.39	0.40	3.2%
Office Equipment (non-PC)	0.32	0.35	0.48	0.57	0.67	0.78	0.92	3.9%
Other Uses[6]	2.98	2.95	3.21	3.57	3.90	4.28	4.71	1.9%
Delivered Energy	**8.40**	**8.46**	**9.05**	**9.93**	**10.66**	**11.48**	**12.43**	**1.6%**

Table A5. Commercial Sector Key Indicators and Consumption (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Electricity Related Losses	**9.27**	**9.42**	**10.27**	**11.13**	**12.03**	**12.97**	**14.01**	**1.6%**
Total Energy Consumption by End Use								
Space Heating[1]	2.12	2.08	2.20	2.34	2.41	2.49	2.57	0.9%
Space Cooling[1]	1.50	1.77	1.61	1.64	1.69	1.76	1.86	0.2%
Water Heating[1]	1.22	1.20	1.18	1.27	1.34	1.41	1.49	0.9%
Ventilation	0.60	0.60	0.61	0.64	0.67	0.70	0.74	0.8%
Cooking	0.36	0.35	0.37	0.40	0.43	0.45	0.47	1.2%
Lighting	3.82	3.76	3.74	3.92	4.09	4.29	4.53	0.7%
Refrigeration	0.74	0.74	0.76	0.78	0.81	0.85	0.90	0.8%
Office Equipment (PC)	0.46	0.58	0.96	1.08	1.18	1.20	1.21	3.0%
Office Equipment (non-PC)	1.03	1.12	1.50	1.78	2.05	2.37	2.74	3.6%
Other Uses[6]	5.81	5.68	6.40	7.20	8.03	8.93	9.93	2.3%
Total	**17.67**	**17.88**	**19.33**	**21.06**	**22.69**	**24.45**	**26.44**	**1.6%**
Nonmarketed Renewable Fuels[7]								
Solar Thermal	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.6%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.01	0.01	11.3%
Total	**0.02**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.04**	**2.1%**

[1]Includes fuel consumption for district services.
[2]Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, and medical equipment.
[3]Includes miscellaneous uses, such as pumps, emergency generators, combined heat and power in commercial buildings, and manufacturing performed in commercial buildings.
[4]Includes miscellaneous uses, such as cooking, emergency generators, and combined heat and power in commercial buildings.
[5]Includes residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.
[6]Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, emergency 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.
[7]Represents 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 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006).
Projections: EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A6. Industrial Sector Key Indicators and Consumption

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Key Indicators								
Value of Shipments (billion 2000 dollars)								
Manufacturing	4157	4225	4702	5332	5933	6645	7478	2.3%
Nonmanufacturing	1494	1538	1596	1701	1846	1940	2023	1.1%
Total	**5651**	**5763**	**6298**	**7033**	**7779**	**8585**	**9502**	**2.0%**
Energy Prices (2005 dollars per million Btu)								
Liquefied Petroleum Gases	11.18	16.96	16.42	15.57	15.91	16.22	16.55	-0.1%
Motor Gasoline	14.98	16.63	17.83	16.00	16.56	17.25	17.68	0.2%
Distillate Fuel Oil	10.99	13.08	12.95	11.40	12.04	12.62	13.25	0.1%
Residual Fuel Oil	5.77	7.77	9.50	8.21	8.91	9.26	9.58	0.8%
Petrochemical Feedstocks	13.75	8.30	8.67	7.67	8.44	8.40	9.13	0.4%
Asphalt and Road Oil	10.05	6.06	8.24	7.14	7.40	7.82	8.28	1.3%
Natural Gas Heat and Power	5.42	7.17	5.52	4.73	5.04	5.38	5.72	-0.9%
Natural Gas Feedstocks	7.16	8.81	7.13	6.34	6.59	6.90	7.24	-0.8%
Metallurgical Coal	2.31	3.06	3.09	2.72	2.71	2.70	2.75	-0.4%
Other Industrial Coal	1.80	2.15	2.26	2.20	2.18	2.23	2.29	0.2%
Coal to Liquids	N/A	N/A	N/A	0.89	0.97	1.23	1.33	N/A
Electricity	15.88	16.69	18.01	16.46	17.07	17.35	17.43	0.2%
Energy Consumption (quadrillion Btu)[1]								
Industrial Consumption Excluding Refining								
Liquefied Petroleum Gases Heat and Power	0.13	0.13	0.08	0.08	0.08	0.08	0.08	-1.8%
Liquefied Petroleum Gases Feedstocks	2.13	1.98	2.17	2.16	2.18	2.21	2.29	0.6%
Motor Gasoline	0.32	0.32	0.32	0.32	0.33	0.35	0.36	0.4%
Distillate Fuel Oil	1.21	1.22	1.18	1.19	1.22	1.23	1.26	0.1%
Residual Fuel Oil	0.20	0.22	0.14	0.14	0.14	0.14	0.14	-1.6%
Petrochemical Feedstocks	1.54	1.38	1.48	1.49	1.50	1.52	1.57	0.5%
Petroleum Coke	0.36	0.33	0.31	0.31	0.31	0.32	0.34	0.1%
Asphalt and Road Oil	1.27	1.31	1.24	1.24	1.29	1.33	1.37	0.2%
Miscellaneous Petroleum[2]	0.55	0.59	0.45	0.40	0.38	0.38	0.38	-1.7%
Petroleum Subtotal	7.72	7.48	7.38	7.34	7.43	7.58	7.79	0.2%
Natural Gas Heat and Power	5.80	5.30	5.83	6.00	6.22	6.57	6.97	1.1%
Natural Gas Feedstocks	0.60	0.57	0.58	0.57	0.57	0.57	0.58	0.0%
Lease and Plant Fuel[3]	1.13	1.10	1.10	1.10	1.21	1.17	1.15	0.2%
Natural Gas Subtotal	7.54	6.97	7.51	7.68	7.99	8.31	8.70	0.9%
Metallurgical Coal and Coke[4]	0.79	0.66	0.63	0.60	0.59	0.59	0.59	-0.5%
Other Industrial Coal	1.30	1.23	1.26	1.23	1.23	1.24	1.25	0.1%
Coal Subtotal	2.08	1.89	1.88	1.84	1.81	1.82	1.84	-0.1%
Renewables[5]	1.70	1.44	1.60	1.71	1.81	1.93	2.05	1.4%
Purchased Electricity	3.34	3.35	3.44	3.56	3.63	3.73	3.87	0.6%
Delivered Energy	**22.38**	**21.14**	**21.81**	**22.13**	**22.67**	**23.36**	**24.24**	**0.5%**
Electricity Related Losses	7.39	7.31	7.41	7.51	7.56	7.60	7.70	0.2%
Total	**29.77**	**28.45**	**29.22**	**29.64**	**30.23**	**30.96**	**31.94**	**0.5%**
Refining Consumption								
Liquefied Petroleum Gases Heat and Power	0.01	0.02	0.00	0.00	0.00	0.01	0.03	2.5%
Distillate Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Residual Fuel Oil	0.01	0.01	0.03	0.03	0.03	0.04	0.04	4.0%
Petroleum Coke	0.57	0.56	0.60	0.67	0.77	0.84	0.87	1.8%
Still Gas	1.74	1.62	1.44	1.62	1.56	1.57	1.78	0.4%
Miscellaneous Petroleum[2]	0.03	0.03	0.02	0.02	0.03	0.03	0.04	1.0%
Petroleum Subtotal	2.37	2.25	2.09	2.35	2.39	2.49	2.76	0.8%
Natural Gas Heat and Power	1.04	0.97	1.45	1.32	1.47	1.54	1.36	1.4%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Natural Gas Subtotal	1.04	0.97	1.45	1.32	1.47	1.54	1.36	1.4%
Other Industrial Coal	0.10	0.12	0.11	0.11	0.11	0.11	0.11	-0.0%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.12	0.21	0.67	0.93	N/A
Coal Subtotal	0.10	0.12	0.11	0.24	0.32	0.78	1.05	9.2%
Biofuels Heat and Coproducts	0.21	0.24	0.69	0.74	0.78	0.83	0.88	5.2%
Purchased Electricity	0.13	0.13	0.19	0.20	0.20	0.22	0.22	2.1%
Delivered Energy	**3.86**	**3.72**	**4.52**	**4.83**	**5.17**	**5.86**	**6.26**	**2.1%**
Electricity Related Losses	0.29	0.29	0.40	0.42	0.42	0.44	0.45	1.8%
Total	**4.15**	**4.01**	**4.92**	**5.25**	**5.59**	**6.30**	**6.71**	**2.1%**

Table A6. Industrial Sector Key Indicators and Consumption (Continued)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Total Industrial Sector Consumption								
Liquefied Petroleum Gases Heat and Power	0.14	0.15	0.08	0.08	0.08	0.10	0.11	-1.1%
Liquefied Petroleum Gases Feedstocks	2.13	1.98	2.17	2.16	2.18	2.21	2.29	0.6%
Motor Gasoline	0.32	0.32	0.32	0.32	0.33	0.35	0.36	0.4%
Distillate Fuel Oil	1.21	1.23	1.18	1.19	1.22	1.23	1.26	0.1%
Residual Fuel Oil	0.22	0.23	0.18	0.18	0.17	0.18	0.18	-0.9%
Petrochemical Feedstocks	1.54	1.38	1.48	1.49	1.50	1.52	1.57	0.5%
Petroleum Coke	0.93	0.89	0.91	0.98	1.08	1.16	1.21	1.2%
Asphalt and Road Oil	1.27	1.31	1.24	1.24	1.29	1.33	1.37	0.2%
Still Gas	1.74	1.62	1.44	1.62	1.56	1.57	1.78	0.4%
Miscellaneous Petroleum[2]	0.59	0.62	0.47	0.42	0.41	0.42	0.42	-1.5%
Petroleum Subtotal	10.09	9.73	9.47	9.68	9.82	10.07	10.55	0.3%
Natural Gas Heat and Power	6.85	6.27	7.28	7.32	7.69	8.11	8.33	1.1%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Natural Gas Feedstocks	0.60	0.57	0.58	0.57	0.57	0.57	0.58	0.0%
Lease and Plant Fuel[3]	1.13	1.10	1.10	1.10	1.21	1.17	1.15	0.2%
Natural Gas Subtotal	8.58	7.94	8.95	9.00	9.46	9.85	10.05	0.9%
Metallurgical Coal and Coke[4]	0.79	0.66	0.63	0.60	0.59	0.59	0.59	-0.5%
Other Industrial Coal	1.40	1.35	1.37	1.35	1.34	1.35	1.36	0.0%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.12	0.21	0.67	0.93	N/A
Coal Subtotal	2.18	2.01	2.00	2.07	2.14	2.61	2.89	1.5%
Biofuels Heat and Coproducts	0.21	0.24	0.69	0.74	0.78	0.83	0.88	5.2%
Renewables[5]	1.70	1.44	1.60	1.71	1.81	1.93	2.05	1.4%
Purchased Electricity	3.48	3.48	3.63	3.76	3.83	3.94	4.09	0.6%
Delivered Energy	**26.24**	**24.85**	**26.33**	**26.97**	**27.84**	**29.23**	**30.51**	**0.8%**
Electricity Related Losses	7.68	7.60	7.81	7.93	7.98	8.03	8.15	0.3%
Total	**33.92**	**32.45**	**34.14**	**34.89**	**35.82**	**37.26**	**38.66**	**0.7%**
Energy Consumption per dollar of Shipment (thousand Btu per 2000 dollars)								
Liquefied Petroleum Gases Heat and Power	0.02	0.03	0.01	0.01	0.01	0.01	0.01	-3.0%
Liquefied Petroleum Gases Feedstocks	0.38	0.34	0.34	0.31	0.28	0.26	0.24	-1.4%
Motor Gasoline	0.06	0.06	0.05	0.05	0.04	0.04	0.04	-1.5%
Distillate Fuel Oil	0.21	0.21	0.19	0.17	0.16	0.14	0.13	-1.9%
Residual Fuel Oil	0.04	0.04	0.03	0.02	0.02	0.02	0.02	-2.9%
Petrochemical Feedstocks	0.27	0.24	0.24	0.21	0.19	0.18	0.17	-1.5%
Petroleum Coke	0.17	0.15	0.14	0.14	0.14	0.14	0.13	-0.8%
Asphalt and Road Oil	0.23	0.23	0.20	0.18	0.17	0.16	0.14	-1.8%
Still Gas	0.31	0.28	0.23	0.23	0.20	0.18	0.19	-1.6%
Miscellaneous Petroleum[2]	0.10	0.11	0.07	0.06	0.05	0.05	0.04	-3.5%
Petroleum Subtotal	1.79	1.69	1.50	1.38	1.26	1.17	1.11	-1.7%
Natural Gas Heat and Power	1.21	1.09	1.16	1.04	0.99	0.94	0.88	-0.9%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Natural Gas Feedstocks	0.11	0.10	0.09	0.08	0.07	0.07	0.06	-2.0%
Lease and Plant Fuel[3]	0.20	0.19	0.17	0.16	0.16	0.14	0.12	-1.8%
Natural Gas Subtotal	1.52	1.38	1.42	1.28	1.22	1.15	1.06	-1.1%
Metallurgical Coal and Coke[4]	0.14	0.11	0.10	0.09	0.08	0.07	0.06	-2.4%
Other Industrial Coal	0.25	0.23	0.22	0.19	0.17	0.16	0.14	-1.9%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.02	0.03	0.08	0.10	N/A
Coal Subtotal	0.39	0.35	0.32	0.29	0.27	0.30	0.30	-0.5%
Biofuels Heat and Coproducts	0.04	0.04	0.11	0.10	0.10	0.10	0.09	3.1%
Renewables[5]	0.30	0.25	0.25	0.24	0.23	0.22	0.22	-0.6%
Purchased Electricity	0.61	0.60	0.58	0.54	0.49	0.46	0.43	-1.4%
Delivered Energy	**4.64**	**4.31**	**4.18**	**3.83**	**3.58**	**3.40**	**3.21**	**-1.2%**
Electricity Related Losses	1.36	1.32	1.24	1.13	1.03	0.94	0.86	-1.7%
Total	**6.00**	**5.63**	**5.42**	**4.96**	**4.60**	**4.34**	**4.07**	**-1.3%**

Table A6. Industrial Sector Key Indicators and Consumption (Continued)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Industrial Combined Heat and Power								
Capacity (gigawatts)	26.31	25.53	29.28	34.19	39.05	48.82	56.54	3.2%
Generation (billion kilowatthours)	153.21	143.13	169.93	206.73	243.02	317.63	375.86	3.9%

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes lubricants and miscellaneous petroleum products.
[3]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[4]Includes net coal coke imports.
[5]Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal solid waste, and other biomass sources.
Btu = British thermal unit.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 prices for motor gasoline and distillate fuel oil are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2004 and 2005 coal prices are based on: EIA, *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006) and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. 2004 and 2005 electricity prices: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 natural gas prices are based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and the *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2004 refining consumption based on: *Petroleum Supply Annual 2004,* DOE/EIA-0340(2004)/1 (Washington, DC, June 2005). 2005 refining consumption based on: *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). Other 2004 and 2005 consumption values are based on: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 shipments: Global Insight industry model, July 2006. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A7. Transportation Sector Key Indicators and Delivered Energy Consumption

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Key Indicators								
Travel Indicators								
(billion vehicle miles traveled)								
Light-Duty Vehicles less than 8,500 pounds	2652	2655	2799	3125	3474	3839	4226	1.9%
Commercial Light Trucks[1]	66	67	72	81	89	99	110	2.0%
Freight Trucks greater than 10,000 pounds	226	230	255	287	318	355	397	2.2%
(billion seat miles available)								
Air	992	1027	1172	1302	1410	1478	1544	1.6%
(billion ton miles traveled)								
Rail	1590	1590	1714	1864	2000	2223	2445	1.7%
Domestic Shipping	618	613	661	699	730	751	775	0.9%
Energy Efficiency Indicators								
(miles per gallon)								
New Light-Duty Vehicle[2]	24.6	25.2	27.3	27.9	28.2	28.9	29.2	0.6%
New Car[2]	29.1	30.0	31.7	32.4	32.8	33.4	33.7	0.5%
New Light Truck[2]	21.5	21.8	23.7	24.7	25.3	26.1	26.5	0.8%
Light-Duty Stock[3]	19.6	19.6	19.8	20.6	21.2	21.8	22.2	0.5%
New Commercial Light Truck[1]	14.5	14.6	15.8	16.4	16.7	17.2	17.4	0.7%
Stock Commercial Light Truck[1]	14.0	14.1	14.7	15.5	16.2	16.7	17.0	0.8%
Freight Truck	6.0	6.0	6.0	6.2	6.4	6.6	6.7	0.4%
(seat miles per gallon)								
Aircraft	55.5	55.7	58.2	61.9	66.4	71.6	75.6	1.2%
(ton miles per thousand Btu)								
Rail	2.9	2.9	2.9	2.9	3.0	3.0	3.0	0.1%
Domestic Shipping	2.4	2.4	2.4	2.4	2.4	2.5	2.5	0.1%
Energy Use by Mode (quadrillion Btu)								
Light-Duty Vehicles	16.34	16.36	16.76	17.99	19.44	20.98	22.66	1.3%
Commercial Light Trucks[1]	0.59	0.59	0.61	0.65	0.69	0.75	0.81	1.3%
Bus Transportation	0.26	0.26	0.27	0.28	0.28	0.29	0.30	0.5%
Freight Trucks	4.70	4.77	5.29	5.80	6.18	6.71	7.40	1.8%
Rail, Passenger	0.04	0.04	0.05	0.05	0.05	0.05	0.06	1.1%
Rail, Freight	0.55	0.55	0.59	0.63	0.68	0.75	0.82	1.6%
Shipping, Domestic	0.26	0.26	0.27	0.29	0.30	0.31	0.32	0.9%
Shipping, International	0.69	0.76	0.77	0.78	0.79	0.80	0.80	0.2%
Recreational Boats	0.19	0.18	0.20	0.23	0.24	0.25	0.27	1.5%
Air	2.85	2.84	3.50	3.79	3.97	4.00	4.11	1.5%
Military Use	0.71	0.71	0.73	0.75	0.77	0.79	0.80	0.5%
Lubricants	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.4%
Pipeline Fuel	0.59	0.58	0.66	0.70	0.79	0.79	0.79	1.3%
Total	**27.92**	**28.05**	**29.86**	**32.07**	**34.33**	**36.63**	**39.29**	**1.4%**

Table A7. Transportation Sector Key Indicators and Delivered Energy Consumption (Continued)

Key Indicators and Consumption	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Energy Use by Mode (million barrels per day oil equivalent)								
Light-Duty Vehicles	8.57	8.58	9.00	9.66	10.43	11.25	12.15	1.4%
Commercial Light Trucks[1]	0.31	0.31	0.33	0.35	0.37	0.40	0.44	1.4%
Bus Transportation	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.6%
Freight Trucks	2.24	2.27	2.53	2.78	2.96	3.21	3.54	1.8%
Rail, Passenger	0.02	0.02	0.02	0.02	0.02	0.03	0.03	1.1%
Rail, Freight	0.26	0.26	0.28	0.30	0.32	0.36	0.39	1.7%
Shipping, Domestic	0.12	0.12	0.13	0.13	0.14	0.14	0.15	0.9%
Shipping, International	0.30	0.33	0.34	0.34	0.35	0.35	0.35	0.2%
Recreational Boats	0.10	0.10	0.11	0.12	0.13	0.14	0.15	1.6%
Air	1.38	1.37	1.69	1.83	1.92	1.94	1.99	1.5%
Military Use	0.34	0.34	0.35	0.36	0.37	0.38	0.38	0.5%
Lubricants	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.4%
Pipeline Fuel	0.30	0.29	0.33	0.35	0.40	0.40	0.40	1.3%
Total	**14.14**	**14.19**	**15.31**	**16.45**	**17.62**	**18.81**	**20.18**	**1.4%**

[1]Commercial trucks 8,500 to 10,000 pounds.
[2]Environmental Protection Agency rated miles per gallon.
[3]Combined car and light truck "on-the-road" estimate.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005: Energy Information Administration (EIA), *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005); EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006); Federal Highway Administration, *Highway Statistics 2004* (Washington, DC, October 2005); Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 25 and Annual* (Oak Ridge, TN, 2005); National Highway Traffic and Safety Administration, *Summary of Fuel Economy Performance* (Washington, DC, March 2004); U.S. Department of Commerce, Bureau of the Census, "Vehicle Inventory and Use Survey," EC97TV (Washington, DC, October 1999); EIA, *State Energy Data Report 2002*, DOE/EIA-0214(2002) (Washington, DC, December 2005); EIA, *Estimated Number of Alternative-Fueled Vehicles*, http://www.eia.doe.gov/cneaf/alternate/page/datatables/aft1-13_03.html; U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly, December 2005/2004* (Washington, DC, 2005); EIA, *Fuel Oil and Kerosene Sales 2004*, DOE/EIA-0535(2004) (Washington, DC, November 2005); and United States Department of Defense, Defense Fuel Supply Center.
Projections: EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A8. Electricity Supply, Disposition, Prices, and Emissions
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Generation by Fuel Type								
Electric Power Sector[1]								
Power Only[2]								
Coal	1921	1956	2090	2233	2418	2766	3191	2.0%
Petroleum	111	111	82	89	89	91	92	-0.7%
Natural Gas[3]	491	546	658	756	776	702	609	0.4%
Nuclear Power	789	780	789	812	885	886	896	0.6%
Pumped Storage/Other	-8	-7	-9	-9	-9	-9	-9	1.1%
Renewable Sources[4]	321	319	426	440	445	458	461	1.5%
Distributed Generation (Natural Gas)	0	0	0	0	1	2	5	N/A
Total	**3624**	**3705**	**4037**	**4322**	**4605**	**4897**	**5245**	**1.4%**
Combined Heat and Power[5]								
Coal	36	37	31	29	29	29	29	-1.0%
Petroleum	5	5	1	1	1	1	1	-5.3%
Natural Gas	137	129	137	145	142	132	123	-0.2%
Renewable Sources	4	4	4	3	3	3	4	0.1%
Total	**185**	**178**	**172**	**179**	**176**	**166**	**157**	**-0.5%**
Total Net Generation	**3808**	**3883**	**4209**	**4501**	**4781**	**5063**	**5402**	**1.3%**
Less Direct Use	35	35	34	34	34	34	34	-0.1%
Net Available to the Grid	**3773**	**3849**	**4175**	**4467**	**4747**	**5029**	**5368**	**1.3%**
End-Use Generation[6]								
Coal	22	22	22	33	41	85	110	6.6%
Petroleum	6	6	11	13	13	13	14	3.4%
Natural Gas	82	77	97	117	142	169	200	3.9%
Other Gaseous Fuels[7]	6	5	4	5	5	5	6	0.8%
Renewable Sources[4]	37	34	37	40	44	48	54	1.9%
Other[8]	14	12	11	11	11	11	11	-0.0%
Total	**167**	**155**	**183**	**220**	**256**	**332**	**395**	**3.8%**
Less Direct Use	136	126	144	168	194	236	276	3.2%
Total Sales to the Grid	**31**	**29**	**39**	**51**	**62**	**96**	**119**	**5.9%**
Total Electricity Generation	**3975**	**4038**	**4392**	**4721**	**5037**	**5395**	**5797**	**1.5%**
Total Net Generation to the Grid	**3804**	**3877**	**4214**	**4519**	**4810**	**5125**	**5487**	**1.4%**
Net Imports	**11**	**25**	**11**	**8**	**11**	**13**	**13**	**-2.6%**
Electricity Sales by Sector								
Residential	1294	1365	1483	1591	1701	1797	1896	1.3%
Commercial	1229	1267	1398	1548	1694	1864	2062	2.0%
Industrial	1018	1021	1063	1103	1123	1155	1199	0.6%
Transportation	7	7	8	9	10	11	12	1.8%
Total	**3548**	**3660**	**3953**	**4251**	**4528**	**4827**	**5168**	**1.4%**
Direct Use	171	161	178	202	228	270	310	2.6%
Total Electricity Use	**3719**	**3821**	**4132**	**4453**	**4756**	**5097**	**5478**	**1.5%**
End-Use Prices								
(2005 cents per kilowatthour)								
Residential	9.2	9.4	9.2	8.9	9.0	9.1	9.1	-0.1%
Commercial	8.4	8.6	8.4	8.0	8.2	8.3	8.3	-0.2%
Industrial	5.4	5.7	6.1	5.6	5.8	5.9	5.9	0.2%
Transportation	8.9	8.6	8.5	8.1	8.3	8.3	8.3	-0.1%
All Sectors Average	**7.9**	**8.1**	**8.1**	**7.7**	**7.9**	**8.0**	**8.1**	**-0.0%**
Prices by Service Category								
(2005 cents per kilowatthour)								
Generation	5.2	5.4	5.4	5.0	5.2	5.4	5.4	0.0%
Transmission	0.6	0.6	0.6	0.7	0.7	0.7	0.7	1.0%
Distribution	2.1	2.1	2.1	2.1	2.0	2.0	1.9	-0.3%

Table A8. Electricity Supply, Disposition, Prices, and Emissions (Continued)
(Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Electric Power Sector Emissions[1]								
Sulfur Dioxide (million tons)	10.26	10.21	6.56	4.46	3.90	3.68	3.63	-4.1%
Nitrogen Oxide (million tons)	3.75	3.60	2.41	2.20	2.22	2.25	2.28	-1.8%
Mercury (tons)	47.15	51.25	37.21	24.64	19.24	16.86	15.48	-4.7%

[1]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes plants that only produce electricity.
[3]Includes electricity generation from fuel cells.
[4]Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power.
[5]Includes combined heat and power plants whose primary business is to sell electricity and heat to the public (i.e., those that report North American Industry Classification System code 22).
[6]Includes 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.
[7]Includes refinery gas and still gas.
[8]Includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 electric power sector generation; sales to utilities; net imports; electricity sales; and emissions: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006), and supporting databases. 2004 and 2005 prices: EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. **Projections**: EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A9. Electricity Generating Capacity
(Gigawatts)

Net Summer Capacity[1]	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Electric Power Sector[2]								
Power Only[3]								
Coal Steam	306.3	306.0	316.2	318.9	343.0	389.5	445.8	1.5%
Other Fossil Steam[4]	123.3	120.8	119.0	89.3	88.8	88.4	87.0	-1.3%
Combined Cycle	133.0	144.2	160.9	163.2	171.4	178.4	179.2	0.9%
Combustion Turbine/Diesel	128.1	130.3	134.2	118.0	124.3	133.0	152.3	0.6%
Nuclear Power[5]	99.6	100.0	100.5	102.5	111.7	111.7	112.6	0.5%
Pumped Storage	20.8	20.8	20.8	20.8	20.8	20.8	20.8	0.0%
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Renewable Sources[6]	94.4	97.2	105.3	106.6	107.3	108.2	109.6	0.5%
Distributed Generation[7]	0.0	0.0	0.2	0.6	2.1	5.5	11.4	N/A
Total	**905.3**	**919.2**	**956.9**	**919.7**	**969.6**	**1035.4**	**1118.6**	**0.8%**
Combined Heat and Power[8]								
Coal Steam	4.7	4.7	4.7	4.2	4.2	4.2	4.2	-0.5%
Other Fossil Steam[4]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0%
Combined Cycle	32.5	32.5	32.4	32.4	32.4	32.4	32.4	-0.0%
Combustion Turbine/Diesel	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-0.0%
Renewable Sources[6]	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2%
Total	**40.9**	**40.9**	**40.9**	**40.3**	**40.3**	**40.3**	**40.3**	**-0.1%**
Cumulative Planned Additions[9]								
Coal Steam	0.0	0.0	8.5	9.9	9.9	9.9	9.9	N/A
Other Fossil Steam[4]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Combined Cycle	0.0	0.0	16.7	17.6	17.6	17.6	17.6	N/A
Combustion Turbine/Diesel	0.0	0.0	3.7	3.7	3.7	3.7	3.7	N/A
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Renewable Sources[6]	0.0	0.0	8.1	8.9	9.0	9.1	9.2	N/A
Distributed Generation[7]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Total	**0.0**	**0.0**	**37.0**	**40.1**	**40.2**	**40.4**	**40.5**	**N/A**
Cumulative Unplanned Additions[9]								
Coal Steam	0.0	0.0	3.0	8.1	32.4	78.8	135.1	N/A
Other Fossil Steam[4]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Combined Cycle	0.0	0.0	0.0	1.4	9.7	16.6	17.5	N/A
Combustion Turbine/Diesel	0.0	0.0	0.7	3.8	10.1	18.8	38.0	N/A
Nuclear Power	0.0	0.0	0.0	0.5	9.0	9.0	12.5	N/A
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Renewable Sources[6]	0.0	0.0	0.0	0.4	1.1	1.9	3.2	N/A
Distributed Generation[7]	0.0	0.0	0.2	0.6	2.1	5.5	11.4	N/A
Total	**0.0**	**0.0**	**3.9**	**14.8**	**64.4**	**130.6**	**217.7**	**N/A**
Cumulative Electric Power Sector Additions	**0.0**	**0.0**	**40.9**	**55.0**	**104.7**	**171.0**	**258.2**	**N/A**
Cumulative Retirements[10]								
Coal Steam	0.0	0.0	1.2	5.6	5.7	5.7	5.7	N/A
Other Fossil Steam[4]	0.0	0.0	1.8	31.5	32.0	32.4	33.8	N/A
Combined Cycle	0.0	0.0	0.1	0.1	0.1	0.1	0.1	N/A
Combustion Turbine/Diesel	0.0	0.0	0.6	19.8	19.8	19.8	19.8	N/A
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	2.6	N/A
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Renewable Sources[6]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N/A
Total	**0.0**	**0.0**	**3.7**	**57.0**	**57.6**	**58.1**	**62.0**	**N/A**
Total Electric Power Sector Capacity	**946.3**	**960.1**	**997.8**	**960.0**	**1010.0**	**1075.8**	**1159.0**	**0.8%**

Table A9. Electricity Generating Capacity (Continued)
(Gigawatts)

Net Summer Capacity[1]	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
End-Use Generators[11]								
Coal	4.1	4.2	4.1	5.6	6.6	12.2	15.4	5.4%
Petroleum	1.6	1.6	1.6	1.8	1.8	1.9	1.9	0.7%
Natural Gas	13.9	13.5	16.9	19.5	22.8	26.4	30.4	3.3%
Other Gaseous Fuels	1.8	1.8	1.9	1.9	1.9	2.0	2.0	0.4%
Renewable Sources[6]	5.8	5.6	6.4	7.0	7.7	8.7	10.7	2.6%
Other	1.1	0.8	0.8	0.8	0.8	0.8	0.8	0.0%
Total	**28.2**	**27.5**	**31.7**	**36.7**	**41.7**	**52.0**	**61.3**	**3.3%**
Cumulative Capacity Additions[9]	**0.0**	**0.0**	**4.2**	**9.2**	**14.2**	**24.5**	**33.8**	**N/A**

[1]Net 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.
[2]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[3]Includes plants that only produce electricity. Includes capacity increases (uprates) at existing units.
[4]Includes oil-, gas-, and dual-fired capacity.
[5]Nuclear capacity includes 2.7 gigawatts of uprates through 2030.
[6]Includes 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.
[7]Primarily peak load capacity fueled by natural gas.
[8]Includes combined heat and power plants whose primary business is to sell electricity and heat to the public (i.e., those that report North American Industry Classification System code 22).
[9]Cumulative additions after December 31, 2005.
[10]Cumulative retirements after December 31, 2005.
[11]Includes 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.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A10. Electricity Trade
(Billion Kilowatthours, Unless Otherwise Noted)

Electricity Trade	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Interregional Electricity Trade								
Gross Domestic Sales								
Firm Power	142.4	127.0	105.5	82.4	50.6	37.9	37.9	-4.7%
Economy	118.3	180.5	178.6	181.7	167.6	164.1	149.9	-0.7%
Total	**260.7**	**307.5**	**284.0**	**264.1**	**218.2**	**201.9**	**187.7**	**-2.0%**
Gross Domestic Sales (million 2005 dollars)								
Firm Power	7675.9	6845.3	5684.4	4441.8	2727.5	2041.8	2041.8	-4.7%
Economy	7058.7	11082.0	8729.7	7772.8	7568.7	7572.2	7117.4	-1.8%
Total	**14734.6**	**17927.2**	**14414.1**	**12214.6**	**10296.2**	**9613.9**	**9159.2**	**-2.7%**
International Electricity Trade								
Imports from Canada and Mexico								
Firm Power	12.5	13.1	2.5	1.9	0.8	0.4	0.4	-13.2%
Economy	21.7	31.4	26.7	23.9	25.9	26.0	26.1	-0.7%
Total	**34.2**	**44.5**	**29.2**	**25.7**	**26.7**	**26.4**	**26.5**	**-2.1%**
Exports to Canada and Mexico								
Firm Power	7.4	2.9	1.0	0.7	0.2	0.0	0.0	N/A
Economy	15.5	16.9	17.1	16.6	15.6	13.7	13.7	-0.8%
Total	**22.9**	**19.8**	**18.1**	**17.2**	**15.8**	**13.7**	**13.7**	**-1.5%**

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 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: 2004 and 2005 interregional firm electricity trade data: North American Electric Reliability Council (NERC), Electricity Sales and Demand Database 2004. 2004 and 2005 Mexican electricity trade data: Energy Information Administration (EIA), *Electric Power Annual 2004* DOE/EIA-0348(2004) (Washington, DC, November 2005). 2004 Canadian international electricity trade data: National Energy Board, *Annual Report 2003*. 2005 Canadian electricity trade data: National Energy Board, *Annual Report 2004*. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A11. Liquid Fuels Supply and Disposition
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Crude Oil								
Domestic Crude Production[1]	5.47	5.18	5.67	5.91	5.89	5.58	5.39	0.2%
Alaska	0.91	0.86	0.69	0.65	0.74	0.47	0.27	-4.6%
Lower 48 States	4.56	4.31	4.98	5.26	5.15	5.12	5.12	0.7%
Net Imports	10.06	10.09	9.99	10.49	11.29	12.20	13.09	1.0%
Gross Imports	10.09	10.12	10.03	10.52	11.33	12.24	13.12	1.0%
Exports	0.03	0.03	0.04	0.04	0.04	0.04	0.03	0.2%
Other Crude Supply[2]	-0.00	-0.06	0.00	0.00	0.00	0.00	0.00	N/A
Total Crude Supply	**15.52**	**15.22**	**15.66**	**16.40**	**17.19**	**17.78**	**18.47**	**0.8%**
Other Supply								
Natural Gas Plant Liquids	1.81	1.72	1.80	1.82	1.76	1.72	1.72	-0.0%
Net Product Imports	2.06	2.48	1.80	2.03	2.27	2.67	3.28	1.1%
Gross Refined Product Imports[3]	2.07	2.45	1.78	1.84	1.98	2.17	2.52	0.1%
Unfinished Oil Imports	0.49	0.58	0.41	0.46	0.51	0.60	0.67	0.6%
Ethanol Imports	0.01	0.01	0.02	0.03	0.04	0.05	0.05	8.4%
Blending Component Imports	0.49	0.54	0.82	0.96	1.03	1.15	1.36	3.8%
Exports	0.96	1.07	1.23	1.25	1.29	1.30	1.33	0.9%
Refinery Processing Gain[4]	1.05	0.99	1.21	1.27	1.41	1.45	1.49	1.7%
Other Inputs	0.34	0.39	1.02	1.25	1.31	1.60	1.88	6.5%
Ethanol	0.22	0.26	0.69	0.74	0.79	0.85	0.90	5.2%
Liquids from Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Liquids from Coal	0.00	0.00	0.00	0.06	0.10	0.32	0.44	N/A
Other[5]	0.12	0.13	0.33	0.46	0.43	0.43	0.53	5.7%
Total Primary Supply[6]	**20.79**	**20.79**	**21.49**	**22.78**	**23.94**	**25.22**	**26.84**	**1.0%**
Liquid Fuels Consumption								
by Fuel								
Liquefied Petroleum Gases	2.13	2.03	2.22	2.23	2.26	2.33	2.42	0.7%
E85[7]	0.00	0.00	0.00	0.00	0.01	0.01	0.02	11.9%
Motor Gasoline[8]	9.10	9.16	9.53	10.18	10.93	11.71	12.53	1.3%
Jet Fuel[9]	1.63	1.68	1.95	2.10	2.19	2.22	2.27	1.2%
Distillate Fuel Oil[10]	4.06	4.12	4.53	4.86	5.11	5.48	5.95	1.5%
Residual Fuel Oil	0.87	0.92	0.79	0.82	0.82	0.82	0.83	-0.4%
Other[11]	2.97	2.84	2.57	2.66	2.70	2.78	2.93	0.1%
by Sector								
Residential and Commercial	1.27	1.26	1.25	1.29	1.29	1.28	1.28	0.1%
Industrial[12]	5.28	5.07	5.01	5.10	5.16	5.29	5.53	0.3%
Transportation	13.80	13.87	14.93	16.04	17.15	18.33	19.69	1.4%
Electric Power[13]	0.50	0.51	0.40	0.43	0.43	0.44	0.45	-0.5%
Total	**20.76**	**20.75**	**21.59**	**22.86**	**24.03**	**25.34**	**26.95**	**1.1%**
Discrepancy[14]	**0.03**	**0.04**	**-0.10**	**-0.08**	**-0.09**	**-0.12**	**-0.11**	**N/A**

Table A11. Liquid Fuels Supply and Disposition (Continued)
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Domestic Refinery Distillation Capacity[15]	16.9	17.1	17.8	18.0	18.7	19.4	20.0	0.6%
Capacity Utilization Rate (percent)[16]	93.0	91.0	89.1	92.2	93.4	93.1	93.5	0.1%
Net Import Share of Product Supplied (percent)	58.3	60.5	54.9	55.0	56.6	59.0	61.0	0.0%
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2005 dollars)	179.47	236.65	222.76	203.97	229.80	264.31	300.51	1.0%

[1]Includes lease condensate.
[2]Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude product supplied.
[3]Includes other hydrocarbons and alcohols.
[4]Represents volumetric gain in refinery distillation and cracking processes.
[5]Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, ethers, and renewable fuels such as biodiesel.
[6]Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
[7]E85 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.
[8]Includes ethanol and ethers blended into gasoline.
[9]Includes only kerosene type.
[10]Includes distillate fuel oil and kerosene from petroleum and biomass feedstocks.
[11]Includes aviation gasoline, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, tire-derived fuel, methanol, liquid hydrogen,and miscellaneous petroleum products.
[12]Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.
[13]Includes 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.
[14]Balancing item. Includes unaccounted for supply, losses, and gains.
[15]End-of-year operable capacity.
[16]Rate is calculated by dividing the gross annual input to atmospheric crude oil distillation units by their operable refining capacity in barrels per calendar day.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2004 data: EIA, *Petroleum Supply Annual 2004*, DOE/EIA-0340(2004)/1 (Washington, DC, June 2005). Other 2005 data: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A12. Petroleum Product Prices
(2005 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Crude Oil Prices (2005 dollars per barrel)								
Imported Low Sulfur Light Crude Oil[1]	42.87	56.76	57.47	49.87	52.04	56.37	59.12	0.2%
Imported Crude Oil[1]	37.09	49.19	51.20	44.61	46.47	49.57	51.63	0.2%
Delivered Sector Product Prices								
Residential								
Liquefied Petroleum Gases	156.9	166.3	204.0	197.2	199.8	202.8	206.1	0.9%
Distillate Fuel Oil	178.8	204.3	206.3	174.7	182.3	188.1	195.9	-0.2%
Commercial								
Distillate Fuel Oil	145.0	175.4	175.5	147.9	156.5	163.4	171.7	-0.1%
Residual Fuel Oil	93.5	126.0	112.8	97.2	105.8	107.3	109.4	-0.6%
Residual Fuel Oil (2005 dollars per barrel)	39.29	52.90	47.39	40.83	44.44	45.08	45.97	-0.6%
Industrial[2]								
Liquefied Petroleum Gases	96.3	146.2	141.5	134.1	137.1	139.8	142.6	-0.1%
Distillate Fuel Oil	152.2	181.1	178.1	156.5	165.3	173.2	181.8	0.0%
Residual Fuel Oil	86.4	116.3	142.2	122.9	133.4	138.6	143.5	0.8%
Residual Fuel Oil (2005 dollars per barrel)	36.30	48.86	59.74	51.64	56.04	58.21	60.25	0.8%
Transportation								
Liquefied Petroleum Gases	169.5	206.1	209.8	202.4	203.9	206.4	209.3	0.1%
Ethanol (E85)[3]	196.5	217.1	198.5	187.3	192.1	198.2	200.4	-0.3%
Ethanol Wholesale Price	177.2	180.4	181.4	166.0	168.2	171.1	170.2	-0.2%
Motor Gasoline[4]	195.2	231.6	217.3	194.9	201.9	210.2	215.4	-0.3%
Jet Fuel[5]	124.4	177.4	147.2	133.5	141.8	149.8	158.6	-0.4%
Diesel Fuel (distillate fuel oil)[6]	187.1	241.3	230.4	203.6	211.2	218.1	225.7	-0.3%
Residual Fuel Oil	72.7	82.4	120.5	105.4	110.2	118.2	123.8	1.6%
Residual Fuel Oil (2005 dollars per barrel)	30.51	34.62	50.60	44.27	46.27	49.65	52.02	1.6%
Electric Power[7]								
Distillate Fuel Oil	132.0	157.9	162.3	128.4	136.5	142.2	149.6	-0.2%
Residual Fuel Oil	74.7	104.2	98.5	83.8	91.0	98.5	102.5	-0.1%
Residual Fuel Oil (2005 dollars per barrel)	31.38	43.76	41.37	35.20	38.24	41.37	43.05	-0.1%
Refined Petroleum Product Prices[8]								
Liquefied Petroleum Gases	109.3	150.7	155.3	148.6	151.9	154.8	157.7	0.2%
Motor Gasoline[4]	195.0	231.1	217.3	194.9	201.8	210.2	215.4	-0.3%
Jet Fuel[5]	124.4	177.4	147.2	133.5	141.8	149.8	158.6	-0.4%
Distillate Fuel Oil	178.3	223.9	215.9	191.0	199.4	207.0	215.5	-0.2%
Residual Fuel Oil	76.3	98.6	113.9	98.0	104.7	111.9	116.6	0.7%
Residual Fuel Oil (2005 dollars per barrel)	32.05	41.42	47.84	41.16	43.98	46.99	48.96	0.7%
Average	**168.6**	**204.5**	**195.0**	**175.7**	**183.4**	**191.3**	**198.1**	**-0.1%**

[1]Weighted average price delivered to U.S. refiners.
[2]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[3]E85 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.
[4]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[5]Includes only kerosene type.
[6]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[7]Includes 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.
[8]Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.
Note: Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2004 and 2005 imported crude oil price: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2004 and 2005 residential, commercial, industrial, and transportation sector petroleum product prices are derived from: EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report." 2004 and 2005 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2004 and 2005 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2004 and 2005 wholesale ethanol prices derived from Bloomburg U.S. average rack price. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A13. Natural Gas Supply, Disposition, and Prices
(Trillion Cubic Feet per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Production								
Dry Gas Production[1]	18.76	18.23	19.35	19.60	20.79	20.59	20.53	0.5%
Supplemental Natural Gas[2]	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.1%
Net Imports	**3.40**	**3.57**	**4.55**	**5.62**	**5.35**	**5.58**	**5.45**	**1.7%**
Pipeline[3]	2.81	3.01	2.74	2.63	1.65	1.20	0.92	-4.6%
Liquefied Natural Gas	0.59	0.57	1.81	2.99	3.69	4.38	4.53	8.7%
Total Supply	**22.22**	**21.87**	**23.97**	**25.29**	**26.21**	**26.24**	**26.06**	**0.7%**
Consumption by Sector								
Residential	4.87	4.84	5.03	5.19	5.27	5.29	5.31	0.4%
Commercial	3.13	3.05	3.22	3.53	3.75	3.98	4.24	1.3%
Industrial[4]	7.22	6.64	7.63	7.67	8.02	8.42	8.65	1.1%
Natural-Gas-to-Liquids Heat and Power[5]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Natural Gas to Liquids Production[6]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Electric Power[7]	5.48	5.78	6.38	7.11	7.19	6.59	5.92	0.1%
Transportation[8]	0.03	0.03	0.06	0.08	0.09	0.11	0.12	5.7%
Pipeline Fuel	0.57	0.56	0.64	0.68	0.76	0.77	0.77	1.3%
Lease and Plant Fuel[9]	1.10	1.07	1.07	1.07	1.17	1.14	1.12	0.2%
Total	**22.39**	**21.98**	**24.02**	**25.32**	**26.26**	**26.30**	**26.12**	**0.7%**
Discrepancy[10]	**-0.17**	**-0.11**	**-0.05**	**-0.03**	**-0.05**	**-0.06**	**-0.06**	**N/A**
Natural Gas Prices								
(2005 dollars per million Btu)								
Henry Hub Spot Price	6.08	8.60	6.28	5.46	5.71	6.14	6.52	-1.1%
Average Lower 48 Wellhead Price[11]	5.63	7.29	5.59	4.84	5.07	5.46	5.80	-0.9%
(2005 dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price[11]	5.80	7.51	5.76	4.99	5.22	5.62	5.98	-0.9%
Delivered Prices								
Residential	11.05	12.80	11.31	10.55	10.86	11.30	11.77	-0.3%
Commercial	9.69	11.54	9.62	8.73	8.93	9.23	9.58	-0.7%
Industrial[4]	6.67	8.41	6.62	5.82	6.08	6.40	6.76	-0.9%
Electric Power[7]	6.27	8.42	6.40	5.66	5.93	6.22	6.51	-1.0%
Transportation[12]	12.28	15.20	14.38	13.25	13.36	13.62	13.86	-0.4%
Average[13]	**8.06**	**9.94**	**8.07**	**7.28**	**7.54**	**7.91**	**8.33**	**-0.7%**

[1]Marketed production (wet) minus extraction losses.
[2]Synthetic 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.
[3]Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes any natural gas used in the process of converting natural gas to liquid fuel that is not actually converted.
[6]Includes any natural gas that is converted into liquid fuel.
[7]Includes 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.
[8]Compressed natural gas used as vehicle fuel.
[9]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[10]Balancing 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, 2004 and 2005 values include net storage injections.
[11]Represents lower 48 onshore and offshore supplies.
[12]Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[13]Weighted average prices. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 supply values; and lease, plant, and pipeline fuel consumption: Energy Information Administration (EIA), *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2005 supply values; and lease, plant, and pipeline fuel consumption; and wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). Other 2004 and 2005 consumption based on: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2004 residential and commercial delivered prices: EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2005 residential and commercial delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2004 and 2005 electric power prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2005 through April 2006, Table 4.11.A. 2004 and 2005 industrial delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and the *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2004 transportation sector delivered prices are based on: EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and estimated state taxes, federal taxes, and dispensing costs or charges. 2005 transportation sector delivered prices are model results. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A14. Oil and Gas Supply

Production and Supply	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Crude Oil								
Lower 48 Average Wellhead Price[1] (2005 dollars per barrel)	**38.69**	**50.76**	**48.54**	**41.71**	**44.88**	**48.37**	**51.25**	**0.0%**
Production (million barrels per day)[2]								
United States Total	5.45	5.18	5.67	5.91	5.89	5.58	5.39	0.2%
Lower 48 Onshore	2.94	2.89	2.93	2.91	2.94	2.95	2.92	0.0%
Lower 48 Offshore	1.61	1.42	2.05	2.35	2.21	2.16	2.20	1.8%
Alaska	0.91	0.86	0.69	0.65	0.74	0.47	0.27	-4.6%
Lower 48 End of Year Reserves[2] (billion barrels)	**18.27**	**16.98**	**19.53**	**20.46**	**19.98**	**19.47**	**17.94**	**0.2%**
Natural Gas								
Lower 48 Average Wellhead Price[1] (2005 dollars per million Btu)								
Henry Hub Spot Price	6.08	8.60	6.28	5.46	5.71	6.14	6.52	-1.1%
Average Lower 48 Wellhead Price[1]	5.63	7.29	5.59	4.84	5.07	5.46	5.80	-0.9%
(2005 dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price[1]	5.80	7.51	5.76	4.99	5.22	5.62	5.98	-0.9%
Dry Production (trillion cubic feet)[3]								
United States Total	18.76	18.23	19.35	19.60	20.79	20.59	20.53	0.5%
Lower 48 Onshore	14.10	14.36	15.22	14.79	14.66	14.84	15.13	0.2%
Associated-Dissolved[4]	1.40	1.43	1.39	1.32	1.28	1.23	1.19	-0.8%
Non-Associated	12.69	12.93	13.83	13.46	13.38	13.61	13.94	0.3%
Conventional	5.19	4.94	5.27	4.71	4.30	3.98	3.75	-1.1%
Unconventional	7.50	7.99	8.56	8.75	9.09	9.63	10.19	1.0%
Lower 48 Offshore	4.23	3.41	3.88	4.56	4.09	3.55	3.25	-0.2%
Associated-Dissolved[4]	0.88	0.71	0.92	1.13	1.05	0.94	0.85	0.7%
Non-Associated	3.35	2.69	2.96	3.43	3.04	2.61	2.40	-0.5%
Alaska	0.44	0.45	0.25	0.25	2.05	2.20	2.16	6.4%
Lower 48 End of Year Dry Reserves[3] (trillion cubic feet)	**184.11**	**189.91**	**205.23**	**210.31**	**208.32**	**208.61**	**210.60**	**0.4%**
Supplemental Gas Supplies (trillion cubic feet)[5]	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.07**	**0.1%**
Total Lower 48 Wells Drilled (thousands)	**32.67**	**41.66**	**37.17**	**32.01**	**31.84**	**32.78**	**30.65**	**-1.2%**

[1]Represents lower 48 onshore and offshore supplies.
[2]Includes lease condensate.
[3]Marketed production (wet) minus extraction losses.
[4]Gas which occurs in crude oil reservoirs either as free gas (associated) or as gas in solution with crude oil (dissolved).
[5]Synthetic 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 2004 and 2005 are model results and may differ slightly from official EIA data reports.

Sources: 2004 and 2005 crude oil lower 48 average wellhead price: Energy Information Administration (EIA), *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2004 and 2005 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2004 U.S. crude oil and natural gas reserves: EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, DOE/EIA-0216(2004) (Washington, DC, November 2005). 2004 Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2004 natural gas lower 48 average wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005). 2005 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). Other 2004 and 2005 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A15. Coal Supply, Disposition, and Prices
(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Production[1]								
Appalachia	391	397	381	371	348	351	373	-0.3%
Interior	146	149	171	199	203	215	247	2.0%
West	575	585	637	697	772	951	1072	2.5%
East of the Mississippi	485	494	498	507	487	499	545	0.4%
West of the Mississippi	627	638	691	759	837	1018	1146	2.4%
Total	**1112**	**1131**	**1189**	**1266**	**1323**	**1517**	**1691**	**1.6%**
Waste Coal Supplied[2]	**11**	**13**	**13**	**13**	**13**	**13**	**13**	**-0.0%**
Net Imports								
Imports[3]	26	29	37	42	72	79	95	4.9%
Exports	48	50	44	37	31	27	27	-2.4%
Total	**-22**	**-21**	**-7**	**5**	**41**	**52**	**68**	**N/A**
Total Supply[4]	**1101**	**1124**	**1195**	**1284**	**1377**	**1582**	**1772**	**1.8%**
Consumption by Sector								
Residential and Commercial	5	5	5	5	5	5	5	-0.3%
Coke Plants	24	23	22	21	21	21	21	-0.5%
Other Industrial[5]	62	61	64	62	63	63	64	0.2%
Coal-to-Liquids Heat and Power	0	0	0	8	13	42	57	N/A
Coal to Liquids Production	0	0	0	8	13	40	55	N/A
Electric Power[6]	1016	1039	1104	1178	1262	1411	1570	1.7%
Total	**1107**	**1128**	**1195**	**1282**	**1377**	**1582**	**1772**	**1.8%**
Discrepancy and Stock Change[7]	**-6**	**-5**	**0**	**1**	**0**	**0**	**0**	**N/A**
Average Minemouth Price[8]								
(2005 dollars per short ton)	20.68	23.34	24.20	22.41	21.58	21.55	22.60	-0.1%
(2005 dollars per million Btu)	1.01	1.15	1.18	1.11	1.08	1.09	1.15	-0.0%
Delivered Prices (2005 dollars per short ton)[9]								
Coke Plants	63.36	83.79	84.86	74.51	74.25	73.93	75.55	-0.4%
Other Industrial[5]	40.49	47.63	48.86	47.45	46.55	47.60	48.54	0.1%
Coal to Liquids	N/A	N/A	N/A	13.79	15.05	19.82	21.89	N/A
Electric Power								
(2005 dollars per short ton)	28.12	30.83	34.17	31.84	31.39	32.20	33.52	0.3%
(2005 dollars per million Btu)	1.40	1.53	1.71	1.60	1.58	1.63	1.69	0.4%
Average	**29.58**	**32.82**	**35.89**	**33.10**	**32.42**	**32.72**	**33.82**	**0.1%**
Exports[10]	55.75	67.10	69.35	64.51	64.49	61.66	63.81	-0.2%

[1]Includes anthracite, bituminous coal, and lignite.
[2]Includes waste coal consumed by the electric power and industrial sectors. Waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in the consumption data.
[3]Excludes imports to Puerto Rico and the U.S. Virgin Islands.
[4]Production plus waste coal supplied plus net imports.
[5]Includes consumption for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public. Excludes all coal use in the coal-to-liquids process.
[6]Includes all electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[7]Balancing item: the sum of production, net imports, and waste coal supplied minus total consumption.
[8]Includes reported prices for both open market and captive mines.
[9]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
[10]F.a.s. price at U.S. port of exit.
N/A = Not applicable.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 data based on: Energy Information Administration (EIA), *Annual Coal Report 2005*, DOE/EIA-0584(2005) (Washington, DC, October 2006); EIA, *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006); and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A16. Renewable Energy Generating Capacity and Generation
(Gigawatts, Unless Otherwise Noted)

Capacity and Generation	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Electric Power Sector[1]								
Net Summer Capacity								
Conventional Hydropower	79.96	79.97	79.99	79.99	80.12	80.18	80.18	0.0%
Geothermal[2]	2.17	2.28	2.46	2.54	2.79	2.95	3.15	1.3%
Municipal Waste[3]	3.19	3.23	3.43	3.79	3.80	3.80	3.87	0.7%
Wood and Other Biomass[4,5]	2.04	2.06	2.22	2.22	2.37	2.89	3.80	2.5%
Solar Thermal	0.40	0.40	0.54	0.56	0.58	0.60	0.63	1.8%
Solar Photovoltaic[6]	0.03	0.03	0.07	0.14	0.22	0.31	0.39	10.6%
Wind	6.97	9.62	16.97	17.70	17.85	17.89	17.98	2.5%
Total	**94.75**	**97.59**	**105.69**	**106.94**	**107.72**	**108.62**	**110.00**	**0.5%**
Generation (billion kilowatthours)								
Conventional Hydropower	265.06	261.89	297.50	302.83	303.85	304.36	304.51	0.6%
Geothermal[2]	14.81	15.12	17.34	17.73	19.79	21.05	22.66	1.6%
Municipal Waste[3]	19.86	20.56	21.56	24.38	24.42	24.43	24.95	0.8%
Wood and Other Biomass[5]	9.73	9.92	43.29	46.22	47.47	58.01	58.21	7.3%
Dedicated Plants	8.54	5.38	11.11	10.49	11.61	16.07	23.80	6.1%
Cofiring	1.19	4.53	32.18	35.74	35.86	41.93	34.41	8.4%
Solar Thermal	0.57	0.54	1.16	1.22	1.28	1.36	1.43	4.0%
Solar Photovoltaic[6]	0.01	0.01	0.18	0.34	0.54	0.76	0.98	22.6%
Wind	14.14	14.60	48.26	50.85	51.35	51.52	51.85	5.2%
Total	**324.19**	**322.64**	**429.28**	**443.57**	**448.71**	**461.47**	**464.59**	**1.5%**
End-Use Generators[7]								
Net Summer Capacity								
Conventional Hydropower[8]	0.65	0.63	0.63	0.63	0.63	0.63	0.63	0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Municipal Waste[9]	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.0%
Biomass	4.66	4.49	4.79	5.38	5.90	6.50	7.19	1.9%
Solar Photovoltaic[6]	0.12	0.18	0.63	0.69	0.80	1.22	2.52	11.2%
Total	**5.76**	**5.63**	**6.39**	**7.04**	**7.66**	**8.69**	**10.68**	**2.6%**
Generation (billion kilowatthours)								
Conventional Hydropower[8]	4.99	3.18	3.18	3.18	3.18	3.18	3.18	0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Municipal Waste[9]	2.64	2.75	2.75	2.75	2.75	2.75	2.75	0.0%
Biomass	28.90	27.91	29.69	33.15	36.17	39.67	43.70	1.8%
Solar Photovoltaic[6]	0.23	0.33	1.21	1.33	1.53	2.32	4.78	11.2%
Total	**36.77**	**34.18**	**36.84**	**40.42**	**43.63**	**47.92**	**54.41**	**1.9%**

[1]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes hydrothermal resources only (hot water and steam).
[3]Includes municipal solid waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[4]Facilities co-firing biomass and coal are classified as coal.
[5]Includes projections for energy crops after 2010.
[6]Does not include off-grid photovoltaics (PV). Based on annual PV shipments from 1989 through 2004, EIA estimates that as much as 167 megawatts of remote electricity generation PV applications (i.e., off-grid power systems) were in service in 2004, plus an additional 447 megawatts in communications, transportation, and assorted other non-grid-connected, specialized applications. See Energy Information Administration, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006), Table 10.6 (annual PV shipments, 1989-2004). 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.
[7]Includes 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.
[8]Represents own-use industrial hydroelectric power.
[9]Includes municipal solid waste, landfill gas, and municipal sewage sludge. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 capacity: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). 2004 and 2005 generation: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A17. Renewable Energy, Consumption by Sector and Source[1]
(Quadrillion Btu per Year)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Marketed Renewable Energy[2]								
Residential (wood)	**0.40**	**0.41**	**0.43**	**0.41**	**0.40**	**0.40**	**0.39**	**-0.2%**
Commercial (biomass)	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.12**	**0.0%**
Industrial[3]	**1.91**	**1.69**	**2.28**	**2.45**	**2.59**	**2.76**	**2.93**	**2.2%**
Conventional Hydroelectric	0.05	0.03	0.03	0.03	0.03	0.03	0.03	N/A
Municipal Waste[4]	0.01	0.01	0.01	0.01	0.01	0.01	0.01	N/A
Biomass	1.64	1.40	1.55	1.67	1.77	1.88	2.01	1.4%
Biofuels Heat and Coproducts	0.21	0.24	0.69	0.74	0.78	0.83	0.88	5.2%
Transportation	**0.30**	**0.34**	**0.95**	**1.01**	**1.10**	**1.19**	**1.27**	**5.5%**
Ethanol used in E85[5]	0.00	0.00	0.00	0.00	0.00	0.01	0.02	11.8%
Ethanol used in Gasoline Blending	0.29	0.33	0.91	0.98	1.05	1.14	1.20	5.3%
Biodiesel used in Distillate Blending	0.00	0.00	0.04	0.03	0.04	0.05	0.05	N/A
Electric Power[6]	**3.55**	**3.64**	**4.67**	**4.83**	**4.93**	**5.09**	**5.15**	**1.4%**
Conventional Hydroelectric	2.66	2.68	2.99	3.04	3.05	3.06	3.06	0.5%
Geothermal	0.31	0.32	0.36	0.37	0.44	0.48	0.53	2.1%
Municipal Waste[7]	0.27	0.28	0.29	0.33	0.33	0.33	0.34	0.8%
Biomass	0.16	0.21	0.51	0.55	0.56	0.68	0.67	4.8%
Dedicated Plants	0.14	0.09	0.11	0.11	0.12	0.17	0.26	4.1%
Cofiring	0.02	0.11	0.40	0.44	0.44	0.50	0.41	5.2%
Solar Thermal	0.01	0.01	0.01	0.02	0.02	0.02	0.02	6.2%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A
Wind	0.14	0.15	0.50	0.52	0.53	0.53	0.53	5.2%
Total Marketed Renewable Energy	**6.27**	**6.19**	**8.45**	**8.82**	**9.15**	**9.56**	**9.86**	**1.9%**
Sources of Ethanol								
From Corn	0.28	0.33	0.87	0.93	0.99	1.07	1.13	5.1%
From Cellulose	0.00	0.00	0.01	0.02	0.02	0.02	0.02	N/A
Imports	0.01	0.01	0.02	0.03	0.05	0.06	0.07	8.4%
Total	**0.29**	**0.33**	**0.91**	**0.98**	**1.06**	**1.15**	**1.22**	**5.3%**
Nonmarketed Renewable Energy[8] Selected Consumption								
Residential	**0.03**	**0.03**	**0.04**	**0.05**	**0.06**	**0.07**	**0.08**	**4.0%**
Solar Hot Water Heating	0.03	0.03	0.03	0.04	0.05	0.06	0.06	3.5%
Geothermal Heat Pumps	0.00	0.00	0.01	0.01	0.01	0.01	0.02	6.8%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.1%
Commercial	**0.02**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.04**	**2.1%**
Solar Thermal	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.6%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.01	0.01	11.3%

[1]Actual 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.
[2]Includes nonelectric renewable energy groups for which the energy source is bought and sold in the marketplace, although all transactions may not necessarily be marketed, and marketed renewable energy inputs for electricity entering the marketplace on the electric power grid. Excludes electricity imports; see Table A2.
[3]Includes all electricity production by industrial and other combined heat and power for the grid and for own use.
[4]Includes municipal solid waste, landfill gas, and municipal sewage sludge. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[5]Excludes motor gasoline component of E85.
[6]Includes 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.
[7]Includes municipal solid waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[8]Includes 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.
N/A = Not applicable.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 ethanol: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 and 2005 electric power sector: EIA, Form EIA-860, "Annual Electric Generator Report" (preliminary). Other 2004 and 2005 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A18. Carbon Dioxide Emissions by Sector and Source
(Million Metric Tons, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Residential								
Petroleum	106	105	105	107	105	102	100	-0.2%
Natural Gas	265	262	274	282	287	288	289	0.4%
Coal	1	1	1	1	1	1	1	-0.2%
Electricity[1]	842	886	940	1002	1064	1143	1225	1.3%
Total	**1214**	**1254**	**1320**	**1392**	**1456**	**1534**	**1614**	**1.0%**
Commercial								
Petroleum	54	55	54	57	57	58	59	0.2%
Natural Gas	170	166	175	192	204	216	230	1.3%
Coal	10	8	9	9	9	9	9	0.6%
Electricity[1]	800	822	886	975	1059	1185	1332	1.9%
Total	**1034**	**1051**	**1124**	**1233**	**1330**	**1469**	**1630**	**1.8%**
Industrial[2]								
Petroleum	437	431	406	419	423	433	457	0.2%
Natural Gas[3]	435	400	466	468	493	513	524	1.1%
Coal	201	189	186	194	199	243	269	1.4%
Electricity[1]	663	663	674	694	702	734	774	0.6%
Total	**1736**	**1682**	**1732**	**1775**	**1817**	**1924**	**2024**	**0.7%**
Transportation								
Petroleum[4]	1902	1922	1994	2142	2288	2443	2626	1.3%
Natural Gas[5]	32	32	38	41	47	48	48	1.7%
Electricity[1]	5	5	5	6	6	7	7	1.8%
Total	**1939**	**1958**	**2037**	**2189**	**2341**	**2498**	**2682**	**1.3%**
Electric Power[6]								
Petroleum	98	100	69	75	74	76	77	-1.1%
Natural Gas	296	319	346	385	390	357	321	0.0%
Coal	1904	1944	2078	2203	2354	2623	2927	1.6%
Other[7]	11	12	12	14	14	14	14	0.8%
Total	**2309**	**2375**	**2505**	**2677**	**2832**	**3070**	**3338**	**1.4%**
Total by Fuel								
Petroleum[3]	2598	2614	2629	2799	2947	3112	3318	1.0%
Natural Gas	1198	1178	1298	1369	1420	1422	1412	0.7%
Coal	2115	2142	2275	2407	2563	2877	3206	1.6%
Other[7]	11	12	12	14	14	14	14	0.8%
Total	**5923**	**5945**	**6214**	**6589**	**6944**	**7425**	**7950**	**1.2%**
Carbon Dioxide Emissions (tons per person)	**20.1**	**20.0**	**20.0**	**20.4**	**20.6**	**21.2**	**21.8**	**0.3%**

[1]Emissions from the electric power sector are distributed to the end-use sectors.
[2]Fuel consumption includes energy for combined heat and power plants (CHP), except those plants whose primary business is to sell electricity, or electricity and heat, to the public.
[3]Includes lease and plant fuel.
[4]This includes carbon dioxide from international bunker fuels, both civilian and military, which are excluded from the accounting of carbon dioxide emissions under the United Nations convention. From 1990 through 2004, international bunker fuels accounted for 83 to 115 million metric tons annually.
[5]Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.
[6]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[7]Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2005,* DOE/EIA-0573(2005) (Washington, DC, November 2006). **Projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A19. Macroeconomic Indicators
(Billion 2000 Chain-Weighted Dollars, Unless Otherwise Noted)

Indicators	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Real Gross Domestic Product	**10704**	**11049**	**12790**	**14698**	**17077**	**19666**	**22494**	**2.9%**
Components of Real Gross Domestic Product								
Real Consumption	7577	7841	9111	10423	12006	13731	15590	2.8%
Real Investment	1771	1866	2139	2478	3030	3773	4735	3.8%
Real Government Spending	1941	1958	2117	2242	2396	2541	2709	1.3%
Real Exports	1120	1196	1767	2543	3584	4894	6581	7.1%
Real Imports	1711	1815	2321	2911	3761	4963	6649	5.3%
Energy Intensity (thousand Btu per 2000 dollar of GDP)								
Delivered Energy	6.91	6.60	6.06	5.56	5.04	4.62	4.27	-1.7%
Total Energy	9.41	9.07	8.33	7.64	6.92	6.33	5.83	-1.8%
Price Indices								
GDP Chain-type Price Index (2000=1.000)	1.094	1.127	1.253	1.366	1.495	1.648	1.815	1.9%
Consumer Price Index (1982-4=1.00)								
All-urban	1.89	1.95	2.16	2.36	2.61	2.90	3.23	2.0%
Energy Commodities and Services	1.51	1.77	1.93	1.94	2.19	2.48	2.80	1.8%
Wholesale Price Index (1982=1.00)								
All Commodities	1.47	1.57	1.68	1.72	1.82	1.94	2.06	1.1%
Fuel and Power	1.27	1.57	1.64	1.62	1.84	2.11	2.39	1.7%
Interest Rates (percent, nominal)								
Federal Funds Rate	1.35	3.21	4.71	4.93	5.11	5.07	5.14	N/A
10-Year Treasury Note	4.27	4.29	5.52	5.66	5.75	5.78	5.80	N/A
AA Utility Bond Rate	6.04	5.44	7.36	7.64	7.72	7.78	7.77	N/A
Value of Shipments (billion 2000 dollars)								
Total Industrial	5651	5763	6298	7033	7779	8585	9502	2.0%
Nonmanufacturing	1494	1538	1596	1701	1846	1940	2023	1.1%
Manufacturing	4157	4225	4702	5332	5933	6645	7478	2.3%
Energy-Intensive	1161	1160	1262	1347	1426	1522	1631	1.4%
Non-energy Intensive	2996	3065	3440	3985	4507	5123	5848	2.6%
Population and Employment (millions)								
Population, with Armed Forces Overseas	294.2	296.9	310.3	323.7	337.1	350.8	364.9	0.8%
Population, aged 16 and over	229.2	231.8	244.2	254.7	265.4	276.7	288.6	0.9%
Population, over age 65	36.4	36.8	40.4	47.0	54.9	63.8	71.6	2.7%
Employment, Nonfarm	131.4	133.4	141.9	147.0	154.6	162.3	169.2	1.0%
Employment, Manufacturing	14.3	14.2	13.8	13.7	13.4	13.0	12.5	-0.5%
Key Labor Indicators								
Labor Force (millions)	147.4	149.3	157.5	162.2	167.0	172.7	180.4	0.8%
Nonfarm Labor Productivity (1992=1.00)	1.32	1.36	1.50	1.69	1.90	2.15	2.42	2.3%
Unemployment Rate (percent)	5.52	5.06	4.83	4.98	4.46	4.55	4.71	N/A
Key Indicators for Energy Demand								
Real Disposable Personal Income	8011	8105	9568	11077	13000	15172	17535	3.1%
Housing Starts (millions)	2.08	2.22	1.94	1.91	1.90	1.85	1.80	-0.8%
Commercial Floorspace (billion square feet)	73.0	74.3	80.4	86.5	92.9	100.1	108.0	1.5%
Unit Sales of Light-Duty Vehicles (millions)	16.87	16.95	17.14	18.05	19.04	20.01	21.10	0.9%

GDP = Gross domestic product.
Btu = British thermal unit.
N/A = Not applicable.
Sources: 2004 and 2005: Global Insight macroeconomic model CTL0806 and Global Insight industry model, July 2005. **Projections:** Energy Information Administration, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Table A20. International Petroleum Supply and Disposition Summary
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Crude Oil Prices (2005 dollars per barrel)[1]								
Imported Low Sulfur Light Crude Oil	42.87	56.76	57.47	49.87	52.04	56.37	59.12	0.2%
Imported Crude Oil	37.09	49.19	51.20	44.61	46.47	49.57	51.63	0.2%
Conventional Production (Conventional)[2]								
OPEC[3]								
Asia	1.18	1.17	1.11	1.10	1.09	1.08	1.10	-0.2%
Middle East	22.60	22.96	22.23	24.03	26.60	29.72	33.20	1.5%
North Africa	3.55	3.78	4.29	4.51	4.24	4.07	3.93	0.2%
West Africa	2.47	2.78	3.07	3.81	4.10	4.32	4.48	1.9%
South America	2.75	2.71	2.59	2.42	2.30	2.24	2.24	-0.8%
Total OPEC	**32.55**	**33.41**	**33.30**	**35.87**	**38.33**	**41.44**	**44.95**	**1.2%**
Non-OPEC								
OECD								
United States (50 states)	8.46	8.03	8.98	9.45	9.48	9.18	9.12	0.5%
Canada	2.12	2.12	1.93	2.01	1.89	1.76	1.62	-1.1%
Mexico	3.85	3.78	3.15	3.01	3.18	3.35	3.52	-0.3%
OECD Europe[4]	6.39	5.96	5.73	4.91	4.22	3.64	3.16	-2.5%
Japan	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.0%
Australia and New Zealand	0.58	0.60	0.56	0.51	0.51	0.55	0.60	-0.0%
Total OECD	**21.53**	**20.59**	**20.45**	**20.00**	**19.39**	**18.57**	**18.12**	**-0.5%**
Non-OECD								
Russia	9.27	9.51	9.98	10.30	10.79	11.23	11.54	0.8%
Other Eurasia[5]	2.21	2.48	3.98	4.91	5.41	5.99	6.55	4.0%
China	3.64	3.74	3.53	3.20	3.30	3.30	3.20	-0.6%
Other Asia[6]	2.80	2.53	2.29	2.50	2.60	2.60	2.50	-0.1%
Middle East[7]	1.68	1.67	2.00	2.20	2.40	2.70	2.90	2.2%
Africa	3.40	3.59	5.19	6.45	7.38	8.51	9.83	4.1%
Brazil	1.58	1.76	2.39	2.90	3.20	3.50	3.90	3.2%
Other Central and South America	2.35	2.31	2.32	2.54	2.66	2.75	2.90	0.9%
Total Non-OECD	**26.94**	**27.59**	**31.67**	**35.00**	**37.75**	**40.59**	**43.32**	**1.8%**
Total Conventional Production	**81.01**	**81.59**	**85.42**	**90.86**	**95.47**	**100.59**	**106.40**	**1.1%**
Unconventional Production[8]								
United States (50 states)	0.22	0.25	0.71	0.81	0.91	1.20	1.37	7.0%
Other North America	1.09	1.09	1.91	2.32	2.74	3.25	3.66	5.0%
OECD Europe[3]	0.04	0.08	0.15	0.18	0.19	0.23	0.27	5.1%
Middle East[7]	0.08	0.02	0.57	0.64	0.75	0.89	1.11	16.8%
Africa.	0.16	0.16	0.32	0.42	0.52	0.62	0.73	6.3%
Central and South America	0.83	0.93	1.35	1.59	1.81	2.18	2.40	3.9%
Other	0.02	0.28	0.62	0.81	0.90	1.05	1.41	6.7%
Total Unconventional Production	**2.44**	**2.80**	**5.63**	**6.78**	**7.83**	**9.42**	**10.93**	**5.6%**
Total Production	**83.45**	**84.39**	**91.05**	**97.64**	**103.29**	**110.01**	**117.33**	**1.3%**

Table A20. International Petroleum Supply and Disposition Summary (Continued)
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	Reference Case							Annual Growth 2005-2030 (percent)
	2004	2005	2010	2015	2020	2025	2030	
Consumption[9]								
OECD								
United States (50 states)	20.76	20.75	21.59	22.85	24.02	25.33	26.93	1.0%
United States Territories	0.37	0.38	0.43	0.47	0.51	0.54	0.59	1.8%
Canada	2.32	2.28	2.42	2.54	2.49	2.56	2.59	0.5%
Mexico	2.00	2.09	2.22	2.47	2.68	2.93	3.19	1.7%
OECD Europe[3]	15.86	15.73	15.82	15.89	15.76	16.00	16.26	0.1%
Japan	5.43	5.58	5.42	5.48	5.43	5.46	5.45	-0.1%
South Korea	2.18	2.30	2.58	2.85	3.04	3.24	3.45	1.6%
Australia and New Zealand	1.04	1.05	1.08	1.10	1.13	1.17	1.22	0.6%
Total OECD	**49.95**	**50.16**	**51.54**	**53.65**	**55.05**	**57.25**	**59.69**	**0.7%**
Non-OECD								
Russia	2.81	2.75	2.85	3.05	3.11	3.28	3.39	0.8%
Other Non-OECD Eurasia[5]	2.03	2.33	2.63	2.95	3.18	3.46	3.75	1.9%
China	6.49	6.86	8.70	9.99	11.66	13.24	15.05	3.2%
India	2.48	2.52	2.94	3.32	3.66	4.07	4.45	2.3%
Other Non-OECD Asia	6.03	6.02	6.89	7.70	8.51	9.36	10.29	2.2%
Middle East[7]	5.74	5.56	6.06	6.60	7.00	7.43	7.81	1.4%
Africa	2.83	3.01	3.70	4.05	4.30	4.54	4.93	2.0%
Brazil	2.17	2.20	2.39	2.63	2.82	3.09	3.29	1.6%
Other Central and South America	2.94	2.99	3.36	3.71	4.00	4.29	4.68	1.8%
Total Non-OECD	**33.50**	**34.23**	**39.52**	**44.00**	**48.23**	**52.76**	**57.64**	**2.1%**
Total Consumption	**83.45**	**84.39**	**91.05**	**97.64**	**103.29**	**110.01**	**117.33**	**1.3%**
OPEC Production[10]	33.20	34.04	34.72	37.47	40.19	43.71	47.65	1.4%
Non-OPEC Production[10]	50.25	50.35	56.34	60.18	63.10	66.30	69.68	1.3%
Net Eurasia Exports	8.24	8.67	10.87	12.10	13.12	13.98	14.85	2.2%
OPEC Market Share	39.8	40.3	38.1	38.4	38.9	39.7	40.6	0.0%

[1]Weighted average price delivered to U.S. refiners.
[2]Includes 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.
[3]OPEC = Organization of Petroleum Exporting Countries - Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Does not include Angola, which was admitted as a full member to OPEC on December 14, 2006.
[4]OECD Europe = Organization for Economic Cooperation and Development - Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.
[5]Eurasia consists of Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
[6]Other Asia = Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia (Kampuchea), Fiji, French Polynesia, Guam, Hong Kong, Indonesia, Kiribati, Laos, Malaysia, Macau, Maldives, Mongolia, Myanmar (Burma), Nauru, Nepal, New Caledonia, Niue, North Korea, Pakistan, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, Vanuatu, and Vietnam.
[7]Non-OPEC Middle East includes Turkey.
[8]Includes liquids produced from energy crops, natural gas, coal, oil sands, and shale. Includes both OPEC and non-OPEC producers in the regional breakdown.
[9]Includes both OPEC and non-OPEC consumers in the regional breakdown.
[10]Includes both conventional and nonconventional liquids production.
Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2004 and 2005 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2004 and 2005 imported crude oil price: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2004 quantities derived from: EIA, *International Energy Annual 2004*, DOE/EIA-0219(2004) (Washington, DC, May-July 2006). **2005 quantities and projections:** EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.

Economic Growth Case Comparisons

Table B1. Total Energy Supply and Disposition Summary

(Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Production										
Crude Oil and Lease Condensate	10.96	11.98	11.99	12.01	12.25	12.48	12.65	11.25	11.40	11.53
Natural Gas Plant Liquids	2.33	2.39	2.43	2.46	2.30	2.38	2.42	2.22	2.31	2.39
Dry Natural Gas	18.77	19.61	19.93	20.19	20.81	21.41	21.80	20.36	21.15	21.88
Coal[1]	23.20	24.36	24.47	24.58	25.19	26.61	28.22	29.64	33.52	36.90
Nuclear Power	8.13	8.23	8.23	8.23	8.91	9.23	9.28	8.80	9.33	10.53
Hydropower	2.71	3.02	3.02	3.02	3.09	3.08	3.08	3.09	3.09	3.10
Biomass[2]	2.71	4.15	4.22	4.32	4.47	4.69	5.04	4.66	5.26	6.06
Other Renewable Energy[3]	0.76	1.20	1.18	1.18	1.28	1.33	1.32	1.38	1.44	1.51
Other[4]	0.22	0.66	0.67	0.73	0.90	0.89	1.09	0.99	1.12	1.21
Total	**69.80**	**75.60**	**76.13**	**76.71**	**79.20**	**82.09**	**84.91**	**82.37**	**88.63**	**95.10**
Imports										
Crude Oil[5]	22.09	21.39	21.88	22.55	23.16	24.72	26.54	25.19	28.63	33.17
Liquid Fuels and Other Petroleum[6]	7.16	5.64	6.02	6.27	6.30	7.05	7.80	7.27	9.02	10.13
Natural Gas	4.42	5.12	5.36	5.59	5.63	6.17	6.80	5.41	6.47	8.03
Other Imports[7]	0.85	0.92	0.92	0.94	1.66	1.73	1.81	2.03	2.26	2.16
Total	**34.52**	**33.07**	**34.18**	**35.34**	**36.75**	**39.66**	**42.96**	**39.89**	**46.37**	**53.49**
Exports										
Petroleum[8]	2.31	2.69	2.71	2.75	2.78	2.84	2.92	2.80	2.90	3.03
Natural Gas	0.75	0.70	0.69	0.68	0.72	0.69	0.66	0.95	0.87	0.78
Coal	1.27	1.12	1.12	1.12	0.88	0.80	0.74	0.66	0.69	0.67
Total	**4.33**	**4.50**	**4.52**	**4.55**	**4.38**	**4.33**	**4.31**	**4.41**	**4.47**	**4.49**
Discrepancy[9]	**-0.20**	**-0.66**	**-0.70**	**-0.71**	**-0.60**	**-0.74**	**-0.60**	**-0.64**	**-0.63**	**-0.30**
Consumption										
Liquid Fuels and Other Petroleum[10]	40.61	40.80	41.76	42.78	43.72	46.52	49.44	46.52	52.17	57.99
Natural Gas	22.63	24.17	24.73	25.23	25.86	27.04	28.10	24.94	26.89	29.28
Coal	22.87	24.13	24.24	24.35	25.80	27.29	28.97	30.16	34.14	37.29
Nuclear Power	8.13	8.23	8.23	8.23	8.91	9.23	9.28	8.80	9.33	10.53
Hydropower	2.71	3.02	3.02	3.02	3.09	3.08	3.08	3.09	3.09	3.10
Biomass[11]	2.38	3.24	3.30	3.38	3.47	3.64	3.91	3.56	4.06	4.66
Other Renewable Energy[3]	0.76	1.20	1.18	1.18	1.28	1.33	1.32	1.38	1.44	1.51
Other[12]	0.08	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05
Total	**100.19**	**104.83**	**106.50**	**108.21**	**112.16**	**118.16**	**124.14**	**118.50**	**131.16**	**144.40**

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

Supply, Disposition, and Prices	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Prices (2005 dollars per unit)										
Petroleum (dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price[13]	56.76	57.47	57.47	57.13	52.51	52.04	52.04	59.12	59.12	59.12
Imported Crude Oil Price[13]	49.19	51.20	51.20	51.20	46.47	46.47	46.47	51.63	51.63	51.63
Natural Gas (dollars per million Btu)										
Price at Henry Hub	8.60	6.05	6.28	6.50	5.41	5.71	5.73	6.16	6.52	6.87
Wellhead Price[14]	7.29	5.38	5.59	5.79	4.80	5.07	5.09	5.48	5.80	6.13
Natural Gas (dollars per thousand cubic feet)										
Wellhead Price[14]	7.51	5.54	5.76	5.96	4.95	5.22	5.24	5.64	5.98	6.31
Coal (dollars per ton)										
Minemouth Price[15]	23.34	23.98	24.20	24.38	20.95	21.58	22.17	20.99	22.60	23.64
Coal (dollars per million Btu)										
Minemouth Price[15]	1.15	1.17	1.18	1.19	1.05	1.08	1.11	1.07	1.15	1.20
Average Delivered Price[16]	1.61	1.76	1.77	1.78	1.59	1.62	1.66	1.62	1.71	1.77
Average Electricity Price (cents per kilowatthour)	8.1	7.9	8.1	8.2	7.6	7.9	8.1	7.8	8.1	8.4

[1]Includes waste coal.
[2]Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.
[3]Includes grid-connected electricity from landfill gas; municipal solid waste; wind; photovoltaic and solar thermal sources; and non-electric energy from renewable sources, such as active and passive solar systems. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table A17 for selected nonmarketed residential and commercial renewable energy.
[4]Includes liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes imports of crude oil for the Strategic Petroleum Reserve.
[6]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[7]Includes coal, coal coke (net), and electricity (net).
[8]Includes crude oil and petroleum products.
[9]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[10]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.
[11]Includes grid-connected electricity from wood and wood waste, non-electric energy from wood, and biofuels heat and coproducts used in the production of liquid fuels, but excludes the energy content of the liquid fuels.
[12]Includes net electricity imports.
[13]Weighted average price delivered to U.S. refiners.
[14]Represents lower 48 onshore and offshore supplies.
[15]Includes reported prices for both open market and captive mines.
[16]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
Btu = British thermal unit.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2005*, DOE/EIA-0584(2005) (Washington, DC, October 2006). 2005 petroleum supply values: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2005 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 coal values: *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006). Other 2005 values: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs LM2007.D112106A, AEO2007.D112106A, and HM2007.D112106A.

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

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Energy Consumption										
Residential										
Liquefied Petroleum Gases	0.51	0.53	0.53	0.54	0.56	0.58	0.60	0.58	0.62	0.66
Kerosene	0.10	0.10	0.10	0.10	0.09	0.10	0.10	0.09	0.09	0.09
Distillate Fuel Oil	0.93	0.90	0.90	0.90	0.85	0.85	0.85	0.75	0.76	0.76
Liquid Fuels and Other Petroleum Subtotal	1.54	1.52	1.53	1.53	1.50	1.53	1.55	1.41	1.46	1.51
Natural Gas	4.98	5.16	5.18	5.20	5.30	5.43	5.58	5.19	5.47	5.74
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy[1]	0.41	0.42	0.43	0.43	0.40	0.40	0.41	0.38	0.39	0.41
Electricity	4.66	5.02	5.06	5.10	5.62	5.80	6.00	6.05	6.47	6.88
Delivered Energy	**11.60**	**12.14**	**12.21**	**12.27**	**12.82**	**13.17**	**13.55**	**13.04**	**13.80**	**14.55**
Electricity Related Losses	10.15	10.87	10.90	10.93	11.79	12.08	12.32	12.32	12.89	13.52
Total	**21.75**	**23.01**	**23.11**	**23.20**	**24.61**	**25.26**	**25.87**	**25.36**	**26.70**	**28.07**
Commercial										
Liquefied Petroleum Gases	0.09	0.09	0.09	0.09	0.09	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	0.06
Kerosene	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Distillate Fuel Oil	0.48	0.45	0.45	0.45	0.47	0.48	0.49	0.47	0.49	0.51
Residual Fuel Oil	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Liquid Fuels and Other Petroleum Subtotal	0.77	0.75	0.75	0.75	0.78	0.80	0.81	0.78	0.81	0.85
Natural Gas	3.15	3.31	3.31	3.31	3.73	3.86	4.02	4.01	4.36	4.71
Coal	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Renewable Energy[3]	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Electricity	4.32	4.76	4.77	4.78	5.59	5.78	5.98	6.47	7.03	7.58
Delivered Energy	**8.46**	**9.04**	**9.05**	**9.07**	**10.32**	**10.66**	**11.03**	**11.48**	**12.43**	**13.36**
Electricity Related Losses	9.42	10.30	10.27	10.26	11.74	12.03	12.30	13.18	14.01	14.90
Total	**17.88**	**19.34**	**19.33**	**19.32**	**22.06**	**22.69**	**23.32**	**24.66**	**26.44**	**28.26**
Industrial[4]										
Liquefied Petroleum Gases	2.13	2.15	2.26	2.37	1.97	2.26	2.56	1.88	2.40	3.00
Motor Gasoline[2]	0.32	0.30	0.32	0.34	0.30	0.33	0.37	0.31	0.36	0.41
Distillate Fuel Oil	1.23	1.11	1.18	1.24	1.11	1.22	1.33	1.09	1.26	1.44
Residual Fuel Oil	0.23	0.17	0.18	0.18	0.17	0.17	0.18	0.17	0.18	0.20
Petrochemical Feedstocks	1.38	1.40	1.48	1.57	1.30	1.50	1.72	1.19	1.57	1.99
Other Petroleum[5]	4.45	3.89	4.05	4.26	4.00	4.34	4.75	4.17	4.78	5.30
Liquid Fuels and Other Petroleum Subtotal	9.73	9.02	9.47	9.95	8.84	9.82	10.91	8.81	10.55	12.33
Natural Gas	6.84	7.65	7.86	8.01	7.58	8.26	8.76	7.58	8.90	10.42
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease and Plant Fuel[6]	1.10	1.08	1.10	1.11	1.17	1.21	1.22	1.11	1.15	1.18
Natural Gas Subtotal	7.94	8.74	8.95	9.12	8.75	9.46	9.98	8.69	10.05	11.60
Metallurgical Coal	0.62	0.59	0.60	0.62	0.51	0.57	0.62	0.44	0.57	0.69
Other Industrial Coal	1.35	1.35	1.37	1.39	1.29	1.34	1.39	1.27	1.36	1.45
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.13	0.21	0.28	0.82	0.93	1.07
Net Coal Coke Imports	0.04	0.02	0.02	0.02	0.01	0.02	0.02	0.00	0.02	0.03
Coal Subtotal	2.01	1.96	2.00	2.04	1.95	2.14	2.32	2.54	2.89	3.25
Biofuels Heat and Coproducts	0.24	0.68	0.69	0.71	0.74	0.78	0.83	0.80	0.88	0.98
Renewable Energy[7]	1.44	1.54	1.60	1.65	1.67	1.81	1.97	1.74	2.05	2.38
Electricity	3.48	3.51	3.63	3.75	3.53	3.83	4.16	3.42	4.09	4.79
Delivered Energy	**24.85**	**25.46**	**26.33**	**27.21**	**25.48**	**27.84**	**30.17**	**25.99**	**30.51**	**35.34**
Electricity Related Losses	7.60	7.60	7.81	8.03	7.40	7.98	8.55	6.97	8.15	9.41
Total	**32.45**	**33.06**	**34.14**	**35.24**	**32.88**	**35.82**	**38.72**	**32.96**	**38.66**	**44.74**

Table B2. Energy Consumption by Sector and Source (Continued)

(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Transportation										
Liquefied Petroleum Gases	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.09
E85[8]	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04
Motor Gasoline[2]	17.00	17.17	17.37	17.60	19.03	19.95	20.86	21.02	22.89	24.72
Jet Fuel[9]	3.37	3.98	4.04	4.09	4.41	4.54	4.70	4.32	4.70	5.20
Distillate Fuel Oil[10]	6.02	6.42	6.64	6.88	7.14	7.81	8.53	8.07	9.58	11.11
Residual Fuel Oil	0.81	0.82	0.82	0.83	0.84	0.85	0.85	0.85	0.87	0.88
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[11]	0.18	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.20
Liquid Fuels and Other Petroleum Subtotal	27.42	28.62	29.11	29.63	31.66	33.41	35.21	34.55	38.34	42.24
Pipeline Fuel Natural Gas	0.58	0.65	0.66	0.67	0.77	0.79	0.81	0.75	0.79	0.83
Compressed Natural Gas	0.03	0.06	0.06	0.06	0.09	0.09	0.10	0.10	0.12	0.14
Electricity	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Delivered Energy	**28.05**	**29.35**	**29.86**	**30.39**	**32.55**	**34.33**	**36.16**	**35.44**	**39.29**	**43.25**
Electricity Related Losses	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.08
Total	**28.11**	**29.42**	**29.92**	**30.45**	**32.62**	**34.40**	**36.23**	**35.52**	**39.37**	**43.33**
Delivered Energy Consumption for All Sectors										
Liquefied Petroleum Gases	2.77	2.82	2.93	3.05	2.68	2.99	3.32	2.62	3.19	3.84
E85[8]	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04
Motor Gasoline[2]	17.37	17.51	17.74	17.98	19.38	20.34	21.28	21.38	23.30	25.18
Jet Fuel[9]	3.37	3.98	4.04	4.09	4.41	4.54	4.70	4.32	4.70	5.20
Kerosene	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Distillate Fuel Oil	8.65	8.88	9.17	9.46	9.56	10.36	11.20	10.38	12.09	13.82
Residual Fuel Oil	1.17	1.13	1.13	1.14	1.14	1.16	1.18	1.16	1.19	1.22
Petrochemical Feedstocks	1.38	1.40	1.48	1.57	1.30	1.50	1.72	1.19	1.57	1.99
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[12]	4.61	4.05	4.22	4.43	4.17	4.51	4.92	4.34	4.96	5.48
Liquid Fuels and Other Petroleum Subtotal	39.46	39.92	40.86	41.86	42.78	45.55	48.47	45.55	51.17	56.93
Natural Gas	15.01	16.19	16.41	16.59	16.69	17.65	18.46	16.89	18.86	21.02
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease and Plant Fuel[6]	1.10	1.08	1.10	1.11	1.17	1.21	1.22	1.11	1.15	1.18
Pipeline Natural Gas	0.58	0.65	0.66	0.67	0.77	0.79	0.81	0.75	0.79	0.83
Natural Gas Subtotal	16.68	17.92	18.17	18.37	18.63	19.64	20.49	18.75	20.80	23.03
Metallurgical Coal	0.62	0.59	0.60	0.62	0.51	0.57	0.62	0.44	0.57	0.69
Other Coal	1.46	1.46	1.48	1.50	1.40	1.45	1.50	1.37	1.47	1.56
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.13	0.21	0.28	0.82	0.93	1.07
Net Coal Coke Imports	0.04	0.02	0.02	0.02	0.01	0.02	0.02	0.00	0.02	0.03
Coal Subtotal	2.12	2.07	2.11	2.14	2.06	2.24	2.43	2.64	2.99	3.36
Biofuels Heat and Coproducts	0.24	0.68	0.69	0.71	0.74	0.78	0.83	0.80	0.88	0.98
Renewable Energy[13]	1.97	2.09	2.14	2.20	2.19	2.34	2.50	2.23	2.56	2.91
Electricity	12.49	13.33	13.49	13.66	14.76	15.45	16.18	15.98	17.63	19.29
Delivered Energy	**72.97**	**76.00**	**77.46**	**78.93**	**81.17**	**86.00**	**90.90**	**85.96**	**96.03**	**106.50**
Electricity Related Losses	27.23	28.83	29.04	29.28	31.00	32.17	33.24	32.54	35.13	37.90
Total	**100.19**	**104.83**	**106.50**	**108.21**	**112.16**	**118.16**	**124.14**	**118.50**	**131.16**	**144.40**
Electric Power[14]										
Distillate Fuel Oil	0.19	0.23	0.24	0.23	0.24	0.25	0.27	0.26	0.28	0.31
Residual Fuel Oil	0.96	0.66	0.67	0.68	0.70	0.72	0.71	0.71	0.72	0.74
Liquid Fuels and Other Petroleum Subtotal	1.16	0.89	0.90	0.91	0.94	0.97	0.97	0.97	1.01	1.06
Natural Gas	5.95	6.25	6.56	6.86	7.23	7.40	7.60	6.19	6.09	6.25
Steam Coal	20.75	22.06	22.13	22.21	23.74	25.05	26.54	27.52	31.14	33.93
Nuclear Power	8.13	8.23	8.23	8.23	8.91	9.23	9.28	8.80	9.33	10.53
Renewable Energy[15]	3.64	4.69	4.67	4.67	4.91	4.93	4.99	4.99	5.15	5.37
Electricity Imports	0.08	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05
Total	**39.71**	**42.15**	**42.53**	**42.93**	**45.76**	**47.62**	**49.42**	**48.52**	**52.77**	**57.19**

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

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Total Energy Consumption										
Liquefied Petroleum Gases	2.77	2.82	2.93	3.05	2.68	2.99	3.32	2.62	3.19	3.84
E85[8]	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04
Motor Gasoline[2]	17.37	17.51	17.74	17.98	19.38	20.34	21.28	21.38	23.30	25.18
Jet Fuel[9]	3.37	3.98	4.04	4.09	4.41	4.54	4.70	4.32	4.70	5.20
Kerosene	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Distillate Fuel Oil	8.84	9.11	9.40	9.70	9.79	10.61	11.47	10.64	12.37	14.13
Residual Fuel Oil	2.14	1.78	1.80	1.82	1.85	1.88	1.88	1.87	1.91	1.97
Petrochemical Feedstocks	1.38	1.40	1.48	1.57	1.30	1.50	1.72	1.19	1.57	1.99
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[12]	4.61	4.05	4.22	4.43	4.17	4.51	4.92	4.34	4.96	5.48
Liquid Fuels and Other Petroleum Subtotal	40.61	40.80	41.76	42.78	43.72	46.52	49.44	46.52	52.17	57.99
Natural Gas	20.96	22.44	22.97	23.45	23.92	25.05	26.06	23.08	24.95	27.27
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease and Plant Fuel[6]	1.10	1.08	1.10	1.11	1.17	1.21	1.22	1.11	1.15	1.18
Pipeline Natural Gas	0.58	0.65	0.66	0.67	0.77	0.79	0.81	0.75	0.79	0.83
Natural Gas Subtotal	22.63	24.17	24.73	25.23	25.86	27.04	28.10	24.94	26.89	29.28
Metallurgical Coal	0.62	0.59	0.60	0.62	0.51	0.57	0.62	0.44	0.57	0.69
Other Coal	22.21	23.52	23.61	23.71	25.14	26.50	28.05	28.89	32.61	35.49
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.13	0.21	0.28	0.82	0.93	1.07
Net Coal Coke Imports	0.04	0.02	0.02	0.02	0.01	0.02	0.02	0.00	0.02	0.03
Coal Subtotal	22.87	24.13	24.24	24.35	25.80	27.29	28.97	30.16	34.14	37.29
Nuclear Power	8.13	8.23	8.23	8.23	8.91	9.23	9.28	8.80	9.33	10.53
Biofuels Heat and Coproducts	0.24	0.68	0.69	0.71	0.74	0.78	0.83	0.80	0.88	0.98
Renewable Energy[16]	5.61	6.78	6.81	6.87	7.10	7.27	7.49	7.22	7.71	8.28
Electricity Imports	0.08	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.05
Total	**100.19**	**104.83**	**106.50**	**108.21**	**112.16**	**118.16**	**124.14**	**118.50**	**131.16**	**144.40**
Energy Use and Related Statistics										
Delivered Energy Use	72.97	76.00	77.46	78.93	81.17	86.00	90.90	85.96	96.03	106.50
Total Energy Use	100.19	104.83	106.50	108.21	112.16	118.16	124.14	118.50	131.16	144.40
Ethanol Consumed in Motor Gasoline and E85	0.33	0.90	0.91	0.94	1.00	1.06	1.13	1.12	1.22	1.37
Population (millions)	296.94	308.47	310.26	312.77	323.58	337.13	351.39	334.24	364.94	395.64
Gross Domestic Product (billion 2000 dollars)	11049	12359	12790	13219	15686	17077	18490	19249	22494	25757
Carbon Dioxide Emissions (million metric tons)	5945.3	6124.7	6214.0	6304.2	6582.8	6944.5	7322.2	7141.4	7950.2	8711.2

[1]Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.
[2]Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
[3]Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes petroleum coke, asphalt, road oil, lubricants, still gas, tire-derived fuel, and miscellaneous petroleum products.
[6]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[7]Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal solid waste, and other biomass sources.
[8]E85 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.
[9]Includes only kerosene type.
[10]Diesel fuel for on- and off- road use.
[11]Includes aviation gasoline and lubricants.
[12]Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, tire-derived fuel, and miscellaneous petroleum products.
[13]Includes 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.
[14]Includes 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.
[15]Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
[16]Includes 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.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 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: 2005 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 population and gross domestic product: Global Insight macroeconomic model CTL0806. 2005 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2005,* DOE/EIA-0573(2005) (Washington, DC, November 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs LM2007.D112106A, AEO2007.D112106A, and HM2007.D112106A.

Table B3. Energy Prices by Sector and Source
(2005 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Residential										
Liquefied Petroleum Gases	19.29	23.46	23.67	23.88	22.88	23.18	23.24	23.54	23.91	24.26
Distillate Fuel Oil	14.73	14.82	14.87	14.98	12.95	13.15	13.54	13.59	14.13	14.60
Natural Gas	12.43	10.77	10.98	11.18	10.23	10.54	10.62	11.00	11.43	11.83
Electricity	27.59	26.50	26.91	27.31	25.50	26.37	27.03	25.70	26.76	28.05
Commercial										
Distillate Fuel Oil	12.68	12.65	12.72	12.82	11.01	11.35	11.68	11.87	12.45	13.01
Residual Fuel Oil	8.41	7.53	7.54	7.55	7.07	7.07	7.09	7.32	7.31	7.35
Natural Gas	11.20	9.13	9.34	9.53	8.40	8.67	8.70	8.98	9.30	9.62
Electricity	25.25	24.03	24.50	24.96	23.00	23.95	24.61	23.24	24.27	25.59
Industrial[1]										
Liquefied Petroleum Gases	16.96	16.22	16.42	16.63	15.66	15.91	15.90	16.36	16.55	16.80
Distillate Fuel Oil	13.08	12.87	12.95	13.04	11.64	12.04	12.37	12.64	13.25	13.88
Residual Fuel Oil	7.77	9.44	9.50	9.60	8.90	8.91	9.05	9.61	9.58	10.28
Natural Gas[2]	8.16	6.22	6.43	6.62	5.64	5.90	5.95	6.24	6.56	6.86
Metallurgical Coal	3.06	3.08	3.09	3.11	2.72	2.71	2.71	2.69	2.75	2.83
Other Industrial Coal	2.15	2.25	2.26	2.27	2.14	2.18	2.23	2.19	2.29	2.36
Coal to Liquids	0.00	0.00	0.00	0.00	0.90	0.97	1.02	1.20	1.33	1.40
Electricity	16.69	17.59	18.01	18.40	16.28	17.07	17.57	16.55	17.43	18.53
Transportation										
Liquefied Petroleum Gases[3]	23.92	24.13	24.34	24.55	23.37	23.66	23.72	23.90	24.29	24.65
E85[4]	23.10	21.03	21.29	21.35	20.38	20.61	20.74	21.26	21.50	21.56
Motor Gasoline[5]	18.64	17.79	17.90	18.01	16.30	16.63	16.99	17.16	17.76	18.20
Jet Fuel[6]	13.14	10.82	10.91	11.01	10.15	10.51	10.93	11.14	11.75	12.80
Distillate Fuel Oil[7]	17.52	16.72	16.81	16.90	14.87	15.42	15.88	15.70	16.47	17.38
Residual Fuel Oil	5.51	7.91	8.05	8.14	7.37	7.36	7.42	8.26	8.27	9.36
Natural Gas[8]	14.76	13.75	13.97	14.18	12.59	12.98	13.22	12.93	13.45	13.98
Electricity	25.22	24.38	24.86	25.35	23.50	24.22	24.64	23.80	24.46	25.53
Electric Power[9]										
Distillate Fuel Oil	11.38	11.63	11.71	11.83	9.68	9.84	10.17	10.33	10.79	11.39
Residual Fuel Oil	6.96	6.54	6.58	6.63	6.04	6.08	6.20	6.74	6.85	7.43
Natural Gas	8.18	5.98	6.22	6.45	5.47	5.76	5.79	6.02	6.33	6.63
Steam Coal	1.53	1.70	1.71	1.72	1.55	1.58	1.62	1.60	1.69	1.74
Average Price to All Users[10]										
Liquefied Petroleum Gases	17.48	17.87	18.02	18.17	17.49	17.62	17.52	18.30	18.30	18.38
E85[4]	23.10	21.03	21.29	21.35	20.38	20.61	20.74	21.26	21.50	21.56
Motor Gasoline[5]	18.60	17.79	17.90	18.01	16.30	16.63	16.99	17.16	17.75	18.20
Jet Fuel	13.14	10.82	10.91	11.01	10.15	10.51	10.93	11.14	11.75	12.80
Distillate Fuel Oil	16.22	15.62	15.70	15.81	14.03	14.53	14.98	14.95	15.70	16.54
Residual Fuel Oil	6.59	7.53	7.61	7.68	6.98	7.00	7.09	7.73	7.79	8.57
Natural Gas	9.65	7.65	7.83	8.01	7.06	7.32	7.36	7.76	8.09	8.37
Metallurgical Coal	3.06	3.08	3.09	3.11	2.72	2.71	2.71	2.69	2.75	2.83
Other Coal	1.57	1.73	1.74	1.75	1.58	1.61	1.65	1.63	1.72	1.77
Coal to Liquids	0.00	0.00	0.00	0.00	0.90	0.97	1.02	1.20	1.33	1.40
Electricity	23.73	23.27	23.66	24.04	22.35	23.15	23.70	22.74	23.60	24.71

Table B3. Energy Prices by Sector and Source (Continued)
(2005 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Non-Renewable Energy Expenditures by Sector (billion 2005 dollars)										
Residential	215.13	215.77	220.44	225.03	222.24	236.03	247.96	237.41	262.21	289.21
Commercial	154.38	154.68	157.97	161.22	169.35	181.74	192.39	196.37	222.08	250.92
Industrial	196.07	188.55	200.48	212.61	169.48	194.88	220.13	174.11	222.08	276.29
Transportation	474.66	465.42	476.38	488.17	471.76	511.07	552.61	548.13	632.79	724.25
Total Non-Renewable Expenditures	1040.25	1024.42	1055.27	1087.03	1032.83	1123.73	1213.09	1156.01	1339.16	1540.67
Transportation Renewable Expenditures	0.03	0.06	0.06	0.07	0.13	0.15	0.19	0.39	0.51	0.79
Total Expenditures	**1040.29**	**1024.49**	**1055.33**	**1087.10**	**1032.96**	**1123.89**	**1213.28**	**1156.40**	**1339.68**	**1541.47**

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Excludes use for lease and plant fuel.
[3]Includes Federal and State taxes while excluding county and local taxes.
[4]E85 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.
[5]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[6]Kerosene-type jet fuel. Includes Federal and State taxes while excluding county and local taxes.
[7]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[8]Compressed natural gas used as a vehicle fuel. Includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[9]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[10]Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.
Btu = British thermal unit.
N/A = Not applicable.
Note: Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2005 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and the *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 transportation sector natural gas delivered prices are model results. 2005 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2003 through April 2004, Table 4.11.A. 2005 coal prices based on: EIA, *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006) and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. 2005 electricity prices: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 ethanol prices derived from weekly spot prices in the Oxy Fuel News. **Projections:** EIA, AEO2007 National Energy Modeling System runs LM2007.D112106A, AEO2007.D112106A, and HM2007.D112106A.

Table B4. Macroeconomic Indicators
(Billion 2000 Chain-Weighted Dollars, Unless Otherwise Noted)

Indicators	2005	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
Real Gross Domestic Product	**11049**	**12359**	**12790**	**13219**	**15686**	**17077**	**18490**	**19249**	**22494**	**25757**
Components of Real Gross Domestic Product										
Real Consumption	7841	8867	9111	9353	11140	12006	12888	13629	15590	17564
Real Investment	1866	1936	2139	2342	2657	3030	3407	3760	4735	5711
Real Government Spending	1958	2074	2117	2160	2236	2396	2555	2358	2709	3060
Real Exports	1196	1741	1767	1792	3191	3584	3984	5530	6581	7654
Real Imports	1815	2254	2321	2386	3584	3761	3898	6231	6649	7022
Energy Intensity (thousand Btu per 2000 dollar of GDP)										
Delivered Energy	6.60	6.15	6.06	5.97	5.17	5.04	4.92	4.47	4.27	4.13
Total Energy	9.07	8.48	8.33	8.19	7.15	6.92	6.71	6.16	5.83	5.61
Price Indices										
GDP Chain-Type Price Index (2000=1.000)	1.127	1.276	1.253	1.231	1.620	1.495	1.370	2.059	1.815	1.576
Consumer Price Index (1982-4=1)										
All-Urban	1.95	2.21	2.16	2.13	2.83	2.61	2.39	3.65	3.23	2.82
Energy Commodities and Services	1.77	1.95	1.93	1.92	2.31	2.19	2.05	3.06	2.80	2.53
Wholesale Price Index (1982=1.00)										
All Commodities	1.57	1.72	1.68	1.65	2.00	1.82	1.63	2.41	2.06	1.73
Fuel and Power	1.57	1.65	1.64	1.64	1.94	1.84	1.72	2.62	2.39	2.17
Interest Rates (percent, nominal)										
Federal Funds Rate	3.21	5.03	4.71	4.43	5.59	5.11	4.60	5.67	5.14	4.61
10-Year Treasury Note	4.29	5.96	5.52	5.11	6.29	5.75	5.18	6.39	5.80	5.21
AA Utility Bond Rate	5.44	7.65	7.36	7.09	8.30	7.72	7.13	8.40	7.77	7.14
Value of Shipments (billion 2000 dollars)										
Total Industrial	5763	6001	6298	6587	6962	7779	8614	7712	9502	11357
Non-manufacturing	1538	1469	1596	1723	1614	1846	2082	1698	2023	2353
Manufacturing	4225	4532	4702	4865	5347	5933	6533	6014	7478	9004
Energy-Intensive	1160	1229	1262	1295	1316	1426	1541	1396	1631	1874
Non-Energy Intensive	3065	3304	3440	3569	4031	4507	4991	4618	5848	7130
Population and Employment (millions)										
Population with Armed Forces Overseas	296.9	308.5	310.3	312.8	323.6	337.1	351.4	334.2	364.9	395.6
Population (aged 16 and over)	231.8	242.5	244.2	246.6	256.2	265.4	274.7	268.6	288.6	308.7
Population, over age 65	36.8	40.3	40.4	40.6	53.9	54.9	55.8	69.1	71.6	74.1
Employment, Nonfarm	133.4	135.8	141.9	148.0	143.7	154.6	165.6	153.4	169.2	185.0
Employment, Manufacturing	14.2	13.5	13.8	14.1	12.8	13.4	13.8	11.4	12.5	13.4
Key Labor Indicators										
Labor Force (millions)	149.3	155.5	157.5	159.6	161.2	167.0	173.3	170.9	180.4	190.2
Non-farm Labor Productivity (1992=1.00)	1.36	1.48	1.50	1.53	1.79	1.90	2.03	2.16	2.42	2.69
Unemployment Rate (percent)	5.06	4.94	4.83	4.72	4.65	4.46	4.25	4.87	4.71	4.56
Key Indicators for Energy Demand										
Real Disposable Personal Income	8105	9317	9568	9814	12184	13000	13834	15691	17535	19397
Housing Starts (millions)	2.22	1.62	1.94	2.26	1.48	1.90	2.33	1.20	1.80	2.41
Commercial Floorspace (billion square feet)	74.3	80.0	80.4	80.8	88.9	92.9	97.0	98.1	108.0	118.1
Unit Sales of Light-Duty Vehicles (millions)	16.95	16.60	17.14	17.90	17.63	19.04	20.65	18.62	21.10	23.97

GDP = Gross domestic product.
Btu = British thermal unit.
Sources: 2005: Global Insight macroeconomic model CTL0806, and Global Insight industry model, July 2005. **Projections:** Energy Information Administration, AEO2007 National Energy Modeling System runs LM2007.D112106A, AEO2007.D112106A, and HM2007.D112106A.

Price Case Comparisons

Table C1. Total Energy Supply and Disposition Summary
(Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Production										
Crude Oil and Lease Condensate	10.96	12.31	11.99	11.66	12.59	12.48	12.67	11.11	11.40	12.79
Natural Gas Plant Liquids	2.33	2.45	2.43	2.37	2.39	2.38	2.28	2.33	2.31	2.31
Dry Natural Gas	18.77	20.23	19.93	19.38	21.34	21.41	21.01	21.26	21.15	21.53
Coal[1]	23.20	24.09	24.47	24.68	24.56	26.61	29.80	27.22	33.52	38.32
Nuclear Power	8.13	8.23	8.23	8.23	8.49	9.23	9.39	8.32	9.33	10.31
Hydropower	2.71	3.02	3.02	3.02	3.07	3.08	3.09	3.09	3.09	3.09
Biomass[2]	2.71	4.00	4.22	4.30	4.18	4.69	4.96	4.51	5.26	5.62
Other Renewable Energy[3]	0.76	1.18	1.18	1.22	1.24	1.33	1.41	1.34	1.44	1.51
Other[4]	0.22	0.77	0.67	0.85	1.03	0.89	0.98	1.24	1.12	1.12
Total	**69.80**	**76.27**	**76.13**	**75.70**	**78.89**	**82.09**	**85.58**	**80.42**	**88.63**	**96.61**
Imports										
Crude Oil[5]	22.09	21.77	21.88	21.92	25.59	24.72	21.94	31.38	28.63	23.18
Liquid Fuels and Other Petroleum[6]	7.16	6.54	6.02	5.78	9.66	7.05	5.35	12.83	9.02	5.24
Natural Gas	4.42	5.45	5.36	4.99	8.12	6.17	4.34	10.32	6.47	3.74
Other Imports[7]	0.85	0.92	0.92	0.93	1.51	1.73	1.89	1.90	2.26	2.23
Total	**34.52**	**34.68**	**34.18**	**33.62**	**44.88**	**39.66**	**33.53**	**56.43**	**46.37**	**34.39**
Exports										
Petroleum[8]	2.31	2.76	2.71	2.69	2.92	2.84	2.75	3.15	2.90	2.81
Natural Gas	0.75	0.70	0.69	0.68	0.84	0.69	0.56	1.24	0.87	0.49
Coal	1.27	1.12	1.12	1.11	0.81	0.80	0.83	0.65	0.69	0.69
Total	**4.33**	**4.59**	**4.52**	**4.49**	**4.58**	**4.33**	**4.15**	**5.04**	**4.47**	**3.98**
Discrepancy[9]	**-0.20**	**-0.54**	**-0.70**	**-0.63**	**-0.11**	**-0.74**	**-0.79**	**0.07**	**-0.63**	**-0.74**
Consumption										
Liquid Fuels and Other Petroleum[10]	40.61	42.25	41.76	41.32	49.08	46.52	43.68	56.22	52.17	47.52
Natural Gas	22.63	25.11	24.73	23.83	28.78	27.04	24.70	30.62	26.89	24.60
Coal	22.87	23.86	24.24	24.45	25.20	27.29	29.60	28.43	34.14	36.39
Nuclear Power	8.13	8.23	8.23	8.23	8.49	9.23	9.39	8.32	9.33	10.31
Hydropower	2.71	3.02	3.02	3.02	3.07	3.08	3.09	3.09	3.09	3.09
Biomass[11]	2.38	3.22	3.30	3.35	3.40	3.64	3.85	3.69	4.06	4.24
Other Renewable Energy[3]	0.76	1.18	1.18	1.22	1.24	1.33	1.41	1.34	1.44	1.51
Other[12]	0.08	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.08
Total	**100.19**	**106.90**	**106.50**	**105.46**	**119.29**	**118.16**	**115.75**	**131.75**	**131.16**	**127.74**

Table C1. Total Energy Supply and Disposition Summary (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Prices (2005 dollars per unit)										
Petroleum (dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price[13]	56.76	49.21	57.47	69.21	34.10	52.04	89.12	35.68	59.12	100.14
Imported Crude Oil Price[13]	49.19	44.06	51.20	62.53	28.91	46.47	82.60	28.91	51.63	92.93
Natural Gas (dollars per million Btu)										
Price at Henry Hub	8.60	5.62	6.28	6.91	4.66	5.71	6.46	5.53	6.52	8.27
Wellhead Price[14]	7.29	4.99	5.59	6.16	4.12	5.07	5.75	4.91	5.80	7.41
Natural Gas (dollars per thousand cubic feet)										
Wellhead Price[14]	7.51	5.14	5.76	6.35	4.25	5.22	5.92	5.06	5.98	7.63
Coal (dollars per ton)										
Minemouth Price[15]	23.34	23.64	24.20	24.54	20.31	21.58	23.46	20.23	22.60	24.45
Coal (dollars per million Btu)										
Minemouth Price[15]	1.15	1.16	1.18	1.20	1.01	1.08	1.17	1.02	1.15	1.25
Average Delivered Price[16]	1.61	1.74	1.77	1.80	1.54	1.62	1.73	1.56	1.71	1.83
Average Electricity Price (cents per kilowatthour)	8.1	7.8	8.1	8.3	7.5	7.9	8.1	7.8	8.1	8.3

[1]Includes waste coal.
[2]Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.
[3]Includes grid-connected electricity from landfill gas; municipal solid waste; wind; photovoltaic and solar thermal sources; and non-electric energy from renewable sources, such as active and passive solar systems. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table A17 for selected nonmarketed residential and commercial renewable energy.
[4]Includes liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes imports of crude oil for the Strategic Petroleum Reserve.
[6]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[7]Includes coal, coal coke (net), and electricity (net).
[8]Includes crude oil and petroleum products.
[9]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[10]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.
[11]Includes grid-connected electricity from wood and wood waste, non-electric energy from wood, and biofuels heat and coproducts used in the production of liquid fuels, but excludes the energy content of the liquid fuels.
[12]Includes net electricity imports.
[13]Weighted average price delivered to U.S. refiners.
[14]Represents lower 48 onshore and offshore supplies.
[15]Includes reported prices for both open market and captive mines.
[16]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
Btu = British thermal unit.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2005*, DOE/EIA-0584(2005) (Washington, DC, October 2006). 2005 petroleum supply values: EIA, *Petroleum Supply Annual 2005*, DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2005 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 coal values: *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006). Other 2005 values: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs LP2007.D112106A, AEO2007.D112106A, and HP2007.D112106A.

Table C2. Energy Consumption by Sector and Source
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Energy Consumption										
Residential										
Liquefied Petroleum Gases	0.51	0.54	0.53	0.53	0.58	0.58	0.57	0.62	0.62	0.61
Kerosene	0.10	0.10	0.10	0.09	0.10	0.10	0.09	0.10	0.09	0.08
Distillate Fuel Oil	0.93	0.92	0.90	0.88	0.94	0.85	0.76	0.86	0.76	0.65
Liquid Fuels and Other Petroleum Subtotal	1.54	1.55	1.53	1.51	1.63	1.53	1.42	1.58	1.46	1.34
Natural Gas	4.98	5.23	5.18	5.14	5.53	5.43	5.37	5.56	5.47	5.35
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy[1]	0.41	0.42	0.43	0.43	0.38	0.40	0.43	0.37	0.39	0.41
Electricity	4.66	5.08	5.06	5.04	5.85	5.80	5.77	6.50	6.47	6.46
Delivered Energy	**11.60**	**12.29**	**12.21**	**12.13**	**13.40**	**13.17**	**13.00**	**14.02**	**13.80**	**13.57**
Electricity Related Losses	10.15	10.86	10.90	10.91	11.88	12.08	12.05	12.67	12.89	12.54
Total	**21.75**	**23.15**	**23.11**	**23.04**	**25.28**	**25.26**	**25.05**	**26.69**	**26.70**	**26.11**
Commercial										
Liquefied Petroleum Gases	0.09	0.09	0.09	0.09	0.10	0.10	0.09	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
Kerosene	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Distillate Fuel Oil	0.48	0.46	0.45	0.44	0.57	0.48	0.44	0.63	0.49	0.45
Residual Fuel Oil	0.14	0.14	0.14	0.14	0.16	0.14	0.13	0.16	0.14	0.13
Liquid Fuels and Other Petroleum Subtotal	0.77	0.78	0.75	0.74	0.91	0.80	0.74	0.98	0.81	0.76
Natural Gas	3.15	3.37	3.31	3.26	3.97	3.86	3.75	4.45	4.36	4.13
Coal	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Renewable Energy[3]	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Electricity	4.32	4.79	4.77	4.75	5.87	5.78	5.71	7.13	7.03	6.94
Delivered Energy	**8.46**	**9.15**	**9.05**	**8.97**	**10.97**	**10.66**	**10.41**	**12.77**	**12.43**	**12.05**
Electricity Related Losses	9.42	10.25	10.27	10.28	11.92	12.03	11.90	13.89	14.01	13.48
Total	**17.88**	**19.40**	**19.33**	**19.25**	**22.88**	**22.69**	**22.31**	**26.66**	**26.44**	**25.53**
Industrial[4]										
Liquefied Petroleum Gases	2.13	2.26	2.26	2.25	2.28	2.26	2.25	2.46	2.40	2.38
Motor Gasoline[2]	0.32	0.32	0.32	0.31	0.33	0.33	0.33	0.35	0.36	0.35
Distillate Fuel Oil	1.23	1.19	1.18	1.16	1.25	1.22	1.19	1.33	1.26	1.25
Residual Fuel Oil	0.23	0.18	0.18	0.17	0.20	0.17	0.15	0.22	0.18	0.15
Petrochemical Feedstocks	1.38	1.50	1.48	1.47	1.53	1.50	1.48	1.57	1.57	1.53
Other Petroleum[5]	4.45	4.17	4.05	4.10	4.51	4.34	4.16	5.06	4.78	4.53
Liquid Fuels and Other Petroleum Subtotal	9.73	9.62	9.47	9.47	10.10	9.82	9.56	10.99	10.55	10.19
Natural Gas	6.84	7.76	7.86	7.52	8.10	8.26	7.93	8.59	8.90	8.42
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Lease and Plant Fuel[6]	1.10	1.11	1.10	1.07	1.20	1.21	1.19	1.16	1.15	1.18
Natural Gas Subtotal	7.94	8.87	8.95	8.60	9.29	9.46	9.27	9.75	10.05	9.75
Metallurgical Coal	0.62	0.62	0.60	0.59	0.59	0.57	0.55	0.59	0.57	0.55
Other Industrial Coal	1.35	1.37	1.37	1.37	1.33	1.34	1.34	1.34	1.36	1.37
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.21	1.26	0.00	0.93	3.49
Net Coal Coke Imports	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Coal Subtotal	2.01	2.01	2.00	1.98	1.94	2.14	3.16	1.95	2.89	5.43
Biofuels Heat and Coproducts	0.24	0.59	0.69	0.71	0.60	0.78	0.78	0.62	0.88	0.96
Renewable Energy[7]	1.44	1.61	1.60	1.58	1.84	1.81	1.78	2.07	2.05	2.02
Electricity	3.48	3.66	3.63	3.58	3.87	3.83	3.81	4.00	4.09	4.22
Delivered Energy	**24.85**	**26.36**	**26.33**	**25.92**	**27.65**	**27.84**	**28.36**	**29.37**	**30.51**	**32.57**
Electricity Related Losses	7.60	7.82	7.81	7.75	7.85	7.98	7.95	7.80	8.15	8.20
Total	**32.45**	**34.18**	**34.14**	**33.67**	**35.50**	**35.82**	**36.32**	**37.17**	**38.66**	**40.77**

Table C2. Energy Consumption by Sector and Source (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Transportation										
Liquefied Petroleum Gases	0.04	0.05	0.05	0.05	0.06	0.06	0.10	0.07	0.08	0.14
E85[8]	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.02	0.02	0.30
Motor Gasoline[2]	17.00	17.53	17.37	17.06	20.91	19.95	17.80	24.37	22.89	19.04
Jet Fuel[9]	3.37	4.07	4.04	4.00	4.59	4.54	4.48	4.73	4.70	4.26
Distillate Fuel Oil[10]	6.02	6.70	6.64	6.58	8.02	7.81	7.69	9.90	9.58	9.54
Residual Fuel Oil	0.81	0.82	0.82	0.82	0.85	0.85	0.84	0.87	0.87	0.87
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[11]	0.18	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.20
Liquid Fuels and Other Petroleum Subtotal	27.42	29.36	29.11	28.71	34.62	33.41	31.14	40.16	38.34	34.35
Pipeline Fuel Natural Gas	0.58	0.67	0.66	0.64	0.81	0.79	0.74	0.83	0.79	0.75
Compressed Natural Gas	0.03	0.06	0.06	0.06	0.09	0.09	0.10	0.11	0.12	0.12
Electricity	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Delivered Energy	**28.05**	**30.11**	**29.86**	**29.44**	**35.56**	**34.33**	**32.01**	**41.15**	**39.29**	**35.26**
Electricity Related Losses	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.07
Total	**28.11**	**30.17**	**29.92**	**29.50**	**35.63**	**34.40**	**32.08**	**41.23**	**39.37**	**35.34**
Delivered Energy Consumption for All Sectors										
Liquefied Petroleum Gases	2.77	2.94	2.93	2.93	3.02	2.99	3.02	3.25	3.19	3.23
E85[8]	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.02	0.02	0.30
Motor Gasoline[2]	17.37	17.90	17.74	17.43	21.30	20.34	18.18	24.78	23.30	19.44
Jet Fuel[9]	3.37	4.07	4.04	4.00	4.59	4.54	4.48	4.73	4.70	4.26
Kerosene	0.14	0.15	0.14	0.14	0.15	0.14	0.13	0.15	0.14	0.13
Distillate Fuel Oil	8.65	9.27	9.17	9.06	10.78	10.36	10.08	12.72	12.09	11.90
Residual Fuel Oil	1.17	1.15	1.13	1.13	1.20	1.16	1.12	1.24	1.19	1.15
Petrochemical Feedstocks	1.38	1.50	1.48	1.47	1.53	1.50	1.48	1.57	1.57	1.53
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[12]	4.61	4.33	4.22	4.26	4.67	4.51	4.33	5.24	4.96	4.70
Liquid Fuels and Other Petroleum Subtotal	39.46	41.31	40.86	40.43	47.26	45.55	42.86	53.71	51.17	46.65
Natural Gas	15.01	16.41	16.41	15.98	17.69	17.65	17.14	18.71	18.86	18.02
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Lease and Plant Fuel[6]	1.10	1.11	1.10	1.07	1.20	1.21	1.19	1.16	1.15	1.18
Pipeline Natural Gas	0.58	0.67	0.66	0.64	0.81	0.79	0.74	0.83	0.79	0.75
Natural Gas Subtotal	16.68	18.19	18.17	17.70	19.70	19.64	19.22	20.70	20.80	20.10
Metallurgical Coal	0.62	0.62	0.60	0.59	0.59	0.57	0.55	0.59	0.57	0.55
Other Coal	1.46	1.48	1.48	1.48	1.44	1.45	1.45	1.45	1.47	1.47
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.21	1.26	0.00	0.93	3.49
Net Coal Coke Imports	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Coal Subtotal	2.12	2.12	2.11	2.08	2.05	2.24	3.27	2.06	2.99	5.54
Biofuels Heat and Coproducts	0.24	0.59	0.69	0.71	0.60	0.78	0.78	0.62	0.88	0.96
Renewable Energy[13]	1.97	2.15	2.14	2.13	2.35	2.34	2.33	2.56	2.56	2.55
Electricity	12.49	13.56	13.49	13.40	15.62	15.45	15.32	17.66	17.63	17.66
Delivered Energy	**72.97**	**77.91**	**77.46**	**76.46**	**87.58**	**86.00**	**83.78**	**97.31**	**96.03**	**93.45**
Electricity Related Losses	27.23	28.99	29.04	29.00	31.72	32.17	31.97	34.44	35.13	34.29
Total	**100.19**	**106.90**	**106.50**	**105.46**	**119.29**	**118.16**	**115.75**	**131.75**	**131.16**	**127.74**
Electric Power[14]										
Distillate Fuel Oil	0.19	0.23	0.24	0.23	0.57	0.25	0.26	1.10	0.28	0.28
Residual Fuel Oil	0.96	0.71	0.67	0.66	1.24	0.72	0.56	1.41	0.72	0.59
Liquid Fuels and Other Petroleum Subtotal	1.16	0.95	0.90	0.89	1.82	0.97	0.82	2.51	1.01	0.87
Natural Gas	5.95	6.92	6.56	6.13	9.08	7.40	5.48	9.92	6.09	4.50
Steam Coal	20.75	21.74	22.13	22.36	23.15	25.05	26.33	26.37	31.14	30.85
Nuclear Power	8.13	8.23	8.23	8.23	8.49	9.23	9.39	8.32	9.33	10.31
Renewable Energy[15]	3.64	4.68	4.67	4.74	4.76	4.93	5.24	4.94	5.15	5.33
Electricity Imports	0.08	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.08
Total	**39.71**	**42.54**	**42.53**	**42.40**	**47.34**	**47.62**	**47.30**	**52.10**	**52.77**	**51.95**

Table C2. Energy Consumption by Sector and Source (Continued)
(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Total Energy Consumption										
Liquefied Petroleum Gases	2.77	2.94	2.93	2.93	3.02	2.99	3.02	3.25	3.19	3.23
E85[8]	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.02	0.02	0.30
Motor Gasoline[2]	17.37	17.90	17.74	17.43	21.30	20.34	18.18	24.78	23.30	19.44
Jet Fuel[9]	3.37	4.07	4.04	4.00	4.59	4.54	4.48	4.73	4.70	4.26
Kerosene	0.14	0.15	0.14	0.14	0.15	0.14	0.13	0.15	0.14	0.13
Distillate Fuel Oil	8.84	9.51	9.40	9.30	11.36	10.61	10.34	13.82	12.37	12.17
Residual Fuel Oil	2.14	1.86	1.80	1.79	2.44	1.88	1.68	2.65	1.91	1.74
Petrochemical Feedstocks	1.38	1.50	1.48	1.47	1.53	1.50	1.48	1.57	1.57	1.53
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[12]	4.61	4.33	4.22	4.26	4.67	4.51	4.33	5.24	4.96	4.70
Liquid Fuels and Other Petroleum Subtotal	40.61	42.25	41.76	41.32	49.08	46.52	43.68	56.22	52.17	47.52
Natural Gas	20.96	23.33	22.97	22.12	26.77	25.05	22.62	28.63	24.95	22.52
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Lease and Plant Fuel[6]	1.10	1.11	1.10	1.07	1.20	1.21	1.19	1.16	1.15	1.18
Pipeline Natural Gas	0.58	0.67	0.66	0.64	0.81	0.79	0.74	0.83	0.79	0.75
Natural Gas Subtotal	22.63	25.11	24.73	23.83	28.78	27.04	24.70	30.62	26.89	24.60
Metallurgical Coal	0.62	0.62	0.60	0.59	0.59	0.57	0.55	0.59	0.57	0.55
Other Coal	22.21	23.22	23.61	23.84	24.59	26.50	27.78	27.82	32.61	32.32
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.21	1.26	0.00	0.93	3.49
Net Coal Coke Imports	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Coal Subtotal	22.87	23.86	24.24	24.45	25.20	27.29	29.60	28.43	34.14	36.39
Nuclear Power	8.13	8.23	8.23	8.23	8.49	9.23	9.39	8.32	9.33	10.31
Biofuels Heat and Coproducts	0.24	0.59	0.69	0.71	0.60	0.78	0.78	0.62	0.88	0.96
Renewable Energy[16]	5.61	6.83	6.81	6.87	7.10	7.27	7.57	7.50	7.71	7.89
Electricity Imports	0.08	0.04	0.04	0.05	0.04	0.04	0.04	0.04	0.04	0.08
Total	**100.19**	**106.90**	**106.50**	**105.46**	**119.29**	**118.16**	**115.75**	**131.75**	**131.16**	**127.74**
Energy Use and Related Statistics										
Delivered Energy Use	72.97	77.91	77.46	76.46	87.58	86.00	83.78	97.31	96.03	93.45
Total Energy Use	100.19	106.90	106.50	105.46	119.29	118.16	115.75	131.75	131.16	127.74
Ethanol Consumed in Motor Gasoline and E85	0.33	0.77	0.91	0.95	0.79	1.06	1.05	0.87	1.22	1.30
Population (millions)	296.94	310.26	310.26	310.26	337.13	337.13	337.13	364.94	364.94	364.94
Gross Domestic Product (billion 2000 dollars)	11049	12850	12790	12708	17129	17077	17027	22532	22494	22472
Carbon Dioxide Emissions (million metric tons)	5945.3	6241.2	6214.0	6155.6	7040.2	6944.5	6830.5	7928.6	7950.2	7701.0

[1]Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.
[2]Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
[3]Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes petroleum coke, asphalt, road oil, lubricants, still gas, tire-derived fuel, and miscellaneous petroleum products.
[6]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[7]Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal solid waste, and other biomass sources.
[8]E85 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.
[9]Includes only kerosene type.
[10]Diesel fuel for on- and off- road use.
[11]Includes aviation gasoline and lubricants.
[12]Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, tire-derived fuel, and miscellaneous petroleum products.
[13]Includes 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.
[14]Includes 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.
[15]Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
[16]Includes 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.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 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: 2005 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 population and gross domestic product: Global Insight macroeconomic model CTL0806. 2005 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2005,* DOE/EIA-0573(2005) (Washington, DC, November 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs LP2007.D112106A, AEO2007.D112106A, and HP2007.D112106A.

Table C3. Energy Prices by Sector and Source
(2005 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Residential										
Liquefied Petroleum Gases	19.29	23.03	23.67	24.29	22.18	23.18	23.92	22.98	23.91	25.65
Distillate Fuel Oil	14.73	12.63	14.87	16.58	9.09	13.15	18.95	9.66	14.13	19.84
Natural Gas	12.43	10.33	10.98	11.59	9.50	10.54	11.29	10.40	11.43	13.12
Electricity	27.59	26.24	26.91	27.58	25.24	26.37	26.96	26.08	26.76	27.24
Commercial										
Distillate Fuel Oil	12.68	10.58	12.72	14.58	7.15	11.35	16.85	7.88	12.45	18.06
Residual Fuel Oil	8.41	6.61	7.54	7.31	4.39	7.07	11.35	4.59	7.31	12.07
Natural Gas	11.20	8.70	9.34	9.94	7.65	8.67	9.41	8.33	9.30	10.99
Electricity	25.25	23.69	24.50	25.28	22.58	23.95	24.67	23.39	24.27	25.26
Industrial[1]										
Liquefied Petroleum Gases	16.96	15.79	16.42	17.09	14.89	15.91	16.66	15.75	16.55	18.25
Distillate Fuel Oil	13.08	10.93	12.95	14.94	7.90	12.04	17.30	8.84	13.25	18.79
Residual Fuel Oil	7.77	8.42	9.50	10.74	6.15	8.91	14.15	6.41	9.58	15.36
Natural Gas[2]	8.16	5.83	6.43	7.03	4.92	5.90	6.61	5.65	6.56	8.21
Metallurgical Coal	3.06	3.08	3.09	3.11	2.69	2.71	2.76	2.73	2.75	2.78
Other Industrial Coal	2.15	2.22	2.26	2.30	2.07	2.18	2.32	2.12	2.29	2.43
Coal to Liquids	0.00	0.00	0.00	0.00	0.00	0.97	1.42	0.00	1.33	1.78
Electricity	16.69	17.35	18.01	18.64	16.11	17.07	17.41	16.95	17.43	17.72
Transportation										
Liquefied Petroleum Gases[3]	23.92	23.72	24.34	24.88	22.68	23.66	24.20	23.35	24.29	25.85
E85[4]	23.10	22.00	21.29	22.41	18.58	20.61	23.33	19.38	21.50	25.54
Motor Gasoline[5]	18.64	16.55	17.90	20.64	13.97	16.63	23.62	14.39	17.76	26.42
Jet Fuel[6]	13.14	9.66	10.91	12.84	7.43	10.51	15.86	8.21	11.75	17.44
Distillate Fuel Oil[7]	17.52	14.79	16.81	18.76	11.24	15.42	20.72	12.02	16.47	22.20
Residual Fuel Oil	5.51	6.89	8.05	9.83	4.76	7.36	12.85	5.03	8.27	14.38
Natural Gas[8]	14.76	13.27	13.97	14.90	11.66	12.98	14.98	11.99	13.45	16.55
Electricity	25.22	23.98	24.86	25.66	22.90	24.22	24.77	23.72	24.46	25.19
Electric Power[9]										
Distillate Fuel Oil	11.38	9.44	11.71	13.59	5.07	9.84	15.34	5.43	10.79	15.94
Residual Fuel Oil	6.96	5.64	6.58	7.59	3.51	6.08	11.24	3.68	6.85	12.57
Natural Gas	8.18	5.64	6.22	6.75	4.93	5.76	6.32	5.71	6.33	7.79
Steam Coal	1.53	1.67	1.71	1.74	1.48	1.58	1.71	1.51	1.69	1.80
Average Price to All Users[10]										
Liquefied Petroleum Gases	17.48	17.39	18.02	18.68	16.60	17.62	18.44	17.44	18.30	20.13
E85[4]	23.10	22.00	21.29	22.41	18.58	20.61	23.33	19.38	21.50	25.54
Motor Gasoline[5]	18.60	16.55	17.90	20.64	13.97	16.63	23.61	14.39	17.75	26.42
Jet Fuel	13.14	9.66	10.91	12.84	7.43	10.51	15.86	8.21	11.75	17.44
Distillate Fuel Oil	16.22	13.66	15.70	17.64	10.18	14.53	19.89	10.85	15.70	21.45
Residual Fuel Oil	6.59	6.54	7.61	8.90	4.22	7.00	12.31	4.39	7.79	13.68
Natural Gas	9.65	7.22	7.83	8.46	6.30	7.32	8.15	7.04	8.09	9.85
Metallurgical Coal	3.06	3.08	3.09	3.11	2.69	2.71	2.76	2.73	2.75	2.78
Other Coal	1.57	1.70	1.74	1.77	1.52	1.61	1.74	1.54	1.72	1.83
Coal to Liquids	0.00	0.00	0.00	0.00	0.00	0.97	1.42	0.00	1.33	1.78
Electricity	23.73	22.94	23.66	24.37	21.98	23.15	23.73	22.92	23.60	24.18

Table C3. Energy Prices by Sector and Source (Continued)
(2005 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Non-Renewable Energy Expenditures by Sector (billion 2005 dollars)										
Residential	215.13	212.43	220.44	227.60	222.50	236.03	246.06	250.70	262.21	276.15
Commercial	154.38	151.98	157.97	163.50	170.74	181.74	188.76	212.65	222.08	234.83
Industrial	196.07	187.02	200.48	213.85	169.84	194.88	224.73	193.83	222.08	269.71
Transportation	474.66	437.09	476.38	538.62	424.57	511.07	668.16	517.92	632.79	811.45
Total Non-Renewable Expenditures	1040.25	988.51	1055.27	1143.57	987.65	1123.73	1327.72	1175.11	1339.16	1592.14
Transportation Renewable Expenditures	0.03	0.05	0.06	0.09	0.13	0.15	0.89	0.40	0.51	7.62
Total Expenditures	**1040.29**	**988.56**	**1055.33**	**1143.66**	**987.78**	**1123.89**	**1328.60**	**1175.51**	**1339.68**	**1599.77**

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Excludes use for lease and plant fuel.
[3]Includes Federal and State taxes while excluding county and local taxes.
[4]E85 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.
[5]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[6]Kerosene-type jet fuel. Includes Federal and State taxes while excluding county and local taxes.
[7]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[8]Compressed natural gas used as a vehicle fuel. Includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[9]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[10]Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.
Btu = British thermal unit.
N/A = Not applicable.
Note: Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2005 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2004*, DOE/EIA-0131(2004) (Washington, DC, December 2005) and the *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 transportation sector natural gas delivered prices are model results. 2005 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2003 through April 2004, Table 4.11.A. 2005 coal prices based on: EIA, *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006) and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. 2005 electricity prices: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 ethanol prices derived from weekly spot prices in the Oxy Fuel News. **Projections:** EIA, AEO2007 National Energy Modeling System runs LP2007.D112106A, AEO2007.D112106A, and HP2007.D112106A.

Table C4. Liquid Fuels Supply and Disposition
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Crude Oil										
Domestic Crude Production[1]	5.18	5.81	5.67	5.51	5.95	5.89	5.98	5.25	5.39	6.04
Alaska	0.86	0.69	0.69	0.69	0.69	0.74	0.71	0.25	0.27	0.42
Lower 48 States	4.31	5.12	4.98	4.82	5.25	5.15	5.28	4.99	5.12	5.62
Net Imports	10.09	9.94	9.99	10.01	11.69	11.29	10.02	14.35	13.09	10.59
Gross Imports	10.12	9.98	10.03	10.05	11.73	11.33	10.06	14.38	13.12	10.63
Exports	0.03	0.04	0.04	0.03	0.04	0.04	0.04	0.03	0.03	0.04
Other Crude Supply[2]	-0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply	**15.22**	**15.75**	**15.66**	**15.52**	**17.64**	**17.19**	**16.00**	**19.60**	**18.47**	**16.63**
Other Supply										
Natural Gas Plant Liquids	1.72	1.82	1.80	1.76	1.77	1.76	1.69	1.73	1.72	1.71
Net Product Imports	2.48	1.99	1.80	1.72	3.46	2.27	1.53	4.95	3.28	1.45
Gross Refined Product Imports[3]	2.45	1.99	1.78	1.76	2.83	1.98	1.52	3.73	2.52	1.43
Unfinished Oil Imports	0.58	0.42	0.41	0.36	0.66	0.51	0.42	0.90	0.67	0.43
Ethanol Imports	0.01	0.01	0.02	0.02	0.01	0.04	0.04	0.05	0.05	0.05
Blending Component Imports	0.54	0.82	0.82	0.80	1.29	1.03	0.79	1.72	1.36	0.81
Exports	1.07	1.25	1.23	1.22	1.33	1.29	1.25	1.44	1.33	1.28
Refinery Processing Gain[4]	0.99	1.18	1.21	1.16	1.18	1.41	1.28	1.22	1.49	1.37
Other Inputs	0.39	0.96	1.02	1.13	1.07	1.31	1.98	1.19	1.88	3.30
Ethanol	0.26	0.59	0.69	0.72	0.60	0.79	0.78	0.63	0.90	0.96
Liquids from Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.10
Liquids from Coal	0.00	0.00	0.00	0.00	0.00	0.10	0.60	0.00	0.44	1.65
Other[5]	0.13	0.36	0.33	0.41	0.47	0.43	0.50	0.57	0.53	0.59
Total Primary Supply[6]	**20.79**	**21.70**	**21.49**	**21.28**	**25.13**	**23.94**	**22.48**	**28.70**	**26.84**	**24.46**
Liquid Fuels Consumption										
by Fuel										
Liquefied Petroleum Gases	2.03	2.22	2.22	2.21	2.28	2.26	2.29	2.46	2.42	2.45
E85[7]	0.00	0.00	0.00	0.00	0.01	0.01	0.03	0.01	0.02	0.21
Motor Gasoline[8]	9.16	9.58	9.53	9.38	11.37	10.93	9.79	13.23	12.53	10.47
Jet Fuel[9]	1.68	1.97	1.95	1.94	2.22	2.19	2.16	2.29	2.27	2.06
Distillate Fuel Oil[10]	4.12	4.58	4.53	4.48	5.47	5.11	4.98	6.64	5.95	5.85
Residual Fuel Oil	0.92	0.81	0.79	0.78	1.06	0.82	0.73	1.16	0.83	0.76
Other[11]	2.84	2.63	2.57	2.58	2.79	2.70	2.61	3.06	2.93	2.80
by Sector										
Residential and Commercial	1.26	1.28	1.25	1.24	1.39	1.29	1.21	1.41	1.28	1.19
Industrial[12]	5.07	5.08	5.01	5.00	5.30	5.16	5.04	5.75	5.53	5.37
Transportation	13.87	15.01	14.93	14.74	17.71	17.15	15.97	20.55	19.69	17.64
Electric Power[13]	0.51	0.42	0.40	0.40	0.81	0.43	0.37	1.13	0.45	0.39
Total	**20.75**	**21.79**	**21.59**	**21.37**	**25.21**	**24.03**	**22.59**	**28.84**	**26.95**	**24.60**
Discrepancy[14]	**0.04**	**-0.09**	**-0.10**	**-0.09**	**-0.08**	**-0.09**	**-0.11**	**-0.14**	**-0.11**	**-0.13**

Table C4. Liquid Fuels Supply and Disposition (Continued)
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Domestic Refinery Distillation Capacity[15]	17.1	17.9	17.8	18.0	19.0	18.7	18.1	21.0	20.0	18.5
Capacity Utilization Rate (percent)[16]	91.0	89.4	89.1	87.5	94.2	93.4	89.6	94.7	93.5	91.1
Net Import Share of Product Supplied (percent)	60.5	55.0	54.9	55.1	60.3	56.6	51.4	67.3	61.0	49.2
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2005 dollars)	236.65	194.59	222.76	268.39	161.96	229.80	344.40	211.83	300.51	404.77

[1]Includes lease condensate.
[2]Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude product supplied.
[3]Includes other hydrocarbons and alcohols.
[4]Represents volumetric gain in refinery distillation and cracking processes.
[5]Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, ethers, and renewable fuels such as biodiesel.
[6]Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
[7]E85 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.
[8]Includes ethanol and ethers blended into gasoline.
[9]Includes only kerosene type.
[10]Includes distillate fuel oil and kerosene from petroleum and biomass feedstocks.
[11]Includes aviation gasoline, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, tire-derived fuel, methanol, liquid hydrogen,and miscellaneous petroleum products.
[12]Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.
[13]Includes 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.
[14]Balancing item. Includes unaccounted for supply, losses, and gains.
[15]End-of-year operable capacity.
[16]Rate is calculated by dividing the gross annual input to atmospheric crude oil distillation units by their operable refining capacity in barrels per calendar day.
N/A = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 data: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs LP2007.D112106A, AEO2007.D112106A, and HP2007.D112106A.

Table C5. Petroleum Product Prices
(2005 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Crude Oil Prices (2005 dollars per barrel)										
Imported Low Sulfur Light Crude Oil[1]	56.76	49.21	57.47	69.21	34.10	52.04	89.12	35.68	59.12	100.14
Imported Crude Oil[1]	49.19	44.06	51.20	62.53	28.91	46.47	82.60	28.91	51.63	92.93
Delivered Sector Product Prices										
Residential										
Liquefied Petroleum Gases	166.3	198.5	204.0	209.4	191.1	199.8	206.2	198.0	206.1	221.0
Distillate Fuel Oil	204.3	175.2	206.3	229.9	126.1	182.3	262.8	134.0	195.9	275.1
Commercial										
Distillate Fuel Oil	175.4	145.9	175.5	201.2	98.6	156.5	232.3	108.6	171.7	248.9
Residual Fuel Oil	126.0	99.0	112.8	109.5	65.8	105.8	169.8	68.7	109.4	180.7
Residual Fuel Oil (2005 dollars per barrel)	52.90	41.56	47.39	45.99	27.62	44.44	71.33	28.85	45.97	75.89
Industrial[2]										
Liquefied Petroleum Gases	146.2	136.1	141.5	147.3	128.3	137.1	143.6	135.7	142.6	157.3
Distillate Fuel Oil	181.1	150.3	178.1	205.4	108.5	165.3	237.5	121.4	181.8	257.9
Residual Fuel Oil	116.3	126.0	142.2	160.8	92.1	133.4	211.9	95.9	143.5	230.0
Residual Fuel Oil (2005 dollars per barrel)	48.86	52.94	59.74	67.52	38.68	56.04	88.98	40.29	60.25	96.58
Transportation										
Liquefied Petroleum Gases	206.1	204.4	209.8	214.4	195.5	203.9	208.6	201.2	209.3	222.8
Ethanol (E85)[3]	217.1	205.4	198.5	208.8	173.6	192.1	217.3	181.0	200.4	237.9
Ethanol Wholesale Price	180.4	174.8	181.4	184.0	152.3	168.2	174.0	155.3	170.2	183.5
Motor Gasoline[4]	231.6	201.8	217.3	250.1	170.7	201.9	286.1	175.8	215.4	320.1
Jet Fuel[5]	177.4	130.5	147.2	173.3	100.3	141.8	214.1	110.8	158.6	235.5
Diesel Fuel (distillate fuel oil)[6]	241.3	202.7	230.4	257.2	154.1	211.2	283.9	164.7	225.7	304.2
Residual Fuel Oil	82.4	103.2	120.5	147.2	71.2	110.2	192.4	75.2	123.8	215.2
Residual Fuel Oil (2005 dollars per barrel)	34.62	43.33	50.60	61.81	29.91	46.27	80.79	31.60	52.02	90.40
Electric Power[7]										
Distillate Fuel Oil	157.9	130.9	162.3	188.5	70.3	136.5	212.7	75.4	149.6	221.1
Residual Fuel Oil	104.2	84.4	98.5	113.7	52.6	91.0	168.3	55.0	102.5	188.1
Residual Fuel Oil (2005 dollars per barrel)	43.76	35.44	41.37	47.75	22.10	38.24	70.69	23.11	43.05	79.02
Refined Petroleum Product Prices[8]										
Liquefied Petroleum Gases	150.7	149.9	155.3	161.0	143.1	151.9	158.9	150.3	157.7	173.5
Motor Gasoline[4]	231.1	201.8	217.3	250.1	170.6	201.8	286.0	175.8	215.4	320.1
Jet Fuel[5]	177.4	130.5	147.2	173.3	100.3	141.8	214.1	110.8	158.6	235.5
Distillate Fuel Oil	223.9	187.8	215.9	242.5	139.8	199.4	273.0	149.0	215.5	294.4
Residual Fuel Oil	98.6	97.9	113.9	133.3	63.1	104.7	184.3	65.8	116.6	204.8
Residual Fuel Oil (2005 dollars per barrel)	41.42	41.10	47.84	55.97	26.50	43.98	77.40	27.63	48.96	86.01
Average	**204.5**	**177.5**	**195.0**	**221.3**	**145.8**	**183.4**	**253.3**	**153.5**	**198.1**	**281.4**

[1]Weighted average price delivered to U.S. refiners.
[2]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[3]E85 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.
[4]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[5]Includes only kerosene type.
[6]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[7]Includes 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.
[8]Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.
Note: Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 imported crude oil price: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2005 residential, commercial, industrial, and transportation sector petroleum product prices are derived from: EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report." 2005 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2005 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2005 wholesale ethanol prices derived from Bloomburg U.S. average rack price. **Projections:** EIA, AEO2007 National Energy Modeling System runs LP2007.D112106A, AEO2007.D112106A, and HP2007.D112106A.

Table C6. International Petroleum Supply and Disposition Summary
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Crude Oil Prices (2005 dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price[1]	56.76	49.21	57.47	69.21	34.10	52.04	89.12	35.68	59.12	100.14
Imported Crude Oil Price[1]	49.19	44.06	51.20	62.53	28.91	46.47	82.60	28.91	51.63	92.93
Conventional Production (Conventional)[2]										
OPEC[3]										
Asia	1.17	1.11	1.11	0.96	1.17	1.09	0.76	1.30	1.10	0.70
Middle East	22.96	21.81	22.23	20.37	29.34	26.60	17.99	39.85	33.20	21.34
North Africa	3.78	4.33	4.29	3.55	4.57	4.24	2.87	4.48	3.93	2.48
West Africa	2.78	3.10	3.07	2.38	4.22	4.10	2.40	4.61	4.48	2.21
South America	2.71	2.95	2.59	2.57	3.10	2.30	2.23	3.02	2.24	2.15
Total OPEC	**33.41**	**33.30**	**33.30**	**29.83**	**42.40**	**38.33**	**26.25**	**53.26**	**44.95**	**28.88**
Non-OPEC										
OECD										
United States (50 states)	8.03	9.15	8.98	8.81	9.37	9.48	9.29	8.80	9.12	9.19
Canada	2.12	1.95	1.93	1.80	2.18	1.89	1.61	2.11	1.62	1.25
Mexico	3.78	3.23	3.15	3.08	3.51	3.18	3.04	4.05	3.52	2.99
OECD Europe[4]	5.96	5.92	5.73	5.64	4.74	4.22	4.01	3.65	3.16	2.62
Japan	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Australia and New Zealand	0.60	0.56	0.56	0.56	0.56	0.51	0.51	0.64	0.60	0.56
Total OECD	**20.59**	**20.90**	**20.45**	**19.99**	**20.46**	**19.39**	**18.56**	**19.34**	**18.12**	**16.71**
Non-OECD										
Russia	9.51	10.30	9.98	9.88	11.80	10.79	10.39	13.18	11.54	9.60
Other Eurasia[5]	2.48	4.10	3.98	3.88	6.01	5.41	5.22	7.50	6.55	5.53
China	3.74	3.63	3.53	3.42	3.70	3.30	3.20	3.80	3.20	2.60
Other Asia[6]	2.53	2.39	2.29	2.19	2.90	2.60	2.50	2.90	2.50	2.10
Middle East[7]	1.67	2.10	2.00	2.00	2.70	2.40	2.30	3.30	2.90	2.30
Africa	3.59	5.33	5.19	5.19	7.73	7.38	6.95	10.72	9.83	8.10
Brazil	1.76	2.49	2.39	2.39	3.50	3.20	3.10	4.40	3.90	3.20
Other Central and South America	2.31	2.34	2.32	2.20	2.96	2.66	2.56	3.26	2.90	2.46
Total Non-OECD	**27.59**	**32.68**	**31.67**	**31.14**	**41.31**	**37.75**	**36.22**	**49.05**	**43.32**	**35.89**
Total Conventional Production	**81.59**	**86.88**	**85.42**	**80.97**	**104.16**	**95.47**	**81.03**	**121.66**	**106.40**	**81.48**
Unconventional Production[8]										
United States (50 states)	0.25	0.61	0.71	0.74	0.61	0.91	1.62	0.64	1.37	3.20
Other North America	1.09	1.90	1.91	1.87	2.10	2.74	3.57	2.32	3.66	4.91
OECD Europe[3]	0.08	0.14	0.15	0.17	0.18	0.19	0.36	0.24	0.27	0.53
Middle East[7]	0.02	0.57	0.57	0.57	0.47	0.75	0.97	0.28	1.11	1.28
Africa.	0.16	0.30	0.32	0.42	0.39	0.52	1.26	0.52	0.73	2.36
Central and South America	0.93	1.35	1.35	1.54	1.64	1.81	2.99	1.82	2.40	4.15
Other	0.28	0.50	0.62	0.60	0.57	0.90	1.55	0.60	1.41	3.69
Total Unconventional Production	**2.80**	**5.36**	**5.63**	**5.91**	**5.95**	**7.83**	**12.33**	**6.41**	**10.93**	**20.12**
Total Production	**84.39**	**92.24**	**91.05**	**86.88**	**110.11**	**103.29**	**93.36**	**128.07**	**117.33**	**101.60**

Table C6. International Petroleum Supply and Disposition Summary (Continued)
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	2005	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Consumption[8]										
OECD										
United States (50 states)	20.75	21.78	21.59	21.37	25.20	24.02	22.57	28.83	26.93	24.44
United States Territories	0.38	0.45	0.43	0.39	0.58	0.51	0.48	0.68	0.59	0.56
Canada	2.28	2.44	2.42	2.35	2.55	2.49	2.35	2.68	2.59	2.34
Mexico	2.09	2.26	2.22	2.06	2.92	2.68	2.34	3.57	3.19	2.67
OECD Europe[3]	15.73	15.81	15.82	15.42	16.03	15.76	15.02	16.61	16.26	14.84
Japan	5.58	5.43	5.42	5.28	5.52	5.43	5.17	5.57	5.45	4.97
South Korea	2.30	2.58	2.58	2.50	3.12	3.04	2.87	3.57	3.45	3.12
Australia and New Zealand	1.05	1.09	1.08	1.04	1.16	1.13	1.07	1.26	1.22	1.10
Total OECD	**50.16**	**51.84**	**51.54**	**50.41**	**57.08**	**55.05**	**51.86**	**62.74**	**59.69**	**54.04**
Non-OECD										
Russia	2.75	2.88	2.85	2.68	3.32	3.11	2.79	3.69	3.39	2.91
Other Non-OECD Eurasia[5]	2.33	2.66	2.63	2.48	3.39	3.18	2.85	4.08	3.75	3.22
China	6.86	8.93	8.70	7.97	12.95	11.66	9.92	17.25	15.05	12.25
India	2.52	3.02	2.94	2.69	4.06	3.66	3.11	5.10	4.45	3.63
Other Non-OECD Asia	6.02	7.07	6.89	6.31	9.45	8.51	7.24	11.79	10.29	8.37
Middle East[7]	5.56	6.17	6.06	5.63	7.62	7.00	6.11	8.72	7.81	6.52
Africa	3.01	3.80	3.70	3.39	4.77	4.30	3.66	5.65	4.93	4.02
Brazil	2.20	2.44	2.39	2.23	3.07	2.82	2.46	3.68	3.29	2.75
Other Central and South America	2.99	3.44	3.36	3.08	4.43	4.00	3.36	5.36	4.68	3.73
Total Non-OECD	**34.23**	**40.40**	**39.52**	**36.46**	**53.08**	**48.23**	**41.49**	**65.33**	**57.64**	**47.40**
Total Consumption	**84.39**	**92.24**	**91.05**	**86.88**	**110.16**	**103.29**	**93.36**	**128.07**	**117.33**	**101.44**
OPEC Production[10]	34.04	34.72	34.72	31.25	43.89	40.19	29.26	54.68	47.65	33.29
Non-OPEC Production[10]	50.35	57.52	56.34	55.63	66.22	63.10	64.10	73.39	69.68	68.30
Net Eurasia Exports	8.67	11.35	10.87	10.98	14.60	13.12	13.07	17.31	14.85	12.20
OPEC Market Share	40.3	37.6	38.1	36.0	39.9	38.9	31.3	42.7	40.6	32.8

[1]Weighted average price delivered to U.S. refiners.
[2]Includes 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.
[3]OPEC = Organization of Petroleum Exporting Countries - Algeria, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Does not include Angola, which was admitted as a full member to OPEC on December 14, 2006.
[4]OECD Europe = Organization for Economic Cooperation and Development - Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.
[5]Eurasia consists of Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
[6]Other Asia = Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia (Kampuchea), Fiji, French Polynesia, Guam, Hong Kong, Indonesia, Kiribati, Laos, Malaysia, Macau, Maldives, Mongolia, Myanmar (Burma), Nauru, Nepal, New Caledonia, Niue, North Korea, Pakistan, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, Vanuatu, and Vietnam.
[7]Non-OPEC Middle East includes Turkey.
[8]Includes liquids produced from energy crops, natural gas, coal, oil sands, and shale. Includes both OPEC and non-OPEC producers in the regional breakdown.
[9]Includes both OPEC and non-OPEC consumers in the regional breakdown.
[10]Includes both conventional and nonconventional liquids production.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 imported crude oil price: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **2005 quantities and projections:** Energy Information Administration, AEO2007 National Energy Modeling System runs LP2007.D112106A, AEO2007.D112106A, and HP2007.D112106A.

Appendix D

Results from Side Cases

Table D1. Key Results for Residential and Commercial Sector Technology Cases

Energy Consumption	2005	2010				2020			
		2006 Technology	Reference	High Technology	Best Available Technology	2006 Technology	Reference	High Technology	Best Available Technology
Residential									
Energy Consumption (quadrillion Btu)									
Liquefied Petroleum Gases	0.51	0.54	0.53	0.53	0.52	0.58	0.58	0.56	0.54
Kerosene	0.10	0.10	0.10	0.10	0.09	0.10	0.10	0.09	0.09
Distillate Fuel Oil	0.93	0.91	0.90	0.89	0.87	0.88	0.85	0.83	0.78
Liquid Fuels and Other Petroleum	1.54	1.54	1.53	1.52	1.49	1.56	1.53	1.48	1.41
Natural Gas	4.98	5.21	5.18	5.15	4.88	5.55	5.43	5.23	4.38
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy[1]	0.41	0.43	0.43	0.42	0.41	0.42	0.40	0.39	0.38
Electricity	4.66	5.08	5.06	5.02	4.26	5.95	5.80	5.54	4.27
Delivered Energy	**11.60**	**12.27**	**12.21**	**12.11**	**11.05**	**13.48**	**13.17**	**12.66**	**10.45**
Electricity Related Losses	10.15	10.95	10.90	10.80	9.18	12.39	12.08	11.53	8.88
Total	**21.75**	**23.22**	**23.11**	**22.91**	**20.23**	**25.87**	**25.26**	**24.18**	**19.33**
Delivered Energy Intensity (million Btu per household)	**102.3**	**101.7**	**101.1**	**100.3**	**91.6**	**100.1**	**97.8**	**94.0**	**77.5**
Nonmarketed Renewables Consumption (quadrillion Btu)	**0.03**	**0.04**	**0.04**	**0.04**	**0.04**	**0.06**	**0.06**	**0.09**	**0.06**
Commercial									
Energy Consumption (quadrillion Btu)									
Liquefied Petroleum Gases	0.09	0.09	0.09	0.09	0.09	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
Kerosene	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Distillate Fuel Oil	0.48	0.45	0.45	0.45	0.46	0.52	0.48	0.48	0.55
Residual Fuel Oil	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Liquid Fuels and Other Petroleum	0.77	0.75	0.75	0.75	0.76	0.84	0.80	0.79	0.86
Natural Gas	3.15	3.32	3.31	3.31	3.26	3.86	3.86	3.86	3.67
Coal	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Renewable Energy[3]	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Electricity	4.32	4.83	4.77	4.64	4.37	6.06	5.78	5.44	4.78
Delivered Energy	**8.46**	**9.12**	**9.05**	**8.92**	**8.61**	**10.98**	**10.66**	**10.31**	**9.53**
Electricity Related Losses	9.42	10.40	10.27	9.98	9.42	12.63	12.03	11.32	9.96
Total	**17.88**	**19.52**	**19.33**	**18.90**	**18.03**	**23.60**	**22.69**	**21.63**	**19.48**
Delivered Energy Intensity (thousand Btu per square foot)	**113.9**	**113.5**	**112.6**	**110.9**	**107.1**	**118.2**	**114.7**	**111.0**	**102.6**
Commercial Sector Generation									
Net Summer Generation Capacity (megawatts)									
Natural Gas	588	591	593	591	591	607	622	658	666
Solar Photovoltaic	159	209	487	487	487	210	617	622	817
Electricity Generation (billion kilowatthours)									
Natural Gas	4.23	4.26	4.27	4.26	4.26	4.37	4.48	4.74	4.80
Solar Photovoltaic	0.30	0.40	0.93	0.93	0.93	0.40	1.18	1.18	1.55
Nonmarketed Renewables Consumption (quadrillion Btu)	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**

[1]Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.
[2]Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
[3]Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports. Side cases were run without the fully integrated modeling system, so not all feedbacks are captured. The reference case ratio of electricity losses to electricity use was used to compute electricity losses for the technology cases.
Source: Energy Information Administration, AEO2007 National Energy Modeling System, runs BLDFRZN.D112206A, AEO2007.D112106A, BLDHIGH.D112206A, and BLDBEST.D112206A.

2030				Annual Growth 2005-2030 (percent)			
2006 Technology	Reference	High Technology	Best Available Technology	2006 Technology	Reference	High Technology	Best Available Technology
0.62	0.62	0.59	0.57	0.8%	0.8%	0.6%	0.5%
0.09	0.09	0.08	0.08	-0.1%	-0.3%	-0.5%	-0.7%
0.81	0.76	0.72	0.66	-0.6%	-0.8%	-1.0%	-1.4%
1.52	1.46	1.40	1.32	-0.0%	-0.2%	-0.4%	-0.6%
5.70	5.47	5.15	4.22	0.5%	0.4%	0.1%	-0.7%
0.01	0.01	0.01	0.01	-0.9%	-1.2%	-1.3%	-1.4%
0.42	0.39	0.38	0.36	0.1%	-0.2%	-0.3%	-0.5%
6.75	6.47	5.91	4.54	1.5%	1.3%	1.0%	-0.1%
14.39	**13.80**	**12.85**	**10.44**	**0.9%**	**0.7%**	**0.4%**	**-0.4%**
13.44	12.89	11.77	9.04	1.1%	1.0%	0.6%	-0.5%
27.84	**26.70**	**24.62**	**19.49**	**1.0%**	**0.8%**	**0.5%**	**-0.4%**
97.6	**93.6**	**87.1**	**70.8**	**-0.2%**	**-0.4%**	**-0.6%**	**-1.5%**
0.08	**0.08**	**0.14**	**0.10**	**4.0%**	**4.0%**	**6.4%**	**5.1%**
0.10	0.10	0.10	0.10	0.4%	0.4%	0.4%	0.4%
0.05	0.05	0.05	0.05	0.6%	0.6%	0.6%	0.6%
0.03	0.03	0.03	0.03	0.4%	0.4%	0.4%	0.4%
0.56	0.49	0.49	0.61	0.7%	0.1%	0.1%	1.0%
0.14	0.14	0.14	0.14	0.2%	0.2%	0.2%	0.2%
0.89	0.81	0.81	0.94	0.6%	0.2%	0.2%	0.8%
4.35	4.36	4.38	4.10	1.3%	1.3%	1.3%	1.1%
0.10	0.10	0.10	0.10	-0.1%	-0.1%	-0.1%	-0.1%
0.12	0.12	0.12	0.12	0.0%	0.0%	0.0%	0.0%
7.56	7.03	6.54	5.53	2.3%	2.0%	1.7%	1.0%
13.02	**12.43**	**11.95**	**10.79**	**1.7%**	**1.6%**	**1.4%**	**1.0%**
15.06	14.01	13.03	11.03	1.9%	1.6%	1.3%	0.6%
28.08	**26.44**	**24.98**	**21.81**	**1.8%**	**1.6%**	**1.3%**	**0.8%**
120.5	**115.1**	**110.6**	**99.8**	**0.2%**	**0.0%**	**-0.1%**	**-0.5%**
734	979	1571	1808	0.9%	2.1%	4.0%	4.6%
212	2292	3204	10850	1.1%	11.3%	12.8%	18.4%
5.29	7.08	11.38	13.11	0.9%	2.1%	4.0%	4.6%
0.40	4.34	6.04	19.82	1.2%	11.3%	12.7%	18.2%
0.03	**0.04**	**0.05**	**0.10**	**0.6%**	**2.1%**	**2.6%**	**5.4%**

Table D2. Key Results for Industrial Sector Technology Cases, Excluding Refining

Consumption	2005	2010			2020			2030		
		2006 Technology	Reference	High Technology	2006 Technology	Reference	High Technology	2006 Technology	Reference	High Technology
Value of Shipments (billion 2000 dollars)										
Manufacturing	4002	4462	4462	4462	5666	5666	5666	7183	7183	7183
Nonmanufacturing	1538	1596	1596	1596	1846	1846	1846	2023	2023	2023
Total	**5540**	**6059**	**6059**	**6059**	**7513**	**7513**	**7513**	**9207**	**9207**	**9207**
Energy Consumption excluding Refining[1] (quadrillion Btu)										
Liquefied Petroleum Gases	2.12	2.31	2.26	2.21	2.43	2.26	2.13	2.61	2.37	2.22
Heat and Power	0.13	0.09	0.08	0.08	0.09	0.08	0.08	0.10	0.08	0.08
Feedstocks	1.98	2.22	2.17	2.12	2.33	2.18	2.05	2.51	2.29	2.15
Motor Gasoline	0.32	0.33	0.32	0.31	0.37	0.33	0.31	0.40	0.36	0.32
Distillate Fuel Oil	1.22	1.21	1.18	1.14	1.35	1.22	1.11	1.45	1.26	1.13
Residual Fuel Oil	0.22	0.15	0.14	0.14	0.16	0.14	0.13	0.17	0.14	0.14
Petrochemical Feedstocks	1.38	1.52	1.48	1.46	1.59	1.50	1.43	1.69	1.57	1.48
Petroleum Coke	0.33	0.33	0.31	0.30	0.36	0.31	0.29	0.41	0.34	0.30
Asphalt and Road Oil	1.31	1.32	1.24	1.17	1.56	1.29	1.08	1.71	1.37	1.12
Miscellaneous Petroleum[2]	0.59	0.49	0.45	0.44	0.51	0.38	0.37	0.55	0.38	0.35
Petroleum Subtotal	7.48	7.66	7.38	7.17	8.32	7.43	6.84	8.98	7.79	7.07
Natural Gas Heat and Power	5.30	6.12	5.83	5.75	7.06	6.22	5.99	7.96	6.97	6.61
Natural Gas Feedstocks	0.57	0.59	0.58	0.57	0.60	0.57	0.54	0.62	0.58	0.54
Lease and Plant Fuel[3]	1.10	1.10	1.10	1.10	1.21	1.21	1.21	1.15	1.15	1.15
Natural Gas Subtotal	6.97	7.81	7.51	7.41	8.87	7.99	7.73	9.74	8.70	8.30
Metallurgical Coal and Coke[4]	0.66	0.65	0.63	0.59	0.65	0.59	0.50	0.67	0.59	0.46
Other Industrial Coal	1.23	1.29	1.26	1.25	1.32	1.23	1.19	1.36	1.25	1.18
Coal Subtotal	1.89	1.94	1.88	1.84	1.97	1.81	1.68	2.03	1.84	1.64
Renewables[5]	1.44	1.60	1.60	1.62	1.81	1.81	1.94	2.03	2.05	2.32
Purchased Electricity	3.35	3.53	3.44	3.36	3.91	3.63	3.40	4.35	3.87	3.49
Delivered Energy	**21.14**	**22.54**	**21.81**	**21.41**	**24.88**	**22.67**	**21.59**	**27.12**	**24.24**	**22.82**
Electricity Related Losses	7.31	7.59	7.41	7.24	8.14	7.56	7.08	8.67	7.70	6.96
Total	**28.45**	**30.13**	**29.22**	**28.65**	**33.01**	**30.23**	**28.67**	**35.79**	**31.94**	**29.78**
Delivered Energy Use per Dollar of Shipments (thousand Btu per 2000 dollar)	**3.81**	**3.72**	**3.60**	**3.53**	**3.31**	**3.02**	**2.87**	**2.95**	**2.63**	**2.48**
Onsite Industrial Combined Heat and Power										
Capacity (gigawatts)	21.43	23.48	23.46	23.77	29.71	29.87	31.72	36.15	37.95	42.17
Generation (billion kilowatthours)	114.89	129.87	129.75	131.74	175.24	176.16	188.16	222.07	234.87	261.67

[1]Fuel 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.
[2]Includes lubricants and miscellaneous petroleum products.
[3]Represents natural gas used in the field gathering and processing plant machinery.
[4]Includes net coal coke imports.
[5]Includes 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 2005 are model results and may differ slightly from official EIA data reports. Side cases were run without the fully integrated modeling system, so not all potential feedbacks were captured. The reference case ratio of electricity losses to electricity use was used to compute electricity losses for the technology cases.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs INDFRZN.D112406A, AEO2007.D112106A, and INDHIGH.D112406A.

Table D3. Key Results for Transportation Sector Technology Cases

Consumption and Indicators	2005	2010			2020			2030		
		2006 Technology	Reference	High Technology	2006 Technology	Reference	High Technology	2006 Technology	Reference	High Technology
Level of Travel										
(billion vehicle miles traveled)										
Light-Duty Vehicles less than 8,500	2655	2796	2799	2799	3461	3474	3501	4186	4226	4290
Commercial Light Trucks[1]	67	72	72	72	89	89	89	109	110	110
Freight Trucks greater than 10,000	230	255	255	255	318	318	319	398	397	398
(billion seat miles available)										
Air	1027	1172	1172	1172	1421	1410	1421	1555	1544	1555
(billion ton miles traveled)										
Rail	1590	1715	1714	1717	2002	2000	2004	2446	2445	2449
Domestic Shipping	613	662	661	662	731	730	731	775	775	776
Energy Efficiency Indicators										
(miles per gallon)										
New Light-Duty Vehicle[2]	25.2	26.8	27.3	28.6	26.9	28.2	30.7	27.1	29.2	32.1
New Car[2]	30.0	30.4	31.7	33.9	30.2	32.8	35.7	30.3	33.7	36.9
New Light Truck[2]	21.8	23.7	23.7	24.5	24.5	25.3	27.5	25.0	26.5	29.2
Light-Duty Stock[3]	19.6	19.6	19.8	19.9	20.6	21.2	22.4	20.9	22.2	24.1
New Commercial Light Truck[1]	14.6	15.8	15.8	16.4	16.1	16.7	18.3	16.1	17.4	19.4
Stock Commercial Light Truck[1]	14.1	14.7	14.7	14.8	16.0	16.2	17.2	16.1	17.0	18.8
Freight Truck	6.0	6.0	6.0	6.1	6.1	6.4	6.5	6.1	6.7	6.8
(seat miles per gallon)										
Aircraft	55.7	57.7	58.2	62.5	60.5	66.4	80.0	61.5	75.6	99.2
(ton miles per thousand Btu)										
Rail	2.9	2.9	2.9	3.0	2.9	3.0	3.3	2.9	3.0	3.5
Domestic Shipping	2.4	2.4	2.4	2.5	2.4	2.4	2.6	2.4	2.5	2.7
Energy Use (quadrillion Btu)										
by Mode										
Light-Duty Vehicles	16.36	16.79	16.76	16.58	19.83	19.44	18.45	23.72	22.66	21.06
Commercial Light Trucks[1]	0.59	0.61	0.61	0.61	0.70	0.69	0.65	0.85	0.81	0.74
Bus Transportation	0.26	0.27	0.27	0.27	0.30	0.28	0.28	0.33	0.30	0.30
Freight Trucks	4.77	5.29	5.29	5.26	6.55	6.18	6.11	8.15	7.40	7.32
Rail, Passenger	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06
Rail, Freight	0.55	0.59	0.59	0.57	0.69	0.68	0.61	0.84	0.82	0.69
Shipping, Domestic	0.26	0.28	0.27	0.27	0.30	0.30	0.28	0.32	0.32	0.29
Shipping, International	0.76	0.77	0.77	0.77	0.79	0.79	0.78	0.81	0.80	0.80
Recreational Boats	0.18	0.20	0.20	0.20	0.24	0.24	0.24	0.27	0.27	0.27
Air	2.84	3.53	3.50	3.26	4.38	3.97	3.31	5.07	4.11	3.14
Military Use	0.71	0.73	0.73	0.73	0.77	0.77	0.77	0.80	0.80	0.80
Lubricants	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16
Pipeline Fuel	0.58	0.66	0.66	0.66	0.79	0.79	0.79	0.79	0.79	0.79
Total	**28.05**	**29.92**	**29.86**	**29.37**	**35.55**	**34.33**	**32.50**	**42.17**	**39.29**	**36.41**
by Fuel										
Liquefied Petroleum Gases	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.08	0.08	0.07
E85[4]	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02
Motor Gasoline[5]	17.00	17.39	17.37	17.18	20.37	19.95	18.97	24.06	22.89	21.33
Jet Fuel[6]	3.37	4.07	4.04	3.80	4.96	4.54	3.89	5.67	4.70	3.74
Distillate Fuel Oil[7]	6.02	6.65	6.64	6.59	8.20	7.81	7.63	10.32	9.58	9.25
Residual Fuel Oil	0.81	0.82	0.82	0.82	0.85	0.85	0.84	0.88	0.87	0.85
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[8]	0.18	0.18	0.18	0.18	0.19	0.19	0.19	0.19	0.19	0.19
Liquid Fuels and Other Petroleum	27.42	29.17	29.11	28.63	34.64	33.41	31.58	41.22	38.34	35.47
Pipeline Fuel Natural Gas	0.58	0.66	0.66	0.66	0.79	0.79	0.79	0.79	0.79	0.79
Compressed Natural Gas	0.03	0.06	0.06	0.06	0.09	0.09	0.09	0.12	0.12	0.12
Electricity	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Delivered Energy	**28.05**	**29.92**	**29.86**	**29.37**	**35.55**	**34.33**	**32.50**	**42.17**	**39.29**	**36.41**
Electricity Related Losses	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08	0.08
Total	**28.11**	**29.98**	**29.92**	**29.43**	**35.63**	**34.40**	**32.57**	**42.25**	**39.37**	**36.49**

[1]Commercial trucks 8,500 to 10,000 pounds.
[2]Environmental Protection Agency rated miles per gallon.
[3]Combined car and light truck "on-the-road" estimate.
[4]E85 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.
[5]Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
[6]Includes only kerosene type.
[7]Diesel fuel for on- and off- road use.
[8]Includes aviation gasoline and lubricants.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports. Side cases were run without the fully integrated modeling system, so not all potential feedbacks were captured. The reference case ratio of electricity losses to electricity use was used to compute electricity losses for the technology cases.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs TRNFRZN.D120806A, AEO2007.D112106A, and TRNHIGH.D120806A.

Table D4. Key Results for Integrated Technology Cases

Consumption and Emissions	2005	2010			2020			2030		
		2006 Technology	Reference	High Technology	2006 Technology	Reference	High Technology	2006 Technology	Reference	High Technology
Energy Consumption by Sector (quadrillion Btu)										
Residential	11.60	12.25	12.21	12.14	13.44	13.17	12.69	14.30	13.80	12.87
Commercial	8.46	9.09	9.05	8.95	10.89	10.66	10.36	12.84	12.43	12.00
Industrial [1]	24.85	27.03	26.33	25.95	30.09	27.84	26.71	33.54	30.51	28.90
Transportation	28.05	29.93	29.86	29.41	35.51	34.33	32.60	42.01	39.29	36.64
Electric Power[2]	39.71	42.89	42.53	41.97	49.24	47.62	45.28	55.63	52.77	48.34
Total	**100.19**	**107.57**	**106.50**	**105.14**	**123.13**	**118.16**	**112.93**	**139.72**	**131.16**	**122.41**
Energy Consumption by Fuel (quadrillion Btu)										
Liquid Fuels and Other Petroleum [3]	40.61	42.14	41.76	41.08	48.62	46.52	44.08	56.34	52.17	48.70
Natural Gas	22.63	25.24	24.73	24.29	28.29	27.04	26.33	29.24	26.89	26.33
Coal	22.87	24.38	24.24	23.96	28.98	27.29	25.47	36.09	34.14	29.81
Nuclear Power	8.13	8.23	8.23	8.23	8.99	9.23	8.93	9.06	9.33	8.81
Renewable Energy [4]	5.86	7.53	7.50	7.55	8.22	8.05	8.09	8.89	8.59	8.72
Electricity Imports	0.08	0.05	0.04	0.04	0.04	0.04	0.04	0.08	0.04	0.04
Total	**100.19**	**107.57**	**106.50**	**105.14**	**123.13**	**118.16**	**112.93**	**139.72**	**131.16**	**122.41**
Energy Intensity (thousand Btu per 2000 dollar of GDP)	**9.07**	**8.42**	**8.33**	**8.21**	**7.22**	**6.92**	**6.60**	**6.23**	**5.83**	**5.43**
Carbon Dioxide Emissions by Sector (million metric tons)										
Residential	368	381	380	378	400	393	380	404	390	369
Commercial	230	238	238	239	271	270	271	300	298	300
Industrial [1]	1020	1090	1058	1043	1218	1115	1065	1393	1250	1171
Transportation	1953	2037	2032	2001	2416	2335	2217	2861	2674	2493
Electric Power[5]	2375	2527	2505	2464	2981	2832	2658	3555	3338	2970
Total	**5945**	**6273**	**6214**	**6126**	**7286**	**6944**	**6591**	**8512**	**7950**	**7303**
Carbon Dioxide Emissions by Fuel (million metric tons)										
Petroleum	2614	2647	2629	2590	3066	2947	2802	3573	3318	3105
Natural Gas	1178	1325	1298	1275	1486	1420	1383	1536	1412	1383
Coal	2142	2288	2275	2249	2721	2563	2392	3389	3206	2801
Other[6]	12	13	12	12	14	14	13	14	14	14
Total	**5945**	**6273**	**6214**	**6126**	**7286**	**6944**	**6591**	**8512**	**7950**	**7303**
Carbon Dioxide Emissions (tons per person)	**20.0**	**20.2**	**20.0**	**19.7**	**21.6**	**20.6**	**19.5**	**23.3**	**21.8**	**20.0**

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[3]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen.
[4]Includes grid-connected electricity from conventional hydroelectric; wood and wood waste; landfill gas; municipal solid waste; other biomass wind; photovoltaic and solar thermal sources; and 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 component of blends less than 85 percent. Excludes electricity imports using renewable sources and nonmarketed renewable energy.
[5]Includes electricity-only and combined heat and power 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.
[6]Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.
Btu = British thermal unit.
GDP = Gross domestic product.
Note: Includes end-use, fossil electricity, and renewable technology assumptions. Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs LTRKITEN.D121106A, AEO2007.D112106A, and HTRKITEN.D121106A.

Table D5. Key Results for Advanced Nuclear Cost Cases
(Gigawatts, Unless Otherwise Noted)

Net Summer Capacity, Generation, Emissions, and Fuel Prices	2005	2010			2020			2030		
		High Cost	Reference	Low Cost	High Cost	Reference	Low Cost	High Cost	Reference	Low Cost
Capacity										
Coal Steam	310.6	320.8	320.9	320.9	350.5	347.2	348.2	457.1	449.9	444.5
Other Fossil Steam	121.3	119.5	119.5	119.5	89.8	89.3	90.0	86.9	87.5	85.6
Combined Cycle	176.6	193.3	193.3	193.3	202.9	203.9	203.3	213.0	211.6	209.0
Combustion Turbine/Diesel	133.2	137.0	137.0	137.0	127.7	127.2	127.6	152.9	155.1	152.1
Nuclear Power	100.0	100.5	100.5	100.5	108.5	111.7	111.7	105.9	112.6	128.7
Pumped Storage	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources	97.6	105.7	105.7	105.7	107.8	107.7	107.7	110.2	110.0	109.5
Distributed Generation (Natural Gas)	0.0	0.2	0.2	0.2	2.4	2.1	2.4	12.3	11.4	11.6
Combined Heat and Power[1]	27.5	31.7	31.7	31.7	41.7	41.7	41.5	61.3	61.3	60.3
Total	**987.6**	**1029.5**	**1029.5**	**1029.5**	**1052.0**	**1051.6**	**1053.0**	**1220.4**	**1220.2**	**1222.1**
Cumulative Additions										
Coal Steam	0.0	11.5	11.5	11.5	45.8	42.3	43.3	152.4	145.1	139.7
Other Fossil Steam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined Cycle	0.0	16.7	16.7	16.7	26.3	27.3	26.7	36.4	35.1	32.4
Combustion Turbine/Diesel	0.0	4.4	4.4	4.4	14.6	13.8	13.9	39.8	41.8	38.5
Nuclear Power	0.0	0.0	0.0	0.0	5.8	9.0	9.0	5.8	12.5	28.5
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	0.0	8.1	8.1	8.1	10.2	10.1	10.1	12.6	12.4	11.9
Distributed Generation	0.0	0.2	0.2	0.2	2.4	2.1	2.4	12.3	11.4	11.6
Combined Heat and Power[1]	0.0	4.2	4.2	4.2	14.2	14.2	14.0	33.8	33.8	32.8
Total	**0.0**	**45.1**	**45.1**	**45.1**	**119.2**	**118.9**	**119.4**	**293.1**	**291.9**	**295.4**
Cumulative Retirements	**0.0**	**3.7**	**3.7**	**3.7**	**57.6**	**57.6**	**56.7**	**63.1**	**62.0**	**63.7**
Generation by Fuel (billion kilowatthours)										
Coal	1993	2125	2121	2124	2473	2447	2450	3262	3220	3172
Petroleum	116	83	84	83	90	90	90	94	94	95
Natural Gas	675	795	795	794	912	918	916	733	732	672
Nuclear Power	780	789	789	789	861	885	886	844	896	1018
Pumped Storage	-7	-9	-9	-9	-9	-9	-9	-9	-9	-9
Renewable Sources	323	427	429	428	452	449	451	471	465	459
Distributed Generation	0	0	0	0	1	1	1	5	5	5
Combined Heat and Power[1]	155	183	183	183	256	256	255	396	395	391
Total	**4035**	**4393**	**4392**	**4393**	**5036**	**5037**	**5039**	**5797**	**5797**	**5805**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[2]										
Petroleum	100	69	69	69	74	74	74	77	77	78
Natural Gas	319	346	346	345	388	390	389	321	321	299
Coal	1944	2083	2078	2083	2374	2354	2354	2953	2927	2886
Other[3]	12	12	12	12	14	14	14	14	14	14
Total	**2375**	**2509**	**2505**	**2509**	**2850**	**2832**	**2831**	**3365**	**3338**	**3277**
Prices to the Electric Power Sector[2] (2005 dollars per million Btu)										
Petroleum	7.70	7.91	7.92	7.91	7.08	7.07	7.06	7.97	7.96	7.89
Natural Gas	8.18	6.21	6.22	6.22	5.75	5.76	5.75	6.31	6.33	6.15
Coal	1.53	1.71	1.71	1.71	1.59	1.58	1.58	1.70	1.69	1.67

[1]Includes combined heat and power plants and electricity-only plants in commercial and industrial sectors. Includes 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. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.
[2]Includes electricity-only and combined heat and power plants whose primary business to sell electricity, or electricity and heat, to the public.
[3]Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs LONUC07.D112706A, AEO2007.D112106A, and ADVNUC07.D112906A.

Table D6. Key Results for Electric Power Sector Fossil Technology Cases
(Gigawatts, Unless Otherwise Noted)

Net Summer Capacity, Generation Consumption, and Emissions	2005	2010			2020			2030		
		Low Fossil	Reference	High Fossil	Low Fossil	Reference	High Fossil	Low Fossil	Reference	High Fossil
Capacity										
Pulverized Coal	310.1	320.3	320.3	320.3	346.0	339.7	328.5	430.5	382.7	341.0
Coal Gasification Combined-Cycle	0.5	0.5	0.5	1.6	3.5	7.5	15.1	3.9	67.2	112.0
Conventional Natural Gas Combined-Cycle	176.6	193.3	193.3	193.3	194.2	194.2	194.2	194.4	194.2	194.2
Advanced Natural Gas Combined-Cycle	0.0	0.0	0.0	0.0	0.3	9.7	29.7	2.0	17.5	58.4
Conventional Combustion Turbine	133.2	136.5	136.5	136.4	118.2	117.6	117.6	122.8	118.2	117.6
Advanced Combustion Turbine	0.0	0.6	0.6	0.6	11.6	9.6	6.5	37.3	37.0	29.9
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear	100.0	100.5	100.5	100.5	111.7	111.7	108.7	123.4	112.6	106.1
Oil and Gas Steam	121.3	119.5	119.5	119.5	89.8	89.3	85.4	88.0	87.5	77.8
Renewable Sources/Pumped Storage	118.3	126.4	126.4	126.4	129.9	128.5	128.1	133.3	130.8	128.8
Distributed Generation	0.0	0.2	0.2	0.2	2.8	2.1	1.1	14.6	11.4	7.3
Combined Heat and Power[1]	27.5	31.7	31.7	31.7	41.7	41.7	41.2	63.3	61.3	58.6
Total	**987.6**	**1029.5**	**1029.5**	**1030.6**	**1049.7**	**1051.6**	**1056.2**	**1213.6**	**1220.2**	**1231.7**
Cumulative Additions										
Pulverized Coal	0.0	11.5	11.5	11.5	42.0	35.4	24.2	126.5	78.4	36.9
Coal Gasification Combined-Cycle	0.0	0.0	0.0	1.0	3.0	6.9	14.6	3.4	66.7	111.5
Conventional Natural Gas Combined-Cycle	0.0	16.7	16.7	16.7	17.6	17.6	17.6	17.8	17.6	17.6
Advanced Natural Gas Combined-Cycle	0.0	0.0	0.0	0.0	0.3	9.7	29.7	2.0	17.5	58.4
Conventional Combustion Turbine	0.0	3.9	3.9	3.8	4.5	4.3	3.8	9.2	4.8	4.1
Advanced Combustion Turbine	0.0	0.6	0.6	0.6	11.6	9.6	6.5	37.3	37.0	29.9
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear	0.0	0.0	0.0	0.0	9.0	9.0	6.0	23.2	12.5	6.0
Oil and Gas Steam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources	0.0	8.1	8.1	8.1	11.5	10.1	9.8	15.0	12.4	10.5
Distributed Generation	0.0	0.2	0.2	0.2	2.8	2.1	1.1	14.6	11.4	7.3
Combined Heat and Power[1]	0.0	4.2	4.2	4.2	14.2	14.2	13.7	35.8	33.8	31.1
Total	**0.0**	**45.1**	**45.1**	**46.1**	**116.7**	**118.9**	**127.1**	**284.8**	**291.9**	**313.2**
Cumulative Retirements	**0.0**	**3.7**	**3.7**	**3.7**	**57.3**	**57.6**	**61.2**	**61.6**	**62.0**	**71.9**
Generation by Fuel (billion kilowatthours)										
Coal	1992.5	2120.4	2120.7	2128.3	2463.5	2447.3	2420.4	3092.9	3219.8	3235.3
Petroleum	116.0	82.9	83.8	83.2	92.4	89.8	89.6	100.7	93.6	91.6
Natural Gas	675.1	795.8	795.1	789.2	886.1	917.7	977.6	720.4	731.9	818.0
Nuclear Power	780.5	789.3	789.3	789.3	884.9	885.2	862.4	978.0	895.7	845.9
Renewable Sources/Pumped Storage	316.1	421.3	420.6	419.9	449.0	440.0	441.7	474.0	455.9	441.2
Distributed Generation	0.0	0.1	0.1	0.1	1.2	0.9	0.5	6.4	5.0	3.2
Combined Heat and Power[1]	155.0	182.7	182.7	182.7	256.8	256.3	253.0	409.2	395.0	377.8
Total	**4035.1**	**4392.6**	**4392.2**	**4392.7**	**5033.9**	**5037.2**	**5045.1**	**5781.6**	**5796.9**	**5812.9**
Fuel Consumption by the Electric Power Sector (quadrillion Btu)[2]										
Coal	20.75	22.13	22.13	22.20	25.25	25.05	24.68	30.73	31.14	30.18
Petroleum	1.16	0.90	0.90	0.90	0.99	0.97	0.97	1.07	1.01	0.99
Natural Gas	5.95	6.57	6.56	6.52	7.24	7.40	7.55	6.10	6.09	6.29
Nuclear Power	8.13	8.23	8.23	8.23	9.22	9.23	8.99	10.19	9.33	8.81
Renewable Sources	3.64	4.68	4.67	4.67	5.01	4.93	4.94	5.33	5.15	4.97
Total	**39.63**	**42.50**	**42.49**	**42.51**	**47.71**	**47.58**	**47.13**	**53.42**	**52.72**	**51.25**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[2]										
Coal	1944	2078	2078	2085	2372	2354	2319	2889	2927	2837
Petroleum	100	69	69	69	76	74	74	82	77	76
Natural Gas	319	346	346	343	381	390	398	321	321	331
Other[1]	12	12	12	12	14	14	14	14	14	14
Total	**2375**	**2505**	**2505**	**2509**	**2843**	**2832**	**2805**	**3305**	**3338**	**3258**

[1]Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors. Includes 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. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.
[2]Includes electricity-only and combined heat and power plants whose primary business to sell electricity, or electricity and heat, to the public.
[3]Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs LFOSS07.D112706A, AEO2007.D112106A, and HFOSS07.D112706A.

Table D7. Key Results for Renewable Technology Cases

Capacity, Generation, and Emissions	2005	2010			2020			2030		
		Low Technology	Reference	High Technology	Low Technology	Reference	High Technology	Low Technology	Reference	High Technology
Net Summer Capacity (gigawatts)										
Electric Power Sector[1]										
Conventional Hydropower	79.97	79.99	79.99	79.99	80.12	80.12	80.19	80.12	80.18	80.41
Geothermal[2]	2.28	2.46	2.46	2.46	2.67	2.79	2.84	2.84	3.15	3.20
Municipal Waste[3]	3.23	3.43	3.43	3.63	3.79	3.80	3.85	3.81	3.87	3.87
Wood and Other Biomass[4]	2.06	2.22	2.22	2.22	2.27	2.37	3.30	2.67	3.80	9.64
Solar Thermal	0.40	0.54	0.54	0.54	0.58	0.58	0.58	0.63	0.63	0.63
Solar Photovoltaic	0.03	0.07	0.07	0.07	0.22	0.22	0.22	0.39	0.39	0.39
Wind	9.62	16.97	16.97	16.97	17.85	17.85	17.93	17.91	17.98	18.42
Total	**97.59**	**105.69**	**105.69**	**105.88**	**107.49**	**107.72**	**108.91**	**108.36**	**110.00**	**116.55**
End-Use Sector[5]										
Conventional Hydropower	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Waste[6]	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Wood and Other Biomass	4.49	4.76	4.79	4.96	5.78	5.90	6.63	6.96	7.19	8.68
Solar Photovoltaic	0.18	0.23	0.63	0.63	0.23	0.80	0.80	0.24	2.52	3.60
Total	**5.63**	**5.96**	**6.39**	**6.56**	**6.98**	**7.66**	**8.40**	**8.16**	**10.68**	**13.25**
Generation (billion kilowatthours)										
Electric Power Sector[1]										
Coal	1993	2122	2121	2120	2449	2447	2440	3229	3220	3200
Petroleum	116	83	84	83	90	90	90	94	94	93
Natural Gas	675	796	795	791	920	918	908	751	732	721
Total Fossil	**2784**	**3002**	**3000**	**2995**	**3459**	**3455**	**3438**	**4074**	**4045**	**4015**
Conventional Hydropower	261.89	297.50	297.50	297.50	303.85	303.85	304.30	304.15	304.51	305.64
Geothermal	15.12	17.34	17.34	17.34	18.99	19.79	20.08	20.36	22.66	23.16
Municipal Waste[3]	20.56	21.56	21.56	23.06	24.35	24.42	24.80	24.48	24.95	25.00
Wood and Other Biomass[4]	9.92	42.72	43.29	45.78	48.72	47.47	59.62	51.31	58.21	96.35
Dedicated Plants	5.38	11.07	11.11	11.21	10.80	11.61	19.00	14.63	23.80	68.14
Cofiring	4.53	31.65	32.18	34.57	37.92	35.86	40.62	36.67	34.41	28.21
Solar Thermal	0.54	1.16	1.16	1.16	1.28	1.28	1.28	1.43	1.43	1.43
Solar Photovoltaic	0.01	0.18	0.18	0.18	0.54	0.54	0.54	0.98	0.98	0.98
Wind	14.60	48.25	48.26	48.25	51.37	51.35	51.68	51.56	51.85	53.41
Total Renewable	**322.64**	**428.70**	**429.28**	**433.27**	**449.10**	**448.71**	**462.32**	**454.27**	**464.59**	**505.96**
End-Use Sector[5]										
Total Fossil	105	130	130	130	196	196	196	325	323	322
Conventional Hydropower[7]	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Waste[6]	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Wood and Other Biomass	27.91	29.53	29.69	30.70	35.50	36.17	40.45	42.36	43.70	52.43
Solar Photovoltaic	0.33	0.45	1.21	1.21	0.45	1.53	1.53	0.45	4.78	6.78
Total Renewable	**34.18**	**35.91**	**36.84**	**37.85**	**41.88**	**43.63**	**47.92**	**48.75**	**54.41**	**65.15**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[1]										
Coal	1944	2080	2078	2079	2352	2354	2345	2935	2927	2909
Petroleum	100	69	69	69	74	74	74	77	77	77
Natural Gas	319	346	346	344	391	390	387	327	321	317
Other[8]	12	12	12	13	14	14	14	14	14	14
Total	**2375**	**2507**	**2505**	**2505**	**2831**	**2832**	**2820**	**3354**	**3338**	**3317**

[1]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes hydrothermal resources only (hot water and steam).
[3]Includes municipal solid waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[4]Includes projections for energy crops after 2010.
[5]Includes 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. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.
[6]Includes municipal solid waste, landfill gas, and municipal sewage sludge. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[7]Represents own-use industrial hydroelectric power.
[8]Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs LOREN07.D120806A, AEO2007.D112106A, and HIREN07.D120806A.

Table D8. Key Results for Regional Renewable Portfolio Standard Case

Capacity, Generation, and Emissions	2005	2010		2020		2030	
		Reference	Regional RPS	Reference	Regional RPS	Reference	Regional RPS
Net Summer Capacity (gigawatts)							
Electric Power Sector[1]							
Conventional Hydropower	79.97	79.99	79.99	80.12	80.15	80.18	80.39
Geothermal[2]	2.28	2.46	2.51	2.79	2.84	3.15	3.17
Municipal Waste[3]	3.23	3.43	3.91	3.80	4.16	3.87	4.17
Wood and Other Biomass[4]	2.06	2.22	2.22	2.37	6.89	3.80	11.82
Solar Thermal	0.40	0.54	0.54	0.58	0.58	0.63	0.63
Solar Photovoltaic	0.03	0.07	0.07	0.22	0.22	0.39	0.39
Wind	9.62	16.97	17.25	17.85	18.55	17.98	18.63
Total	**97.59**	**105.69**	**106.50**	**107.72**	**113.39**	**110.00**	**119.20**
End-Use Sector[5]							
Conventional Hydropower	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Waste[6]	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Wood and Other Biomass	4.49	4.79	4.79	5.90	5.90	7.19	7.19
Solar Photovoltaic	0.18	0.63	0.63	0.80	0.80	2.52	2.53
Total	**5.63**	**6.39**	**6.39**	**7.66**	**7.67**	**10.68**	**10.68**
Generation (billion kilowatthours)							
Electric Power Sector[1]							
Coal	1993	2121	2115	2447	2424	3220	3167
Petroleum	116	84	83	90	90	94	94
Natural Gas	675	795	792	918	898	732	725
Total Fossil	**2784**	**3000**	**2990**	**3455**	**3412**	**4045**	**3987**
Conventional Hydropower	261.89	297.50	297.50	303.85	304.01	304.51	305.55
Geothermal	15.12	17.34	17.57	19.79	20.27	22.66	22.97
Municipal Waste[3]	20.56	21.56	25.29	24.42	27.28	24.95	27.34
Wood and Other Biomass[4]	9.92	43.29	47.84	47.47	88.16	58.21	114.47
Dedicated Plants	5.38	11.11	10.95	11.61	46.47	23.80	84.24
Cofiring	4.53	32.18	36.89	35.86	41.69	34.41	30.23
Solar Thermal	0.54	1.16	1.16	1.28	1.28	1.43	1.43
Solar Photovoltaic	0.01	0.18	0.18	0.54	0.54	0.98	0.98
Wind	14.60	48.26	49.21	51.35	53.65	51.85	53.94
Total Renewable	**322.64**	**429.28**	**438.75**	**448.71**	**495.19**	**464.59**	**526.69**
End-Use Sector[5]							
Total Fossil	105	130	130	196	195	323	323
Conventional Hydropower[7]	3.18	3.18	3.18	3.18	3.18	3.18	3.18
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Waste[6]	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Wood and Other Biomass	27.91	29.69	29.69	36.17	36.18	43.70	43.69
Solar Photovoltaic	0.33	1.21	1.21	1.53	1.53	4.78	4.80
Total Renewable	**34.18**	**36.84**	**36.84**	**43.63**	**43.65**	**54.41**	**54.42**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[1]							
Coal	1944	2078	2072	2354	2332	2927	2886
Petroleum	100	69	69	74	75	77	77
Natural Gas	319	346	344	390	383	321	318
Other[8]	12	12	14	14	15	14	15
Total	**2375**	**2505**	**2499**	**2832**	**2804**	**3338**	**3297**

[1]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes hydrothermal resources only (hot water and steam).
[3]Includes municipal solid waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[4]Includes projections for energy crops after 2010.
[5]Includes 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. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.
[6]Includes municipal solid waste, landfill gas, and municipal sewage sludge. All municipal solid waste is included, although a portion of the municipal solid waste stream contains petroleum-derived plastics and other non-renewable sources.
[7]Represents own-use industrial hydroelectric power.
[8]Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.
RPS = Regional Portfolio Standard
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2007 National Energy Modeling System runs AEO2007.D112106A, and RGRPS07.D121206C.

Table D9. Natural Gas Supply and Disposition, Oil and Gas Technological Progress Cases
(Trillion Cubic Feet per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	2010			2020			2030		
		Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology
Natural Gas Prices										
(2005 dollars per million Btu)										
Henry Hub Spot Price	8.60	6.43	6.28	6.21	5.85	5.71	5.41	6.88	6.52	5.69
Average Lower 48 Wellhead Price[11]	7.29	5.73	5.59	5.53	5.20	5.07	4.80	6.13	5.80	5.05
(2005 dollars per thousand cubic feet)										
Average Lower 48 Wellhead Price[11]	7.51	5.90	5.76	5.69	5.36	5.22	4.94	6.32	5.98	5.21
Dry Gas Production[1]	**18.23**	**19.31**	**19.35**	**19.42**	**20.09**	**20.79**	**21.71**	**18.66**	**20.53**	**23.45**
Lower 48 Onshore	14.36	15.22	15.22	15.35	14.16	14.66	15.34	13.54	15.13	17.93
Associated-Dissolved	1.43	1.37	1.39	1.41	1.22	1.28	1.33	1.13	1.19	1.21
Non-Associated	12.93	13.85	13.83	13.95	12.94	13.38	14.01	12.41	13.94	16.72
Conventional	4.94	5.33	5.27	5.26	4.32	4.30	4.21	3.77	3.75	3.59
Unconventional	7.99	8.53	8.56	8.69	8.62	9.09	9.80	8.64	10.19	13.13
Lower 48 Offshore	3.41	3.84	3.88	3.82	3.89	4.09	4.34	2.96	3.25	3.36
Associated-Dissolved	0.71	0.91	0.92	0.93	1.01	1.05	1.10	0.77	0.85	0.92
Non-Associated	2.69	2.93	2.96	2.89	2.88	3.04	3.24	2.19	2.40	2.44
Alaska	0.45	0.25	0.25	0.25	2.04	2.05	2.04	2.16	2.16	2.16
Supplemental Natural Gas[2]	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Net Imports	**3.57**	**4.43**	**4.55**	**4.71**	**5.42**	**5.35**	**5.28**	**6.41**	**5.45**	**4.33**
Pipeline[3]	3.01	2.55	2.74	2.93	1.42	1.65	1.88	0.95	0.92	1.05
Liquefied Natural Gas	0.57	1.87	1.81	1.78	4.00	3.69	3.40	5.46	4.53	3.28
Total Supply	**21.87**	**23.81**	**23.97**	**24.20**	**25.59**	**26.21**	**27.06**	**25.14**	**26.06**	**27.85**
Consumption by Sector										
Residential	4.84	5.02	5.03	5.04	5.25	5.27	5.30	5.27	5.31	5.37
Commercial	3.05	3.20	3.22	3.23	3.73	3.75	3.78	4.18	4.24	4.32
Industrial[4]	6.64	7.58	7.63	7.65	7.95	8.02	8.13	8.44	8.65	8.88
Electric Power[5]	5.78	6.29	6.38	6.56	6.73	7.19	7.82	5.42	5.92	7.15
Transportation[6]	0.03	0.06	0.06	0.06	0.09	0.09	0.09	0.12	0.12	0.12
Pipeline Fuel	0.56	0.64	0.64	0.64	0.75	0.76	0.79	0.73	0.77	0.83
Lease and Plant Fuel[7]	1.07	1.07	1.07	1.07	1.14	1.17	1.20	1.04	1.12	1.23
Total	**21.98**	**23.86**	**24.02**	**24.25**	**25.64**	**26.26**	**27.12**	**25.20**	**26.12**	**27.92**
Discrepancy[8]	**-0.11**	**-0.05**	**-0.05**	**-0.05**	**-0.06**	**-0.05**	**-0.06**	**-0.06**	**-0.06**	**-0.07**
Lower 48 End of Year Reserves	**189.91**	**202.59**	**205.23**	**207.86**	**197.27**	**208.32**	**226.43**	**180.39**	**210.60**	**270.22**

[1]Marketed production (wet) minus extraction losses.
[2]Synthetic 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.
[3]Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes 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.
[6]Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[7]Represents natural gas used in field gathering and processing plant machinery.
[8]Balancing 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, 2005 values include net storage injections.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 consumption based on: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs OGLTEC07.D112706A, AEO2007.D112106A, and OGHTEC07.D112706A.

Table D10. Liquid Fuels Supply and Disposition, Oil and Gas Technological Progress Cases
(Million Barrels per Day, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	2010			2020			2030		
		Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology
Prices (2005 dollars per barrel)										
Imported Low Sulfur Light Crude Oil[1]	**56.76**	**57.45**	**57.47**	**57.47**	**52.04**	**52.04**	**52.51**	**59.12**	**59.12**	**59.12**
Imported Crude Oil[1]	**49.19**	**51.20**	**51.20**	**51.20**	**46.47**	**46.47**	**46.47**	**51.63**	**51.63**	**51.63**
Crude Oil Supply										
Domestic Crude Oil Production[2]	5.18	5.54	5.67	5.78	5.41	5.89	6.31	4.77	5.39	5.70
Alaska	0.86	0.69	0.69	0.69	0.74	0.74	0.65	0.27	0.27	0.24
Lower 48 Onshore	2.89	2.83	2.93	3.04	2.58	2.94	3.29	2.47	2.92	3.12
Lower 48 Offshore	1.42	2.02	2.05	2.05	2.10	2.21	2.36	2.03	2.20	2.33
Net Crude Oil Imports	10.09	10.09	9.99	9.88	11.68	11.29	10.97	13.61	13.09	12.82
Other Crude Oil Supply	-0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Oil Supply	**15.22**	**15.63**	**15.66**	**15.66**	**17.09**	**17.19**	**17.28**	**18.38**	**18.47**	**18.51**
Other Petroleum Supply										
Natural Gas Plant Liquids	1.72	1.80	1.80	1.80	1.71	1.76	1.84	1.55	1.72	1.86
Net Petroleum Product Imports[3]	2.48	1.83	1.80	1.79	2.34	2.27	2.16	3.39	3.28	3.23
Refinery Processing Gain[4]	0.99	1.20	1.21	1.21	1.41	1.41	1.38	1.55	1.49	1.47
Other Supply[5]	0.39	1.01	1.02	1.02	1.32	1.31	1.28	1.91	1.88	1.85
Total Primary Supply[6]	**20.79**	**21.47**	**21.49**	**21.49**	**23.87**	**23.94**	**23.95**	**26.77**	**26.84**	**26.91**
Refined Petroleum Products Supplied										
Residential and Commercial	1.26	1.25	1.25	1.25	1.28	1.29	1.29	1.27	1.28	1.28
Industrial[7]	5.07	5.00	5.01	5.01	5.14	5.16	5.16	5.51	5.53	5.54
Transportation	13.87	14.92	14.93	14.93	17.11	17.15	17.17	19.61	19.69	19.75
Electric Power[8]	0.51	0.40	0.40	0.40	0.43	0.43	0.42	0.46	0.45	0.44
Total	**20.75**	**21.57**	**21.59**	**21.59**	**23.96**	**24.03**	**24.04**	**26.86**	**26.95**	**27.02**
Discrepancy[9]	**0.04**	**-0.10**	**-0.10**	**-0.10**	**-0.09**	**-0.09**	**-0.09**	**-0.09**	**-0.11**	**-0.10**
Lower 48 End of Year Reserves (billion barrels)[2]	**16.98**	**18.95**	**19.53**	**20.08**	**18.24**	**19.98**	**21.74**	**15.85**	**17.94**	**18.18**

[1]Weighted average price delivered to U.S. refiners.
[2]Includes lease condensate.
[3]Includes net imports of finished petroleum products, unfinished oils, other hydrocarbons, alcohols, ethers, and blending components.
[4]Represents volumetric gain in refinery distillation and cracking processes.
[5]Includes alcohols, ethers, petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, renewable fuels such as biodiesel, natural gas converted to liquid fuel, and coal converted to liquid fuel.
[6]Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
[7]Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.
[8]Includes 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.
[9]Balancing item. Includes unaccounted for supply, losses and gains.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 product supplied data based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 data: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs OGLTEC07.D112706A, AEO2007.D112106A, and OGHTEC07.D112706A.

Table D11. Natural Gas Supply and Disposition, Liquefied Natural Gas Supply Cases
(Trillion Cubic Feet per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	2010			2020			2030		
		Low LNG	Reference	High LNG	Low LNG	Reference	High LNG	Low LNG	Reference	High LNG
Dry Gas Production[1]	**18.23**	**19.72**	**19.35**	**19.07**	**21.46**	**20.79**	**19.59**	**21.61**	**20.53**	**18.75**
Lower 48 Onshore	14.36	15.53	15.22	15.00	15.21	14.66	13.59	16.06	15.13	13.58
Associated-Dissolved	1.43	1.39	1.39	1.39	1.28	1.28	1.28	1.19	1.19	1.19
Non-Associated	12.93	14.14	13.83	13.61	13.93	13.38	12.31	14.87	13.94	12.39
Conventional	4.94	5.40	5.27	5.16	4.44	4.30	3.99	3.97	3.75	3.42
Unconventional	7.99	8.74	8.56	8.44	9.49	9.09	8.32	10.91	10.19	8.97
Lower 48 Offshore	3.41	3.95	3.88	3.83	4.21	4.09	3.95	3.39	3.25	3.01
Associated-Dissolved	0.71	0.92	0.92	0.92	1.05	1.05	1.05	0.87	0.85	0.81
Non-Associated	2.69	3.03	2.96	2.91	3.16	3.04	2.91	2.52	2.40	2.20
Alaska	0.45	0.25	0.25	0.25	2.05	2.05	2.05	2.16	2.16	2.16
Supplemental Natural Gas[2]	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Net Imports	**3.57**	**3.95**	**4.55**	**5.12**	**3.69**	**5.35**	**8.28**	**3.04**	**5.45**	**10.63**
Pipeline[3]	3.01	2.86	2.74	2.64	2.10	1.65	1.22	1.40	0.92	0.82
Liquefied Natural Gas	0.57	1.09	1.81	2.48	1.59	3.69	7.06	1.63	4.53	9.80
Total Supply	**21.87**	**23.75**	**23.97**	**24.27**	**25.22**	**26.21**	**27.94**	**24.72**	**26.06**	**29.45**
Consumption by Sector										
Residential	4.84	5.02	5.03	5.05	5.25	5.27	5.33	5.26	5.31	5.38
Commercial	3.05	3.20	3.22	3.24	3.73	3.75	3.82	4.17	4.24	4.34
Industrial[4]	6.64	7.57	7.63	7.68	7.96	8.02	8.22	8.41	8.65	8.99
Electric Power[5]	5.78	6.23	6.38	6.60	6.29	7.19	8.62	4.90	5.92	8.82
Transportation[6]	0.03	0.06	0.06	0.06	0.09	0.09	0.09	0.12	0.12	0.12
Pipeline Fuel	0.56	0.64	0.64	0.64	0.75	0.76	0.79	0.75	0.77	0.81
Lease and Plant Fuel[7]	1.07	1.08	1.07	1.06	1.20	1.17	1.12	1.16	1.12	1.04
Total	**21.98**	**23.80**	**24.02**	**24.32**	**25.28**	**26.26**	**28.00**	**24.78**	**26.12**	**29.51**
Discrepancy[8]	**-0.11**	**-0.05**	**-0.05**	**-0.05**	**-0.06**	**-0.05**	**-0.06**	**-0.06**	**-0.06**	**-0.06**
Lower 48 End of Year Reserves	**189.91**	**206.13**	**205.23**	**204.31**	**213.39**	**208.32**	**200.56**	**217.27**	**210.60**	**196.06**
Natural Gas Prices										
(2005 dollars per million Btu)										
Henry Hub Spot Price	8.60	6.57	6.28	6.05	5.96	5.71	5.05	7.12	6.52	5.75
Average Lower 48 Wellhead Price[11]	7.29	5.85	5.59	5.37	5.30	5.07	4.47	6.36	5.80	5.10
(2005 dollars per thousand cubic feet)										
Average Lower 48 Wellhead Price[11]	7.51	6.03	5.76	5.54	5.46	5.22	4.60	6.55	5.98	5.26
Delivered Prices										
(2005 dollars per thousand cubic feet)										
Residential	12.80	11.56	11.31	11.10	11.08	10.86	10.22	12.34	11.77	10.99
Commercial	11.54	9.88	9.62	9.40	9.16	8.93	8.30	10.16	9.58	8.82
Industrial[4]	8.41	6.89	6.62	6.40	6.31	6.08	5.44	7.34	6.76	6.01
Electric Power[5]	8.42	6.64	6.40	6.21	6.05	5.93	5.44	6.98	6.51	6.01
Transportation[10]	15.20	14.57	14.38	14.23	13.51	13.36	12.95	14.24	13.86	13.38
Average[11]	**9.94**	**8.34**	**8.07**	**7.85**	**7.80**	**7.54**	**6.86**	**8.97**	**8.33**	**7.46**

[1]Marketed production (wet) minus extraction losses.
[2]Synthetic 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.
[3]Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes 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.
[6]Compressed natural gas used as vehicle fuel.
[7]Represents natural gas used in field gathering and processing plant machinery.
[8]Balancing 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, 2005 values include net storage injections.
[9]Represents lower 48 onshore and offshore supplies.
[10]Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[11]Weighted average prices. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2006/04) (Washington, DC, April 2006). 2005 consumption based on: EIA, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs LOLNG07.D112406A, AEO2007.D112106A, and HILNG07.D112406B.

Table D12. Petroleum Supply and Disposition, ANWR Drilling Case
(Million Barrels per Day, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	2010		2020		2030	
		Reference	ANWR	Reference	ANWR	Reference	ANWR
Crude Oil							
Domestic Crude Production[1]	5.18	5.67	5.67	5.89	6.32	5.39	6.03
Alaska	0.86	0.69	0.69	0.74	1.15	0.27	0.92
Lower 48 States	4.31	4.98	4.98	5.15	5.16	5.12	5.11
Net Imports	10.09	9.99	9.99	11.29	10.87	13.09	12.49
Other Crude Supply[2]	-0.06	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply	**15.22**	**15.66**	**15.66**	**17.19**	**17.19**	**18.47**	**18.52**
Other Petroleum Supply							
Natural Gas Plant Liquids	1.72	1.80	1.80	1.76	1.79	1.72	1.75
Net Product Imports[3]	2.48	1.80	1.79	2.27	2.26	3.28	3.23
Refinery Processing Gain[4]	0.99	1.21	1.21	1.41	1.43	1.49	1.51
Other Inputs	0.39	1.02	1.02	1.31	1.31	1.88	1.88
Liquids from Coal	0.00	0.00	0.00	0.10	0.10	0.44	0.45
Other[5]	0.39	1.02	1.02	1.21	1.21	1.43	1.43
Total Primary Supply[6]	**20.79**	**21.49**	**21.48**	**23.94**	**23.97**	**26.84**	**26.89**
Refined Petroleum Products Supplied							
by Fuel							
Liquefied Petroleum Gases	2.03	2.22	2.22	2.26	2.26	2.42	2.43
E85[7]	0.00	0.00	0.00	0.01	0.01	0.02	0.02
Motor Gasoline[8]	9.16	9.53	9.53	10.93	10.94	12.53	12.55
Jet Fuel[9]	1.68	1.95	1.95	2.19	2.20	2.27	2.27
Distillate Fuel Oil[10]	4.12	4.53	4.53	5.11	5.12	5.95	5.95
Residual Fuel Oil	0.92	0.79	0.79	0.82	0.82	0.83	0.83
Other[11]	2.84	2.57	2.57	2.70	2.69	2.93	2.92
by Sector							
Residential and Commercial	1.26	1.25	1.25	1.29	1.29	1.28	1.28
Industrial[12]	5.07	5.01	5.01	5.16	5.16	5.53	5.54
Transportation	13.87	14.93	14.93	17.15	17.15	19.69	19.71
Electric Power[13]	0.51	0.40	0.40	0.43	0.43	0.45	0.45
Total	**20.75**	**21.59**	**21.59**	**24.03**	**24.03**	**26.95**	**26.97**
Discrepancy[14]	**0.04**	**-0.10**	**-0.10**	**-0.09**	**-0.06**	**-0.11**	**-0.08**
Imported Low Sulfur Light Crude Oil Price (2005 dollars per barrel)[15]	56.76	57.47	57.47	52.04	52.04	59.12	58.34
Imported Crude Oil Price (2005 dollars per barrel)[15]	49.19	51.20	51.20	46.47	46.47	51.63	51.63
Import Share of Product Supplied (percent)	60.5	54.9	54.9	56.6	54.8	61.0	58.5
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2005 dollars)	236.65	222.76	222.71	229.80	221.61	300.51	288.83

[1]Includes lease condensate.
[2]Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude product supplied.
[3]Includes other hydrocarbons and alcohols.
[4]Represents volumetric gain in refinery distillation and cracking processes.
[5]Includes petroleum product stock withdrawals; domestic sources of blending components, other hydrocarbons, alcohols, and ethers.
[6]Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
[7]E85 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.
[8]Includes ethanol and ethers blended into gasoline.
[9]Includes only kerosene type.
[10]Includes distillate and kerosene.
[11]Includes 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.
[12]Includes consumption for combined heat and power (CHP), which produces electricity and other useful thermal energy.
[13]Includes 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.
[14]Balancing item. Includes unaccounted for supply, losses, and gains.
[15]Weighted average price delivered to U.S. refiners.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 data: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs AEO2007.D112106A and ANWR2007.D112706C.

Table D13. Petroleum Supply and Disposition, Expanded Outer Continental Shelf Access Case

Supply, Disposition, and Prices	2005	2010		2020		2030	
		Reference	OCS Access	Reference	OCS Access	Reference	OCS Access
Petroleum Supply							
Crude Oil							
Domestic Crude Production[1]	5.18	5.67	5.67	5.89	5.98	5.39	5.55
Alaska	0.86	0.69	0.69	0.74	0.74	0.27	0.27
Lower 48 States	4.31	4.98	4.98	5.15	5.23	5.12	5.28
Onshore	2.89	2.93	2.93	2.94	2.94	2.92	2.91
Offshore	1.42	2.05	2.05	2.21	2.30	2.20	2.36
Net Imports	10.09	9.99	9.99	11.29	11.28	13.09	12.97
Other Crude Supply[2]	-0.06	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply	**15.22**	**15.66**	**15.66**	**17.19**	**17.26**	**18.47**	**18.52**
Other Petroleum Supply							
Natural Gas Plant Liquids	1.72	1.80	1.80	1.76	1.78	1.72	1.76
Net Product Imports[3]	2.48	1.80	1.80	2.27	2.24	3.28	3.27
Refinery Processing Gain[4]	0.99	1.21	1.21	1.41	1.35	1.49	1.42
Other Inputs	0.39	1.02	1.02	1.31	1.30	1.88	1.88
Liquids from Coal	0.00	0.00	0.00	0.10	0.10	0.44	0.44
Other[5]	0.39	1.02	1.02	1.21	1.21	1.43	1.44
Total Petroleum Supply[6]	**20.79**	**21.49**	**21.48**	**23.94**	**23.93**	**26.84**	**26.85**
Natural Gas Prices							
(2005 dollars per million Btu)							
Henry Hub Spot Price	8.60	6.28	6.27	5.71	5.66	6.52	6.37
Average Lower 48 Wellhead Price[11]	7.29	5.59	5.58	5.07	5.02	5.80	5.67
(2005 dollars per thousand cubic feet)							
Average Lower 48 Wellhead Price[11]	7.51	5.76	5.75	5.22	5.18	5.98	5.84
Natural Gas Supply (trillion cubic feet)							
Dry Gas Production[7]	**18.23**	**19.35**	**19.35**	**20.79**	**21.02**	**20.53**	**21.14**
Lower 48 Onshore	14.36	15.22	15.22	14.66	14.63	15.13	15.15
Associated-Dissolved	1.43	1.39	1.39	1.28	1.28	1.19	1.19
Non-Associated	12.93	13.83	13.84	13.38	13.35	13.94	13.96
Conventional	4.94	5.27	5.27	4.30	4.29	3.75	3.70
Unconventional	7.99	8.56	8.57	9.09	9.06	10.19	10.26
Lower 48 Offshore	3.41	3.88	3.88	4.09	4.35	3.25	3.84
Associated-Dissolved	0.71	0.92	0.92	1.05	1.08	0.85	1.04
Non-Associated	2.69	2.96	2.96	3.04	3.27	2.40	2.80
Alaska	0.45	0.25	0.25	2.05	2.05	2.16	2.16
Supplemental Natural Gas[8]	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Net Imports	**3.57**	**4.55**	**4.55**	**5.35**	**5.20**	**5.45**	**5.20**
Pipeline	3.01	2.74	2.74	1.65	1.65	0.92	0.92
Liquefied Natural Gas[9]	0.57	1.81	1.81	3.69	3.55	4.53	4.28
Total Natural Gas Supply[10]	**21.87**	**23.97**	**23.97**	**26.21**	**26.29**	**26.06**	**26.41**

[1]Includes lease condensate.
[2]Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude product supplied.
[3]Includes other hydrocarbons and alcohols.
[4]Represents volumetric gain in refinery distillation and cracking processes.
[5]Includes petroleum product stock withdrawals; domestic sources of blending components, other hydrocarbons, alcohols, and ethers.
[6]Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
[7]Marketed production (wet) minus extraction losses.
[8]Synthetic 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.
[9]Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.
[10]Dry gas production plus supplemental natural gas and net imports.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 data: EIA, *Petroleum Supply Annual 2005*, DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). **Projections:** EIA, AEO2007 National Energy Modeling System runs AEO2007.D112106A and OCSACC.D112706A.

Table D14. Ethanol Supply, Disposition, and Prices, Additional Ethanol Cases

Supply, Disposition, and Prices	2005	2015				2030			
		Reference	Low Cost Ethanol	High Price	Low Cost Ethanol and High Price	Reference	Low Cost Ethanol	High Price	Low Cost Ethanol and High Price
Ethanol Supply (billion gallons)									
Domestic Production									
Corn Based	3.9	11.1	11.1	11.1	12.0	13.6	11.5	14.2	22.3
Cellulose Based	0.0	0.2	0.2	0.2	0.3	0.2	3.9	0.6	10.1
Total Domestic Production	**3.9**	**11.4**	**11.4**	**11.4**	**12.3**	**13.8**	**15.4**	**14.8**	**32.5**
Ethanol Imports	0.1	0.4	0.5	0.5	0.5	0.8	0.8	0.8	1.5
Total Ethanol Supply	**4.0**	**11.7**	**11.9**	**11.9**	**12.8**	**14.6**	**16.2**	**15.6**	**33.9**
Ethanol Consumption (billion gallons)									
Used in E85[1]	0.0	0.0	0.2	0.1	1.0	0.2	1.4	2.4	20.6
Used in Gasoline Blending	4.0	11.7	11.7	11.8	11.9	14.4	14.8	13.2	13.3
Total Ethanol Consumption	**4.0**	**11.7**	**11.9**	**11.9**	**12.8**	**14.6**	**16.2**	**15.6**	**33.9**
Total Motor Gasoline Consumption (billion gallons)	140.4	156.1	156.9	146.0	146.3	192.1	195.9	160.5	154.3
Light-Duty Vehicle Energy Consumption (quadrillion Btu)	16.36	17.99	18.03	16.83	16.90	22.66	22.49	19.50	19.84
Ethanol Percent of Motor Gasoline Pool (percent)[2]	2.9	7.5	7.5	8.1	8.7	7.6	8.2	9.5	18.6
Transportation Sector Indicators									
Light-Duty Vehicle Miles Travelled (billion miles)	2655	3125	3124	2978	2976	4226	4219	3924	3899
New Car Efficiency (miles per gallon)[3]	30.0	32.4	32.5	33.2	33.1	33.7	33.6	36.2	35.8
New Light Truck Efficiency (miles per gallon)[3]	21.8	24.7	24.3	25.3	24.8	26.5	25.8	28.2	27.2
Light-Duty Stock Efficiency (miles per gallon)[4]	19.6	20.6	20.5	20.9	20.8	22.2	22.2	23.9	23.5
E85-Capable Vehicle Sales (thousands)	613	1819	13401	1576	12887	2030	17045	3778	16816
Total Vehicle Sales (thousands)	16235	17268	17270	16838	16828	20187	20176	20076	20063
E85-Capable Vehicle Stock (millions)	4	17	48	16	46	31	229	37	225
Total Vehicle Stock (millions)	220	263	263	259	259	316	316	312	312
Energy Prices (2005 dollars)									
(dollars per gallon)									
Imported Low Sulfur Light Crude Oil Price[5]	1.35	1.19	1.19	1.89	1.89	1.41	1.41	2.38	2.38
Imported Crude Oil Price[5]	1.17	1.06	1.06	1.76	1.76	1.23	1.23	2.21	2.21
Transportation Sector Motor Gasoline[6]	2.32	1.95	1.95	2.69	2.70	2.15	2.17	3.20	3.23
E85[1]	2.17	1.87	1.88	2.08	2.12	2.00	1.91	2.38	2.49
Ethanol Wholesale Price	1.80	1.66	1.68	1.70	1.75	1.70	1.61	1.84	2.28
(dollars per million Btu)									
Imported Low Sulfur Light Crude Oil Price[5]	9.50	8.34	8.35	13.31	13.31	9.89	9.89	16.75	16.76
Imported Crude Oil Price[5]	8.23	7.46	7.46	12.36	12.36	8.64	8.64	15.55	15.55
Transportation Sector Motor Gasoline[6]	18.64	16.06	16.10	22.19	22.31	17.76	17.85	26.42	26.68
E85[1]	23.10	20.09	20.18	22.32	22.74	21.50	20.53	25.54	26.74
Ethanol Wholesale Price	21.65	19.92	20.17	20.44	21.03	20.43	19.37	22.02	27.39

[1]E85 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.
[2]Calculated as the amount of ethanol consumed divided by the total amount of ethanol and motor gasoline consumed.
[3]Environmental Protection Agency rated miles per gallon.
[4]Combined car and light truck "on-the-road" estimate.
[5]Weighted average price delivered to U.S. refiners.
[6]Sales weighted average price for all grades. Includes Federal, State, and local taxes.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 consumption and imported crude oil price: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006). 2005 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 motor gasoline price based on: EIA, *Petroleum Marketing Annual 2005*, DOE/EIA-0487(2005) (Washington, DC, August 2006). 2005 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2005 wholesale ethanol prices derived from Bloomburg U.S. average rack price. **Projections:** EIA, AEO2007 National Energy Modeling System runs AEO2007.D112106A, CT_80PCT_7L_RF.D120406A, HP2007.D112106A, and CT_80PCT_7L.D120406A.

Table D15. Key Results for Coal Cost Cases

(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	2015			2030			Growth Rate, 2005-2030		
		Low Cost	Reference	High Cost	Low Cost	Reference	High Cost	Low Cost	Reference	High Cost
Production[1]	**1131**	**1278**	**1266**	**1209**	**1824**	**1691**	**1329**	**1.9%**	**1.6%**	**0.6%**
Appalachia	397	381	371	349	420	373	337	0.2%	-0.3%	-0.7%
Interior	149	188	199	204	275	247	255	2.5%	2.0%	2.2%
West	585	709	697	656	1129	1072	736	2.7%	2.5%	0.9%
Waste Coal Supplied[2]	**13**	**14**	**13**	**13**	**9**	**13**	**17**	**-1.8%**	**-0.0%**	**0.9%**
Net Imports	**-21**	**3**	**5**	**18**	**47**	**68**	**83**	**N/A**	**N/A**	**N/A**
Total Supply[3]	**1124**	**1294**	**1284**	**1239**	**1880**	**1772**	**1428**	**2.1%**	**1.8%**	**1.0%**
Consumption by Sector										
Residential and Commercial	5	5	5	5	5	5	5	-0.3%	-0.3%	-0.3%
Coke Plants	23	21	21	21	21	21	20	-0.4%	-0.5%	-0.6%
Other Industrial[4]	61	63	62	62	64	64	63	0.2%	0.2%	0.1%
Coal-to-Liquids Heat and Power	0	9	8	3	65	57	16	N/A	N/A	N/A
Coal-to-Liquids Liquids Production	0	9	8	3	63	55	15	N/A	N/A	N/A
Electric Power[5]	1039	1186	1178	1146	1662	1570	1310	1.9%	1.7%	0.9%
Total Coal Use	**1128**	**1293**	**1282**	**1239**	**1880**	**1772**	**1428**	**2.1%**	**1.8%**	**0.9%**
Average Minemouth Price[6]										
(2005 dollars per short ton)	23.34	18.68	22.41	27.12	14.30	22.60	41.01	-1.9%	-0.1%	2.3%
(2005 dollars per million Btu)	1.15	0.92	1.11	1.35	0.72	1.15	2.05	-1.9%	-0.0%	2.3%
Delivered Prices[7]										
(2005 dollars per short ton)										
Coke Plants	83.79	66.66	74.51	84.52	57.27	75.55	111.24	-1.5%	-0.4%	1.1%
Other Industrial[4]	47.63	43.03	47.45	52.26	38.01	48.54	65.93	-0.9%	0.1%	1.3%
Coal to Liquids	N/A	11.23	13.79	17.09	15.10	21.89	31.59	N/A	N/A	N/A
Electric Power[5]										
(2005 dollars per short ton)	30.83	28.37	31.84	36.37	24.63	33.52	49.75	-0.9%	0.3%	1.9%
(2005 dollars per million Btu)	1.53	1.42	1.60	1.83	1.23	1.69	2.49	-0.9%	0.4%	2.0%
Average	**32.82**	**29.47**	**33.10**	**37.91**	**24.80**	**33.82**	**50.93**	**-1.1%**	**0.1%**	**1.8%**
Exports[8]	67.10	58.08	64.51	73.77	51.47	63.81	95.87	-1.1%	-0.2%	1.4%
Cumulative Electricity Generating Capacity Additions (gigawatts)[9]										
Coal	0.0	22.6	19.5	15.7	189.2	156.3	77.0	N/A	N/A	N/A
Conventional: Pulverized Coal	0.0	17.9	15.8	12.9	111.5	78.4	44.4	N/A	N/A	N/A
Advanced: IGCC	0.0	4.7	3.6	2.7	77.7	77.9	32.6	N/A	N/A	N/A
Petroleum	0.0	0.2	0.2	0.2	0.3	0.3	0.3	N/A	N/A	N/A
Natural Gas	0.0	32.3	33.1	33.7	92.7	105.2	133.1	N/A	N/A	N/A
Nuclear	0.0	1.8	0.5	1.3	6.0	12.5	42.3	N/A	N/A	N/A
Renewables [10]	0.0	10.7	10.8	10.9	15.5	17.5	20.8	N/A	N/A	N/A
Other	0.0	0.1	0.1	0.1	0.1	0.2	0.2	N/A	N/A	N/A
Total	**0.0**	**67.7**	**64.2**	**61.9**	**303.8**	**291.9**	**273.7**	**N/A**	**N/A**	**N/A**
Liquids from Coal (million barrels per day)	0.00	0.07	0.06	0.02	0.51	0.44	0.12	N/A	N/A	N/A
Labor Productivity										
Coal Mining (short tons per miner per hour)	6.36	8.72	6.80	5.25	14.77	7.84	3.38	3.4%	0.8%	-2.5%
Rail: Eastern Railroads (billion freight ton-miles per employee per year)	7.57	10.90	8.91	7.25	18.17	10.61	6.11	3.6%	1.4%	-0.9%
Rail: Western Railroads (billion freight ton-miles per employee per year)	12.19	17.72	14.49	11.79	29.86	17.43	10.05	3.6%	1.4%	-0.8%

Table D15. Key Results for Coal Cost Cases (Continued)

(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2005	2015			2030			Growth Rate, 2005-2030		
		Low Cost	Reference	High Cost	Low Cost	Reference	High Cost	Low Cost	Reference	High Cost
Cost Indices (constant dollar index, 2005=1.000)										
Transportation Rate Multipliers										
Eastern Railroads	1.000	1.043	1.064	1.086	0.968	1.042	1.121	-0.1%	0.2%	0.5%
Western Railroads	1.000	1.029	1.046	1.063	0.971	1.028	1.088	-0.1%	0.1%	0.3%
Equipment Costs										
Mining										
Underground	1.000	0.943	1.032	1.129	0.811	1.032	1.311	-0.8%	0.1%	1.1%
Surface	1.000	0.927	1.016	1.110	0.798	1.016	1.289	-0.9%	0.1%	1.0%
Railroads	1.000	0.905	0.991	1.085	0.743	0.946	1.202	-1.2%	-0.2%	0.7%
Average Coal Miner Wage (2005 dollars per hour)	**22.06**	**20.16**	**22.06**	**24.13**	**17.34**	**22.06**	**28.02**	**-1.0%**	**-0.0%**	**1.0%**

[1]Includes anthracite, bituminous coal, and lignite.
[2]Includes waste coal consumed by the electric power and industrial sectors. Waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in the consumption data.
[3]Production plus net imports plus net storage withdrawals.
[4]Includes consumption for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public. Excludes all coal use in the coal to liquids process.
[5]Includes all electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[6]Includes reported prices for both open market and captive mines.
[7]Prices weighted by consumption tonnage; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
[8]F.a.s. price at U.S. port of exit.
[9]Cumulative additions after December 31, 2005. Includes all additions of electricity only and combined heat and power plants projected for the electric power, industrial, and commercial sectors.
[10]Includes 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.
N/A = Not applicable.
Btu = British thermal unit.
IGCC = Integrated gas combined cycle.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 are model results and may differ slightly from official EIA data reports.
Sources: 2005 data based on: Energy Information Administration (EIA), *Annual Coal Report 2005*, DOE/EIA-0584(2005) (Washington, DC, October 2006); EIA, *Quarterly Coal Report, October-December 2005*, DOE/EIA-0121(2005/4Q) (Washington, DC, March 2006); Securities and Exchange Commission Form 10K filings (BNSF, Norfolk Southern, and Union Pacific), web site www.sec.gov; CSX Corporation, web site www.csx.com; U.S. Department of Labor, Bureau of Labor Statistics, Average Hourly Earnings of Production Workers: Coal Mining, Series ID : ceu1021210006; and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A. **Projections:** EIA, AEO2007 National Energy Modeling System runs LCCST07.D112906A, AEO2007.D112106A, and HCCST07.D112906A.

Appendix E

NEMS Overview and Brief Description of Cases

The National Energy Modeling System

The projections in the *Annual Energy Outlook 2007* (*AEO2007*) are generated from the National Energy Modeling System (NEMS) [*1*], developed and maintained by the Office of Integrated Analysis and Forecasting (OIAF) of the Energy Information Administration (EIA). In addition to its use in the development of the *AEO* projections, NEMS is also used in analytical studies for the U.S. Congress, the White House, and other offices within the Department of Energy. The *AEO* projections are also used by analysts and planners in other government agencies and outside organizations.

The projections in NEMS are developed with the use of a market-based approach to energy analysis. For each fuel and consuming sector, NEMS balances energy supply and demand, accounting for economic competition among the various energy fuels and sources. The time horizon of NEMS is the long-term period through 2030, approximately 25 years into the future. In order to represent regional differences in energy markets, the component modules of NEMS function at the regional level: the nine Census divisions for the end-use demand modules; production regions specific to oil, natural gas, and coal supply and distribution; the North American Electric Reliability Council regions and subregions for electricity; and the Petroleum Administration for Defense Districts (PADDs) for refineries.

NEMS is organized and implemented as a modular system. The modules represent each of the fuel supply markets, conversion sectors, and end-use consumption sectors of the energy system. NEMS also includes macroeconomic and international modules. The primary flows of information among the modules are the delivered prices of energy to end users and the quantities consumed by product, region, and sector. The delivered fuel prices encompass all the activities necessary to produce, import, and transport fuels to end users. The information flows also include other data on such areas as economic activity, domestic production, and international petroleum supply.

The Integrating Module controls the execution of each of the component modules. To facilitate modularity, the components do not pass information to each other directly but communicate through a central data structure. This modular design provides the capability to execute modules individually, thus allowing decentralized development of the system and independent analysis and testing of individual modules, and permits the use of the methodology and level of detail most appropriate for each energy sector. NEMS calls each supply, conversion, and end-use demand module in sequence until the delivered prices of energy and the quantities demanded have converged within tolerance, thus achieving an economic equilibrium of supply and demand in the consuming sectors. A solution is reached annually through the long-term horizon. Other variables are also evaluated for convergence, such as petroleum product imports, crude oil imports, and several macroeconomic indicators.

Each NEMS component represents the impacts and costs of legislation and environmental regulations that affect that sector. NEMS accounts for all combustion-related carbon dioxide (CO_2) emissions, as well as emissions of sulfur dioxide, nitrogen oxides, and mercury from the electricity generation sector. NEMS generally represents current legislation and environmental regulations as of October 31, 2006 (such as the Energy Policy Acts of 2005 [EPACT-2005], the Working Families Tax Relief Act of 2004, and the American Jobs Creation Act of 2004) and the costs of compliance with regulations such as the Clean Air Interstate Rule (CAIR) and Clean Air Mercury Rule (CAMR), both of which were finalized and published in 2005, the new corporate average fuel economy (CAFE) standards finalized in March 2006, and the new stationary diesel regulations issued by the U.S. Environmental Protection Agency (EPA) in July 2006. The potential impacts of pending or proposed Federal and State legislation, regulations, or standards—or of sections of legislation that have been enacted but that require funds or implementing regulations that have not been provided or specified—are not reflected in NEMS.

In general, the historical data used for the *AEO2007* projections were based on EIA's *Annual Energy Review 2005*, published in July 2006 [*2*]; however, data were taken from multiple sources. In some cases, only partial or preliminary data were available for 2005. CO_2 emissions were calculated by using CO_2 coefficients from the EIA report, *Emissions of Greenhouse Gases in the United States 2005*, published in November 2006 [*3*].

Historical numbers are presented for comparison only and may be estimates. Source documents should be consulted for the official data values. Footnotes to the *AEO2007* appendix tables indicate the definitions and sources of historical data.

The *AEO2007* projections for years 2006 and 2007 incorporate short-term projections from EIA's September 2006 *Short-Term Energy Outlook* (*STEO*). For short-term energy projections, readers are referred to monthly updates of the *STEO* [*4*].

Component Modules

The component modules of NEMS represent the individual supply, demand, and conversion sectors of domestic energy markets and also include international and macroeconomic modules. In general, the modules interact through values representing the prices or expenditures of energy delivered to the consuming sectors and the quantities of end-use energy consumption.

Macroeconomic Activity Module

The Macroeconomic Activity Module provides a set of macroeconomic drivers to the energy modules, and there is a macroeconomic feedback mechanism within NEMS. Key macroeconomic variables used in the energy modules include gross domestic product (GDP), disposable income, industrial output, new housing starts, new light-duty vehicle sales, interest rates, prices, and employment. The module uses the following models from Global Insight, Inc. (GII): Macroeconomic Model of the U.S. Economy, National Industry Model, and National Employment Model. In addition, EIA has constructed a Regional Economic and Industry Model to project regional economic drivers and a Commercial Floorspace Model to project 13 floorspace types in 9 Census divisions. The accounting framework for industrial output uses the North American Industry Classification System (NAICS).

International Module

The International Module represents the response of world oil markets (supply and demand) to assumed world oil prices. The results/outputs of the module are a set of crude oil and product supply curves that are available to U.S. markets for each case/scenario analyzed. The petroleum import supply curves are made available to U.S. markets through the Petroleum Market Module (PMM) of NEMS in the form of 5 categories of imported crude oil and 17 international petroleum products, including supply curves for oxygenates and unfinished oils. The supply-curve calculations are based on historical market data and a world oil supply/demand balance, which is developed from the *International Energy Outlook 2006*, current investment trends in exploration and development, and long-term resource economics for 221 countries/territories. The oil production estimates include both conventional and unconventional supply recovery technologies.

Residential and Commercial Demand Modules

The Residential Demand Module projects energy consumption in the residential sector by housing type and end use, based on delivered energy prices, the menu of equipment available, the availability of renewable sources of energy, and housing starts. The Commercial Demand Module projects energy consumption in the commercial sector by building type and nonbuilding uses of energy and by category of end use, based on delivered prices of energy, availability of renewable sources of energy, and macroeconomic variables representing interest rates and floorspace construction.

Both modules estimate the equipment stock for the major end-use services, incorporating assessments of advanced technologies, including representations of renewable energy technologies and the effects of both building shell and appliance standards. The Commercial Demand Module incorporates combined heat and power (CHP) technology. The modules also include projections of distributed generation. Both modules incorporate changes to "normal" heating and cooling degree-days by Census division, based on State-level population projections. The Residential Demand Module projects that the average square footage of both new construction and existing structures is increasing, based on trends in the size of new construction and the remodeling of existing homes.

Industrial Demand Module

The Industrial Demand Module projects the consumption of energy for heat and power and for feedstocks and raw materials in each of 21 industries, subject to the delivered prices of energy and macroeconomic variables representing employment and the value of shipments for each industry. As noted in the description of the Macroeconomic Activity Module, the value of shipments is based on NAICS. The industries are classified into three groups—energy-intensive manufacturing, non-energy-intensive manufacturing, and nonmanufacturing. Of the 8 energy-

intensive industries, 7 are modeled in the Industrial Demand Module, with components for boiler/steam/cogeneration, buildings, and process/assembly use of energy. Bulk chemicals are further disaggregated to organic, inorganic, resins, and agricultural chemicals. A representation of cogeneration and a recycling component are also included. The use of energy for petroleum refining is modeled in the PMM, and the projected consumption is included in the industrial totals.

Transportation Demand Module

The Transportation Demand Module projects consumption of fuels in the transportation sector, including petroleum products, electricity, methanol, ethanol, compressed natural gas, and hydrogen, by transportation mode, vehicle vintage, and size class, subject to delivered prices of energy fuels and macroeconomic variables representing disposable personal income, GDP, population, interest rates, and industrial shipments. Fleet vehicles are represented separately to allow analysis of the Clean Air Act Amendments of 1990 (CAAA90) and other legislation and legislative proposals. The module also includes a component to assess the penetration of alternative-fuel vehicles.

The air transportation component explicitly represents the industry practice of parking aircraft to reduce operating costs and the movement of aircraft from passenger to cargo markets as aircraft age [*5*]. For air freight shipments, the model represents fuel use in narrow-body and wide-body aircraft. An infrastructure constraint limits overall growth in passenger and freight air travel to levels commensurate with industry-projected infrastructure expansion and capacity growth.

Electricity Market Module

The Electricity Market Module represents generation, transmission, and pricing of electricity, subject to delivered prices for coal, petroleum products, natural gas, and biofuels; costs of generation by all generation plants, including capital costs; macroeconomic variables for costs of capital and domestic investment; enforced environmental emissions laws and regulations; and electricity load shapes and demand. There are three primary submodules—capacity planning, fuel dispatching, and finance and pricing. Nonutility generation, distributed generation, and transmission and trade are modeled in the planning and dispatching submodules.

All specifically identified CAAA90 compliance options that have been promulgated by the EPA are explicitly represented in the capacity expansion and dispatch decisions; those that have not been promulgated (e.g., fine particulate proposals) are not incorporated. All financial incentives for power generation expansion and dispatch specifically identified in EPACT2005 have been implemented. Several States, primarily in the Northeast, have recently enacted air emission regulations that affect the electricity generation sector. Where firm State compliance plans have been announced, regulations are represented in *AEO2007*.

Renewable Fuels Module

The Renewable Fuels Module (RFM) includes submodules representing renewable resource supply and technology input information for central-station, grid-connected electricity generation technologies, including conventional hydroelectricity, biomass (wood, energy crops, and biomass co-firing), geothermal, landfill gas, solar thermal electricity, solar photovoltaics (PV), and wind energy. The RFM contains renewable resource supply estimates representing the regional opportunities for renewable energy development. Investment tax credits for renewable fuels are incorporated, as currently legislated in the Energy Policy Act of 1992 (EPACT1992) and EPACT2005. EPACT1992 provides a 10-percent tax credit for business investment in solar energy (thermal non-power uses as well as power uses) and geothermal power; those credits have no expiration date. EPACT2005 increases the tax credit to 30 percent for solar energy systems installed before January 1, 2008 (which has since been extended to January 1, 2009, but is not reflected in the *AEO2007* projections).

Production tax credits for wind, geothermal, landfill gas, and some types of hydroelectric and biomass-fueled plants are also represented. They provide a tax credit of up to 1.9 cents per kilowatthour for electricity produced in the first 10 years of plant operation. At the time *AEO2007* was completed, new plants coming on line before January 1, 2008, were eligible to receive the credit. Subsequently—after *AEO2007* modeling runs were completed—the deadline was extended to January 1, 2009. Significant changes made for *AEO2007* in the accounting of new renewable energy capacity resulting from State renewable portfolio standard (RPS) programs, mandates, and goals are described in *Assumptions to the Annual Energy Outlook 2007* [*6*].

Oil and Gas Supply Module

The Oil and Gas Supply Module represents domestic crude oil and natural gas supply within an integrated framework that captures the interrelationships among the various sources of supply: onshore, offshore, and Alaska by both conventional and unconventional techniques, including natural gas recovery from coalbeds and low-permeability formations of sandstone and shale. This framework analyzes cash flow and profitability to compute investment and drilling for each of the supply sources, based on the prices for crude oil and natural gas, the domestic recoverable resource base, and the state of technology. Oil and gas production functions are computed at a level of 12 supply regions, including 3 offshore and 3 Alaskan regions. The module also represents foreign sources of natural gas, including pipeline imports and exports to Canada and Mexico, and liquefied natural gas (LNG) imports and exports.

Crude oil production quantities are input to the PMM in NEMS for conversion and blending into refined petroleum products. Supply curves for natural gas are input to the Natural Gas Transmission and Distribution Module for use in determining natural gas prices and quantities. International LNG supply sources and options for construction of new regasification terminals in Canada, Mexico, and the United States as well as expansions of existing U.S. regasification terminals are represented, based on the projected regional costs associated with international natural gas supply, liquefaction, transportation, and regasification and world natural gas market conditions.

Natural Gas Transmission and Distribution Module

The Natural Gas Transmission and Distribution Module represents the transmission, distribution, and pricing of natural gas, subject to end-use demand for natural gas and the availability of domestic natural gas and natural gas traded on the international market. The module tracks the flows of natural gas and determines the associated capacity expansion requirements in an aggregate pipeline network, connecting the domestic and foreign supply regions with 12 demand regions. The flow of natural gas is determined for both a peak and off-peak period in the year. Key components of pipeline and distributor tariffs are included in separate pricing algorithms.

Petroleum Market Module

The PMM projects prices of petroleum products, crude oil and product import activity, and domestic refinery operations (including fuel consumption), subject to the demand for petroleum products, the availability and price of imported petroleum, and the domestic production of crude oil, natural gas liquids, and alcohol and biodiesel fuels. The module represents refining activities in the five PADDs. It explicitly models the requirements of CAAA90 and the costs of automotive fuels, such as conventional and reformulated gasoline, and includes biofuels production for blending in gasoline and diesel.

AEO2007 represents the nationwide phase-in of gasoline with an annual average sulfur content of 30 ppm between 2005 and 2007, regulations that limit the sulfur content of highway diesel fuel to 15 ppm starting in mid-2006 and of all non-road and locomotive/marine diesel to 15 ppm by mid-2012, and the renewable fuels standard of 7.5 billion gallons by 2012. Demand growth and regulatory changes necessitate capacity expansion for refinery processing units. For those investments, a financing ratio of 60 percent equity and 40 percent debt is assumed, with a hurdle rate and an after-tax return on investment of about 9 percent [*7*]. End-use prices are based on the marginal costs of production, plus markups representing product marketing and distribution costs and State and Federal taxes [*8*]. Refinery capacity expansion at existing sites is permitted in all five refining regions modeled. *AEO2007* accounts for the phasing out of methyl tertiary butyl ether (MTBE) as a result of decisions made by the petroleum industry to discontinue MTBE blending with gasoline.

Fuel ethanol and biodiesel are included in the PMM, because they are commonly blended into petroleum products. The module allows ethanol blending into gasoline at 10 percent by volume or less, as well as E85, a blend of up to 85 percent ethanol by volume. Ethanol is produced primarily in the Midwest from corn or other starchy crops, and it is expected to be produced from cellulosic material in other regions in the future. Biodiesel is produced from soybean oil or yellow grease (primarily, recycled cooking oil). Both soybean oil biodiesel and yellow grease biodiesel are assumed to be blended into highway diesel.

Alternative fuels such as coal-to-liquids (CTL) and gas-to-liquids (GTL) are modeled in the PMM, based on their economics relative to competing feedstocks and products. CTL facilities are likely to be built at locations close to coal supply and water sources, where liquid products and electricity could also be distributed to nearby demand regions. GTL facilities may be

built on the North Slope of Alaska but would compete with the Alaska Natural Gas Transportation System for available natural gas resources.

Ethanol production is modeled from two feedstocks: corn and cellulosic materials such as switchgrass and poplar. Corn-based ethanol plants are numerous (more than 80 in operation, producing more than 4 billion gallons annually) and are based on a well-known technology that converts sugars into ethanol. Ethanol from cellulosic sources is a new technology with no full-sized plants constructed. The two sources are modeled to compete on an economic basis to meet the EPACT2005 mandate.

Coal Market Module

The Coal Market Module (CMM) simulates mining, transportation, and pricing of coal, subject to end-use demand for coal differentiated by heat and sulfur content. U.S. coal production is represented in the CMM by 40 separate supply curves—differentiated by region, mine type, coal rank, and sulfur content. The coal supply curves include a response to capacity utilization of mines, mining capacity, labor productivity, and factor input costs (mining equipment, mining labor, and fuel requirements). Projections of U.S. coal distribution are determined by minimizing the cost of coal supplied, given coal demands by demand region and sector, accounting for minemouth prices, transportation costs, existing coal supply contracts, and sulfur and mercury allowance costs. Over the projection horizon, coal transportation costs in the CMM are projected to vary in response to changes in railroad productivity and the cost of rail transportation equipment and diesel fuel.

The CMM produces projections of U.S. steam and metallurgical coal exports and imports, in the context of world coal trade. The CMM determines the pattern of world coal trade flows that minimizes the production and transportation costs of meeting a specified set of regional world coal import demands, subject to constraints on export capacities and trade flows. The international coal market component of the module computes trade in 3 types of coal for 17 export and 20 import regions. U.S. coal production and distribution are computed for 14 supply and 14 demand regions.

Annual Energy Outlook 2007 Cases

Table E1 provides a summary of the cases used to derive the *AEO2007* projections. For each case, the table gives the name used in this report, a brief description of the major assumptions underlying the projections, a designation of the mode in which the case was run in NEMS (either fully integrated, partially integrated, or standalone), and a reference to the pages in the body of the report and in this appendix where the case is discussed. The following sections describe the cases listed in Table E1. The reference case assumptions for each sector are described at web site www.eia.doe.gov/oiaf/aeo/assumption. Regional results and other details of the projections are available at web site www.eia.doe.gov/oiaf/aeo/supplement.

Macroeconomic Growth Cases

In addition to the *AEO2007* reference case, the low economic growth and high economic growth cases were developed to reflect the uncertainty in projections of economic growth. The alternative cases are intended to show the effects of alternative growth assumptions on energy market projections. The cases are described as follows:

- The *low economic growth case* assumes lower growth rates for population (0.5 percent per year), non-farm employment (0.6 percent per year), and productivity (1.9 percent per year), resulting in higher prices and interest rates and lower growth in industrial output. In the low economic growth case, economic output as measured by real GDP increases by 2.3 percent per year from 2005 through 2030, and growth in real GDP per capita averages 1.8 percent per year.
- The *high economic growth case* assumes higher growth rates for population (1.2 percent per year), nonfarm employment (1.3 percent per year), and productivity (2.8 percent per year). With higher productivity gains and employment growth, inflation and interest rates are lower than in the reference case, and consequently economic output grows at a higher rate (3.4 percent per year) than in the reference case (2.9 percent). GDP per capita grows by 2.2 percent per year, compared with 2.1 percent in the reference case.

Price Cases

The world oil price in *AEO2007* is defined as the average price of low-sulfur, light crude oil imported into the United States. The low-sulfur, light crude oil price is similar to prices for the light sweet crude oil contract traded on the New York Mercantile Exchange. *AEO2007* also includes a projection of the U.S. annual average imported refiners' acquisition cost of crude oil, which is more representative of the average cost of all crude oils used by refiners.

Table E1. Summary of the *AEO2007* cases

Case name	Description	Integration mode	Reference in text	Reference in Appendix E
Reference	Baseline economic growth (2.9 percent per year from 2005 through 2030), world oil price, and technology assumptions. Complete projection tables in Appendix A.	Fully integrated	—	—
Low Economic Growth	Gross domestic product grows at an average annual rate of 2.3 percent from 2005 through 2030. Other assumptions are the same as in the reference case. Partial projection tables in Appendix B.	Fully integrated	p. 68	p. 211
High Economic Growth	Gross domestic product grows at an average annual rate of 3.4 percent from 2005 through 2030. Other assumptions are the same as in the reference case. Partial projection tables in Appendix B.	Fully integrated	p. 68	p. 211
Low Price	More optimistic assumptions for worldwide crude oil and natural gas resources than in the reference case. World light, sweet crude oil prices are $36 per barrel in 2030, compared with $59 per barrel in the reference case (2005 dollars). Other assumptions are the same as in the reference case. Partial projection tables in Appendix C.	Fully integrated	p. 34	p. 215
High Price	More pessimistic assumptions for worldwide crude oil and natural gas resources than in the reference case. World light, sweet crude oil prices are about $100 per barrel in 2030. Other assumptions are the same as in the reference case. Partial projection tables in Appendix C.	Fully integrated	p. 34	p. 215
Residential: 2006 Technology	Future equipment purchases based on equipment available in 2006. Existing building shell efficiencies fixed at 2006 levels. Partial projection tables in Appendix D.	With commercial	p. 74	p. 215
Residential: High Technology	Earlier availability, lower costs, and higher efficiencies assumed for more advanced equipment. Building shell efficiencies for new construction meet ENERGY STAR requirements after 2010. Partial projection tables in Appendix D.	With commercial	p. 74	p. 215
Residential: Best Available Technology	Future equipment purchases and new building shells based on most efficient technologies available by fuel. Building shell efficiencies for new construction meet the criteria for most efficient components after 2006. Partial projection tables in Appendix D.	With commercial	p. 75	p. 215
Commercial: 2006 Technology	Future equipment purchases based on equipment available in 2006. Building shell efficiencies fixed at 2006 levels. Partial projection tables in Appendix D.	With residential	p. 75	p. 215
Commercial: High Technology	Earlier availability, lower costs, and higher efficiencies assumed for more advanced equipment. Building shell efficiencies for new and existing buildings increase by 8.75 and 6.25 percent, respectively, from 2003 values by 2030. Partial projection tables in Appendix D.	With residential	p. 75	p. 215
Commercial: Best Available Technology	Future equipment purchases based on most efficient technologies available by fuel. Building shell efficiencies for new and existing buildings increase by 10.5 and 7.5 percent, respectively, from 2003 values by 2030. Partial projection tables in Appendix D.	With residential	p. 76	p. 215
Industrial: 2006 Technology	Efficiency of plant and equipment fixed at 2006 levels. Partial projection tables in Appendix D.	Standalone	p. 79	p. 216

Table E1. Summary of the *AEO2007* cases (continued)

Case name	Description	Integration mode	Reference in text	Reference in Appendix E
Industrial: High Technology	Earlier availability, lower costs, and higher efficiencies assumed for more advanced equipment. Partial projection tables in Appendix D.	Standalone	p. 79	p. 216
Transportation: 2006 Technology	Efficiencies for new equipment in all modes of travel fixed at 2006 levels. Partial projection tables in Appendix D.	Standalone	p. 81	p. 216
Transportation: High Technology	Reduced costs and improved efficiencies assumed for advanced technologies. Partial projection tables in Appendix D.	Standalone	p. 81	p. 216
Electricity: Low Nuclear Cost	New nuclear capacity assumed to have 10 percent lower capital and operating costs in 2030 than in the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 85	p. 217
Electricity: High Nuclear Cost	Costs for new nuclear technology assumed not to improve from 2006 levels in the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 85	p. 217
Electricity: High Fossil Technology	Costs and efficiencies for advanced fossil-fired generating technologies improve by 10 percent in 2030 from reference case values. Partial projection tables in Appendix D.	Fully integrated	p. 87	p. 217
Electricity: Low Fossil Technology	New advanced fossil generating technologies assumed not to improve over time from 2006. Partial projection tables in Appendix D.	Fully integrated	p. 87	p. 217
Renewable Fuels: Low Renewables	New renewable generating technologies assumed not to improve over time from 2006. Partial projection tables in Appendix D.	Fully integrated	p. 86	p. 217
Renewable Fuels: High Renewables	Levelized cost of energy for nonhydropower renewable generating technologies declines by 10 percent in 2030 from reference case values. Partial projection tables in Appendix D.	Fully integrated	p. 86	p. 217
Renewable Fuels: Regional RPS	Represents various State renewable portfolio standard (RPS) programs, with targets aggregated on a regional basis. Assumes full compliance with targets, as limited by statutory authorizations for State funding, where applicable. Partial projection tables in Appendix D.	Fully integrated	p. 87	p. 218
Oil and Gas: Rapid Technology	Cost, finding rate, and success rate parameters adjusted for 50-percent more rapid improvement than in the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 91	p. 218
Oil and Gas: Slow Technology	Cost, finding rate, and success rate parameters adjusted for 50-percent slower improvement than in the reference case. Partial projection tables in Appendix D.	Fully Integrated	p. 91	p. 218
Oil and Gas: High LNG	LNG imports exogenously set to 30 percent more than the results from the low price case, with remaining assumptions from the reference case. Partial projection tables in Appendix D.	Fully integrated	—	p. 218
Oil and Gas: Low LNG	LNG imports exogenously set to 30 percent less than the results from the high price case, with remaining assumptions from the reference case. Partial projection tables in Appendix D.	Fully integrated	—	p. 218
Oil and Gas: OCS Access	Drilling moratorium assumed to expire in 2012 for oil and natural gas exploration and development in the Atlantic, Pacific, and Eastern Gulf of Mexico Outer Continental Shelf. Partial projection tables in Appendix D.	Fully integrated	p. 51	p. 218

Table E1. Summary of the *AEO2007* cases (continued)

Case name	Description	Integration mode	Reference in text	Reference in Appendix E
Oil and Gas: ANWR	Federal oil and gas leasing permitted in the Arctic National Wildlife Refuge starting in 2007. Partial projection tables in Appendix D.	Fully integrated	—	p. 218
Petroleum Market: Lower Cost Ethanol, Reference Energy Price	Capital costs of cellulosic ethanol plants decline by 26 percent and operating costs decline by 20 percent by 2018 from reference case values in 2012. Biomass supply assumed to have greater availability than in the reference case, at reference case prices. Assumed policies enacted that make market penetration of flex-fuel vehicles exceed 80 percent by 2016, and increase fuel dispensing availability for E85 as it becomes more competitive. Uses reference cases energy prices. Partial projection tables in Appendix D.	Fully Integrated	p. 98	p. 219
Petroleum Market: Lower Cost Ethanol, High Energy Price	Capital costs of cellulosic ethanol plants decline by 26 percent and operating costs decline by 20 percent by 2018 from reference case values in 2012. Biomass supply assumed to have greater availability than in the reference case, at reference case prices. Assumed policies enacted that make market penetration of flex-fuel vehicles exceed 80 percent by 2016, and increase fuel dispensing availability for E85 as it becomes more competitive. Uses high price case energy prices. Partial projection tables in Appendix D.	Fully integrated	p. 98	p. 219
Coal Market: Low Coal Cost	Productivity for coal mining and coal transportation assumed to increase more rapidly than in the reference case. Coal mining wages, mine equipment, and coal transportation equipment costs assumed to be lower than in the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 99	p. 219
Coal Market: High Coal Cost	Productivity for coal mining and coal transportation assumed to increase more slowly than in the reference case. Coal mining wages, mine equipment, and coal transportation equipment costs assumed to be higher than in the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 99	p. 219
Integrated 2006 Technology	Combination of the residential, commercial, industrial, and transportation 2006 technology cases, electricity low fossil technology case, low renewables case, and high nuclear cost case. Partial projection tables in Appendix D.	Fully integrated	—	p. 219
Integrated High Technology	Combination of the residential, commercial, industrial, and transportation high technology cases, electricity high fossil technology case, high renewables case, and low nuclear cost case. Partial projection tables in Appendix D.	Fully integrated	—	p. 219

The historical record shows substantial variability in world oil prices, and there is arguably even more uncertainty about future prices in the long term. *AEO2007* considers three price cases (reference, low price, and high price) to allow an assessment of alternative views on the course of future oil and natural gas prices. In the reference case, world oil prices moderate from 2006 levels through 2015 before beginning to rise to $59 per barrel in 2030 (2005 dollars). The low and high price cases define a wide range of potential price paths (from $36 to $100 per barrel in 2030). The two cases reflect different assumptions about the availability of world oil and natural gas resources; they do not assume changes in behavior by the Organization of the Petroleum Exporting Countries (OPEC). Because the low and high price cases are not directly integrated with a world economic model, the impact of world oil prices on international economies is not accounted for directly.

- The *reference case* represents EIA's current judgment regarding the expected behavior of OPEC producers in the long term, adjusting production to keep world oil prices in a range of $50 to $60 per barrel, in keeping with OPEC's stated goal of keeping potential competitors from eroding its market share. Because OPEC (and particularly the Persian Gulf nations) is expected to be the dominant supplier of oil in the international market over the long term, its production choices will significantly affect world oil prices.
- The *low price case* assumes that world crude oil and natural gas resources, including OPEC's, are 15 percent higher than assumed in the reference case.
- The *high price case* assumes that world crude oil and natural gas resources, including OPEC's, are 15 percent lower than assumed in the reference case.

Buildings Sector Cases

In addition to the *AEO2007* reference case, three standalone technology-focused cases using the Residential and Commercial Demand Modules of NEMS were developed to examine the effects of changes to equipment and building shell efficiencies.

For the residential sector, the three technology-focused cases are as follows:

- The *2006 technology case* assumes that all future equipment purchases are based only on the range of equipment available in 2006. Existing building shell efficiencies are assumed to be fixed at 2006 levels (no further improvements). For new construction, building shell technology options are constrained to those available in 2006.
- The *high technology case* assumes earlier availability, lower costs, and higher efficiencies for more advanced equipment [*9*]. For new construction, building shell efficiencies are assumed to meet ENERGY STAR requirements after 2010.
- The *best available technology case* assumes that all future equipment purchases are made from a menu of technologies that includes only the most efficient models available in a particular year for each fuel, regardless of cost. For new construction, building shell efficiencies are assumed to meet the criteria for most efficient components after 2006.

For the commercial sector, the three technology-focused cases are as follows:

- The *2006 technology case* assumes that all future equipment purchases are based only on the range of equipment available in 2006. Building shell efficiencies are assumed to be fixed at 2006 levels.
- The *high technology case* assumes earlier availability, lower costs, and/or higher efficiencies for more advanced equipment than in the reference case [*10*]. Building shell efficiencies for new and existing buildings in 2030 are assumed to be 8.75 percent and 6.25 percent higher, respectively, than their 2003 levels—a 25-percent improvement relative to the reference case.
- The *best available technology case* assumes that all future equipment purchases are made from a menu of technologies that includes only the most efficient models available in a particular year for each fuel, regardless of cost. Building shell efficiencies for new and existing buildings in 2030 are assumed to be 10.5 percent and 7.5 percent higher, respectively, than their 2003 values—a 50-percent improvement relative to the reference case.

The Residential and Commercial Demand Modules of NEMS were also used to complete the high renewables and low renewables cases, which are discussed in more detail as part of the Renewables Fuels Cases section below. In combination with assumptions for electricity generation from renewable fuels in the

electric power sector and industrial sector, these sensitivities analyze the impact of changes in generating technologies that use renewable fuels and in the availability of renewable energy sources. For the Residential and Commercial Demand Modules:

- The *high renewables case* assumes greater improvements in residential and commercial PV systems than in the reference case. The high renewables assumptions result in capital cost estimates for 2030 that are approximately 10 percent lower than reference case costs for distributed PV technologies.
- The *low renewables case* assumes that costs and performance levels for residential and commercial PV systems remain constant at 2006 levels through 2030.

Industrial Sector Cases

In addition to the *AEO2007* reference case, two standalone cases using the Industrial Demand Module of NEMS were developed to examine the effects of less rapid and more rapid technology change and adoption. Because these are standalone cases, the energy intensity changes discussed in this section exclude the refining industry. Energy use in the refining industry is solved as part of the PMM in NEMS. The Industrial Demand Module was also used as part of an integrated high renewables case. For the industrial sector:

- The *2006 technology case* holds the energy efficiency of plant and equipment constant at the 2006 level over the projection period. In this case, delivered energy intensity falls by 1.0 percent annually between 2005 and 2030, as compared with 1.5 percent in the reference case. Changes in aggregate energy intensity may result both from changing equipment and production efficiency and from changing composition of industrial output. Because the level and composition of industrial output are the same in the reference, 2006 technology, and high technology cases, any change in energy intensity in the two technology cases is attributable to efficiency changes. The 2006 technology case was run with only the Industrial Demand Module, rather than in fully integrated NEMS runs. Consequently, no potential feedback effects from energy market interactions were captured.
- The *high technology case* assumes earlier availability, lower costs, and higher efficiency for more advanced equipment [*11*] and a more rapid rate of improvement in the recovery of biomass byproducts from industrial processes (0.7 percent per year, as compared with 0.4 percent per year in the reference case). The same assumption is incorporated in the integrated high renewables case, which focuses on electricity generation. While the choice of 0.7-percent recovery is an assumption of the high technology case, it is based on the expectation that there would be higher recovery rates and substantially increased use of CHP in that case. Delivered energy intensity falls by 1.7 percent annually in the high technology case.

Transportation Sector Cases

In addition to the *AEO2007* reference case, two standalone cases using the Transportation Demand Module of NEMS were developed to examine the effects of less rapid technology change and adoption and more rapid technology change and adoption. For the transportation sector:

- The *2006 technology case* assumes that new vehicle fuel efficiencies remain constant at 2006 levels through the projection horizon, unless emissions and/or efficiency regulations require the implementation of technology that affects vehicle efficiency. For example, the new light truck CAFE standards require an increase in fuel economy through 2011, and increases in heavy truck emissions standards are required through 2010 [*12*]. As a result, the technology available for light truck efficiency improvement is frozen at 2011 levels, and the technology available to heavy trucks is frozen at 2010 levels.
- In the *high technology case*, the characteristics of light-duty conventional and alternative-fuel vehicles reflect more optimistic assumptions about incremental improvements in fuel economy and costs [*13*]. In the air travel sector, the high technology case reflects lower costs for improved thermodynamics, advanced aerodynamics, and weight-reducing materials. In the freight truck sector, the high technology case assumes more incremental improvement in fuel efficiency for engine and emissions control technologies [*14*]. More optimistic assumptions for fuel efficiency improvements are also made for the rail and shipping sectors.

Both cases were run with only the Transportation Demand Module rather than as fully integrated NEMS runs. Consequently, no potential macroeconomic

feedback on travel demand was captured, nor were changes in fuel prices incorporated.

Electricity Sector Cases

In addition to the reference case, four integrated cases with alternative electric power assumptions were developed to analyze uncertainties about the future costs and performance of new generating technologies. Two of the cases examine alternative assumptions for nuclear power technologies, and two examine alternative assumptions for fossil fuel technologies. Reference case values for technology characteristics are determined in consultation with industry and government specialists; however, there is always uncertainty surrounding newer, untested designs. The electricity cases analyze what could happen if costs of advanced designs were either higher or lower than assumed in the reference case. The cases are fully integrated to allow feedback between the potential shifts in fuel consumption and fuel prices.

Nuclear Technology Cases

- The cost assumptions for the *low nuclear cost case* reflect a 10-percent reduction in the capital and operating costs for advanced nuclear technology in 2030, relative to the reference case. The reference case projects a 17-percent reduction in the capital costs of nuclear power plants from 2006 to 2030. The low nuclear cost case assumes a 25-percent reduction between 2006 and 2030.
- The *high nuclear cost case* assumes that capital costs for the advanced nuclear technology do not decline during the projection period but remain fixed at the 2006 levels assumed in the reference case.

Fossil Technology Cases

- In the *high fossil technology case*, capital costs, heat rates, and operating costs for advanced coal and natural gas generating technologies are assumed to be 10 percent lower than reference case levels in 2030. Because learning is assumed to occur in the reference case, costs and performance in the high case are reduced from initial levels by more than 10 percent. Heat rates in the high fossil technology case fall to between 15 and 22 percent below initial levels, and capital costs are reduced by 20 to 24 percent between 2006 and 2030, depending on the technology.
- In the *low fossil technology case*, capital costs and heat rates for coal gasification combined-cycle units and advanced combustion turbine and combined-cycle units do not decline during the projection period but remain fixed at the 2006 values assumed in the reference case.

Details about annual capital costs, operating and maintenance costs, plant efficiencies, and other factors used in the high and low fossil technology cases are described in the detailed assumptions, which are available at web site www.eia.doe.gov/oiaf/aeo/assumption.

Renewable Fuels Cases

In addition to the *AEO2007* reference case, two integrated cases with alternative assumptions about renewable fuels were developed to examine the effects of less aggressive and more aggressive improvement in renewable technologies. Also included is an integrated case estimating the potential impacts of various State RPS or similar programs. The cases are as follows:

- In the *low renewables case*, capital costs, operating and maintenance costs, and performance levels for wind, solar, biomass, and geothermal resources are assumed to remain constant at 2007 levels through 2030.
- In the *high renewables case*, the levelized costs of energy for nonhydroelectric generating technologies using renewable resources are assumed to decline to 10 percent below the reference case costs for the same resources in 2030. For most renewable resources, lower costs are accomplished by reducing the capital costs of new plant construction. To reflect recent trends in wind energy cost reductions, however, it is assumed that wind plants ultimately achieve the 10-percent cost reduction through a combination of performance improvement (increased capacity factor) and capital cost reductions. Biomass supplies are also assumed to be 10 percent greater for each supply step. Other generating technologies and projection assumptions remain unchanged from those in the reference case. In the high renewables case, the rate of improvement in recovery of biomass byproducts from industrial processes is also increased.
- Many States have implemented RPS or similar renewable generation goals or mandates. Because of the significant variability among State programs and uncertainty regarding actual implementation provisions, the impacts of the programs are not

included in the *AEO2007* reference case. The *regional RPS case* examines the potential impact of the various State and regional RPS or RPS-like programs in place as of September 1, 2006. Program targets are aggregated as necessary, based on the electricity regions used in NEMS. The analysis assumes that limits on credit trading prices or other discretionary limits on requirements to comply using renewable generation are not limiting; however, statutory constraints on State financing of required renewable capacity are considered. Because of the regional representation of the RPS programs, it is assumed that otherwise eligible generation from anywhere within the primary electricity region serving an affected State will be allowed to satisfy the RPS obligation, but that generation from outside that region will not. In recognition of the tight market coupling between the ECAR and MAAC electricity regions (both of which are substantially served by the PJM Interconnect transmission market), wind energy resources in ECAR are assumed to serve RPS requirements in MAAC States (there are no RPS requirements in ECAR States not otherwise serving MAAC , but most MAAC States have RPS programs). Otherwise, all technology and market assumptions are the same as those in the *AEO2007* reference case.

Oil and Gas Supply Cases

Two alternative technology cases were created to assess the sensitivity of the projections to changes in the assumed rates of progress in oil and natural gas supply technologies. In addition, high and low LNG cases were developed to examine the impacts of variations in LNG imports on the domestic natural gas market. Two final cases examine the potential impacts of the lifting of current moratoria on oil and natural gas exploration and production (E&P) in specified areas of Alaska and the offshore.

- In the *rapid technology case*, the parameters representing the effects of technological progress on finding rates, drilling, lease equipment and operating costs, and success rates for conventional oil and natural gas drilling in the reference case are increased by 50 percent. A number of key E&P technologies for unconventional natural gas are also increased by 50 percent in the rapid technology case. Key Canadian supply parameters were also modified to simulate the assumed impacts of more rapid oil and natural gas technology penetration on the Canadian supply potential. All other parameters in the model are kept at the reference case values, including technology parameters for other modules, parameters affecting foreign oil supply, and assumptions about imports and exports of LNG and natural gas trade between the United States and Mexico. Specific detail by region and fuel category is presented in *Assumptions to the Annual Energy Outlook 2007*, which will be available at web site www.eia.doe.gov/oiaf/aeo/assumption in early 2007.
- In the *slow technology case*, the parameters representing the effects of technological progress on finding rates, drilling, lease equipment and operating costs, and success rates for conventional oil and natural gas drilling in the *AEO2007* reference case are reduced by 50 percent. A number of key E&P technologies for unconventional natural gas are also reduced by 50 percent in the slow technology case. Key Canadian supply parameters are also modified to simulate the assumed impacts of slow oil and natural gas technology penetration on Canadian supply potential. All other parameters in the model are kept at the reference case values.
- The *high LNG case* exogenously specifies LNG imports at levels 30 percent higher than projected in the low price case. The intent is to project the potential impact on domestic markets if LNG imports turn out to be higher than projected in the reference case.
- The *low LNG case* exogenously specifies LNG imports at levels 30 percent lower than projected in the high price case. The intent is to project the potential impact on domestic markets if LNG imports turn out to be lower than projected in the reference case.
- The *OCS access case* assumes that current moratoria on oil and natural gas exploration and development drilling in the Atlantic, Pacific, and Eastern Gulf of Mexico Federal Outer Continental Shelf will expire in 2012. The *AEO2007* reference case assumes that the moratoria will continue throughout the projection period.
- The *ANWR case* assumes that the U.S. Congress will approve leasing on Federal lands in the 1002 area of the Arctic National Wildlife Refuge for oil and natural gas E&P. In the reference case, drilling is not allowed in the 1002 area.

Petroleum Market Cases

In addition to the *AEO2007* reference case, two additional integrated cases were developed to evaluate the impacts of more optimistic assumptions about biomass supplies and progress in the development of cellulosic ethanol technologies on the production and use of cellulosic ethanol. Two ethanol cases were analyzed.

- The *lower cost ethanol, reference energy price case* uses the energy prices from the *AEO2007* reference case.
- The *lower cost ethanol, high energy price case* uses the energy prices from the *AEO2007* high price case.

In each case, it is assumed that technological progress reduces the reference case capital cost of cellulosic ethanol technology in 2018 by about 27 percent and the operating costs in 2018 by about 20 percent from their reference case values in 2012. As in the high renewables case, the supply curve for cellulosic ethanol is shifted in each projection year relative to the reference case, making larger quantities of cellulose available at any given price earlier than in the reference case. It is also assumed that Federal policies will increase the market penetration of flex-fuel vehicles beyond 80 percent of all new light-duty vehicles sold by 2016, that E85 fuel dispensing availability will increase as E85 becomes cost competitive, and that consumers will base their fuel purchase decisions on the relative economics and availability of E85 and gasoline.

Coal Market Cases

Two alternative coal cost cases examine the impacts on U.S. coal supply, demand, distribution, and prices that result from alternative assumptions about mining productivity, labor costs, and mine equipment costs on the production side, and railroad productivity and rail equipment costs on the transportation side. The alternative productivity and cost assumptions are applied in every year from 2007 through 2030. For the coal cost cases, adjustments to the reference case assumptions for coal mining and railroad productivity are based on variations in growth rates observed in the data for those industries since 1980. The low and high coal cost cases represent fully integrated NEMS runs, with feedback from the macroeconomic activity, international, supply, conversion, and end-use demand modules.

- In the *low coal cost case*, average annual productivity growth rates for coal mining and railroad productivity are 2.9 percent and 2.3 percent higher, respectively, than in the *AEO2007* reference case. On the mining side, adjustments to reference case productivity are applied at the supply curve level, while adjustments to railroad productivity are made at the regional level. Coal mining wages and mine equipment costs, which remain constant in real dollars in the reference case, are assumed to decline by approximately 1.0 percent per year in real terms in the low coal cost case. Railroad equipment costs, which are projected to decrease by 0.2 percent per year in constant dollars in the reference case, are assumed to decrease at a faster rate of 1.2 percent per year.
- In the *high coal cost case*, average annual productivity growth rates for coal mining and railroad productivity are 2.9 percent and 2.3 percent lower, respectively, than in the *AEO2007* reference case. Coal mining wages and mine equipment costs are assumed to increase by approximately 1.0 percent per year in real terms. Railroad equipment costs are assumed to increase by 0.7 percent per year.

Additional details about the productivity, wage, and equipment cost assumptions for the reference and alternative coal cost cases are provided in Appendix D.

Integrated Technology Cases

In addition to the sector-specific cases described above, two technology cases combine the assumptions from other technology cases to analyze the impacts of more rapid and slower technology improvement rates.

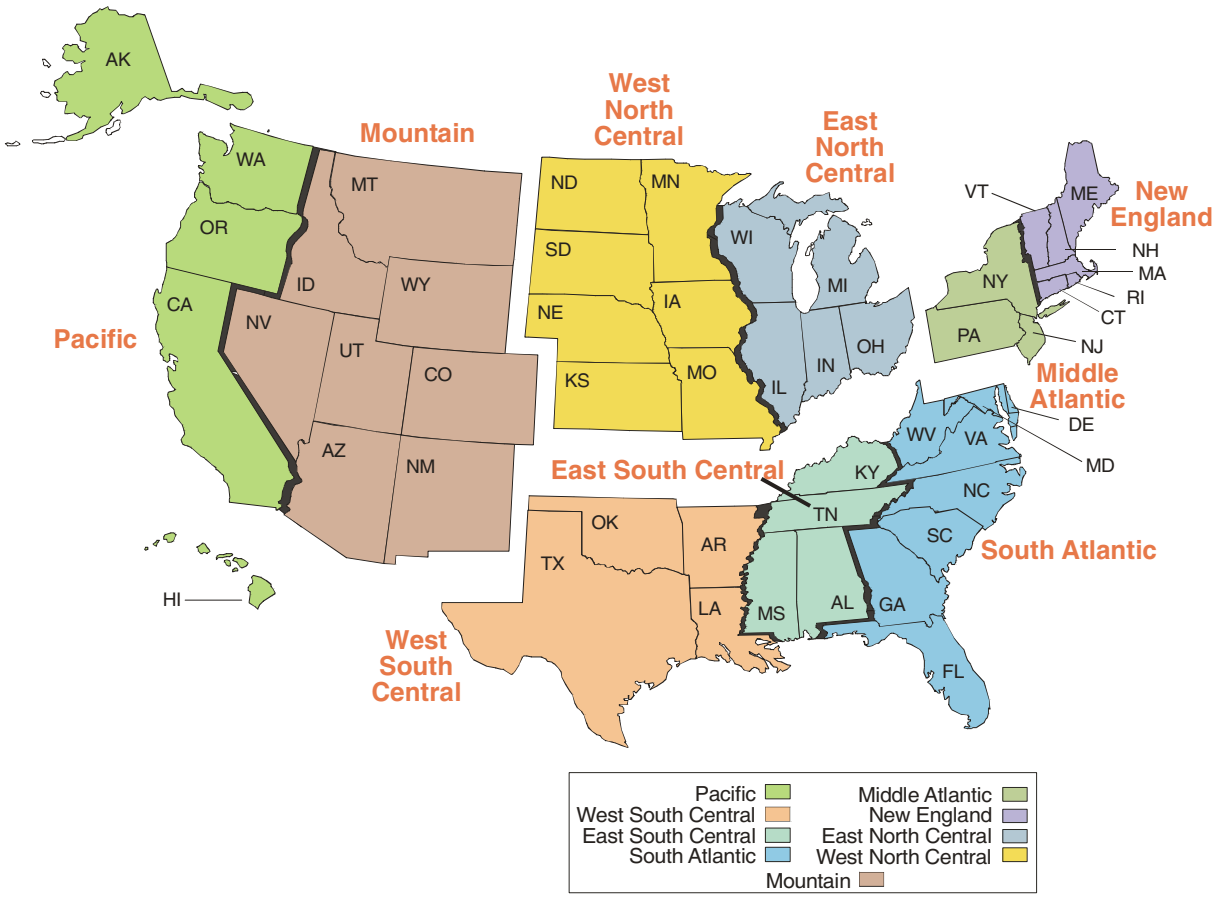
- The *integrated 2006 technology case* combines the assumptions from the residential, commercial, industrial, and transportation 2006 technology cases, the electricity low fossil technology case, the low renewables case, and the high nuclear cost case.
- The *integrated high technology case* combines the assumptions from the residential, commercial, industrial, and transportation high technology cases, the electricity high fossil technology case, the high renewables case, and the low nuclear cost case.

Endnotes

1. Energy Information Administration, The *National Energy Modeling System: An Overview 2003*, DOE/EIA-0581(2003) (Washington, DC, March 2003).
2. Energy Information Administration, *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006).
3. Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2005*, DOE/EIA-0573(2005) (Washington, DC, November 2006).
4. Energy Information Administration, *Short-Term Energy Outlook*, web site www.eia.doe.gov/emeu/steo/pub/contents.html. Portions of the preliminary information were also used to initialize the NEMS Petroleum Market Module projection.
5. Jet Information Services, Inc., *World Jet Inventory Year-End 2003* (Woodinville, WA, March 2004); and personal communication from Bill Francoins (Jet Information Services) and Thomas C. Hoang (Boeing).
6. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2007*, DOE/EIA-0554 (2007) (Washington, DC, to be published).
7. The hurdle rate for a CTL plant is assumed to be 12.3 percent because of the higher economic risk associated with the technology.
8. For gasoline blended with ethanol, the tax credit of 51 cents (nominal) per gallon of ethanol is assumed to be extended through 2030, based on the fact that the ethanol tax credit has been continuously in force for the past 25 years and was recently extended from 2007 to 2010 by the American Jobs Creation Act of 2004.
9. High technology assumptions are based on Energy Information Administration, *EIA—Technology Forecast Updates—Residential and Commercial Building Technologies—Advanced Adoption Case* (Navigant Consulting, Inc., September 2004) and *EIA—Technology Forecast—Residential and Commercial Building Technologies—Advanced Case Residential and Commercial Llighting, Ccommercial Rrefrigeration, and Commercial Ventilation Technologies* (Navigant Consulting, Inc., January 2006).
10. High technology assumptions are based on Energy Information Administration, *EIA—Technology Forecast Updates—Residential and Commercial Building Technologies—Advanced Adoption Case* (Navigant Consulting, Inc., September 2004) and *EIA—Technology Forecast—Residential and Commercial Building Technologies—Advanced Case Residential and Commercial Lighting, Commercial Refrigeration, and Commercial Ventilation Technologies* (Navigant Consulting, Inc., January 2006).
11. These assumptions are based in part on Energy Information Administration, *Industrial Technology and Data Analysis Supporting the NEMS Industrial Model* (FOCIS Associates, October 2005).
12. National Highway Traffic Safety Administration, *Average Fuel Economy Standards for Light Trucks Model Years 2008-2011*, 49 CFR Parts 523, 533, and 537, Docket No. 2005-22223, RIN 2127-AJ61 (Washington, DC, August 2005).
13. Energy Information Administration, *Documentation of Technologies Included in the NEMS Fuel Economy Model for Passenger Cars and Light Trucks* (Energy and Environmental Analysis, September 2003).
14. A. Vyas, C. Saricks, and F. Stodolsky, *Projected Effect of Future Energy Efficiency and Emissions Improving Technologies on Fuel Consumption of Heavy Trucks* (Argonne, IL: Argonne National Laboratory, 2001).

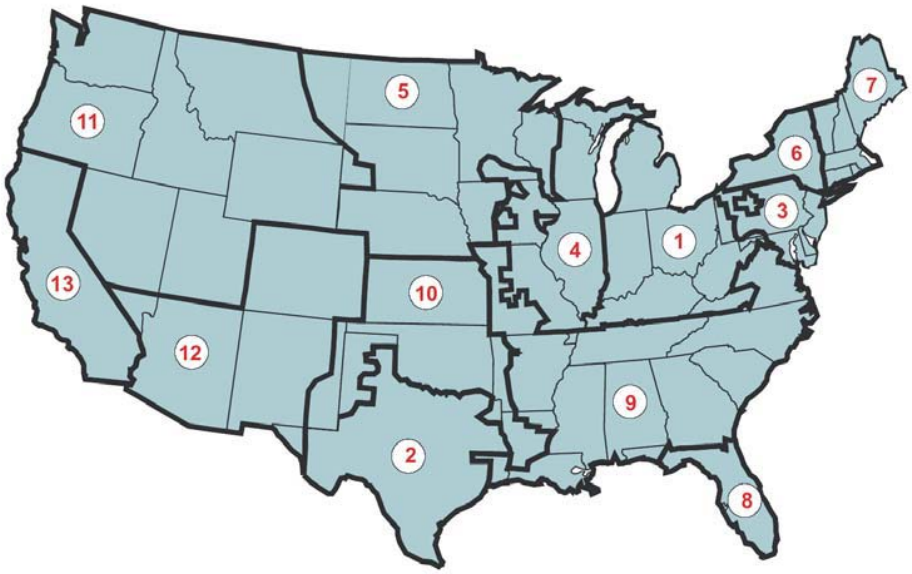
Regional Maps

F1. United States Census Divisions



Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F2. Electricity Market Module Regions



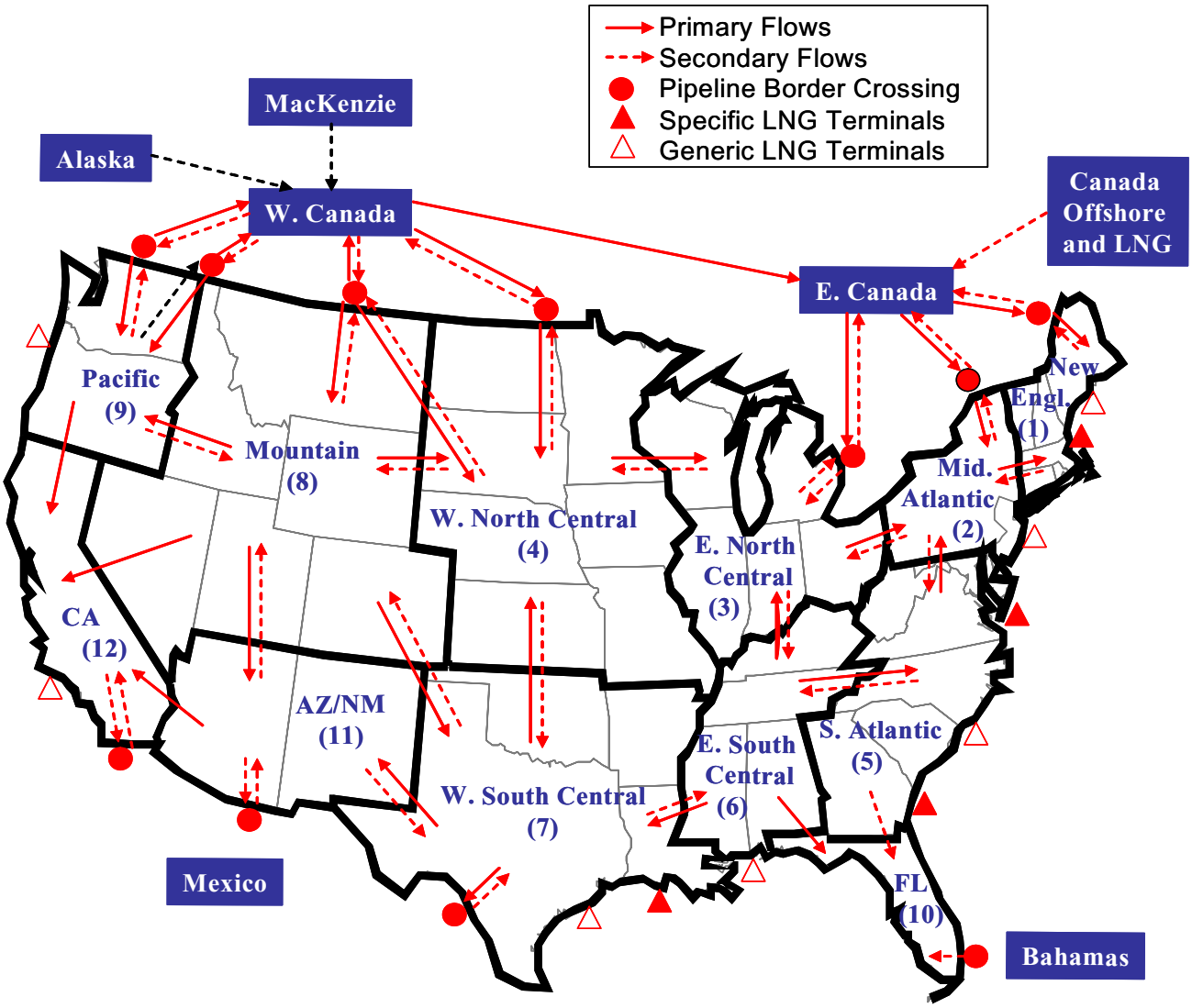
1 East Central Area Reliability Coordination Agreement (ECAR)
2 Electric Reliability Council of Texas (ERCOT)
3 Mid-Atlantic Area Council (MAAC)
4 Mid-America Interconnected Network (MAIN)
5 Mid-Continent Area Power Pool (MAPP)
6. New York (NY) Southern Nevada (RA)
7. New England (NE)
8 Florida Reliability Coordinating Council (FL)
9 Southeastern Electric Reliability Council (SERC)
10 Southwest Power Pool (SPP)
11 Northwest Power Pool (NWP)
12. Rocky Mountain Power Area, Arizona, New Mexico,
13 California (CA)

Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F3. Oil and Gas Supply Model Regions

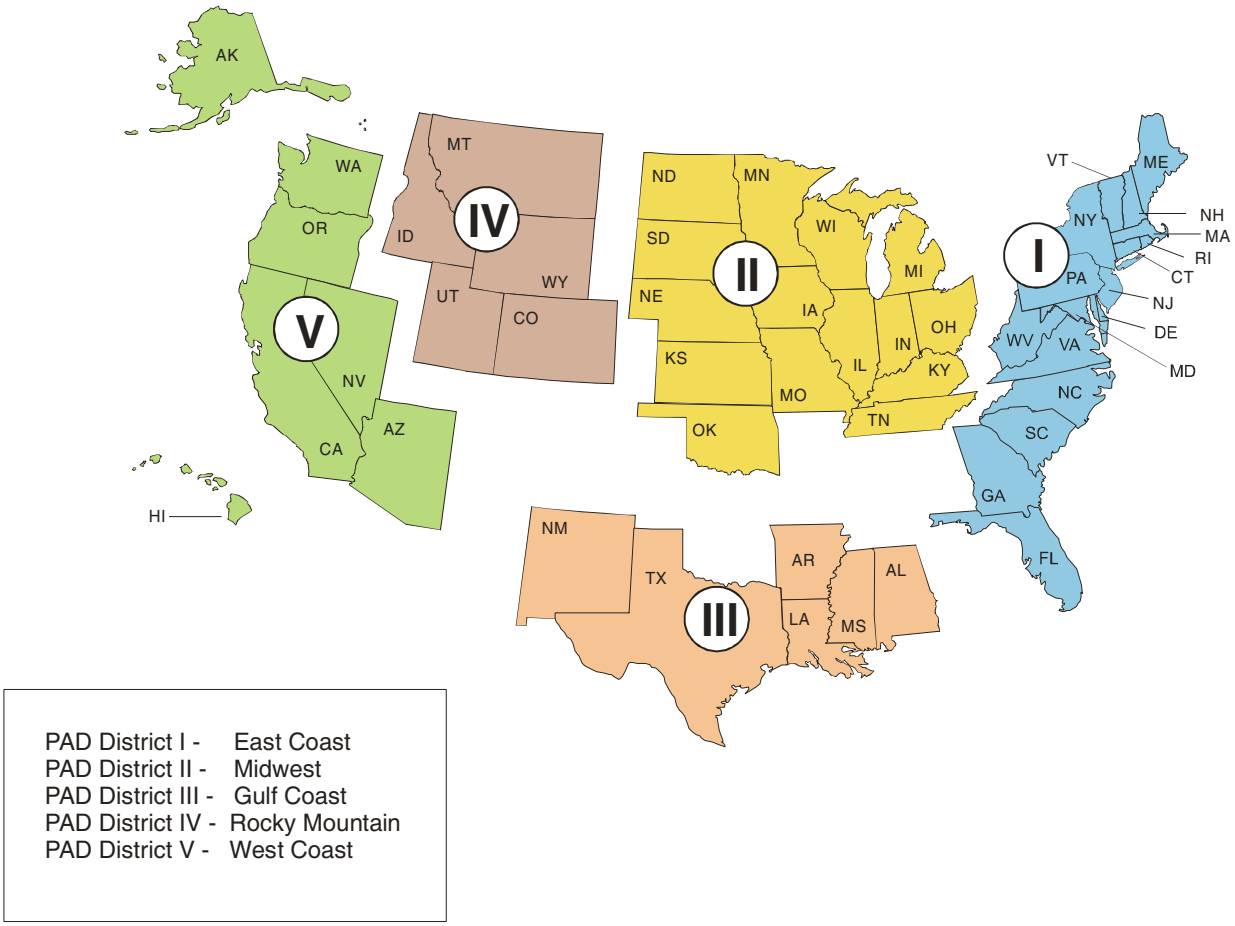
Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F4. Natural Gas Transmission and Distribution Model Regions



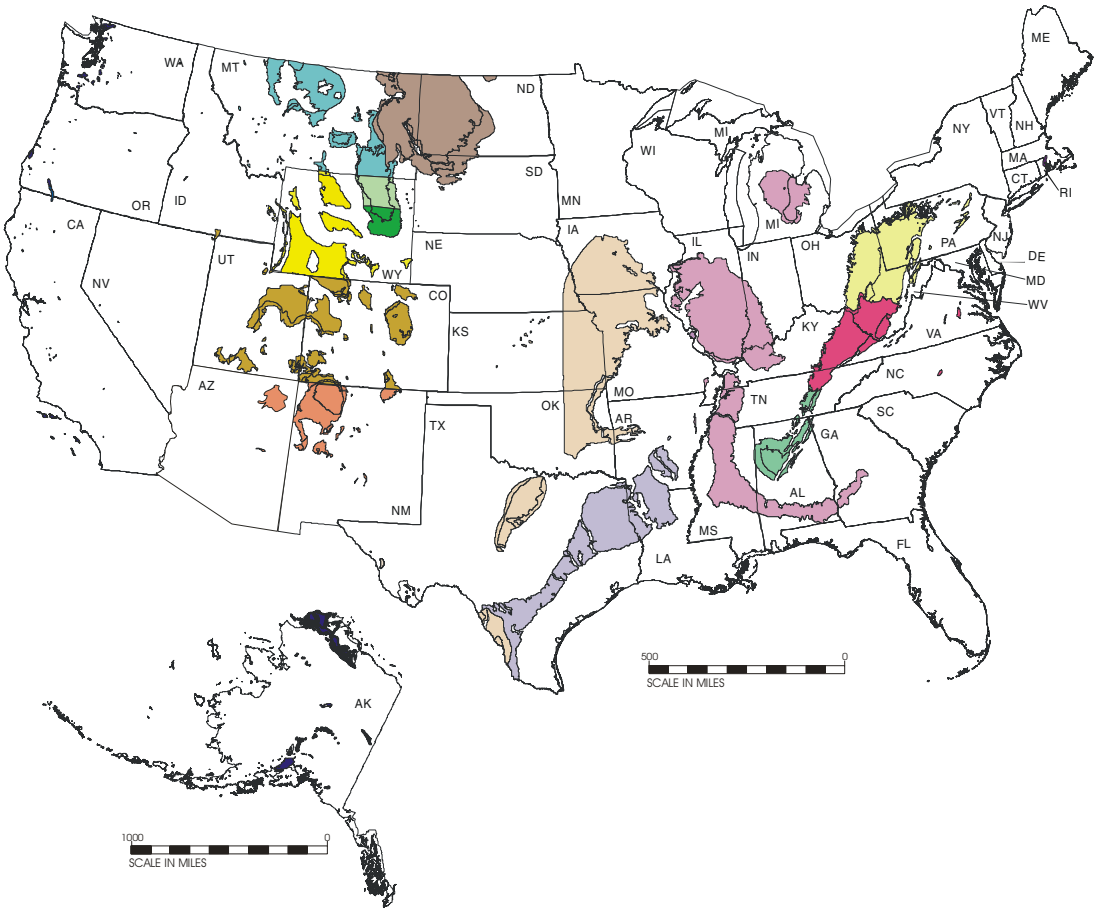
Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F5. Petroleum Administration for Defense Districts



Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F6. Coal Supply Regions



APPALACHIA
- Northern Appalachia
- Central Appalachia
- Southern Appalachia

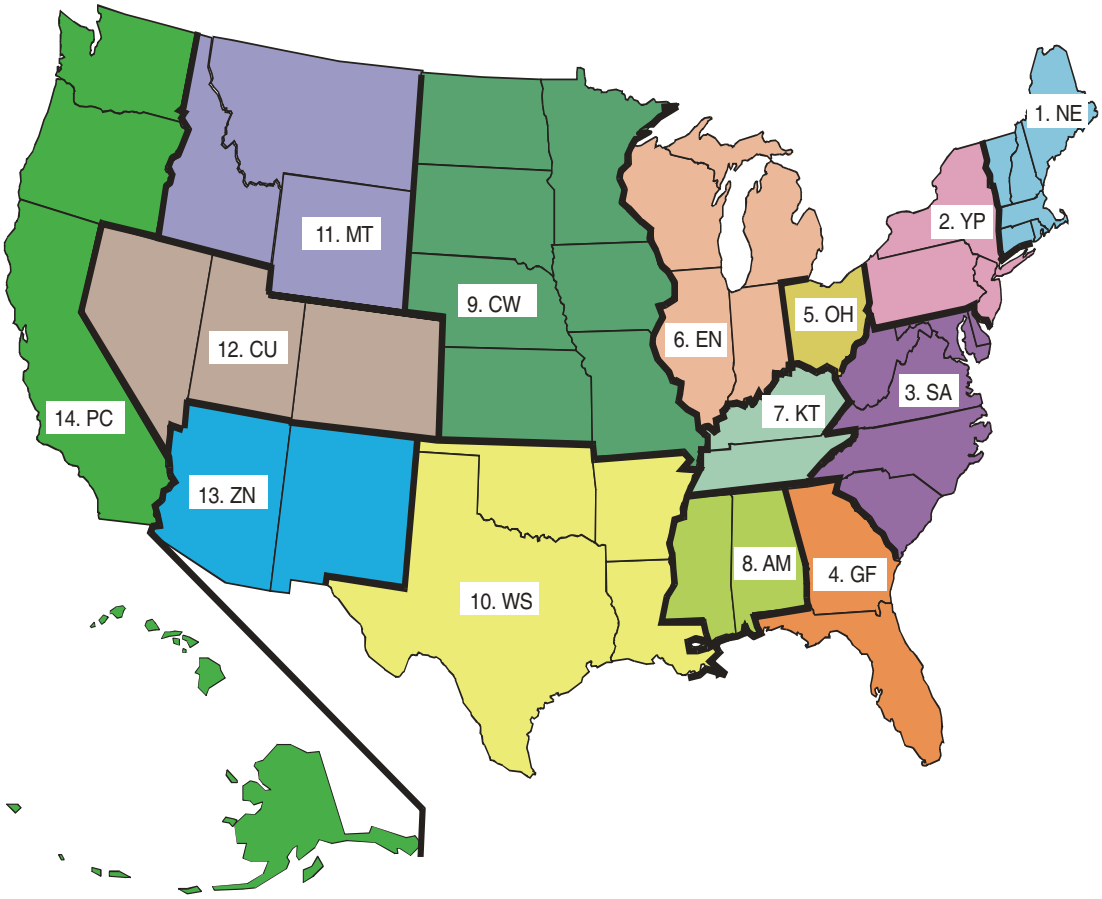
INTERIOR
- Eastern Interior
- Western Interior
- Gulf Lignite

NORTHERN GREAT PLAINS
- Dakota Lignite
- Western Montana
- Wyoming, Northern Powder River Basin
- Wyoming, Southern Powder River Basin
- Western Wyoming

OTHER WEST
- Rocky Mountain
- Southwest
- Northwest

Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F7. Coal Demand Regions



Region Code	Region Content
1. NE	CT,MA,ME,NH,RI,VT
2. YP	NY,PA,NJ
3. SA	WV,MD,DC,DE,VA,NC,SC
4. GF	GA,FL
5. OH	OH
6. EN	IN,IL,MI,WI
7. KT	KY,TN

Region Code	Region Content
8. AM	AL,MS
9. CW	MN,IA,ND,SD,NE,MO,KS
10. WS	TX,LA,OK,AR
11. MT	MT,WY,ID
12. CU	CO,UT,NV
13. ZN	AZ,NM
14. PC	AK,HI,WA,OR,CA

Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

Appendix G
Conversion Factors

Table G1. Heat Rates

Fuel	Units	Approximate Heat Content
Coal[1]		
Production	million Btu per short ton	20.363
Consumption	million Btu per short ton	20.231
Coke Plants	million Btu per short ton	26.291
Industrial	million Btu per short ton	22.178
Residential and Commercial	million Btu per short ton	22.264
Electric Power Sector	million Btu per short ton	19.970
Imports	million Btu per short ton	25.009
Exports	million Btu per short ton	25.431
Coal Coke	million Btu per short ton	24.800
Crude Oil		
Production	million Btu per barrel	5.800
Imports[1]	million Btu per barrel	5.977
Petroleum Products		
Consumption[1]	million Btu per barrel	5.373
Motor Gasoline[1]	million Btu per barrel	5.218
Jet Fuel	million Btu per barrel	5.670
Distillate Fuel Oil[1]	million Btu per barrel	5.799
Residual Fuel Oil	million Btu per barrel	6.287
Liquefied Petroleum Gas[1]	million Btu per barrel	3.620
Kerosene	million Btu per barrel	5.670
Petrochemical Feedstocks[1]	million Btu per barrel	5.523
Unfinished Oils	million Btu per barrel	5.825
Imports[1]	million Btu per barrel	5.496
Exports[1]	million Btu per barrel	5.741
Natural Gas Plant Liquids		
Production[1]	million Btu per barrel	3.724
Natural Gas[1]		
Production, Dry	Btu per cubic foot	1,030
Consumption	Btu per cubic foot	1,030
End-Use Sectors	Btu per cubic foot	1,030
Electric Power Sector	Btu per cubic foot	1,029
Imports	Btu per cubic foot	1,024
Exports	Btu per cubic foot	1,009
Electricity Consumption	Btu per kilowatthour	3,412

Btu = British thermal unit.

[1]Conversion factors vary from year to year. Values correspond to those published by EIA for 2005 and may differ slightly from model results.

Sources: Energy Information Administration (EIA), *Annual Energy Review 2005*, DOE/EIA-0384(2005) (Washington, DC, July 2006), and EIA, AEO2007 National Energy Modeling System run AEO2007.D112106A.