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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Production								
Crude Oil and Lease Condensate	10.99	10.80	12.76	13.25	13.40	12.99	12.04	0.5%
Natural Gas Plant Liquids	2.33	2.36	2.27	2.29	2.31	2.17	2.11	-0.5%
Dry Natural Gas	18.60	19.04	19.85	20.08	20.24	20.17	20.00	0.2%
Coal[1]	23.19	23.79	23.97	24.48	25.20	26.85	28.63	0.8%
Nuclear Power	8.16	8.21	8.31	8.41	9.05	9.50	9.57	0.6%
Hydropower	2.70	2.89	2.92	2.99	3.00	3.00	3.00	0.2%
Biomass[2]	2.79	2.94	4.05	5.12	6.42	8.00	8.12	4.3%
Other Renewable Energy[3]	0.67	0.88	1.51	1.75	2.00	2.25	2.45	4.4%
Other[4]	0.36	0.50	0.54	0.58	0.58	0.61	0.64	1.1%
Total	**69.80**	**71.41**	**76.17**	**78.96**	**82.21**	**85.53**	**86.56**	**0.8%**
Imports								
Crude Oil	22.09	22.08	21.14	21.80	21.58	22.38	24.41	0.4%
Liquid Fuels and Other Petroleum[5]	7.23	7.21	5.61	5.34	5.43	5.28	5.44	-1.2%
Natural Gas	4.45	4.29	4.80	5.12	4.68	4.63	4.64	0.3%
Other Imports[6]	0.85	0.98	0.95	1.04	1.93	2.23	2.74	4.4%
Total	**34.62**	**34.57**	**32.49**	**33.31**	**33.62**	**34.52**	**37.22**	**0.3%**
Exports								
Petroleum[7]	2.32	2.60	2.82	2.91	2.98	3.17	3.33	1.0%
Natural Gas	0.74	0.73	0.84	0.97	1.02	1.25	1.36	2.6%
Coal	1.27	1.26	1.79	1.14	0.87	0.90	0.88	-1.5%
Total	**4.32**	**4.59**	**5.45**	**5.03**	**4.87**	**5.32**	**5.56**	**0.8%**
Discrepancy[8]	**0.01**	**1.87**	**-0.13**	**-0.01**	**0.12**	**0.19**	**0.21**	**- -**
Consumption								
Liquid Fuels and Other Petroleum[9]	40.47	40.06	40.46	41.80	42.24	42.78	43.99	0.4%
Natural Gas	22.65	22.30	23.93	24.35	24.01	23.66	23.39	0.2%
Coal[10]	22.78	22.50	23.03	24.19	25.87	27.75	29.90	1.2%
Nuclear Power	8.16	8.21	8.31	8.41	9.05	9.50	9.57	0.6%
Hydropower	2.70	2.89	2.92	2.99	3.00	3.00	3.00	0.2%
Biomass[11]	2.45	2.50	3.01	3.60	4.50	5.42	5.51	3.3%
Other Renewable Energy[3]	0.67	0.88	1.51	1.75	2.00	2.25	2.45	4.4%
Other[12]	0.21	0.19	0.18	0.17	0.17	0.18	0.20	0.3%
Total	**100.08**	**99.52**	**103.34**	**107.26**	**110.85**	**114.54**	**118.01**	**0.7%**

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Prices (2006 dollars per unit)								
Petroleum (dollars per barrel)								
Imported Low Sulfur Light Crude Oil Price[13]	58.28	66.02	74.03	59.85	59.70	64.49	70.45	0.3%
Imported Crude Oil Price[13]	50.40	59.05	65.18	52.03	51.55	55.68	58.66	-0.0%
Natural Gas (dollars per million Btu)								
Price at Henry Hub	8.93	6.73	6.90	5.87	5.95	6.39	7.22	0.3%
Wellhead Price[14]	7.62	6.24	6.16	5.21	5.29	5.69	6.45	0.1%
Natural Gas (dollars per thousand cubic feet)								
Wellhead Price[14]	7.85	6.42	6.33	5.36	5.44	5.86	6.63	0.1%
Coal (dollars per ton)								
Minemouth Price[15]	24.08	24.63	26.16	23.38	22.51	22.75	23.32	-0.2%
Coal (dollars per million Btu)								
Minemouth Price[15]	1.18	1.21	1.28	1.17	1.14	1.16	1.19	-0.1%
Average Delivered Price[16]	1.67	1.78	1.93	1.80	1.77	1.78	1.82	0.1%
Average Electricity Price (cents per kilowatthour)	8.4	8.9	9.2	8.5	8.6	8.7	8.8	-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; biogenic municipal 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 non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[6]Includes coal, coal coke (net), and electricity (net).
[7]Includes crude oil and petroleum products.
[8]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[9]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol, biodiesel, and coal-based synthetic liquids. 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.
[10]Excludes coal converted to coal-based synthetic liquids.
[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 non-biogenic municipal waste and 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 natural gas supply values: Energy Information Administration (EIA), *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 natural gas wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2005 and 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values and 2005 crude oil and lease condensate production: EIA, *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Other 2005 petroleum supply values: EIA, *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2005 and 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 and 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2005 and 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Energy Consumption								
Residential								
Liquefied Petroleum Gases	0.50	0.47	0.48	0.50	0.52	0.54	0.55	0.7%
Kerosene	0.09	0.07	0.08	0.08	0.08	0.08	0.08	0.5%
Distillate Fuel Oil	0.85	0.70	0.75	0.75	0.73	0.69	0.65	-0.3%
Liquid Fuels and Other Petroleum Subtotal	1.45	1.25	1.31	1.33	1.33	1.31	1.29	0.1%
Natural Gas	4.97	4.50	4.95	5.16	5.30	5.35	5.32	0.7%
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-0.4%
Renewable Energy[1]	0.45	0.41	0.44	0.42	0.40	0.39	0.38	-0.3%
Electricity	4.64	4.61	4.95	5.02	5.25	5.53	5.88	1.0%
Delivered Energy	**11.52**	**10.77**	**11.66**	**11.95**	**12.30**	**12.58**	**12.88**	**0.7%**
Electricity Related Losses	10.12	10.04	10.59	10.61	11.08	11.57	12.14	0.8%
Total	**21.64**	**20.82**	**22.25**	**22.56**	**23.39**	**24.15**	**25.01**	**0.8%**
Commercial								
Liquefied Petroleum Gases	0.09	0.08	0.09	0.09	0.09	0.09	0.09	0.6%
Motor Gasoline[2]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.4%
Kerosene	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.2%
Distillate Fuel Oil	0.45	0.42	0.38	0.41	0.41	0.42	0.41	-0.0%
Residual Fuel Oil	0.12	0.11	0.10	0.10	0.10	0.10	0.10	-0.4%
Liquid Fuels and Other Petroleum Subtotal	0.72	0.68	0.63	0.67	0.68	0.68	0.68	0.0%
Natural Gas	3.09	2.92	3.04	3.29	3.47	3.63	3.78	1.1%
Coal	0.09	0.08	0.08	0.08	0.08	0.08	0.08	-0.1%
Renewable Energy[3]	0.13	0.13	0.13	0.13	0.13	0.13	0.13	- -
Electricity	4.35	4.43	4.73	5.19	5.67	6.15	6.62	1.7%
Delivered Energy	**8.38**	**8.25**	**8.62**	**9.37**	**10.03**	**10.67**	**11.30**	**1.3%**
Electricity Related Losses	9.50	9.66	10.12	10.98	11.96	12.87	13.68	1.5%
Total	**17.87**	**17.91**	**18.74**	**20.34**	**21.98**	**23.54**	**24.98**	**1.4%**
Industrial[4]								
Liquefied Petroleum Gases	2.07	2.09	2.12	1.97	1.83	1.74	1.71	-0.8%
Motor Gasoline[2]	0.37	0.38	0.38	0.37	0.37	0.38	0.38	0.1%
Distillate Fuel Oil	1.26	1.28	1.29	1.25	1.23	1.22	1.23	-0.2%
Residual Fuel Oil	0.28	0.28	0.28	0.25	0.23	0.23	0.23	-0.9%
Petrochemical Feedstocks	1.41	1.41	1.36	1.45	1.39	1.33	1.29	-0.4%
Other Petroleum[5]	4.39	4.48	4.25	4.30	4.22	4.25	4.41	-0.1%
Liquid Fuels and Other Petroleum Subtotal	9.79	9.92	9.67	9.60	9.27	9.15	9.25	-0.3%
Natural Gas	6.79	6.68	7.16	7.21	7.14	7.17	7.08	0.2%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Lease and Plant Fuel[6]	1.14	1.17	1.21	1.22	1.25	1.27	1.27	0.3%
Natural Gas Subtotal	7.93	7.85	8.37	8.43	8.39	8.44	8.35	0.3%
Metallurgical Coal	0.62	0.60	0.60	0.54	0.54	0.52	0.48	-0.9%
Other Industrial Coal	1.28	1.26	1.31	1.22	1.20	1.19	1.18	-0.3%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.13	0.34	0.39	0.55	- -
Net Coal Coke Imports	0.04	0.06	0.03	0.03	0.04	0.04	0.04	-1.8%
Coal Subtotal	1.94	1.92	1.93	1.92	2.11	2.14	2.26	0.7%
Biofuels Heat and Coproducts	0.24	0.30	0.67	1.00	1.49	2.28	2.31	8.9%
Renewable Energy[7]	1.64	1.69	1.66	1.75	1.83	1.93	2.02	0.7%
Electricity	3.48	3.42	3.50	3.61	3.59	3.55	3.52	0.1%
Delivered Energy	**25.03**	**25.10**	**25.82**	**26.31**	**26.70**	**27.50**	**27.70**	**0.4%**
Electricity Related Losses	7.59	7.45	7.50	7.63	7.57	7.43	7.28	-0.1%
Total	**32.62**	**32.55**	**33.32**	**33.93**	**34.27**	**34.93**	**34.98**	**0.3%**

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

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Transportation								
Liquefied Petroleum Gases	0.01	0.02	0.02	0.01	0.01	0.01	0.01	-1.0%
E85[8]	0.00	0.00	0.00	0.18	0.97	1.42	1.34	33.5%
Motor Gasoline[2]	17.02	17.20	17.25	17.46	16.56	15.83	15.97	-0.3%
Jet Fuel[9]	3.22	3.16	3.44	3.82	4.15	4.48	4.79	1.8%
Distillate Fuel Oil[10]	5.99	6.18	6.54	7.13	7.63	8.25	8.98	1.6%
Residual Fuel Oil	0.83	0.83	0.85	0.85	0.86	0.86	0.87	0.2%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.8%
Other Petroleum[11]	0.19	0.18	0.17	0.18	0.18	0.18	0.18	0.0%
Liquid Fuels and Other Petroleum Subtotal	27.26	27.57	28.29	29.63	30.37	31.03	32.15	0.6%
Pipeline Fuel Natural Gas	0.60	0.59	0.64	0.66	0.69	0.72	0.72	0.8%
Compressed Natural Gas	0.02	0.02	0.04	0.06	0.07	0.08	0.08	6.0%
Electricity	0.02	0.02	0.02	0.02	0.03	0.03	0.03	1.3%
Delivered Energy	**27.90**	**28.20**	**28.98**	**30.37**	**31.15**	**31.86**	**32.98**	**0.7%**
Electricity Related Losses	0.05	0.05	0.05	0.05	0.06	0.06	0.06	1.1%
Total	**27.95**	**28.25**	**29.03**	**30.42**	**31.21**	**31.92**	**33.04**	**0.7%**
Delivered Energy Consumption for All Sectors								
Liquefied Petroleum Gases	2.68	2.65	2.70	2.57	2.45	2.39	2.37	-0.5%
E85[8]	0.00	0.00	0.00	0.18	0.97	1.42	1.34	33.5%
Motor Gasoline[2]	17.44	17.62	17.68	17.89	16.99	16.26	16.40	-0.3%
Jet Fuel[9]	3.22	3.16	3.44	3.82	4.15	4.48	4.79	1.8%
Kerosene	0.14	0.11	0.12	0.12	0.13	0.13	0.13	0.4%
Distillate Fuel Oil	8.56	8.59	8.97	9.55	10.00	10.58	11.28	1.1%
Residual Fuel Oil	1.22	1.23	1.23	1.21	1.19	1.19	1.20	-0.1%
Petrochemical Feedstocks	1.41	1.41	1.36	1.45	1.39	1.33	1.29	-0.4%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.8%
Other Petroleum[12]	4.55	4.64	4.40	4.45	4.38	4.41	4.56	-0.1%
Liquid Fuels and Other Petroleum Subtotal	39.23	39.41	39.90	41.23	41.65	42.17	43.37	0.4%
Natural Gas	14.86	14.12	15.19	15.72	15.98	16.22	16.27	0.6%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Lease and Plant Fuel[6]	1.14	1.17	1.21	1.22	1.25	1.27	1.27	0.3%
Pipeline Natural Gas	0.60	0.59	0.64	0.66	0.69	0.72	0.72	0.8%
Natural Gas Subtotal	16.61	15.88	17.04	17.60	17.93	18.22	18.26	0.6%
Metallurgical Coal	0.62	0.60	0.60	0.54	0.54	0.52	0.48	-0.9%
Other Coal	1.38	1.35	1.40	1.31	1.29	1.28	1.27	-0.3%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.13	0.34	0.39	0.55	- -
Net Coal Coke Imports	0.04	0.06	0.03	0.03	0.04	0.04	0.04	-1.8%
Coal Subtotal	2.04	2.01	2.03	2.01	2.21	2.23	2.35	0.6%
Biofuels Heat and Coproducts	0.24	0.30	0.67	1.00	1.49	2.28	2.31	8.9%
Renewable Energy[13]	2.22	2.23	2.23	2.29	2.37	2.45	2.52	0.5%
Electricity	12.49	12.49	13.20	13.85	14.54	15.26	16.05	1.1%
Delivered Energy	**72.82**	**72.32**	**75.08**	**77.99**	**80.18**	**82.61**	**84.86**	**0.7%**
Electricity Related Losses	27.26	27.19	28.26	29.27	30.67	31.93	33.16	0.8%
Total	**100.08**	**99.52**	**103.34**	**107.26**	**110.85**	**114.54**	**118.01**	**0.7%**
Electric Power[14]								
Distillate Fuel Oil	0.21	0.18	0.18	0.18	0.20	0.21	0.23	0.9%
Residual Fuel Oil	1.03	0.46	0.38	0.39	0.39	0.40	0.40	-0.6%
Liquid Fuels and Other Petroleum Subtotal	1.24	0.64	0.56	0.57	0.59	0.61	0.63	-0.1%
Natural Gas	6.04	6.42	6.89	6.75	6.09	5.45	5.13	-0.9%
Steam Coal	20.74	20.48	21.01	22.18	23.67	25.51	27.55	1.2%
Nuclear Power	8.16	8.21	8.31	8.41	9.05	9.50	9.57	0.6%
Renewable Energy[15]	3.49	3.74	4.53	5.05	5.64	5.94	6.13	2.1%
Electricity Imports	0.08	0.06	0.05	0.04	0.04	0.05	0.08	1.0%
Total[16]	**39.73**	**39.68**	**41.46**	**43.12**	**45.21**	**47.19**	**49.21**	**0.9%**

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

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Total Energy Consumption								
Liquefied Petroleum Gases	2.68	2.65	2.70	2.57	2.45	2.39	2.37	-0.5%
E85[8]	0.00	0.00	0.00	0.18	0.97	1.42	1.34	33.5%
Motor Gasoline[2]	17.44	17.62	17.68	17.89	16.99	16.26	16.40	-0.3%
Jet Fuel[9]	3.22	3.16	3.44	3.82	4.15	4.48	4.79	1.8%
Kerosene	0.14	0.11	0.12	0.12	0.13	0.13	0.13	0.4%
Distillate Fuel Oil	8.76	8.77	9.15	9.73	10.20	10.79	11.51	1.1%
Residual Fuel Oil	2.26	1.69	1.60	1.59	1.58	1.59	1.60	-0.2%
Petrochemical Feedstocks	1.41	1.41	1.36	1.45	1.39	1.33	1.29	-0.4%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.8%
Other Petroleum[12]	4.55	4.64	4.40	4.45	4.38	4.41	4.56	-0.1%
Liquid Fuels and Other Petroleum Subtotal	40.47	40.06	40.46	41.80	42.24	42.78	43.99	0.4%
Natural Gas	20.90	20.54	22.08	22.47	22.07	21.67	21.40	0.2%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Lease and Plant Fuel[6]	1.14	1.17	1.21	1.22	1.25	1.27	1.27	0.3%
Pipeline Natural Gas	0.60	0.59	0.64	0.66	0.69	0.72	0.72	0.8%
Natural Gas Subtotal	22.65	22.30	23.93	24.35	24.01	23.66	23.39	0.2%
Metallurgical Coal	0.62	0.60	0.60	0.54	0.54	0.52	0.48	-0.9%
Other Coal	22.12	21.83	22.41	23.49	24.96	26.79	28.82	1.2%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.13	0.34	0.39	0.55	- -
Net Coal Coke Imports	0.04	0.06	0.03	0.03	0.04	0.04	0.04	-1.8%
Coal Subtotal	22.78	22.49	23.03	24.19	25.87	27.75	29.90	1.2%
Nuclear Power	8.16	8.21	8.31	8.41	9.05	9.50	9.57	0.6%
Biofuels Heat and Coproducts	0.24	0.30	0.67	1.00	1.49	2.28	2.31	8.9%
Renewable Energy[17]	5.71	5.97	6.76	7.34	8.01	8.39	8.66	1.6%
Electricity Imports	0.08	0.06	0.05	0.04	0.04	0.05	0.08	1.0%
Total	**100.08**	**99.52**	**103.34**	**107.26**	**110.85**	**114.54**	**118.01**	**0.7%**
Energy Use and Related Statistics								
Delivered Energy Use	72.82	72.32	75.08	77.99	80.18	82.61	84.86	0.7%
Total Energy Use	100.08	99.52	103.34	107.26	110.85	114.54	118.01	0.7%
Ethanol Consumed in Motor Gasoline and E85	0.34	0.47	1.05	1.34	1.82	2.06	2.01	6.2%
Population (millions)	297.34	300.13	310.85	324.29	337.74	351.41	365.59	0.8%
Gross Domestic Product (billion 2000 dollars)	11004	11319	12453	14199	15984	17951	20219	2.4%
Carbon Dioxide Emissions (million metric tons)	5981.5	5890.3	6010.6	6226.2	6384.1	6570.6	6851.0	0.6%

[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]Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal 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, 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 waste, and other biomass sources. Excludes ethanol blends (10 percent or less) in motor gasoline.
[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 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, 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 ethanol and 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, biogenic municipal waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
[16]Includes non-biogenic municipal waste not included above.
[17]Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic and solar thermal sources. Includes petroleum coke used in the electric power sector. Excludes ethanol, 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 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 and 2006 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 population and gross domestic product: Global Insight, Global Insight Industry and Employment models, July 2007. 2005 and 2006 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2006,* DOE/EIA-0573(2006) (Washington, DC, November 2007).
Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A3. Energy Prices by Sector and Source
(2006 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Residential								
Liquefied Petroleum Gases	18.83	23.08	25.21	24.15	24.23	24.63	25.43	0.4%
Distillate Fuel Oil	16.98	17.94	17.21	14.27	14.27	15.14	16.27	-0.4%
Natural Gas	12.85	13.40	12.15	11.20	11.39	11.94	12.91	-0.2%
Electricity	28.52	30.52	31.37	30.04	30.20	30.33	30.63	0.0%
Commercial								
Distillate Fuel Oil	13.82	14.59	15.24	12.88	13.24	13.88	15.00	0.1%
Residual Fuel Oil	11.21	8.60	10.06	7.95	7.95	8.62	9.22	0.3%
Natural Gas	11.53	11.50	10.59	9.68	9.91	10.47	11.43	-0.0%
Electricity	26.12	27.75	27.89	25.52	25.64	25.71	26.17	-0.2%
Industrial[1]								
Liquefied Petroleum Gases	17.54	19.71	17.74	16.65	16.79	17.10	17.79	-0.4%
Distillate Fuel Oil	14.50	15.33	15.72	13.95	14.62	15.10	16.26	0.2%
Residual Fuel Oil	10.43	9.06	10.86	8.24	8.29	9.00	9.62	0.2%
Natural Gas[2]	8.37	7.66	7.21	6.15	6.21	6.56	7.29	-0.2%
Metallurgical Coal	3.29	3.54	4.07	3.53	3.42	3.51	3.60	0.1%
Other Industrial Coal	2.22	2.34	2.42	2.31	2.28	2.30	2.33	-0.0%
Coal for Liquids	- -	- -	- -	0.96	1.09	1.17	1.30	- -
Electricity	17.25	17.97	19.21	17.22	17.27	17.30	17.63	-0.1%
Transportation								
Liquefied Petroleum Gases[3]	20.49	21.72	26.03	24.93	24.94	25.28	26.03	0.8%
E85[4]	23.89	24.81	23.58	17.61	18.15	18.50	19.62	-1.0%
Motor Gasoline[5]	19.28	21.19	21.23	18.80	19.64	19.67	20.37	-0.2%
Jet Fuel[6]	13.30	14.83	15.77	13.16	13.27	14.15	15.37	0.1%
Diesel Fuel (distillate fuel oil)[7]	18.09	19.72	19.68	17.65	18.26	18.54	19.59	-0.0%
Residual Fuel Oil	8.68	7.89	10.53	8.56	8.69	9.50	10.39	1.2%
Natural Gas[8]	14.55	14.28	13.60	12.34	12.15	12.28	12.83	-0.4%
Electricity	30.79	29.73	30.95	28.95	29.05	28.95	29.65	-0.0%
Electric Power[9]								
Distillate Fuel Oil	12.62	13.35	13.62	10.67	10.69	11.59	12.71	-0.2%
Residual Fuel Oil	7.40	8.17	9.45	7.41	7.50	8.25	9.04	0.4%
Natural Gas	8.44	6.87	6.96	5.93	5.95	6.26	6.93	0.0%
Steam Coal	1.59	1.69	1.84	1.74	1.72	1.74	1.78	0.2%
Average Price to All Users[10]								
Liquefied Petroleum Gases	17.75	20.35	19.27	18.32	18.59	19.03	19.82	-0.1%
E85[4]	23.89	24.81	23.58	17.61	18.15	18.50	19.62	-1.0%
Motor Gasoline[5]	19.18	21.06	21.23	18.80	19.64	19.67	20.37	-0.1%
Jet Fuel	13.30	14.83	15.77	13.16	13.27	14.15	15.37	0.1%
Distillate Fuel Oil	17.11	18.56	18.48	16.57	17.20	17.62	18.74	0.0%
Residual Fuel Oil	8.44	8.21	10.31	8.19	8.29	9.06	9.87	0.8%
Natural Gas	9.93	9.22	8.72	7.78	7.98	8.49	9.36	0.1%
Metallurgical Coal	3.29	3.54	4.07	3.53	3.42	3.51	3.60	0.1%
Other Coal	1.63	1.73	1.88	1.77	1.75	1.77	1.81	0.2%
Coal for Liquids	- -	- -	- -	0.96	1.09	1.17	1.30	- -
Electricity	24.55	26.10	26.90	25.00	25.23	25.43	25.93	-0.0%

Table A3. Energy Prices by Sector and Source (Continued)
(2006 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Non-Renewable Energy Expenditures by Sector (billion 2006 dollars)								
Residential	221.30	225.38	241.71	232.60	243.22	256.33	274.70	0.8%
Commercial	159.35	166.54	174.38	173.76	189.37	206.24	227.37	1.3%
Industrial	203.06	205.11	224.65	197.41	193.16	194.97	203.93	-0.0%
Transportation	489.23	542.63	560.74	514.93	530.80	539.68	587.86	0.3%
Total Non-Renewable Expenditures	1072.94	1139.66	1201.48	1118.69	1156.54	1197.22	1293.86	0.5%
Transportation Renewable Expenditures	0.03	0.03	0.06	3.14	17.64	26.21	26.35	32.2%
Total Expenditures	**1072.96**	**1139.70**	**1201.54**	**1121.83**	**1174.18**	**1223.43**	**1320.22**	**0.6%**

[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 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.
- - = Not applicable.
Note: Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 residential and commercial natural gas delivered prices: EIA,*Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 and 2006 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 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 transportation sector natural gas delivered prices are based on: EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and estimated state taxes, federal taxes, and dispensing costs or charges. 2006 transportation sector natural gas delivered prices are model results. 2005 and 2006 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2003 through April 2004, Table 4.11.A. 2005 and 2006 coal prices based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2005 and 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Key Indicators								
Households (millions)								
Single-Family	79.65	80.81	83.48	88.66	93.38	97.49	101.28	0.9%
Multifamily	24.49	24.81	25.86	27.42	29.05	30.69	32.44	1.1%
Mobile Homes	6.94	6.89	6.67	6.65	6.73	6.78	6.86	-0.0%
Total	**111.09**	**112.51**	**116.00**	**122.73**	**129.15**	**134.96**	**140.58**	**0.9%**
Average House Square Footage	**1802**	**1815**	**1858**	**1916**	**1965**	**2008**	**2046**	**0.5%**
Energy Intensity								
(million Btu per household)								
Delivered Energy Consumption	103.7	95.8	100.5	97.3	95.3	93.2	91.6	-0.2%
Total Energy Consumption	194.8	185.0	191.8	183.8	181.1	179.0	177.9	-0.2%
(thousand Btu per square foot)								
Delivered Energy Consumption	57.5	52.8	54.1	50.8	48.5	46.4	44.8	-0.7%
Total Energy Consumption	108.1	101.9	103.2	95.9	92.1	89.1	87.0	-0.7%
Delivered Energy Consumption by Fuel								
Electricity								
Space Heating	0.31	0.27	0.30	0.32	0.32	0.33	0.33	0.8%
Space Cooling	0.82	0.75	0.79	0.85	0.91	0.97	1.04	1.4%
Water Heating	0.38	0.38	0.38	0.40	0.42	0.43	0.43	0.5%
Refrigeration	0.39	0.39	0.37	0.36	0.37	0.38	0.39	0.0%
Cooking	0.10	0.10	0.11	0.12	0.12	0.13	0.14	1.2%
Clothes Dryers	0.25	0.25	0.25	0.26	0.27	0.28	0.30	0.6%
Freezers	0.08	0.08	0.08	0.08	0.09	0.10	0.11	1.3%
Lighting	0.73	0.74	0.72	0.55	0.51	0.47	0.49	-1.7%
Clothes Washers[1]	0.03	0.04	0.03	0.03	0.03	0.03	0.03	-1.1%
Dishwashers[1]	0.10	0.10	0.09	0.09	0.10	0.10	0.11	0.4%
Color Televisions and Set-Top Boxes	0.30	0.33	0.39	0.40	0.43	0.48	0.55	2.2%
Personal Computers	0.07	0.07	0.10	0.11	0.12	0.14	0.16	3.6%
Furnace Fans	0.06	0.05	0.06	0.07	0.07	0.08	0.08	1.6%
Other Uses[2]	1.01	1.05	1.26	1.37	1.49	1.61	1.73	2.1%
Delivered Energy	**4.64**	**4.61**	**4.95**	**5.02**	**5.25**	**5.53**	**5.88**	**1.0%**
Natural Gas								
Space Heating	3.59	3.13	3.57	3.73	3.83	3.87	3.88	0.9%
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.1%
Water Heating	1.09	1.08	1.08	1.12	1.15	1.14	1.09	0.1%
Cooking	0.22	0.22	0.22	0.24	0.25	0.26	0.26	0.8%
Clothes Dryers	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.6%
Delivered Energy	**4.97**	**4.50**	**4.95**	**5.16**	**5.30**	**5.35**	**5.32**	**0.7%**
Distillate Fuel Oil								
Space Heating	0.75	0.60	0.66	0.66	0.65	0.62	0.59	-0.1%
Water Heating	0.11	0.10	0.09	0.09	0.08	0.08	0.07	-1.8%
Delivered Energy	**0.85**	**0.70**	**0.75**	**0.75**	**0.73**	**0.69**	**0.65**	**-0.3%**
Liquefied Petroleum Gases								
Space Heating	0.26	0.23	0.24	0.24	0.24	0.23	0.23	0.0%
Water Heating	0.06	0.06	0.05	0.05	0.05	0.04	0.04	-1.1%
Cooking	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.3%
Other Uses[3]	0.15	0.15	0.16	0.18	0.20	0.22	0.25	2.0%
Delivered Energy	**0.50**	**0.47**	**0.48**	**0.50**	**0.52**	**0.54**	**0.55**	**0.7%**
Marketed Renewables (wood)[4]	0.45	0.41	0.44	0.42	0.40	0.39	0.38	-0.3%
Other Fuels[5]	0.10	0.08	0.09	0.09	0.09	0.09	0.09	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 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Delivered Energy Consumption by End Use								
Space Heating	5.46	4.72	5.30	5.46	5.53	5.53	5.50	0.6%
Space Cooling	0.82	0.75	0.79	0.85	0.91	0.97	1.04	1.4%
Water Heating	1.64	1.62	1.61	1.66	1.70	1.69	1.63	0.0%
Refrigeration	0.39	0.39	0.37	0.36	0.37	0.38	0.39	0.0%
Cooking	0.35	0.35	0.36	0.38	0.41	0.42	0.43	0.9%
Clothes Dryers	0.32	0.33	0.33	0.34	0.35	0.36	0.38	0.6%
Freezers	0.08	0.08	0.08	0.08	0.09	0.10	0.11	1.3%
Lighting	0.73	0.74	0.72	0.55	0.51	0.47	0.49	-1.7%
Clothes Washers	0.03	0.04	0.03	0.03	0.03	0.03	0.03	-1.1%
Dishwashers	0.10	0.10	0.09	0.09	0.10	0.10	0.11	0.4%
Color Televisions and Set-Top Boxes	0.30	0.33	0.39	0.40	0.43	0.48	0.55	2.2%
Personal Computers	0.07	0.07	0.10	0.11	0.12	0.14	0.16	3.6%
Furnace Fans	0.06	0.05	0.06	0.07	0.07	0.08	0.08	1.6%
Other Uses[6]	1.16	1.21	1.42	1.56	1.69	1.83	1.98	2.1%
Delivered Energy	**11.52**	**10.77**	**11.66**	**11.95**	**12.30**	**12.58**	**12.88**	**0.7%**
Electricity Related Losses	**10.12**	**10.04**	**10.59**	**10.61**	**11.08**	**11.57**	**12.14**	**0.8%**
Total Energy Consumption by End Use								
Space Heating	6.14	5.31	5.95	6.13	6.21	6.22	6.18	0.6%
Space Cooling	2.61	2.39	2.48	2.64	2.83	3.01	3.19	1.2%
Water Heating	2.47	2.44	2.43	2.51	2.59	2.59	2.52	0.1%
Refrigeration	1.26	1.24	1.15	1.12	1.14	1.16	1.20	-0.1%
Cooking	0.57	0.58	0.60	0.63	0.67	0.70	0.72	0.9%
Clothes Dryers	0.88	0.88	0.87	0.90	0.92	0.95	0.99	0.5%
Freezers	0.27	0.26	0.25	0.26	0.29	0.31	0.34	1.1%
Lighting	2.31	2.35	2.26	1.71	1.58	1.47	1.49	-1.9%
Clothes Washers	0.11	0.11	0.10	0.09	0.08	0.08	0.08	-1.2%
Dishwashers	0.31	0.30	0.29	0.29	0.30	0.31	0.33	0.3%
Color Televisions and Set-Top Boxes	0.95	1.05	1.23	1.26	1.33	1.49	1.69	2.0%
Personal Computers	0.21	0.21	0.30	0.34	0.38	0.43	0.48	3.5%
Furnace Fans	0.19	0.17	0.20	0.21	0.23	0.24	0.24	1.5%
Other Uses[6]	3.37	3.50	4.13	4.46	4.84	5.19	5.55	1.9%
Total	**21.64**	**20.82**	**22.25**	**22.56**	**23.39**	**24.15**	**25.01**	**0.8%**
Nonmarketed Renewables[7]								
Geothermal Heat Pumps	0.00	0.00	0.00	0.01	0.01	0.01	0.01	6.1%
Solar Hot Water Heating	0.01	0.01	0.02	0.02	0.03	0.04	0.05	5.3%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.9%
Total	**0.01**	**0.02**	**0.02**	**0.03**	**0.04**	**0.05**	**0.07**	**5.9%**

[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 outdoor grills and mosquito traps.
[4]Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 2001*.
[5]Includes kerosene and coal.
[6]Includes all other uses listed above.
[7]Represents primary energy displaced.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Key Indicators								
Total Floorspace (billion square feet)								
Surviving	72.1	73.2	77.2	82.2	87.4	92.9	98.7	1.3%
New Additions	1.6	1.6	1.6	1.8	1.8	2.0	2.1	0.9%
Total	**73.8**	**74.8**	**78.8**	**83.9**	**89.3**	**94.8**	**100.8**	**1.2%**
Energy Consumption Intensity (thousand Btu per square foot)								
Delivered Energy Consumption	113.5	110.3	109.3	111.6	112.3	112.6	112.2	0.1%
Electricity Related Losses	128.8	129.1	128.4	130.8	134.0	135.7	135.8	0.2%
Total Energy Consumption	242.3	239.4	237.8	242.4	246.3	248.3	247.9	0.1%
Delivered Energy Consumption by Fuel								
Purchased Electricity								
Space Heating[1]	0.14	0.13	0.14	0.14	0.14	0.15	0.15	0.5%
Space Cooling[1]	0.52	0.51	0.50	0.52	0.55	0.58	0.61	0.8%
Water Heating[1]	0.16	0.16	0.15	0.16	0.16	0.16	0.16	0.1%
Ventilation	0.19	0.19	0.19	0.20	0.21	0.22	0.23	0.9%
Cooking	0.04	0.04	0.04	0.04	0.04	0.04	0.04	-0.4%
Lighting	1.16	1.15	1.12	1.17	1.22	1.28	1.34	0.7%
Refrigeration	0.23	0.23	0.23	0.24	0.25	0.27	0.28	0.8%
Office Equipment (PC)	0.17	0.21	0.25	0.28	0.30	0.33	0.35	2.1%
Office Equipment (non-PC)	0.39	0.42	0.55	0.68	0.79	0.87	0.92	3.3%
Other Uses[2]	1.34	1.39	1.55	1.77	2.01	2.26	2.54	2.5%
Delivered Energy	**4.35**	**4.43**	**4.73**	**5.19**	**5.67**	**6.15**	**6.62**	**1.7%**
Natural Gas								
Space Heating[1]	1.30	1.18	1.29	1.37	1.40	1.41	1.42	0.8%
Space Cooling[1]	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-0.2%
Water Heating[1]	0.56	0.55	0.54	0.60	0.65	0.70	0.73	1.2%
Cooking	0.23	0.23	0.24	0.27	0.29	0.31	0.33	1.5%
Other Uses[3]	0.97	0.94	0.95	1.03	1.10	1.19	1.29	1.3%
Delivered Energy	**3.09**	**2.92**	**3.04**	**3.29**	**3.47**	**3.63**	**3.78**	**1.1%**
Distillate Fuel Oil								
Space Heating[1]	0.15	0.13	0.13	0.14	0.15	0.15	0.15	0.8%
Water Heating[1]	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.3%
Other Uses[4]	0.25	0.25	0.20	0.22	0.22	0.21	0.21	-0.6%
Delivered Energy	**0.45**	**0.42**	**0.38**	**0.41**	**0.41**	**0.42**	**0.41**	**-0.0%**
Marketed Renewables (biomass)	0.13	0.13	0.13	0.13	0.13	0.13	0.13	- -
Other Fuels[5]	0.36	0.34	0.33	0.34	0.35	0.35	0.35	0.1%
Delivered Energy Consumption by End Use								
Space Heating[1]	1.59	1.44	1.56	1.65	1.69	1.71	1.71	0.7%
Space Cooling[1]	0.55	0.53	0.52	0.54	0.57	0.60	0.63	0.8%
Water Heating[1]	0.77	0.75	0.74	0.81	0.86	0.91	0.94	0.9%
Ventilation	0.19	0.19	0.19	0.20	0.21	0.22	0.23	0.9%
Cooking	0.27	0.27	0.28	0.31	0.33	0.35	0.36	1.2%
Lighting	1.16	1.15	1.12	1.17	1.22	1.28	1.34	0.7%
Refrigeration	0.23	0.23	0.23	0.24	0.25	0.27	0.28	0.8%
Office Equipment (PC)	0.17	0.21	0.25	0.28	0.30	0.33	0.35	2.1%
Office Equipment (non-PC)	0.39	0.42	0.55	0.68	0.79	0.87	0.92	3.3%
Other Uses[6]	3.05	3.05	3.17	3.49	3.81	4.15	4.53	1.7%
Delivered Energy	**8.38**	**8.25**	**8.62**	**9.37**	**10.03**	**10.67**	**11.30**	**1.3%**

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Electricity Related Losses	**9.50**	**9.66**	**10.12**	**10.98**	**11.96**	**12.87**	**13.68**	**1.5%**
Total Energy Consumption by End Use								
Space Heating[1]	1.90	1.73	1.86	1.95	1.99	2.02	2.02	0.7%
Space Cooling[1]	1.69	1.63	1.58	1.65	1.72	1.81	1.90	0.6%
Water Heating[1]	1.12	1.10	1.06	1.14	1.20	1.25	1.28	0.6%
Ventilation	0.60	0.60	0.60	0.62	0.65	0.68	0.71	0.7%
Cooking	0.36	0.35	0.36	0.39	0.41	0.42	0.43	0.9%
Lighting	3.69	3.66	3.52	3.63	3.79	3.96	4.12	0.5%
Refrigeration	0.73	0.73	0.73	0.75	0.79	0.82	0.86	0.6%
Office Equipment (PC)	0.56	0.68	0.80	0.86	0.93	1.02	1.08	1.9%
Office Equipment (non-PC)	1.24	1.34	1.73	2.11	2.46	2.68	2.81	3.1%
Other Uses[6]	5.97	6.08	6.49	7.23	8.05	8.89	9.77	2.0%
Total	**17.87**	**17.91**	**18.74**	**20.34**	**21.98**	**23.54**	**24.98**	**1.4%**
Nonmarketed Renewable Fuels[7]								
Solar Thermal	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.5%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.01	0.01	8.7%
Total	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.04**	**1.6%**

[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 gases, 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 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A6. Industrial Sector Key Indicators and Consumption

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Key Indicators								
Value of Shipments (billion 2000 dollars)								
Manufacturing	4208	4290	4577	5076	5493	5883	6283	1.6%
Nonmanufacturing	1525	1531	1419	1583	1619	1663	1715	0.5%
Total	**5732**	**5821**	**5997**	**6659**	**7113**	**7546**	**7997**	**1.3%**
Energy Prices (2006 dollars per million Btu)								
Liquefied Petroleum Gases	17.54	19.71	17.74	16.65	16.79	17.10	17.79	-0.4%
Motor Gasoline	15.48	15.48	21.18	18.72	19.63	19.62	20.32	1.1%
Distillate Fuel Oil	14.50	15.33	15.72	13.95	14.62	15.10	16.26	0.2%
Residual Fuel Oil	10.43	9.06	10.86	8.24	8.29	9.00	9.62	0.2%
Petrochemical Feedstocks	9.01	9.01	9.22	8.32	8.25	8.53	8.94	-0.0%
Asphalt and Road Oil	5.49	4.63	9.66	7.28	5.74	5.93	6.35	1.3%
Natural Gas Heat and Power	7.43	6.69	6.38	5.26	5.35	5.71	6.45	-0.2%
Natural Gas Feedstocks	9.07	8.37	7.95	6.90	6.96	7.31	8.04	-0.2%
Metallurgical Coal	3.29	3.54	4.07	3.53	3.42	3.51	3.60	0.1%
Other Industrial Coal	2.22	2.34	2.42	2.31	2.28	2.30	2.33	-0.0%
Coal for Liquids	- -	- -	- -	0.96	1.09	1.17	1.30	- -
Electricity	17.25	17.97	19.21	17.22	17.27	17.30	17.63	-0.1%
Energy Consumption (quadrillion Btu)[1]								
Industrial Consumption Excluding Refining								
Liquefied Petroleum Gases Heat and Power	0.17	0.16	0.17	0.17	0.16	0.16	0.16	-0.1%
Liquefied Petroleum Gases Feedstocks	1.89	1.91	1.92	1.77	1.64	1.59	1.55	-0.9%
Motor Gasoline	0.37	0.38	0.38	0.37	0.37	0.38	0.38	0.1%
Distillate Fuel Oil	1.26	1.28	1.29	1.25	1.23	1.22	1.23	-0.2%
Residual Fuel Oil	0.27	0.27	0.28	0.23	0.22	0.21	0.21	-1.0%
Petrochemical Feedstocks	1.41	1.41	1.36	1.45	1.39	1.33	1.29	-0.4%
Petroleum Coke	0.33	0.36	0.34	0.32	0.31	0.31	0.30	-0.8%
Asphalt and Road Oil	1.32	1.26	1.22	1.11	1.08	1.10	1.13	-0.5%
Miscellaneous Petroleum[2]	0.52	0.56	0.39	0.36	0.33	0.30	0.29	-2.7%
Petroleum Subtotal	7.53	7.60	7.34	7.04	6.73	6.59	6.55	-0.6%
Natural Gas Heat and Power	5.14	5.01	5.12	5.24	5.22	5.25	5.22	0.2%
Natural Gas Feedstocks	0.59	0.57	0.54	0.50	0.46	0.43	0.39	-1.5%
Lease and Plant Fuel[3]	1.14	1.17	1.21	1.22	1.25	1.27	1.27	0.3%
Natural Gas Subtotal	6.88	6.74	6.86	6.97	6.93	6.95	6.88	0.1%
Metallurgical Coal and Coke[4]	0.66	0.66	0.63	0.57	0.57	0.56	0.52	-1.0%
Other Industrial Coal	1.22	1.20	1.25	1.16	1.14	1.13	1.12	-0.3%
Coal Subtotal	1.88	1.86	1.87	1.73	1.71	1.69	1.64	-0.5%
Renewables[5]	1.64	1.69	1.66	1.75	1.83	1.93	2.02	0.7%
Purchased Electricity	3.34	3.27	3.35	3.44	3.42	3.39	3.35	0.1%
Delivered Energy	**21.28**	**21.17**	**21.09**	**20.92**	**20.62**	**20.55**	**20.44**	**-0.1%**
Electricity Related Losses	7.30	7.13	7.17	7.26	7.22	7.09	6.92	-0.1%
Total	**28.58**	**28.29**	**28.27**	**28.18**	**27.84**	**27.64**	**27.35**	**-0.1%**
Refining Consumption								
Liquefied Petroleum Gases Heat and Power	0.02	0.01	0.03	0.03	0.03	0.00	0.00	-3.4%
Distillate Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Residual Fuel Oil	0.01	0.01	0.00	0.03	0.01	0.01	0.01	0.1%
Petroleum Coke	0.56	0.57	0.57	0.63	0.65	0.68	0.70	0.9%
Still Gas	1.64	1.69	1.72	1.87	1.85	1.87	1.98	0.7%
Miscellaneous Petroleum[2]	0.03	0.04	0.00	0.00	0.00	0.00	0.00	-10.1%
Petroleum Subtotal	2.26	2.32	2.33	2.56	2.55	2.56	2.70	0.6%
Natural Gas Heat and Power	1.05	1.10	1.51	1.46	1.47	1.49	1.47	1.2%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural Gas Subtotal	1.05	1.10	1.51	1.46	1.47	1.49	1.47	1.2%
Other Industrial Coal	0.06	0.06	0.06	0.06	0.06	0.06	0.06	-0.2%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.13	0.34	0.39	0.55	- -
Coal Subtotal	0.06	0.06	0.06	0.19	0.40	0.45	0.61	10.0%
Biofuels Heat and Coproducts	0.24	0.30	0.67	1.00	1.49	2.28	2.31	8.9%
Purchased Electricity	0.13	0.15	0.15	0.17	0.17	0.17	0.17	0.7%
Delivered Energy	**3.75**	**3.94**	**4.72**	**5.38**	**6.07**	**6.95**	**7.27**	**2.6%**
Electricity Related Losses	0.29	0.32	0.33	0.37	0.36	0.35	0.36	0.5%
Total	**4.04**	**4.26**	**5.05**	**5.75**	**6.43**	**7.29**	**7.63**	**2.5%**

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Total Industrial Sector Consumption								
Liquefied Petroleum Gases Heat and Power	0.18	0.17	0.20	0.20	0.19	0.16	0.16	-0.3%
Liquefied Petroleum Gases Feedstocks	1.89	1.91	1.92	1.77	1.64	1.59	1.55	-0.9%
Motor Gasoline	0.37	0.38	0.38	0.37	0.37	0.38	0.38	0.1%
Distillate Fuel Oil	1.26	1.28	1.29	1.25	1.23	1.22	1.23	-0.2%
Residual Fuel Oil	0.28	0.28	0.28	0.25	0.23	0.23	0.23	-0.9%
Petrochemical Feedstocks	1.41	1.41	1.36	1.45	1.39	1.33	1.29	-0.4%
Petroleum Coke	0.89	0.93	0.91	0.95	0.97	0.98	1.00	0.3%
Asphalt and Road Oil	1.32	1.26	1.22	1.11	1.08	1.10	1.13	-0.5%
Still Gas	1.64	1.69	1.72	1.87	1.85	1.87	1.98	0.7%
Miscellaneous Petroleum[2]	0.55	0.60	0.39	0.36	0.33	0.30	0.29	-3.0%
Petroleum Subtotal	9.79	9.92	9.67	9.60	9.27	9.15	9.25	-0.3%
Natural Gas Heat and Power	6.20	6.11	6.62	6.70	6.68	6.74	6.69	0.4%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural Gas Feedstocks	0.59	0.57	0.54	0.50	0.46	0.43	0.39	-1.5%
Lease and Plant Fuel[3]	1.14	1.17	1.21	1.22	1.25	1.27	1.27	0.3%
Natural Gas Subtotal	7.93	7.85	8.37	8.43	8.39	8.44	8.35	0.3%
Metallurgical Coal and Coke[4]	0.66	0.66	0.63	0.57	0.57	0.56	0.52	-1.0%
Other Industrial Coal	1.28	1.26	1.31	1.22	1.20	1.19	1.18	-0.3%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.13	0.34	0.39	0.55	- -
Coal Subtotal	1.95	1.92	1.93	1.92	2.11	2.14	2.26	0.7%
Biofuels Heat and Coproducts	0.24	0.30	0.67	1.00	1.49	2.28	2.31	8.9%
Renewables[5]	1.64	1.69	1.66	1.75	1.83	1.93	2.02	0.7%
Purchased Electricity	3.48	3.42	3.50	3.61	3.59	3.55	3.52	0.1%
Delivered Energy	**25.03**	**25.10**	**25.82**	**26.31**	**26.70**	**27.50**	**27.70**	**0.4%**
Electricity Related Losses	7.59	7.45	7.50	7.63	7.57	7.43	7.28	-0.1%
Total	**32.62**	**32.55**	**33.32**	**33.93**	**34.27**	**34.93**	**34.98**	**0.3%**
Energy Consumption per dollar of Shipment (thousand Btu per 2000 dollars)								
Liquefied Petroleum Gases Heat and Power	0.03	0.03	0.03	0.03	0.03	0.02	0.02	-1.6%
Liquefied Petroleum Gases Feedstocks	0.33	0.33	0.32	0.27	0.23	0.21	0.19	-2.2%
Motor Gasoline	0.07	0.06	0.06	0.06	0.05	0.05	0.05	-1.2%
Distillate Fuel Oil	0.22	0.22	0.22	0.19	0.17	0.16	0.15	-1.5%
Residual Fuel Oil	0.05	0.05	0.05	0.04	0.03	0.03	0.03	-2.3%
Petrochemical Feedstocks	0.25	0.24	0.23	0.22	0.19	0.18	0.16	-1.7%
Petroleum Coke	0.16	0.16	0.15	0.14	0.14	0.13	0.13	-1.0%
Asphalt and Road Oil	0.23	0.22	0.20	0.17	0.15	0.15	0.14	-1.8%
Still Gas	0.29	0.29	0.29	0.28	0.26	0.25	0.25	-0.7%
Miscellaneous Petroleum[2]	0.10	0.10	0.06	0.05	0.05	0.04	0.04	-4.2%
Petroleum Subtotal	1.71	1.70	1.61	1.44	1.30	1.21	1.16	-1.6%
Natural Gas Heat and Power	1.08	1.05	1.10	1.01	0.94	0.89	0.84	-0.9%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural Gas Feedstocks	0.10	0.10	0.09	0.08	0.06	0.06	0.05	-2.8%
Lease and Plant Fuel[3]	0.20	0.20	0.20	0.18	0.18	0.17	0.16	-1.0%
Natural Gas Subtotal	1.38	1.35	1.40	1.27	1.18	1.12	1.04	-1.1%
Metallurgical Coal and Coke[4]	0.12	0.11	0.10	0.09	0.08	0.07	0.07	-2.3%
Other Industrial Coal	0.22	0.22	0.22	0.18	0.17	0.16	0.15	-1.6%
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.02	0.05	0.05	0.07	- -
Coal Subtotal	0.34	0.33	0.32	0.29	0.30	0.28	0.28	-0.7%
Biofuels Heat and Coproducts	0.04	0.05	0.11	0.15	0.21	0.30	0.29	7.4%
Renewables[5]	0.29	0.29	0.28	0.26	0.26	0.26	0.25	-0.6%
Purchased Electricity	0.61	0.59	0.58	0.54	0.50	0.47	0.44	-1.2%
Delivered Energy	**4.37**	**4.31**	**4.31**	**3.95**	**3.75**	**3.64**	**3.46**	**-0.9%**
Electricity Related Losses	1.32	1.28	1.25	1.15	1.06	0.99	0.91	-1.4%
Total	**5.69**	**5.59**	**5.56**	**5.10**	**4.82**	**4.63**	**4.37**	**-1.0%**

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Industrial Combined Heat and Power								
Capacity (gigawatts)	26.87	25.69	28.11	31.79	36.84	42.15	44.85	2.3%
Generation (billion kilowatthours)	139.95	139.50	155.59	182.91	220.78	261.90	281.41	3.0%

[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 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 waste, and other biomass sources.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 prices for motor gasoline and distillate fuel oil are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 and 2006 petrochemical feedstock and asphalt and road oil prices are based on: *State Energy Data Report 2005*, DOE/EIA-0214(2005) (Washington, DC, June 2007). 2005 and 2006 coal prices are based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2005 and 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 natural gas prices are based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 refining consumption based on: *Petroleum Supply Annual 2005,* DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2006 refining consumption based on: *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Other 2005 and 2006 consumption values are based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 industrial shipments: Global Insight, Global Insight Industry model, July 2007. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A7. Transportation Sector Key Indicators and Delivered Energy Consumption

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Key Indicators								
Travel Indicators								
(billion vehicle miles traveled)								
Light-Duty Vehicles less than 8,500 pounds	2687	2693	2777	3058	3375	3717	4069	1.7%
Commercial Light Trucks[1]	69	70	73	81	87	94	101	1.5%
Freight Trucks greater than 10,000 pounds	228	235	250	279	304	328	351	1.7%
(billion seat miles available)								
Air	1029	994	1130	1318	1457	1576	1665	2.2%
(billion ton miles traveled)								
Rail	1588	1656	1702	1827	1932	2043	2147	1.1%
Domestic Shipping	610	619	643	677	701	713	721	0.6%
Energy Efficiency Indicators								
(miles per gallon)								
Tested New Light-Duty Vehicle[2]	25.5	26.5	27.2	30.8	35.8	36.4	36.6	1.4%
New Car[2]	30.2	31.1	31.5	34.9	42.0	42.1	42.1	1.3%
New Light Truck[2]	22.4	23.2	23.7	27.7	31.4	32.2	32.4	1.4%
On-Road New Light-Duty Vehicle[3]	20.6	21.5	22.1	25.2	29.4	30.1	30.5	1.5%
New Car[3]	24.5	25.3	25.7	28.7	34.7	35.1	35.3	1.4%
New Light Truck[3]	18.0	18.7	19.2	22.5	25.7	26.5	26.9	1.5%
Light-Duty Stock[4]	19.9	20.3	20.3	21.5	23.7	26.1	27.9	1.3%
New Commercial Light Truck[1]	15.0	15.6	15.7	18.1	19.8	20.2	20.2	1.1%
Stock Commercial Light Truck[1]	14.1	14.3	14.9	15.9	17.4	18.9	19.8	1.4%
Freight Truck	6.0	6.0	6.0	6.2	6.5	6.7	6.8	0.5%
(seat miles per gallon)								
Aircraft	60.9	62.2	63.5	65.3	67.2	68.7	70.0	0.5%
(ton miles per thousand Btu)								
Rail	2.9	2.9	2.9	2.9	3.0	3.0	3.0	0.1%
Domestic Shipping	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.1%
Energy Use by Mode								
(quadrillion Btu)								
Light-Duty Vehicles	16.23	16.41	16.52	17.01	17.10	17.11	17.52	0.3%
Commercial Light Trucks[1]	0.61	0.62	0.62	0.64	0.63	0.63	0.64	0.2%
Bus Transportation	0.26	0.26	0.26	0.27	0.27	0.28	0.29	0.3%
Freight Trucks	4.74	4.89	5.18	5.60	5.85	6.13	6.44	1.2%
Rail, Passenger	0.04	0.04	0.05	0.05	0.05	0.05	0.06	1.1%
Rail, Freight	0.55	0.57	0.58	0.62	0.65	0.69	0.72	1.0%
Shipping, Domestic	0.31	0.32	0.33	0.34	0.35	0.36	0.36	0.5%
Shipping, International	0.77	0.78	0.79	0.78	0.79	0.80	0.80	0.1%
Recreational Boats	0.24	0.24	0.25	0.26	0.28	0.29	0.30	0.9%
Air	2.72	2.65	2.90	3.29	3.61	3.92	4.22	2.0%
Military Use	0.68	0.69	0.73	0.71	0.73	0.75	0.76	0.4%
Lubricants	0.15	0.15	0.14	0.14	0.14	0.15	0.15	0.1%
Pipeline Fuel	0.60	0.59	0.64	0.66	0.69	0.72	0.72	0.8%
Total	**27.90**	**28.20**	**28.98**	**30.37**	**31.15**	**31.86**	**32.98**	**0.7%**

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Energy Use by Mode (million barrels per day oil equivalent)								
Light-Duty Vehicles	8.51	8.60	8.94	9.26	9.48	9.56	9.74	0.5%
Commercial Light Trucks[1]	0.32	0.32	0.33	0.35	0.34	0.34	0.35	0.3%
Bus Transportation	0.12	0.13	0.13	0.13	0.13	0.13	0.14	0.4%
Freight Trucks	2.26	2.33	2.48	2.69	2.80	2.94	3.09	1.2%
Rail, Passenger	0.02	0.02	0.02	0.02	0.02	0.03	0.03	1.1%
Rail, Freight	0.26	0.27	0.28	0.30	0.31	0.33	0.34	1.0%
Shipping, Domestic	0.14	0.15	0.15	0.16	0.16	0.17	0.17	0.5%
Shipping, International	0.34	0.34	0.35	0.34	0.35	0.35	0.35	0.1%
Recreational Boats	0.13	0.13	0.14	0.14	0.15	0.16	0.16	1.1%
Air	1.32	1.28	1.40	1.59	1.75	1.89	2.04	2.0%
Military Use	0.33	0.33	0.35	0.34	0.35	0.36	0.37	0.4%
Lubricants	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.1%
Pipeline Fuel	0.30	0.30	0.32	0.33	0.35	0.36	0.36	0.8%
Total	**14.11**	**14.27**	**14.96**	**15.72**	**16.27**	**16.69**	**17.20**	**0.8%**

[1]Commercial trucks 8,500 to 10,000 pounds.
[2]Environmental Protection Agency rated miles per gallon.
[3]Tested new vehicle efficiency revised for on-road performance.
[4]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 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006: Energy Information Administration (EIA), *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006); EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007); Federal Highway Administration, *Highway Statistics 2005* (Washington, DC, December 2006); Oak Ridge National Laboratory, Transportation Energy Data Book: Edition 26 and Annual (Oak Ridge, TN, 2007); 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 2005*, DOE/EIA-0214(2005) (Washington, DC, June 2007); EIA, *Alternatives to Traditional Transportation Fuels 2005 (Part II-User and Fuel Data)*, November 2007; U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly, December 2006/2005* (Washington, DC, 2006); 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, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Generation by Fuel Type								
Electric Power Sector[1]								
Power Only[2]								
Coal	1956	1930	2002	2122	2287	2502	2756	1.5%
Petroleum	111	55	49	50	52	54	56	0.1%
Natural Gas[3]	554	608	695	682	614	543	503	-0.8%
Nuclear Power	782	787	797	807	868	911	917	0.6%
Pumped Storage/Other[4]	1	0	1	1	1	1	1	5.4%
Renewable Sources[5]	319	347	421	465	518	540	553	2.0%
Distributed Generation (Natural Gas)	0	0	0	1	1	2	4	- -
Total	**3722**	**3727**	**3965**	**4128**	**4340**	**4552**	**4790**	**1.1%**
Combined Heat and Power[6]								
Coal	37	36	32	32	32	32	31	-0.6%
Petroleum	6	4	1	1	1	1	1	-6.7%
Natural Gas	130	124	124	123	108	99	96	-1.1%
Renewable Sources	4	4	4	4	5	5	5	0.5%
Total	**180**	**173**	**160**	**160**	**145**	**136**	**133**	**-1.1%**
Total Net Generation	**3902**	**3900**	**4125**	**4288**	**4485**	**4688**	**4923**	**1.0%**
Less Direct Use	33	33	34	34	34	34	34	0.1%
Net Available to the Grid	**3869**	**3866**	**4091**	**4254**	**4451**	**4654**	**4889**	**1.0%**
End-Use Generation[7]								
Coal	22	22	21	28	39	41	51	3.6%
Petroleum	6	4	6	6	7	9	9	3.6%
Natural Gas	73	74	88	99	111	124	138	2.6%
Other Gaseous Fuels[8]	5	5	4	4	4	4	4	-0.7%
Renewable Sources[9]	34	34	37	48	65	94	98	4.5%
Other[10]	14	13	12	12	12	12	12	-0.4%
Total	**152**	**152**	**169**	**197**	**238**	**285**	**313**	**3.1%**
Less Direct Use	123	121	134	155	182	211	234	2.8%
Total Sales to the Grid	**30**	**31**	**34**	**42**	**56**	**74**	**79**	**4.0%**
Total Electricity Generation	**4054**	**4051**	**4294**	**4485**	**4723**	**4973**	**5235**	**1.1%**
Total Net Generation to the Grid	**3899**	**3897**	**4126**	**4296**	**4507**	**4728**	**4968**	**1.0%**
Net Imports	**25**	**18**	**15**	**11**	**13**	**16**	**23**	**1.0%**
Electricity Sales by Sector								
Residential	1359	1351	1450	1472	1540	1620	1722	1.0%
Commercial	1275	1300	1386	1522	1661	1802	1941	1.7%
Industrial	1019	1002	1027	1058	1052	1041	1033	0.1%
Transportation	6	6	7	7	8	8	9	1.3%
Total	**3660**	**3659**	**3869**	**4059**	**4261**	**4472**	**4705**	**1.1%**
Direct Use	156	154	168	189	216	245	267	2.3%
Total Electricity Use	**3815**	**3814**	**4037**	**4248**	**4477**	**4717**	**4972**	**1.1%**
End-Use Prices (2006 cents per kilowatthour)								
Residential	9.7	10.4	10.7	10.2	10.3	10.3	10.5	0.0%
Commercial	8.9	9.5	9.5	8.7	8.7	8.8	8.9	-0.2%
Industrial	5.9	6.1	6.6	5.9	5.9	5.9	6.0	-0.1%
Transportation	10.5	10.1	10.6	9.9	9.9	9.9	10.1	-0.0%
All Sectors Average	**8.4**	**8.9**	**9.2**	**8.5**	**8.6**	**8.7**	**8.8**	**-0.0%**
Prices by Service Category (2006 cents per kilowatthour)								
Generation	5.4	5.9	6.2	5.5	5.6	5.7	5.9	-0.1%
Transmission	0.6	0.6	0.7	0.8	0.8	0.8	0.8	1.1%
Distribution	2.3	2.3	2.3	2.3	2.3	2.2	2.2	-0.2%

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Electric Power Sector Emissions[1]								
Sulfur Dioxide (million tons)	10.22	9.39	6.43	4.67	3.77	3.66	3.71	-3.8%
Nitrogen Oxide (million tons)	3.64	3.41	2.33	2.11	2.11	2.14	2.16	-1.9%
Mercury (tons)	51.72	50.37	37.24	24.75	19.23	16.88	14.95	-4.9%

[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 plants that only produce electricity.
[3]Includes electricity generation from fuel cells.
[4]Includes non-biogenic municipal waste. The Energy Information Administration estimates approximately 7 billion kilowatthours of electricity was generated from this material in 2005. See Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).
[5]Includes conventional hydroelectric, geothermal, wood, wood waste, biogenic municipal waste, landfill gas, other biomass, solar, and wind power.
[6]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).
[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]Includes refinery gas and still gas.
[9]Includes conventional hydroelectric, geothermal, wood, wood waste, all municipal waste, landfill gas, other biomass, solar, and wind power.
[10]Includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 electric power sector generation; sales to utilities; net imports; electricity sales; and emissions: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007), and supporting databases. 2005 and 2006 prices: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. **Projections**: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A9. Electricity Generating Capacity
(Gigawatts)

Net Summer Capacity[1]	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Electric Power Sector[2]								
Power Only[3]								
Coal	305.1	305.2	311.4	319.3	338.5	367.6	401.5	1.1%
Oil and Natural Gas Steam[4]	120.8	119.3	118.0	93.2	93.0	92.6	92.6	-1.1%
Combined Cycle	137.4	144.7	158.2	159.9	164.2	173.3	177.5	0.9%
Combustion Turbine/Diesel	127.4	128.1	134.5	127.1	129.2	140.9	161.8	1.0%
Nuclear Power[5]	100.2	100.2	100.9	102.1	110.9	115.7	114.9	0.6%
Pumped Storage	21.5	21.5	21.5	21.5	21.5	21.5	21.5	0.0%
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Renewable Sources[6]	92.8	95.7	110.9	116.6	122.9	127.5	131.8	1.3%
Distributed Generation[7]	0.0	0.0	0.3	0.9	2.7	5.9	9.8	- -
Total	**905.2**	**914.7**	**955.7**	**940.6**	**982.8**	**1045.0**	**1111.4**	**0.8%**
Combined Heat and Power[8]								
Coal	4.6	4.6	4.6	4.6	4.6	4.6	4.6	0.0%
Oil and Natural Gas Steam[4]	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0%
Combined Cycle	31.9	31.8	31.8	32.5	32.5	32.5	32.5	0.1%
Combustion Turbine/Diesel	2.9	2.9	2.9	2.9	2.9	2.9	2.9	-0.0%
Renewable Sources[6]	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.2%
Total	**40.4**	**40.3**	**40.3**	**41.0**	**41.0**	**41.0**	**41.0**	**0.1%**
Cumulative Planned Additions[9]								
Coal	0.0	0.0	7.7	10.7	10.7	10.7	10.7	- -
Oil and Natural Gas Steam[4]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Combined Cycle	0.0	0.0	13.5	15.5	15.5	15.5	15.5	- -
Combustion Turbine/Diesel	0.0	0.0	3.9	3.9	3.9	3.9	3.9	- -
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Renewable Sources[6]	0.0	0.0	9.5	9.5	9.6	9.8	9.9	- -
Distributed Generation[7]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Total	**0.0**	**0.0**	**34.5**	**39.6**	**39.7**	**39.9**	**40.0**	**- -**
Cumulative Unplanned Additions[9]								
Coal	0.0	0.0	0.0	6.8	26.3	55.6	89.5	- -
Oil and Natural Gas Steam[4]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Combined Cycle	0.0	0.0	0.0	0.3	4.6	13.7	17.9	- -
Combustion Turbine/Diesel	0.0	0.0	3.3	4.6	6.7	18.4	39.5	- -
Nuclear Power	0.0	0.0	0.0	0.0	8.0	12.8	16.6	- -
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Renewable Sources[6]	0.0	0.0	5.8	11.5	17.6	22.2	26.3	- -
Distributed Generation[7]	0.0	0.0	0.3	0.9	2.7	5.9	9.8	- -
Total	**0.0**	**0.0**	**9.5**	**24.1**	**65.9**	**128.5**	**199.6**	**- -**
Cumulative Electric Power Sector Additions	**0.0**	**0.0**	**44.0**	**63.7**	**105.7**	**168.4**	**239.6**	**- -**
Cumulative Retirements[10]								
Coal	0.0	0.0	1.5	3.4	3.7	3.9	3.9	- -
Oil and Natural Gas Steam[4]	0.0	0.0	1.4	26.1	26.4	26.7	26.8	- -
Combined Cycle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Combustion Turbine/Diesel	0.0	0.0	0.7	9.4	9.4	9.4	9.7	- -
Nuclear Power	0.0	0.0	0.0	0.0	0.0	0.0	4.5	- -
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Renewable Sources[6]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Total	**0.0**	**0.0**	**3.6**	**38.9**	**39.5**	**40.0**	**44.8**	**- -**
Total Electric Power Sector Capacity	**945.6**	**955.0**	**996.0**	**981.6**	**1023.8**	**1086.0**	**1152.4**	**0.8%**

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

Net Summer Capacity[1]	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
End-Use Generators[11]								
Coal	4.1	4.0	4.0	4.9	6.3	6.6	8.0	2.9%
Petroleum	1.2	1.2	1.7	1.7	1.9	2.1	2.1	2.4%
Natural Gas	14.7	14.1	15.8	17.2	18.8	20.6	22.4	2.0%
Other Gaseous Fuels	2.2	1.8	1.7	1.7	1.7	1.7	1.7	-0.1%
Renewable Sources[6]	6.0	6.0	6.7	8.2	10.8	15.2	16.7	4.4%
Other	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.0%
Total	**29.0**	**27.9**	**30.7**	**34.6**	**40.4**	**47.0**	**51.8**	**2.6%**
Cumulative Capacity Additions[9]	**0.0**	**0.0**	**2.9**	**6.8**	**12.5**	**19.1**	**23.9**	**- -**

[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, all municipal 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, 2006.
[10]Cumulative retirements after December 31, 2006.
[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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Electricity Trade	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Interregional Electricity Trade								
Gross Domestic Sales								
Firm Power	127.0	119.4	105.5	82.4	50.6	37.9	37.9	-4.7%
Economy	177.3	169.7	207.2	260.7	220.3	229.5	222.6	1.1%
Total	**304.3**	**289.1**	**312.7**	**343.1**	**270.9**	**267.4**	**260.4**	**-0.4%**
Gross Domestic Sales (million 2006 dollars)								
Firm Power	7077.5	6656.0	5877.2	4592.5	2820.0	2111.0	2111.0	-4.7%
Economy	12274.8	9907.5	12125.3	12861.2	10709.6	10964.4	11182.2	0.5%
Total	**19352.3**	**16563.4**	**18002.5**	**17453.6**	**13529.6**	**13075.4**	**13293.2**	**-0.9%**
International Electricity Trade								
Imports from Canada and Mexico								
Firm Power	13.1	13.7	2.5	1.9	0.8	0.4	0.4	-13.8%
Economy	31.4	28.8	28.9	24.7	26.6	27.5	34.3	0.7%
Total	**44.5**	**42.4**	**31.4**	**26.6**	**27.4**	**27.9**	**34.7**	**-0.8%**
Exports to Canada and Mexico								
Firm Power	2.9	3.2	1.0	0.7	0.2	0.0	0.0	- -
Economy	16.9	21.4	15.5	15.0	14.0	12.1	12.1	-2.3%
Total	**19.8**	**24.6**	**16.5**	**15.6**	**14.2**	**12.1**	**12.1**	**-2.9%**

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 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: 2005 and 2006 interregional firm electricity trade data: North American Electric Reliability Council (NERC), Electricity Sales and Demand Database 2004. 2005 and 2006 Mexican electricity trade data: Energy Information Administration (EIA), *Electric Power Annual 2006* DOE/EIA-0348(2006) (Washington, DC, November 2007). 2005 Canadian international electricity trade data: National Energy Board, *Annual Report 2005*. 2006 Canadian electricity trade data: National Energy Board, *Annual Report 2006*. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Supply and Disposition	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Crude Oil								
Domestic Crude Production[1]	5.19	5.10	5.93	6.16	6.23	6.04	5.59	0.4%
Alaska	0.86	0.74	0.69	0.57	0.70	0.53	0.30	-3.7%
Lower 48 States	4.33	4.36	5.24	5.59	5.53	5.51	5.30	0.8%
Net Imports	10.09	10.09	9.60	9.89	9.75	10.11	11.03	0.4%
Gross Imports	10.12	10.12	9.63	9.92	9.79	10.14	11.06	0.4%
Exports	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.4%
Other Crude Supply[2]	-0.05	0.05	0.00	0.00	0.00	0.00	0.00	- -
Total Crude Supply	**15.23**	**15.24**	**15.53**	**16.04**	**15.98**	**16.15**	**16.63**	**0.4%**
Other Supply								
Natural Gas Plant Liquids	1.72	1.74	1.68	1.70	1.72	1.61	1.57	-0.4%
Net Product Imports	2.47	2.31	1.72	1.47	1.37	1.27	1.26	-2.5%
Gross Refined Product Imports[3]	2.45	2.17	1.61	1.34	1.41	1.50	1.56	-1.4%
Unfinished Oil Imports	0.58	0.69	0.67	0.67	0.64	0.62	0.70	0.1%
Blending Component Imports	0.54	0.68	0.74	0.79	0.67	0.59	0.52	-1.1%
Exports	1.07	1.22	1.30	1.33	1.36	1.45	1.52	0.9%
Refinery Processing Gain[4]	0.99	0.99	1.05	1.06	1.00	0.97	0.99	0.0%
Other Inputs	0.41	0.45	1.04	1.46	1.97	2.34	2.41	7.2%
Ethanol	0.26	0.36	0.81	1.04	1.41	1.59	1.56	6.2%
Domestic Production	0.25	0.32	0.74	0.93	1.17	1.45	1.44	6.5%
Net Imports	0.01	0.05	0.07	0.11	0.24	0.15	0.12	4.0%
Biodiesel	0.01	0.02	0.04	0.08	0.07	0.07	0.08	6.9%
Domestic Production	0.01	0.02	0.04	0.08	0.07	0.07	0.08	6.9%
Net Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Liquids from Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Liquids from Coal	0.00	0.00	0.00	0.06	0.15	0.17	0.24	- -
Liquids from Biomass	0.00	0.00	0.00	0.07	0.14	0.28	0.29	- -
Other[5]	0.14	0.07	0.18	0.21	0.21	0.22	0.24	5.0%
Total Primary Supply[6]	**20.82**	**20.74**	**21.02**	**21.74**	**22.04**	**22.34**	**22.86**	**0.4%**
Liquid Fuels Consumption								
by Fuel								
Liquefied Petroleum Gases	2.03	2.05	2.05	1.96	1.86	1.81	1.80	-0.5%
E85[7]	0.00	0.00	0.00	0.12	0.67	0.97	0.92	33.5%
Motor Gasoline[8]	9.16	9.25	9.59	9.73	9.24	8.84	8.91	-0.2%
Jet Fuel[9]	1.68	1.63	1.66	1.85	2.01	2.16	2.31	1.5%
Distillate Fuel Oil[10]	4.12	4.17	4.40	4.68	4.91	5.19	5.53	1.2%
Diesel	3.04	3.21	3.72	4.00	4.23	4.52	4.87	1.8%
Residual Fuel Oil	0.92	0.69	0.70	0.69	0.69	0.69	0.70	0.0%
Other[11]	2.89	2.86	2.58	2.65	2.58	2.57	2.62	-0.4%
by Sector								
Residential and Commercial	1.19	1.07	1.08	1.11	1.13	1.12	1.12	0.2%
Industrial[12]	5.09	5.15	5.06	4.98	4.79	4.70	4.73	-0.4%
Transportation	13.91	14.05	14.60	15.33	15.79	16.15	16.66	0.7%
Electric Power[13]	0.55	0.29	0.25	0.25	0.26	0.27	0.28	-0.1%
Total	**20.80**	**20.65**	**20.99**	**21.68**	**21.96**	**22.25**	**22.80**	**0.4%**
Discrepancy[14]	**0.02**	**0.09**	**0.03**	**0.06**	**0.08**	**0.09**	**0.06**	**- -**

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

Supply and Disposition	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Domestic Refinery Distillation Capacity[15]	17.1	17.3	18.3	18.3	18.3	18.3	18.4	0.3%
Capacity Utilization Rate (percent)[16]	91.0	90.0	86.8	89.6	89.3	90.1	92.0	0.1%
Net Import Share of Product Supplied (percent)	60.4	60.0	54.2	52.8	51.6	51.6	54.3	-0.4%
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2006 dollars)	251.73	264.86	254.07	203.53	207.19	228.18	261.91	-0.0%

[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]The volumetric amount by which total output is greater than input due to the processing of crude oil into products which, in total, have a lower specific gravity than the crude oil processed.
[5]Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, 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 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, 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2006,* DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 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). Other 2006 data: EIA, *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A12. Petroleum Product Prices
(2006 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Crude Oil Prices (2006 dollars per barrel)								
Imported Low Sulfur Light Crude Oil[1]	58.28	66.02	74.03	59.85	59.70	64.49	70.45	0.3%
Imported Crude Oil[1]	50.40	59.05	65.18	52.03	51.55	55.68	58.66	-0.0%
Delivered Sector Product Prices								
Residential								
Liquefied Petroleum Gases	162.3	198.1	216.3	207.3	207.9	211.4	218.3	0.4%
Distillate Fuel Oil	235.6	248.8	238.6	197.9	198.0	209.9	225.7	-0.4%
Commercial								
Distillate Fuel Oil	191.2	201.8	210.2	177.5	182.5	191.3	206.7	0.1%
Residual Fuel Oil	167.8	128.8	150.7	119.0	118.9	129.1	138.0	0.3%
Residual Fuel Oil (2006 dollars per barrel)	70.46	54.09	63.27	49.97	49.95	54.21	57.97	0.3%
Industrial[2]								
Liquefied Petroleum Gases	151.1	169.2	152.3	142.9	144.1	146.8	152.7	-0.4%
Distillate Fuel Oil	200.8	212.1	216.2	191.6	200.7	207.3	223.1	0.2%
Residual Fuel Oil	156.2	135.6	162.6	123.4	124.0	134.7	144.0	0.2%
Residual Fuel Oil (2006 dollars per barrel)	65.60	56.96	68.29	51.82	52.10	56.57	60.48	0.2%
Transportation								
Liquefied Petroleum Gases	176.6	186.4	223.4	214.0	214.0	216.9	223.4	0.8%
Ethanol (E85)[3]	226.6	235.4	223.7	167.0	172.2	175.5	186.1	-1.0%
Ethanol Wholesale Price	196.8	250.0	180.8	171.3	200.7	164.6	152.2	-2.0%
Motor Gasoline[4]	239.5	263.3	255.4	225.4	235.5	236.0	244.6	-0.3%
Jet Fuel[5]	179.6	200.2	212.8	177.6	179.2	191.0	207.5	0.1%
Diesel Fuel (distillate fuel oil)[6]	249.1	271.0	269.8	241.8	250.2	254.1	268.5	-0.0%
Residual Fuel Oil	129.9	118.1	157.7	128.2	130.1	142.1	155.5	1.2%
Residual Fuel Oil (2006 dollars per barrel)	54.56	49.62	66.22	53.84	54.64	59.70	65.32	1.2%
Electric Power[7]								
Distillate Fuel Oil	175.1	185.1	189.0	148.0	148.3	160.8	176.2	-0.2%
Residual Fuel Oil	110.8	122.3	141.5	110.9	112.3	123.4	135.3	0.4%
Residual Fuel Oil (2006 dollars per barrel)	46.52	51.37	59.43	46.56	47.18	51.85	56.84	0.4%
Refined Petroleum Product Prices[8]								
Liquefied Petroleum Gases	153.0	174.6	165.4	157.2	159.5	163.3	170.1	-0.1%
Motor Gasoline[4]	238.4	261.6	255.4	225.4	235.5	236.0	244.6	-0.3%
Jet Fuel[5]	179.6	200.2	212.8	177.6	179.2	191.0	207.5	0.1%
Distillate Fuel Oil	236.3	255.9	253.9	227.4	236.1	241.9	257.1	0.0%
Residual Fuel Oil	126.4	122.9	154.3	122.6	124.1	135.6	147.7	0.8%
Residual Fuel Oil (2006 dollars per barrel)	53.07	51.63	64.80	51.50	52.12	56.94	62.04	0.8%
Average	**213.0**	**234.5**	**233.1**	**206.6**	**214.1**	**218.0**	**229.6**	**-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 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 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 and 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 and 2006 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 and 2006 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2005 and 2006 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2005 and 2006 wholesale ethanol prices derived from Bloomburg U.S. average rack price. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Production								
Dry Gas Production[1]	18.07	18.51	19.29	19.52	19.67	19.60	19.43	0.2%
Supplemental Natural Gas[2]	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.1%
Net Imports	**3.61**	**3.46**	**3.85**	**4.03**	**3.55**	**3.28**	**3.18**	**-0.4%**
Pipeline[3]	3.05	2.94	2.64	1.91	1.18	0.68	0.33	-8.7%
Liquefied Natural Gas	0.57	0.52	1.20	2.12	2.37	2.60	2.84	7.3%
Total Supply	**21.75**	**22.03**	**23.20**	**23.61**	**23.28**	**22.94**	**22.68**	**0.1%**
Consumption by Sector								
Residential	4.83	4.37	4.81	5.01	5.15	5.19	5.17	0.7%
Commercial	3.00	2.83	2.96	3.20	3.37	3.53	3.67	1.1%
Industrial[4]	6.60	6.49	6.95	7.00	6.93	6.96	6.87	0.2%
Natural-Gas-to-Liquids Heat and Power[5]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural Gas to Liquids Production[6]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Electric Power[7]	5.87	6.24	6.70	6.56	5.92	5.30	4.99	-0.9%
Transportation[8]	0.01	0.02	0.03	0.06	0.07	0.08	0.09	6.2%
Pipeline Fuel	0.58	0.58	0.62	0.64	0.67	0.70	0.70	0.8%
Lease and Plant Fuel[9]	1.11	1.14	1.18	1.19	1.22	1.24	1.23	0.3%
Total	**22.01**	**21.66**	**23.25**	**23.66**	**23.33**	**22.99**	**22.72**	**0.2%**
Discrepancy[10]	**-0.26**	**0.37**	**-0.05**	**-0.05**	**-0.05**	**-0.04**	**-0.05**	**- -**
Natural Gas Prices								
(2006 dollars per million Btu)								
Henry Hub Spot Price	8.93	6.73	6.90	5.87	5.95	6.39	7.22	0.3%
Average Lower 48 Wellhead Price[11]	7.62	6.24	6.16	5.21	5.29	5.69	6.45	0.1%
(2006 dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price[11]	7.85	6.42	6.33	5.36	5.44	5.86	6.63	0.1%
Delivered Prices								
Residential	13.23	13.80	12.52	11.54	11.74	12.29	13.30	-0.2%
Commercial	11.86	11.85	10.91	9.97	10.20	10.78	11.78	-0.0%
Industrial[4]	8.62	7.89	7.43	6.33	6.40	6.76	7.50	-0.2%
Electric Power[7]	8.67	7.07	7.16	6.10	6.11	6.44	7.13	0.0%
Transportation[12]	14.97	14.71	14.01	12.71	12.52	12.65	13.22	-0.4%
Average[13]	**10.22**	**9.49**	**8.97**	**8.00**	**8.22**	**8.73**	**9.63**	**0.1%**

[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, as well as gas from Canada and Mexico.
[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. 2005 and 2006 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 supply values; lease, plant, and pipeline fuel consumption; and residential and commercial delivered prices: Energy Information Administration (EIA), *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 supply values; lease, plant, and pipeline fuel consumption; wellhead price; and residential and commercial delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). Other 2005 and 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2005 and 2006 electric power prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2006 through April 2007, Table 4.11.A. 2005 and 2006 industrial delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 transportation sector delivered prices are based on: EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and estimated state taxes, federal taxes, and dispensing costs or charges. 2006 transportation sector delivered prices are model results. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A14. Oil and Gas Supply

Production and Supply	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Crude Oil								
Lower 48 Average Wellhead Price[1] (2006 dollars per barrel)	**52.37**	**60.18**	**78.45**	**57.71**	**52.54**	**55.77**	**60.59**	**0.0%**
Production (million barrels per day)[2]								
United States Total	5.19	5.10	5.93	6.16	6.23	6.04	5.59	0.4%
Lower 48 Onshore	2.91	2.93	3.10	3.20	3.28	3.43	3.38	0.6%
Lower 48 Offshore	1.41	1.43	2.14	2.38	2.25	2.08	1.92	1.2%
Alaska	0.86	0.74	0.69	0.57	0.70	0.53	0.30	-3.7%
Lower 48 End of Year Reserves[2] (billion barrels)	**18.85**	**19.02**	**19.89**	**20.93**	**20.78**	**20.72**	**19.89**	**0.2%**
Natural Gas								
Prices (2006 dollars per million Btu)								
Henry Hub Spot Price	8.93	6.73	6.90	5.87	5.95	6.39	7.22	0.3%
Average Lower 48 Wellhead Price[1]	7.62	6.24	6.16	5.21	5.29	5.69	6.45	0.1%
Prices (2006 dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price[1]	7.85	6.42	6.33	5.36	5.44	5.86	6.63	0.1%
Dry Production (trillion cubic feet)[3]								
United States Total	18.07	18.51	19.29	19.52	19.67	19.60	19.44	0.2%
Lower 48 Onshore	14.24	15.04	15.26	14.81	14.16	13.74	13.95	-0.3%
Associated-Dissolved[4]	1.35	1.42	1.41	1.40	1.33	1.29	1.20	-0.7%
Non-Associated	12.90	13.62	13.85	13.41	12.83	12.45	12.76	-0.3%
Conventional	5.00	5.14	4.81	3.96	3.47	3.18	3.23	-1.9%
Unconventional	7.89	8.48	9.04	9.45	9.36	9.28	9.53	0.5%
Lower 48 Offshore	3.37	3.05	3.61	4.32	4.31	3.86	3.47	0.5%
Associated-Dissolved[4]	0.68	0.62	0.73	0.95	0.97	0.87	0.77	0.9%
Non-Associated	2.69	2.43	2.88	3.37	3.35	2.99	2.69	0.4%
Alaska	0.46	0.42	0.42	0.38	1.19	2.00	2.01	6.7%
Lower 48 End of Year Dry Reserves (trillion cubic feet)	**196.22**	**202.99**	**220.62**	**227.01**	**219.31**	**207.16**	**200.42**	**-0.1%**
Supplemental Gas Supplies (trillion cubic feet)[5]	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**0.1%**
Total Lower 48 Wells Drilled (thousands)	**41.54**	**49.72**	**62.33**	**42.40**	**37.19**	**34.02**	**35.78**	**-1.4%**

[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 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 crude oil lower 48 average wellhead price: Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 and 2006 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2005 U.S. crude oil and natural gas reserves: EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, DOE/EIA-0216(2005) (Washington, DC, November 2006). 2005 Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2005 natural gas lower 48 average wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). Other 2005 and 2006 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Production[1]								
Appalachia	397	392	381	340	327	324	328	-0.7%
Interior	149	151	166	193	199	219	241	2.0%
West	585	619	619	682	745	820	885	1.5%
East of the Mississippi	494	491	488	460	447	457	481	-0.1%
West of the Mississippi	638	672	678	755	823	906	974	1.6%
Total	**1131**	**1163**	**1166**	**1215**	**1270**	**1363**	**1455**	**0.9%**
Waste Coal Supplied[2]	**13**	**14**	**13**	**14**	**11**	**11**	**12**	**-0.4%**
Net Imports								
Imports[3]	29	34	37	42	80	93	112	5.1%
Exports	50	50	71	45	34	35	35	-1.5%
Total	**-21**	**-15**	**-34**	**-3**	**46**	**57**	**78**	**- -**
Total Supply[4]	**1124**	**1161**	**1144**	**1225**	**1326**	**1431**	**1545**	**1.2%**
Consumption by Sector								
Residential and Commercial	4	4	4	4	4	4	4	-0.2%
Coke Plants	23	23	23	21	20	20	18	-0.9%
Other Industrial[5]	60	61	64	60	59	58	58	-0.2%
Coal-to-Liquids Heat and Power	0	0	0	9	23	25	35	- -
Coal to Liquids Production	0	0	0	7	19	21	29	- -
Electric Power[6]	1037	1026	1054	1125	1202	1303	1401	1.3%
Total	**1125**	**1114**	**1145**	**1225**	**1327**	**1431**	**1545**	**1.4%**
Discrepancy and Stock Change[7]	**-2**	**47**	**-0**	**-0**	**-0**	**-0**	**-0**	**- -**
Average Minemouth Price[8]								
(2006 dollars per short ton)	24.08	24.63	26.16	23.38	22.51	22.75	23.32	-0.2%
(2006 dollars per million Btu)	1.18	1.21	1.28	1.17	1.14	1.16	1.19	-0.1%
Delivered Prices (2006 dollars per short ton)[9]								
Coke Plants	86.43	92.87	107.02	92.85	89.86	92.16	94.68	0.1%
Other Industrial[5]	49.13	51.67	51.64	49.16	48.82	49.21	49.91	-0.1%
Coal to Liquids	- -	- -	- -	14.44	16.54	18.07	20.60	- -
Electric Power								
(2006 dollars per short ton)	32.01	33.85	36.62	34.24	33.84	34.03	35.03	0.1%
(2006 dollars per million Btu)	1.59	1.69	1.84	1.74	1.72	1.74	1.78	0.2%
Average	**34.08**	**36.03**	**38.87**	**35.71**	**34.83**	**34.94**	**35.70**	**-0.0%**
Exports[10]	69.22	70.93	80.99	71.83	74.00	76.33	79.44	0.5%

[1]Includes anthracite, bituminous coal, subbituminous 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.
- - = Not applicable.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 data based on: Energy Information Administration (EIA), *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007); EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007); and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Capacity and Generation	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Electric Power Sector[1]								
Net Summer Capacity								
Conventional Hydropower	76.72	76.72	76.73	77.15	77.26	77.26	77.32	0.0%
Geothermal[2]	2.23	2.29	2.50	2.88	3.28	3.77	4.18	2.5%
Municipal Waste[3]	3.21	3.39	3.99	3.99	4.02	4.06	4.06	0.8%
Wood and Other Biomass[4,5]	1.96	2.01	2.20	2.74	4.39	4.84	5.58	4.3%
Solar Thermal	0.40	0.40	0.54	0.80	0.82	0.84	0.86	3.2%
Solar Photovoltaic[6]	0.03	0.03	0.07	0.14	0.22	0.30	0.39	11.2%
Wind	8.92	11.50	25.61	29.63	33.64	37.18	40.15	5.3%
Total	**93.46**	**96.34**	**111.63**	**117.32**	**123.62**	**128.26**	**132.54**	**1.3%**
Generation (billion kilowatthours)								
Conventional Hydropower	266.91	285.07	289.47	297.22	298.00	298.09	298.53	0.2%
Geothermal[2]	14.69	14.84	17.52	20.79	23.96	27.84	31.05	3.1%
Biogenic Municipal Waste[7]	12.70	13.46	18.85	18.85	19.08	19.46	19.47	1.6%
Wood and Other Biomass[5]	10.57	10.97	22.98	42.96	77.53	83.30	82.55	8.8%
Dedicated Plants	8.60	9.06	11.06	15.46	27.74	30.98	36.64	6.0%
Cofiring	1.97	1.91	11.92	27.51	49.79	52.32	45.91	14.2%
Solar Thermal	0.54	0.49	1.15	1.97	2.04	2.11	2.18	6.4%
Solar Photovoltaic[6]	0.02	0.01	0.16	0.32	0.52	0.74	0.96	19.6%
Wind	17.81	25.78	74.13	87.19	101.23	113.14	123.18	6.7%
Total	**323.23**	**350.62**	**424.27**	**469.30**	**522.35**	**544.68**	**557.91**	**2.0%**
End-Use Generators[8]								
Net Summer Capacity								
Conventional Hydropower[9]	0.71	0.70	0.70	0.70	0.70	0.70	0.70	0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Municipal Waste[10]	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.0%
Biomass	4.72	4.64	4.89	6.37	8.57	12.21	12.60	4.3%
Solar Photovoltaic[6]	0.18	0.27	0.67	0.77	1.13	1.77	2.80	10.2%
Wind	0.01	0.04	0.04	0.05	0.09	0.17	0.26	8.0%
Total	**5.96**	**6.00**	**6.65**	**8.24**	**10.85**	**15.20**	**16.72**	**4.4%**
Generation (billion kilowatthours)								
Conventional Hydropower[9]	3.46	3.24	3.24	3.24	3.24	3.24	3.24	-0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Municipal Waste[10]	1.95	2.06	2.82	2.82	2.82	2.82	2.82	1.3%
Biomass	28.33	28.44	29.98	40.50	57.00	84.74	86.99	4.8%
Solar Photovoltaic[6]	0.28	0.43	1.07	1.25	1.85	2.97	4.76	10.6%
Wind	0.02	0.06	0.06	0.06	0.13	0.24	0.38	8.3%
Total	**34.03**	**34.22**	**37.17**	**47.88**	**65.05**	**94.02**	**98.19**	**4.5%**

[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 all municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. All municipal waste is included, although a portion of the municipal 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 2012.
[6]Does not include off-grid PV. Based on annual PV shipments from 1989 through 2005, EIA estimates that as much as 192 megawatts of remote electricity generation PV applications (i.e., off-grid power systems) were in service in 2005, plus an additional 481 megawatts in communications, transportation, and assorted other non-grid-connected, specialized applications. See Energy Information Administration, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007), Table 10.8 (annual PV shipments, 1989-2005). 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 biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. Only biogenic municipal waste is included. The Energy Information Administration estimates approximately 7 billion kilowatthours of electricity was generated from a municipal waste stream containing petroleum-derived plastics and other non-renewable sources. See Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).
[8]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.
[9]Represents own-use industrial hydroelectric power.
[10]Includes municipal waste, landfill gas, and municipal sewage sludge. All municipal waste is included, although a portion of the municipal waste stream contains petroleum-derived plastics and other non-renewable sources.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 capacity: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). 2005 and 2006 generation: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Marketed Renewable Energy[2]								
Residential (wood)	**0.45**	**0.41**	**0.44**	**0.42**	**0.40**	**0.39**	**0.38**	**-0.3%**
Commercial (biomass)	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.0%**
Industrial[3]	**1.88**	**1.99**	**2.34**	**2.75**	**3.32**	**4.21**	**4.33**	**3.3%**
Conventional Hydroelectric	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.0%
Municipal Waste[4]	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.0%
Biomass	1.45	1.51	1.48	1.57	1.65	1.75	1.83	0.8%
Biofuels Heat and Coproducts	0.24	0.30	0.67	1.00	1.49	2.28	2.31	8.9%
Transportation	**0.35**	**0.50**	**1.13**	**1.66**	**2.24**	**2.77**	**2.77**	**7.4%**
Ethanol used in E85[5]	0.00	0.00	0.00	0.12	0.64	0.93	0.88	33.5%
Ethanol used in Gasoline Blending	0.34	0.47	1.05	1.22	1.18	1.13	1.13	3.7%
Biodiesel used in Distillate Blending	0.01	0.03	0.08	0.17	0.13	0.14	0.16	6.9%
Liquids from Biomass	0.00	0.00	0.00	0.15	0.29	0.56	0.60	- -
Electric Power[6]	**3.49**	**3.74**	**4.53**	**5.05**	**5.64**	**5.94**	**6.13**	**2.1%**
Conventional Hydroelectric	2.67	2.86	2.89	2.96	2.97	2.97	2.97	0.2%
Geothermal	0.31	0.31	0.37	0.48	0.58	0.70	0.80	4.0%
Biogenic Municipal Waste[7]	0.20	0.15	0.23	0.23	0.23	0.23	0.23	1.8%
Biomass	0.18	0.16	0.28	0.48	0.82	0.87	0.86	7.4%
Dedicated Plants	0.14	0.12	0.12	0.16	0.27	0.30	0.36	4.6%
Cofiring	0.04	0.03	0.16	0.33	0.55	0.57	0.49	11.9%
Solar Thermal	0.01	0.00	0.01	0.02	0.02	0.02	0.02	6.4%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.01	0.01	0.01	19.6%
Wind	0.12	0.26	0.74	0.87	1.02	1.13	1.24	6.7%
Total Marketed Renewable Energy	**6.30**	**6.77**	**8.56**	**10.00**	**11.74**	**13.44**	**13.73**	**3.0%**
Sources of Ethanol								
From Corn	0.33	0.41	0.95	1.18	1.26	1.26	1.26	4.8%
From Cellulose	0.00	0.00	0.01	0.03	0.23	0.58	0.58	- -
From Other Feedstocks	0.00	0.00	0.00	0.00	0.01	0.02	0.01	- -
Net Imports	0.01	0.06	0.09	0.14	0.31	0.19	0.15	4.0%
Total	**0.34**	**0.47**	**1.05**	**1.34**	**1.82**	**2.06**	**2.01**	**6.2%**

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

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Nonmarketed Renewable Energy[8] Selected Consumption								
Residential	**0.01**	**0.02**	**0.02**	**0.03**	**0.04**	**0.05**	**0.07**	**5.9%**
Solar Hot Water Heating	0.01	0.01	0.02	0.02	0.03	0.04	0.05	5.3%
Geothermal Heat Pumps	0.00	0.00	0.00	0.01	0.01	0.01	0.01	6.1%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.9%
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
Commercial	**0.03**	**0.03**	**0.03**	**0.03**	**0.03**	**0.04**	**0.04**	**1.7%**
Solar Thermal	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.5%
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.01	0.01	8.7%
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.9%

[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 10,022 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 waste, landfill gas, and municipal sewage sludge. All municipal waste is included, although a portion of the municipal 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 biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. Only biogenic municipal waste is included. The Energy Information Administration estimates approximately .38 quadrillion Btus were consumed from a municipal waste stream containing petroleum-derived plastics and other non-renewable sources. See Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).
[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.
- - = Not applicable.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 ethanol: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 electric power sector: EIA, Form EIA-860, "Annual Electric Generator Report" (preliminary). Other 2005 and 2006 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Sector and Source	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Residential								
Petroleum	101	100	91	92	92	90	88	-0.5%
Natural Gas	262	237	263	274	281	284	282	0.7%
Coal	1	1	1	1	1	1	1	0.9%
Electricity[1]	890	866	904	913	949	1004	1079	0.9%
Total	**1253**	**1204**	**1259**	**1280**	**1324**	**1379**	**1451**	**0.8%**
Commercial								
Petroleum	52	53	46	48	49	49	49	-0.3%
Natural Gas	169	155	162	175	184	193	201	1.1%
Coal	9	6	8	8	8	8	8	1.0%
Electricity[1]	835	832	864	945	1024	1117	1216	1.6%
Total	**1066**	**1046**	**1079**	**1176**	**1265**	**1367**	**1474**	**1.4%**
Industrial[2]								
Petroleum	412	421	435	442	432	428	436	0.1%
Natural Gas[3]	409	399	430	435	434	437	433	0.3%
Coal	189	189	186	185	204	206	217	0.6%
Electricity[1]	668	642	640	656	649	645	647	0.0%
Total	**1677**	**1652**	**1693**	**1718**	**1718**	**1716**	**1733**	**0.2%**
Transportation								
Petroleum[4]	1948	1952	1940	2010	2032	2062	2145	0.4%
Natural Gas[5]	33	33	36	38	40	43	43	1.2%
Electricity[1]	4	4	4	5	5	5	5	1.2%
Total	**1985**	**1989**	**1980**	**2052**	**2077**	**2110**	**2193**	**0.4%**
Electric Power[6]								
Petroleum	101	55	43	44	45	47	48	-0.5%
Natural Gas	321	340	365	358	323	289	272	-0.9%
Coal	1964	1938	1993	2105	2247	2423	2615	1.3%
Other[7]	12	12	12	12	12	12	12	0.1%
Total	**2397**	**2344**	**2413**	**2519**	**2627**	**2771**	**2948**	**1.0%**
Total by Fuel								
Petroleum[3]	2615	2581	2555	2636	2650	2676	2767	0.3%
Natural Gas	1193	1163	1256	1279	1262	1245	1231	0.2%
Coal	2162	2134	2188	2299	2459	2638	2841	1.2%
Other[7]	12	12	12	12	12	12	12	0.1%
Total	**5982**	**5890**	**6011**	**6226**	**6384**	**6571**	**6851**	**0.6%**
Carbon Dioxide Emissions (tons per person)	**20.1**	**19.6**	**19.3**	**19.2**	**18.9**	**18.7**	**18.7**	**-0.2%**

[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 2006, international bunker fuels accounted for 84 to 126 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 waste.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2006,* DOE/EIA-0573(2006) (Washington, DC, November 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Indicators	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Real Gross Domestic Product	**11004**	**11319**	**12453**	**14199**	**15984**	**17951**	**20219**	**2.4%**
Components of Real Gross Domestic Product								
Real Consumption	7804	8044	8845	10151	11362	12628	13999	2.3%
Real Investment	1869	1920	1939	2307	2614	3088	3743	2.8%
Real Government Spending	1946	1981	2087	2164	2258	2352	2471	0.9%
Real Exports	1203	1304	1797	2455	3387	4582	6191	6.7%
Real Imports	1821	1929	2190	2796	3474	4415	5723	4.6%
Energy Intensity (thousand Btu per 2000 dollar of GDP)								
Delivered Energy	6.62	6.39	6.03	5.48	5.00	4.57	4.16	-1.8%
Total Energy	9.09	8.79	8.30	7.54	6.91	6.35	5.80	-1.7%
Price Indices								
GDP Chain-type Price Index (2000=1.000)	1.130	1.166	1.260	1.375	1.520	1.686	1.871	2.0%
Consumer Price Index (1982-4=1.00)								
All-urban	1.95	2.02	2.20	2.38	2.64	2.94	3.29	2.1%
Energy Commodities and Services	1.77	1.97	2.15	2.15	2.43	2.73	3.14	2.0%
Wholesale Price Index (1982=1.00)								
All Commodities	1.57	1.65	1.80	1.84	1.96	2.10	2.26	1.3%
Fuel and Power	1.56	1.67	1.88	1.82	2.04	2.34	2.75	2.1%
Interest Rates (percent, nominal)								
Federal Funds Rate	3.21	4.96	4.69	4.71	4.92	4.85	4.91	- -
10-Year Treasury Note	4.29	4.79	5.24	5.20	5.44	5.41	5.46	- -
AA Utility Bond Rate	5.44	5.84	6.65	6.71	6.98	7.01	7.13	- -
Value of Shipments (billion 2000 dollars)								
Total Industrial	5732	5821	5997	6659	7113	7546	7997	1.3%
Nonmanufacturing	1525	1531	1419	1583	1619	1663	1715	0.5%
Manufacturing	4208	4290	4577	5076	5493	5883	6283	1.6%
Energy-Intensive	1207	1225	1283	1351	1387	1418	1447	0.7%
Non-energy Intensive	3001	3065	3295	3725	4107	4465	4836	1.9%
Population and Employment (millions)								
Population, with Armed Forces Overseas	297.3	300.1	310.9	324.3	337.7	351.4	365.6	0.8%
Population, aged 16 and over	232.2	235.0	244.9	255.3	266.0	277.3	289.3	0.9%
Population, over age 65	36.9	37.3	40.4	47.0	54.9	63.8	71.6	2.8%
Employment, Nonfarm	133.6	136.1	142.4	149.7	154.5	160.9	168.1	0.9%
Employment, Manufacturing	14.2	14.2	14.2	14.4	13.8	12.5	11.2	-1.0%
Key Labor Indicators								
Labor Force (millions)	149.3	151.4	156.8	162.1	165.6	171.0	177.9	0.7%
Nonfarm Labor Productivity (1992=1.00)	1.34	1.35	1.45	1.60	1.77	1.95	2.14	1.9%
Unemployment Rate (percent)	5.07	4.63	5.03	4.58	4.62	4.79	4.80	- -
Key Indicators for Energy Demand								
Real Disposable Personal Income	8148	8397	9472	11055	12654	14349	16246	2.8%
Housing Starts (millions)	2.22	1.93	1.68	1.88	1.78	1.74	1.70	-0.5%
Commercial Floorspace (billion square feet)	73.8	74.8	78.8	83.9	89.3	94.8	100.8	1.2%
Unit Sales of Light-Duty Vehicles (millions)	16.95	16.50	16.38	17.75	17.47	18.35	19.39	0.7%

GDP = Gross domestic product.
Btu = British thermal unit.
- - = Not applicable.
Sources: 2005 and 2006: Global Insight, Global Insight Industry and Employment models, July 2007. **Projections:** Energy Information Administration, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

Supply and Disposition	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Crude Oil Prices (2006 dollars per barrel)[1]								
Imported Low Sulfur Light Crude Oil	58.28	66.02	74.03	59.85	59.70	64.49	70.45	0.3%
Imported Crude Oil	50.40	59.05	65.18	52.03	51.55	55.68	58.66	-0.0%
Conventional Production (Conventional)[2]								
OPEC[3]								
Asia	1.15	1.11	1.03	0.99	0.98	0.99	0.94	-0.7%
Middle East	22.50	23.21	22.41	23.40	24.09	25.24	27.35	0.7%
North Africa	3.81	3.90	4.28	4.63	4.78	4.84	4.82	0.9%
West Africa	4.03	4.02	5.77	6.88	7.41	7.80	8.23	3.0%
South America	2.21	2.06	1.99	2.20	2.18	2.17	2.16	0.2%
Total OPEC	**33.71**	**34.30**	**35.48**	**38.09**	**39.45**	**41.04**	**43.50**	**1.0%**
Non-OPEC								
OECD								
United States (50 states)	8.04	7.91	8.84	9.12	9.15	8.84	8.39	0.2%
Canada	1.99	2.00	1.85	1.56	1.32	1.16	1.05	-2.7%
Mexico	3.79	3.74	3.37	3.29	3.25	3.24	3.35	-0.5%
OECD Europe[4]	5.94	5.52	4.89	4.05	3.59	3.43	3.39	-2.0%
Japan	0.13	0.13	0.12	0.13	0.14	0.15	0.15	0.8%
Australia and New Zealand	0.59	0.57	0.62	0.64	0.65	0.66	0.66	0.6%
Total OECD	**20.48**	**19.85**	**19.69**	**18.78**	**18.10**	**17.48**	**16.99**	**-0.6%**
Non-OECD								
Russia	9.58	9.82	10.34	10.60	10.90	11.37	11.69	0.7%
Other Eurasia[5]	2.65	2.85	3.77	4.83	5.46	5.88	6.36	3.4%
China	3.74	3.80	3.83	3.87	3.87	3.70	3.53	-0.3%
Other Asia[6]	2.77	2.89	2.92	3.22	3.40	3.43	3.17	0.4%
Middle East[7]	1.67	1.69	2.00	2.20	2.40	2.70	2.90	2.3%
Africa	2.47	2.49	2.92	3.35	3.83	4.04	3.99	2.0%
Brazil	1.75	1.84	2.40	2.94	3.39	3.65	3.66	2.9%
Other Central and South America	2.36	2.36	2.32	2.49	2.67	3.03	3.51	1.7%
Total Non-OECD	**26.98**	**27.73**	**30.51**	**33.49**	**35.94**	**37.80**	**38.81**	**1.4%**
Total Conventional Production	**81.17**	**81.88**	**85.67**	**90.37**	**93.48**	**96.31**	**99.30**	**0.8%**
Unconventional Production[8]								
United States (50 states)	0.26	0.34	0.78	1.15	1.53	1.97	2.06	7.9%
Other North America	1.09	1.23	1.91	2.34	2.85	3.41	3.96	5.0%
OECD Europe[3]	0.03	0.04	0.07	0.10	0.15	0.19	0.26	8.4%
Middle East[7]	0.00	0.00	0.03	0.18	0.31	0.62	1.24	25.8%
Africa.	0.15	0.17	0.31	0.36	0.44	0.59	0.83	6.9%
Central and South America	0.79	0.80	1.18	1.45	1.76	2.09	2.51	4.9%
Other	0.16	0.20	0.44	0.76	1.28	1.96	3.15	12.1%
Total Unconventional Production	**2.48**	**2.78**	**4.73**	**6.34**	**8.32**	**10.83**	**14.00**	**7.0%**
Total Production	**83.65**	**84.66**	**90.40**	**96.70**	**101.80**	**107.14**	**113.31**	**1.2%**

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

Supply and Disposition	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
Consumption[9]								
OECD								
United States (50 states)	20.80	20.65	20.99	21.59	21.47	21.52	22.11	0.3%
United States Territories	0.37	0.38	0.43	0.47	0.51	0.55	0.59	1.9%
Canada	2.26	2.27	2.32	2.34	2.36	2.38	2.40	0.2%
Mexico	2.03	2.06	2.19	2.36	2.61	2.75	2.95	1.5%
OECD Europe[3]	15.42	15.42	15.47	15.63	15.71	15.79	15.86	0.1%
Japan	5.16	5.16	5.18	5.21	5.22	5.24	5.26	0.1%
South Korea	2.17	2.18	2.25	2.47	2.57	2.68	2.81	1.1%
Australia and New Zealand	1.03	1.03	1.07	1.13	1.19	1.25	1.28	0.9%
Total OECD	**49.24**	**49.16**	**49.90**	**51.20**	**51.64**	**52.16**	**53.28**	**0.3%**
Non-OECD								
Russia	2.77	2.79	2.89	3.03	3.13	3.25	3.32	0.7%
Other Non-OECD Eurasia[5]	2.05	2.09	2.26	2.43	2.64	2.79	2.96	1.5%
China	6.73	7.26	9.44	10.55	11.96	13.63	15.69	3.3%
India	2.44	2.49	2.68	3.25	3.62	4.03	4.37	2.4%
Other Non-OECD Asia	6.02	6.14	6.67	7.64	8.35	9.08	9.86	2.0%
Middle East[7]	5.91	6.15	7.13	7.79	8.46	9.18	9.84	2.0%
Africa	2.90	2.99	3.36	3.88	4.35	4.62	4.93	2.1%
Brazil	2.40	2.34	2.57	2.87	3.15	3.42	3.68	1.9%
Other Central and South America	3.17	3.26	3.51	4.05	4.51	4.98	5.37	2.1%
Total Non-OECD	**34.41**	**35.51**	**40.51**	**45.50**	**50.16**	**54.98**	**60.02**	**2.2%**
Total Consumption	**83.65**	**84.66**	**90.40**	**96.70**	**101.80**	**107.14**	**113.30**	**1.2%**
OPEC Production[10]	34.31	34.90	36.40	39.26	40.87	42.91	46.16	1.2%
Non-OPEC Production[10]	49.34	49.76	54.00	57.44	60.94	64.23	67.15	1.3%
Net Eurasia Exports	9.15	9.63	11.37	12.91	13.98	14.86	15.43	2.0%
OPEC Market Share (percent)	41.0	41.2	40.3	40.6	40.1	40.0	40.7	-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, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Does not include Ecuador, which was admitted to OPEC as a full member on November 17, 2007.
[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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2005 and 2006 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 and 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 quantities derived from: EIA, *International Energy Annual 2005*, DOE/EIA-0219(2005) (Washington, DC, June-October 2007). **2006 quantities and projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Economic Growth Case Comparisons

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

Supply, Disposition, and Prices	2006	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	10.80	12.75	12.76	12.77	13.38	13.40	13.52	11.87	12.04	12.18
Natural Gas Plant Liquids	2.36	2.26	2.27	2.29	2.25	2.31	2.36	2.01	2.11	2.20
Dry Natural Gas	19.04	19.53	19.85	20.13	19.50	20.24	20.63	19.07	20.00	21.10
Coal[1]	23.79	23.95	23.97	24.00	23.63	25.20	27.23	25.47	28.63	32.20
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Hydropower	2.89	2.92	2.92	2.92	2.99	3.00	3.00	2.99	3.00	3.00
Biomass[2]	2.94	4.02	4.05	4.10	6.29	6.42	6.61	7.84	8.12	8.53
Other Renewable Energy[3]	0.88	1.46	1.51	1.51	1.78	2.00	2.08	2.09	2.45	2.61
Other[4]	0.50	0.53	0.54	0.54	0.59	0.58	0.58	0.64	0.64	0.65
Total	**71.41**	**75.71**	**76.17**	**76.56**	**79.31**	**82.21**	**85.27**	**80.71**	**86.56**	**93.39**
Imports										
Crude Oil	22.08	20.76	21.14	21.33	20.61	21.58	22.36	22.66	24.41	25.77
Liquid Fuels and Other Petroleum[5]	7.21	5.44	5.61	6.02	4.61	5.43	6.41	3.90	5.44	6.93
Natural Gas	4.29	4.70	4.80	4.89	4.42	4.68	4.93	4.16	4.64	4.80
Other Imports[6]	0.98	0.94	0.95	0.95	1.96	1.93	1.95	2.80	2.74	2.85
Total	**34.57**	**31.84**	**32.49**	**33.20**	**31.60**	**33.62**	**35.65**	**33.52**	**37.22**	**40.36**
Exports										
Petroleum[7]	2.60	2.83	2.82	2.84	3.00	2.98	3.00	3.42	3.33	3.11
Natural Gas	0.73	0.85	0.84	0.84	1.05	1.02	1.00	1.43	1.36	1.30
Coal	1.26	1.79	1.79	1.79	0.88	0.87	0.86	0.88	0.88	0.88
Total	**4.59**	**5.47**	**5.45**	**5.47**	**4.93**	**4.87**	**4.86**	**5.73**	**5.56**	**5.29**
Discrepancy[8]	**1.87**	**-0.10**	**-0.13**	**-0.17**	**0.17**	**0.12**	**0.02**	**0.29**	**0.21**	**0.07**
Consumption										
Liquid Fuels and Other Petroleum[9]	40.06	39.85	40.46	41.12	40.15	42.24	44.43	40.08	43.99	48.01
Natural Gas	22.30	23.51	23.93	24.31	22.99	24.01	24.68	21.91	23.39	24.71
Coal	22.50	23.00	23.03	23.06	24.48	25.87	27.74	27.00	29.90	32.99
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Hydropower	2.89	2.92	2.92	2.92	2.99	3.00	3.00	2.99	3.00	3.00
Biomass[10]	2.50	2.97	3.01	3.06	4.35	4.50	4.69	5.23	5.51	5.94
Other Renewable Energy[3]	0.88	1.46	1.51	1.51	1.78	2.00	2.08	2.09	2.45	2.61
Other[11]	0.19	0.18	0.18	0.18	0.17	0.17	0.17	0.18	0.20	0.20
Total	**99.52**	**102.19**	**103.34**	**104.46**	**105.82**	**110.85**	**116.04**	**108.21**	**118.01**	**128.38**

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

Supply, Disposition, and Prices	2006	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 (2006 dollars per unit)										
Petroleum (dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price[12]	66.02	73.52	74.03	74.56	58.73	59.70	60.62	68.43	70.45	72.15
Imported Crude Oil Price[12]	59.05	64.48	65.18	66.21	50.37	51.55	52.42	55.52	58.66	62.27
Natural Gas (dollars per million Btu)										
Price at Henry Hub	6.73	6.69	6.90	7.11	5.72	5.95	5.93	6.84	7.22	7.61
Wellhead Price[13]	6.24	5.96	6.16	6.35	5.08	5.29	5.27	6.10	6.45	6.80
Natural Gas (dollars per thousand cubic feet)										
Wellhead Price[13]	6.42	6.13	6.33	6.53	5.22	5.44	5.43	6.27	6.63	7.00
Coal (dollars per ton)										
Minemouth Price[14]	24.63	26.02	26.16	26.33	22.24	22.51	23.16	22.15	23.32	24.09
Coal (dollars per million Btu)										
Minemouth Price[14]	1.21	1.27	1.28	1.29	1.12	1.14	1.18	1.13	1.19	1.24
Average Delivered Price[15]	1.78	1.92	1.93	1.94	1.74	1.77	1.81	1.76	1.82	1.87
Average Electricity Price (cents per kilowatthour)	8.9	9.1	9.2	9.3	8.3	8.6	8.7	8.6	8.8	9.1

[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; biogenic municipal 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 non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[6]Includes coal, coal coke (net), and electricity (net).
[7]Includes crude oil and petroleum products.
[8]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[9]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.
[10]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.
[11]Includes non-biogenic municipal waste and net electricity imports.
[12]Weighted average price delivered to U.S. refiners.
[13]Represents lower 48 onshore and offshore supplies.
[14]Includes reported prices for both open market and captive mines.
[15]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

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

Sector and Source	2006	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	0.47	0.48	0.48	0.48	0.51	0.52	0.53	0.52	0.55	0.58
Kerosene	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.09
Distillate Fuel Oil	0.70	0.76	0.75	0.75	0.73	0.73	0.73	0.65	0.65	0.65
Liquid Fuels and Other Petroleum Subtotal	1.25	1.31	1.31	1.32	1.32	1.33	1.35	1.26	1.29	1.32
Natural Gas	4.50	4.94	4.95	4.96	5.18	5.30	5.44	5.07	5.32	5.57
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	0.44	0.44	0.44	0.40	0.40	0.41	0.36	0.38	0.39
Electricity	4.61	4.93	4.95	4.97	5.10	5.25	5.41	5.52	5.88	6.22
Delivered Energy	**10.77**	**11.63**	**11.66**	**11.69**	**12.01**	**12.30**	**12.63**	**12.23**	**12.88**	**13.52**
Electricity Related Losses	10.04	10.58	10.59	10.60	10.81	11.08	11.36	11.54	12.14	12.74
Total	**20.82**	**22.22**	**22.25**	**22.29**	**22.82**	**23.39**	**23.99**	**23.77**	**25.01**	**26.25**
Commercial										
Liquefied Petroleum Gases	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	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	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Distillate Fuel Oil	0.42	0.38	0.38	0.38	0.41	0.41	0.42	0.40	0.41	0.42
Residual Fuel Oil	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Liquid Fuels and Other Petroleum Subtotal	0.68	0.63	0.63	0.63	0.67	0.68	0.69	0.67	0.68	0.70
Natural Gas	2.92	3.02	3.04	3.06	3.34	3.47	3.60	3.54	3.78	4.03
Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Renewable Energy[3]	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Electricity	4.43	4.69	4.73	4.75	5.49	5.67	5.84	6.24	6.62	7.01
Delivered Energy	**8.25**	**8.56**	**8.62**	**8.65**	**9.71**	**10.03**	**10.34**	**10.66**	**11.30**	**11.95**
Electricity Related Losses	9.66	10.07	10.12	10.14	11.63	11.96	12.26	13.04	13.68	14.34
Total	**17.91**	**18.63**	**18.74**	**18.80**	**21.34**	**21.98**	**22.60**	**23.70**	**24.98**	**26.29**
Industrial[4]										
Liquefied Petroleum Gases	2.09	2.07	2.12	2.18	1.65	1.83	2.04	1.40	1.71	2.05
Motor Gasoline[2]	0.38	0.36	0.38	0.39	0.34	0.37	0.41	0.33	0.38	0.43
Distillate Fuel Oil	1.28	1.24	1.29	1.34	1.12	1.23	1.34	1.07	1.23	1.40
Residual Fuel Oil	0.28	0.27	0.28	0.29	0.22	0.23	0.24	0.20	0.23	0.25
Petrochemical Feedstocks	1.41	1.32	1.36	1.41	1.22	1.39	1.57	1.01	1.29	1.60
Other Petroleum[5]	4.48	4.11	4.25	4.38	3.99	4.22	4.48	4.02	4.41	4.79
Liquid Fuels and Other Petroleum Subtotal	9.92	9.38	9.67	9.98	8.53	9.27	10.07	8.03	9.25	10.53
Natural Gas	6.68	7.03	7.16	7.24	6.67	7.14	7.60	6.14	7.08	7.94
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]	1.17	1.20	1.21	1.22	1.22	1.25	1.27	1.23	1.27	1.32
Natural Gas Subtotal	7.85	8.23	8.37	8.47	7.89	8.39	8.87	7.37	8.35	9.26
Metallurgical Coal	0.60	0.59	0.60	0.61	0.49	0.54	0.58	0.39	0.48	0.57
Other Industrial Coal	1.26	1.29	1.31	1.32	1.15	1.20	1.24	1.10	1.18	1.25
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.15	0.34	0.58	0.34	0.55	1.27
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.06
Coal Subtotal	1.92	1.91	1.93	1.96	1.82	2.11	2.45	1.84	2.26	3.15
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.67	1.50	1.49	1.49	2.34	2.31	2.29
Renewable Energy[7]	1.69	1.62	1.66	1.71	1.70	1.83	1.98	1.71	2.02	2.33
Electricity	3.42	3.44	3.50	3.57	3.32	3.59	3.87	2.94	3.52	4.10
Delivered Energy	**25.10**	**25.26**	**25.82**	**26.36**	**24.75**	**26.70**	**28.73**	**24.23**	**27.70**	**31.67**
Electricity Related Losses	7.45	7.38	7.50	7.62	7.03	7.57	8.13	6.14	7.28	8.39
Total	**32.55**	**32.64**	**33.32**	**33.98**	**31.78**	**34.27**	**36.86**	**30.37**	**34.98**	**40.06**

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

(Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	2006	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	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02
E85[8]	0.00	0.00	0.00	0.00	1.07	0.97	0.95	1.53	1.34	1.26
Motor Gasoline[2]	17.20	17.13	17.25	17.40	15.81	16.56	17.32	14.66	15.97	17.34
Jet Fuel[9]	3.16	3.41	3.44	3.47	4.10	4.15	4.13	4.62	4.79	4.83
Distillate Fuel Oil[10]	6.18	6.38	6.54	6.72	7.05	7.63	8.26	7.67	8.98	10.30
Residual Fuel Oil	0.83	0.85	0.85	0.86	0.85	0.86	0.87	0.86	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	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.19
Liquid Fuels and Other Petroleum Subtotal	27.57	27.97	28.29	28.63	29.06	30.37	31.72	29.53	32.15	34.82
Pipeline Fuel Natural Gas	0.59	0.63	0.64	0.65	0.66	0.69	0.71	0.68	0.72	0.76
Compressed Natural Gas	0.02	0.03	0.04	0.04	0.06	0.07	0.08	0.07	0.08	0.10
Electricity	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Delivered Energy	**28.20**	**28.66**	**28.98**	**29.34**	**29.81**	**31.15**	**32.53**	**30.31**	**32.98**	**35.71**
Electricity Related Losses	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06
Total	**28.25**	**28.70**	**29.03**	**29.39**	**29.87**	**31.21**	**32.59**	**30.38**	**33.04**	**35.77**
Delivered Energy Consumption for All Sectors										
Liquefied Petroleum Gases	2.65	2.65	2.70	2.76	2.26	2.45	2.68	2.03	2.37	2.75
E85[8]	0.00	0.00	0.00	0.00	1.07	0.97	0.95	1.53	1.34	1.26
Motor Gasoline[2]	17.62	17.54	17.68	17.84	16.20	16.99	17.78	15.04	16.40	17.83
Jet Fuel[9]	3.16	3.41	3.44	3.47	4.10	4.15	4.13	4.62	4.79	4.83
Kerosene	0.11	0.12	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13
Distillate Fuel Oil	8.59	8.76	8.97	9.19	9.31	10.00	10.74	9.80	11.28	12.77
Residual Fuel Oil	1.23	1.22	1.23	1.24	1.17	1.19	1.21	1.15	1.20	1.24
Petrochemical Feedstocks	1.41	1.32	1.36	1.41	1.22	1.39	1.57	1.01	1.29	1.60
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]	4.64	4.27	4.40	4.54	4.14	4.38	4.64	4.18	4.56	4.96
Liquid Fuels and Other Petroleum Subtotal	39.41	39.30	39.90	40.56	39.58	41.65	43.83	39.49	43.37	47.37
Natural Gas	14.12	15.03	15.19	15.30	15.25	15.98	16.72	14.82	16.27	17.64
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]	1.17	1.20	1.21	1.22	1.22	1.25	1.27	1.23	1.27	1.32
Pipeline Natural Gas	0.59	0.63	0.64	0.65	0.66	0.69	0.71	0.68	0.72	0.76
Natural Gas Subtotal	15.88	16.86	17.04	17.17	17.13	17.93	18.70	16.73	18.26	19.73
Metallurgical Coal	0.60	0.59	0.60	0.61	0.49	0.54	0.58	0.39	0.48	0.57
Other Coal	1.35	1.38	1.40	1.41	1.24	1.29	1.33	1.19	1.27	1.34
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.15	0.34	0.58	0.34	0.55	1.27
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.06
Coal Subtotal	2.02	2.00	2.03	2.05	1.92	2.21	2.54	1.93	2.35	3.25
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.67	1.50	1.49	1.49	2.34	2.31	2.29
Renewable Energy[13]	2.23	2.19	2.23	2.28	2.22	2.37	2.52	2.21	2.52	2.85
Electricity	12.49	13.08	13.20	13.31	13.93	14.54	15.16	14.74	16.05	17.36
Delivered Energy	**72.32**	**74.10**	**75.08**	**76.05**	**76.28**	**80.18**	**84.23**	**77.43**	**84.86**	**92.85**
Electricity Related Losses	27.19	28.08	28.26	28.41	29.54	30.67	31.81	30.78	33.16	35.54
Total	**99.52**	**102.19**	**103.34**	**104.46**	**105.82**	**110.85**	**116.04**	**108.21**	**118.01**	**128.38**
Electric Power[14]										
Distillate Fuel Oil	0.18	0.18	0.18	0.18	0.18	0.20	0.21	0.20	0.23	0.24
Residual Fuel Oil	0.46	0.38	0.38	0.38	0.38	0.39	0.39	0.39	0.40	0.41
Liquid Fuels and Other Petroleum Subtotal	0.64	0.55	0.56	0.56	0.56	0.59	0.60	0.59	0.63	0.64
Natural Gas	6.42	6.64	6.89	7.14	5.86	6.09	5.97	5.18	5.13	4.99
Steam Coal	20.48	21.00	21.01	21.01	22.57	23.67	25.20	25.07	27.55	29.75
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Renewable Energy[15]	3.74	4.48	4.53	4.52	5.41	5.64	5.75	5.77	6.13	6.40
Electricity Imports	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.05	0.08	0.07
Total[16]	**39.68**	**41.16**	**41.46**	**41.72**	**43.47**	**45.21**	**46.96**	**45.52**	**49.21**	**52.90**

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

Sector and Source	2006	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	2.65	2.65	2.70	2.76	2.26	2.45	2.68	2.03	2.37	2.75
E85[8]	0.00	0.00	0.00	0.00	1.07	0.97	0.95	1.53	1.34	1.26
Motor Gasoline[2]	17.62	17.54	17.68	17.84	16.20	16.99	17.78	15.04	16.40	17.83
Jet Fuel[9]	3.16	3.41	3.44	3.47	4.10	4.15	4.13	4.62	4.79	4.83
Kerosene	0.11	0.12	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13
Distillate Fuel Oil	8.77	8.94	9.15	9.37	9.49	10.20	10.96	10.01	11.51	13.01
Residual Fuel Oil	1.69	1.60	1.60	1.62	1.55	1.58	1.60	1.54	1.60	1.65
Petrochemical Feedstocks	1.41	1.32	1.36	1.41	1.22	1.39	1.57	1.01	1.29	1.60
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]	4.64	4.27	4.40	4.54	4.14	4.38	4.64	4.18	4.56	4.96
Liquid Fuels and Other Petroleum Subtotal	40.06	39.85	40.46	41.12	40.15	42.24	44.43	40.08	43.99	48.01
Natural Gas	20.54	21.68	22.08	22.44	21.10	22.07	22.70	20.00	21.40	22.63
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]	1.17	1.20	1.21	1.22	1.22	1.25	1.27	1.23	1.27	1.32
Pipeline Natural Gas	0.59	0.63	0.64	0.65	0.66	0.69	0.71	0.68	0.72	0.76
Natural Gas Subtotal	22.30	23.51	23.93	24.31	22.99	24.01	24.68	21.91	23.39	24.71
Metallurgical Coal	0.60	0.59	0.60	0.61	0.49	0.54	0.58	0.39	0.48	0.57
Other Coal	21.83	22.38	22.41	22.42	23.81	24.96	26.53	26.26	28.82	31.09
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.15	0.34	0.58	0.34	0.55	1.27
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.06
Coal Subtotal	22.50	23.00	23.03	23.06	24.48	25.87	27.74	27.00	29.90	32.99
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.67	1.50	1.49	1.49	2.34	2.31	2.29
Renewable Energy[17]	5.97	6.67	6.76	6.81	7.63	8.01	8.27	7.98	8.66	9.25
Electricity Imports	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.05	0.08	0.07
Total	**99.52**	**102.19**	**103.34**	**104.46**	**105.82**	**110.85**	**116.04**	**108.21**	**118.01**	**128.38**
Energy Use and Related Statistics										
Delivered Energy Use	72.32	74.10	75.08	76.05	76.28	80.18	84.23	77.43	84.86	92.85
Total Energy Use	99.52	102.19	103.34	104.46	105.82	110.85	116.04	108.21	118.01	128.38
Ethanol Consumed in Motor Gasoline and E85	0.47	1.04	1.05	1.05	1.82	1.82	1.82	2.04	2.01	2.01
Population (millions)	300.13	309.46	310.85	312.64	325.45	337.74	351.32	336.65	365.59	396.34
Gross Domestic Product (billion 2000 dollars)	11319	12110	12453	12797	14743	15984	17239	17429	20219	23002
Carbon Dioxide Emissions (million metric tons)	5890.3	5953.4	6010.6	6068.7	6076.9	6384.1	6720.8	6263.6	6851.0	7452.0

[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]Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal 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, 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 waste, and other biomass sources. Excludes ethanol blends (10 percent or less) in motor gasoline.
[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 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, 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 ethanol and 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, biogenic municipal waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
[16]Includes non-biogenic municipal waste not included above.
[17]Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic and solar thermal sources. Excludes ethanol, 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 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: 2006 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 population and gross domestic product: Global Insight, Global Insight Industry and Employment models, July 2007. 2006 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2006,* DOE/EIA-0573(2006) (Washington, DC, November 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

Table B3. Energy Prices by Sector and Source

(2006 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2006	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	23.08	25.00	25.21	25.41	23.99	24.23	24.25	25.03	25.43	25.85
Distillate Fuel Oil	17.94	16.74	17.21	17.48	13.96	14.27	14.71	15.20	16.27	17.12
Natural Gas	13.40	11.95	12.15	12.36	11.14	11.39	11.44	12.47	12.91	13.36
Electricity	30.52	30.99	31.37	31.75	29.19	30.20	30.75	29.59	30.63	31.72
Commercial										
Distillate Fuel Oil	14.59	14.78	15.24	15.51	12.88	13.24	13.81	13.96	15.00	16.08
Residual Fuel Oil	8.60	9.95	10.06	10.17	7.73	7.95	8.11	8.52	9.22	9.80
Natural Gas	11.50	10.41	10.59	10.79	9.72	9.91	9.89	11.13	11.43	11.75
Electricity	27.75	27.46	27.89	28.32	24.63	25.64	26.14	25.22	26.17	27.20
Industrial[1]										
Liquefied Petroleum Gases	19.71	17.58	17.74	17.93	16.65	16.79	16.71	17.60	17.79	18.16
Distillate Fuel Oil	15.33	15.27	15.72	15.99	14.21	14.62	15.23	15.21	16.26	17.47
Residual Fuel Oil	9.06	10.51	10.86	11.10	7.96	8.29	8.65	8.84	9.62	10.61
Natural Gas[2]	7.66	7.02	7.21	7.41	6.00	6.21	6.20	6.95	7.29	7.65
Metallurgical Coal	3.54	4.06	4.07	4.09	3.38	3.42	3.45	3.54	3.60	3.67
Other Industrial Coal	2.34	2.41	2.42	2.43	2.24	2.28	2.34	2.26	2.33	2.41
Coal to Liquids	- -	- -	- -	- -	0.94	1.09	1.27	1.20	1.30	1.39
Electricity	17.97	18.88	19.21	19.56	16.49	17.27	17.59	16.93	17.63	18.24
Transportation										
Liquefied Petroleum Gases[3]	21.72	25.82	26.03	26.24	24.70	24.94	24.95	25.64	26.03	26.44
E85[4]	24.81	22.26	23.58	23.84	18.66	18.15	19.83	18.85	19.62	21.43
Motor Gasoline[5]	21.19	20.80	21.23	21.47	18.98	19.64	19.96	19.29	20.37	21.58
Jet Fuel[6]	14.83	15.33	15.77	16.03	13.02	13.27	13.54	14.37	15.37	16.36
Distillate Fuel Oil[7]	19.72	19.21	19.68	19.96	17.74	18.26	19.03	18.43	19.59	21.01
Residual Fuel Oil	7.89	10.22	10.53	10.81	8.30	8.69	9.04	9.55	10.39	11.21
Natural Gas[8]	14.28	13.37	13.60	13.83	11.79	12.15	12.32	12.27	12.83	13.45
Electricity	29.73	30.39	30.95	31.46	27.97	29.05	29.40	28.89	29.65	30.46
Electric Power[9]										
Distillate Fuel Oil	13.35	13.16	13.62	13.91	10.37	10.69	11.16	11.66	12.71	13.54
Residual Fuel Oil	8.17	9.18	9.45	9.70	7.14	7.50	7.83	8.25	9.04	9.90
Natural Gas	6.87	6.76	6.96	7.17	5.73	5.95	5.93	6.64	6.93	7.27
Steam Coal	1.69	1.83	1.84	1.84	1.69	1.72	1.76	1.72	1.78	1.85
Average Price to All Users[10]										
Liquefied Petroleum Gases	20.35	19.13	19.27	19.44	18.53	18.59	18.42	19.77	19.82	20.01
E85[4]	24.81	22.26	23.58	23.84	18.66	18.15	19.83	18.85	19.62	21.43
Motor Gasoline[5]	21.06	20.79	21.23	21.47	18.98	19.64	19.96	19.29	20.37	21.57
Jet Fuel	14.83	15.33	15.77	16.03	13.02	13.27	13.54	14.37	15.37	16.36
Distillate Fuel Oil	18.56	18.00	18.48	18.77	16.69	17.20	17.92	17.55	18.74	20.15
Residual Fuel Oil	8.21	10.01	10.31	10.57	7.93	8.29	8.62	9.06	9.87	10.71
Natural Gas	9.22	8.55	8.72	8.89	7.80	7.98	7.99	9.03	9.36	9.73
Metallurgical Coal	3.54	4.06	4.07	4.09	3.38	3.42	3.45	3.54	3.60	3.67
Other Coal	1.73	1.87	1.88	1.88	1.72	1.75	1.79	1.74	1.81	1.87
Coal to Liquids	- -	- -	- -	- -	0.94	1.09	1.27	1.20	1.30	1.39
Electricity	26.10	26.54	26.90	27.25	24.37	25.23	25.61	25.21	25.93	26.71

Table B3. Energy Prices by Sector and Source (Continued)
(2006 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2006	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 2006 dollars)										
Residential	225.38	237.66	241.71	245.66	230.03	243.22	253.57	250.85	274.70	299.44
Commercial	166.54	170.25	174.38	177.99	176.99	189.37	198.43	206.78	227.37	249.73
Industrial	205.11	214.18	224.65	235.03	170.98	193.16	213.17	161.83	203.93	249.45
Transportation	542.63	542.10	560.74	574.98	488.82	530.80	570.19	502.22	587.86	684.41
Total Non-Renewable Expenditures	1139.66	1164.20	1201.48	1233.66	1066.82	1156.54	1235.36	1121.67	1293.86	1483.04
Transportation Renewable Expenditures	0.03	0.07	0.06	0.07	19.95	17.64	18.92	28.91	26.35	26.92
Total Expenditures	**1139.70**	**1164.27**	**1201.54**	**1233.72**	**1086.77**	**1174.18**	**1254.28**	**1150.58**	**1320.22**	**1509.95**

[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 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.
- - = Not applicable.
Note: Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 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 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 transportation sector natural gas delivered prices are model results. 2006 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2006 through April 2007. 2006 coal prices based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report.
Projections: EIA, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

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

Indicators	2006	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	**11319**	**12110**	**12453**	**12797**	**14743**	**15984**	**17239**	**17429**	**20219**	**23002**
Components of Real Gross Domestic Product										
Real Consumption	8044	8670	8845	9021	10568	11362	12169	12323	13999	15679
Real Investment	1920	1763	1939	2114	2314	2614	2914	3000	3743	4477
Real Government Spending	1981	2055	2087	2118	2118	2258	2398	2167	2471	2772
Real Exports	1304	1784	1797	1809	3059	3387	3720	5218	6191	7170
Real Imports	1929	2143	2190	2246	3326	3474	3589	5386	5723	6008
Energy Intensity (thousand Btu per 2000 dollar of GDP)										
Delivered Energy	6.39	6.12	6.03	5.94	5.15	5.00	4.87	4.41	4.16	4.01
Total Energy	8.79	8.44	8.30	8.16	7.16	6.91	6.71	6.17	5.80	5.55
Price Indices										
GDP Chain-Type Price Index (2000=1.000)	1.166	1.274	1.260	1.245	1.642	1.520	1.400	2.122	1.871	1.630
Consumer Price Index (1982-4=1)										
All-Urban	2.02	2.22	2.20	2.17	2.86	2.64	2.43	3.72	3.29	2.88
Energy Commodities and Services	1.97	2.14	2.15	2.15	2.54	2.43	2.29	3.40	3.14	2.88
Wholesale Price Index (1982=1.00)										
All Commodities	1.65	1.82	1.80	1.77	2.15	1.96	1.78	2.64	2.26	1.91
Fuel and Power	1.67	1.86	1.88	1.89	2.14	2.04	1.92	2.98	2.75	2.51
Interest Rates (percent, nominal)										
Federal Funds Rate	4.96	4.96	4.69	4.40	5.42	4.92	4.45	5.46	4.91	4.37
10-Year Treasury Note	4.79	5.56	5.24	4.89	5.99	5.44	4.90	6.08	5.46	4.89
AA Utility Bond Rate	5.84	6.84	6.65	6.44	7.52	6.98	6.45	7.76	7.13	6.54
Value of Shipments (billion 2000 dollars)										
Total Industrial	5821	5788	5997	6202	6447	7113	7768	6533	7997	9450
Non-manufacturing	1531	1324	1419	1515	1427	1619	1814	1440	1715	1988
Manufacturing	4290	4464	4577	4687	5020	5493	5953	5092	6283	7462
Energy-Intensive	1225	1257	1283	1309	1287	1387	1487	1251	1447	1643
Non-Energy Intensive	3065	3207	3295	3378	3733	4107	4466	3842	4836	5819
Population and Employment (millions)										
Population with Armed Forces Overseas	300.1	309.5	310.9	312.6	325.4	337.7	351.3	336.7	365.6	396.3
Population (aged 16 and over)	235.0	243.5	244.9	246.7	257.6	266.0	275.2	270.4	289.3	309.4
Population, over age 65	37.3	40.3	40.4	40.6	54.0	54.9	55.8	69.3	71.6	74.1
Employment, Nonfarm	136.1	137.3	142.4	147.6	143.5	154.5	165.7	152.9	168.1	183.2
Employment, Manufacturing	14.2	14.0	14.2	14.3	13.3	13.8	14.2	10.1	11.2	12.0
Key Labor Indicators										
Labor Force (millions)	151.4	155.1	156.8	158.3	160.3	165.6	171.6	168.5	177.9	187.6
Non-farm Labor Productivity (1992=1.00)	1.35	1.44	1.45	1.47	1.68	1.77	1.87	1.92	2.14	2.37
Unemployment Rate (percent)	4.63	5.12	5.03	4.93	4.80	4.62	4.41	4.99	4.80	4.68
Key Indicators for Energy Demand										
Real Disposable Personal Income	8397	9284	9472	9661	11888	12654	13436	14627	16246	17874
Housing Starts (millions)	1.93	1.42	1.68	1.93	1.39	1.78	2.17	1.15	1.70	2.24
Commercial Floorspace (billion square feet)	74.8	78.0	78.8	79.4	85.6	89.3	92.6	93.8	100.8	108.0
Unit Sales of Light-Duty Vehicles (millions)	16.50	16.05	16.38	17.09	16.36	17.47	18.88	17.16	19.39	21.86

GDP = Gross domestic product.
Btu = British thermal unit.
Sources: 2006: Global Insight, Global Insight Industry and Employment models, July 2007. **Projections:** Energy Information Administration, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

Price Case Comparisons

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

Supply, Disposition, and Prices	2006	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	10.80	12.85	12.76	12.64	13.67	13.40	13.57	11.15	12.04	13.71
Natural Gas Plant Liquids	2.36	2.27	2.27	2.26	2.32	2.31	2.28	2.09	2.11	2.11
Dry Natural Gas	19.04	19.83	19.85	19.81	20.14	20.24	20.26	19.98	20.00	20.36
Coal[1]	23.79	23.97	23.97	23.97	23.33	25.20	26.13	25.88	28.63	32.46
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Hydropower	2.89	2.92	2.92	2.92	3.00	3.00	3.01	3.01	3.00	3.01
Biomass[2]	2.94	4.08	4.05	4.02	6.48	6.42	6.48	8.28	8.12	7.88
Other Renewable Energy[3]	0.88	1.39	1.51	1.51	1.77	2.00	2.10	2.11	2.45	2.45
Other[4]	0.50	0.53	0.54	0.55	0.60	0.58	0.57	0.65	0.64	0.63
Total	**71.41**	**76.16**	**76.17**	**75.99**	**80.21**	**82.21**	**83.66**	**81.87**	**86.56**	**93.27**
Imports										
Crude Oil	22.08	21.40	21.14	20.42	22.41	21.58	19.62	26.43	24.41	18.93
Liquid Fuels and Other Petroleum[5]	7.21	5.48	5.61	6.27	6.72	5.43	4.94	7.46	5.44	4.71
Natural Gas	4.29	5.00	4.80	4.63	6.40	4.68	3.52	6.98	4.64	3.17
Other Imports[6]	0.98	0.95	0.95	0.96	1.89	1.93	2.00	2.60	2.74	2.92
Total	**34.57**	**32.83**	**32.49**	**32.27**	**37.43**	**33.62**	**30.08**	**43.47**	**37.22**	**29.73**
Exports										
Petroleum[7]	2.60	2.87	2.82	2.88	3.03	2.98	3.08	3.07	3.33	3.25
Natural Gas	0.73	0.85	0.84	0.84	1.12	1.02	0.91	1.60	1.36	1.08
Coal	1.26	1.79	1.79	1.79	0.87	0.87	0.82	0.91	0.88	0.88
Total	**4.59**	**5.50**	**5.45**	**5.51**	**5.02**	**4.87**	**4.82**	**5.58**	**5.56**	**5.21**
Discrepancy[8]	**1.87**	**-0.08**	**-0.13**	**-0.10**	**0.22**	**0.12**	**0.14**	**0.37**	**0.21**	**0.25**
Consumption										
Liquid Fuels and Other Petroleum[9]	40.06	40.61	40.46	40.19	44.30	42.24	40.20	46.89	43.99	41.48
Natural Gas	22.30	24.11	23.93	23.72	25.55	24.01	22.71	25.47	23.39	22.24
Coal	22.50	23.03	23.03	23.03	24.18	25.87	26.81	27.38	29.90	32.11
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Hydropower	2.89	2.92	2.92	2.92	3.00	3.00	3.01	3.01	3.00	3.01
Biomass[10]	2.50	3.02	3.01	2.99	4.53	4.50	4.49	5.63	5.51	5.36
Other Renewable Energy[3]	0.88	1.39	1.51	1.51	1.77	2.00	2.10	2.11	2.45	2.45
Other[11]	0.19	0.18	0.18	0.19	0.17	0.17	0.19	0.18	0.20	0.22
Total	**99.52**	**103.57**	**103.34**	**102.87**	**112.39**	**110.85**	**108.78**	**119.39**	**118.01**	**117.54**

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

Supply, Disposition, and Prices	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Prices (2006 dollars per unit)										
Petroleum (dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price[12]	66.02	71.45	74.03	79.02	39.07	59.70	102.07	42.35	70.45	118.65
Imported Crude Oil Price[12]	59.05	62.64	65.18	69.19	33.46	51.55	88.31	34.61	58.66	96.42
Natural Gas (dollars per million Btu)										
Price at Henry Hub	6.73	6.61	6.90	7.28	5.01	5.95	7.08	6.00	7.22	8.43
Wellhead Price[13]	6.24	5.89	6.16	6.50	4.43	5.29	6.32	5.33	6.45	7.55
Natural Gas (dollars per thousand cubic feet)										
Wellhead Price[13]	6.42	6.06	6.33	6.69	4.56	5.44	6.50	5.49	6.63	7.77
Coal (dollars per ton)										
Minemouth Price[14]	24.63	25.88	26.16	26.17	21.68	22.51	23.62	22.06	23.32	24.79
Coal (dollars per million Btu)										
Minemouth Price[14]	1.21	1.27	1.28	1.28	1.09	1.14	1.20	1.12	1.19	1.28
Average Delivered Price[15]	1.78	1.92	1.93	1.94	1.69	1.77	1.86	1.72	1.82	1.92
Average Electricity Price (cents per kilowatthour)	8.9	9.1	9.2	9.3	8.3	8.6	8.9	8.5	8.8	9.1

[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; biogenic municipal 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 non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[6]Includes coal, coal coke (net), and electricity (net).
[7]Includes crude oil and petroleum products.
[8]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[9]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.
[10]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.
[11]Includes non-biogenic municipal waste and net electricity imports.
[12]Weighted average price delivered to U.S. refiners.
[13]Represents lower 48 onshore and offshore supplies.
[14]Includes reported prices for both open market and captive mines.
[15]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

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

Sector and Source	2006	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	0.47	0.48	0.48	0.48	0.52	0.52	0.51	0.56	0.55	0.55
Kerosene	0.07	0.08	0.08	0.08	0.09	0.08	0.08	0.09	0.08	0.07
Distillate Fuel Oil	0.70	0.76	0.75	0.75	0.78	0.73	0.65	0.72	0.65	0.56
Liquid Fuels and Other Petroleum Subtotal	1.25	1.32	1.31	1.31	1.40	1.33	1.24	1.37	1.29	1.18
Natural Gas	4.50	4.97	4.95	4.93	5.41	5.30	5.20	5.44	5.32	5.23
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	0.44	0.44	0.44	0.39	0.40	0.42	0.36	0.38	0.40
Electricity	4.61	4.95	4.95	4.94	5.29	5.25	5.22	5.90	5.88	5.85
Delivered Energy	**10.77**	**11.69**	**11.66**	**11.63**	**12.49**	**12.30**	**12.09**	**13.08**	**12.88**	**12.66**
Electricity Related Losses	10.04	10.58	10.59	10.58	10.98	11.08	11.12	11.91	12.14	12.10
Total	**20.82**	**22.27**	**22.25**	**22.21**	**23.47**	**23.39**	**23.21**	**24.99**	**25.01**	**24.76**
Commercial										
Liquefied Petroleum Gases	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
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	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Distillate Fuel Oil	0.42	0.38	0.38	0.38	0.45	0.41	0.37	0.49	0.41	0.38
Residual Fuel Oil	0.11	0.10	0.10	0.09	0.11	0.10	0.10	0.11	0.10	0.10
Liquid Fuels and Other Petroleum Subtotal	0.68	0.64	0.63	0.63	0.73	0.68	0.63	0.76	0.68	0.64
Natural Gas	2.92	3.06	3.04	3.03	3.56	3.47	3.37	3.87	3.78	3.67
Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Renewable Energy[3]	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Electricity	4.43	4.74	4.73	4.72	5.72	5.67	5.62	6.68	6.62	6.57
Delivered Energy	**8.25**	**8.64**	**8.62**	**8.59**	**10.22**	**10.03**	**9.83**	**11.52**	**11.30**	**11.09**
Electricity Related Losses	9.66	10.12	10.12	10.12	11.87	11.96	11.99	13.47	13.68	13.59
Total	**17.91**	**18.76**	**18.74**	**18.70**	**22.08**	**21.98**	**21.82**	**24.99**	**24.98**	**24.68**
Industrial[4]										
Liquefied Petroleum Gases	2.09	2.13	2.12	2.12	1.87	1.83	1.78	1.75	1.71	1.71
Motor Gasoline[2]	0.38	0.38	0.38	0.37	0.37	0.37	0.37	0.38	0.38	0.37
Distillate Fuel Oil	1.28	1.29	1.29	1.28	1.26	1.23	1.22	1.29	1.23	1.23
Residual Fuel Oil	0.28	0.28	0.28	0.28	0.30	0.23	0.19	0.37	0.23	0.19
Petrochemical Feedstocks	1.41	1.37	1.36	1.36	1.41	1.39	1.36	1.30	1.29	1.30
Other Petroleum[5]	4.48	4.31	4.25	4.14	4.67	4.22	3.73	4.93	4.41	3.62
Liquid Fuels and Other Petroleum Subtotal	9.92	9.76	9.67	9.57	9.89	9.27	8.65	10.02	9.25	8.42
Natural Gas	6.68	7.15	7.16	7.12	7.00	7.14	7.21	6.73	7.08	7.21
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Lease and Plant Fuel[6]	1.17	1.21	1.21	1.21	1.25	1.25	1.26	1.27	1.27	1.30
Natural Gas Subtotal	7.85	8.36	8.37	8.33	8.25	8.39	8.68	8.00	8.35	8.71
Metallurgical Coal	0.60	0.60	0.60	0.59	0.56	0.54	0.51	0.50	0.48	0.47
Other Industrial Coal	1.26	1.31	1.31	1.30	1.19	1.20	1.19	1.16	1.18	1.18
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.09	0.34	0.45	0.09	0.55	2.69
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal Subtotal	1.92	1.94	1.93	1.92	1.87	2.11	2.19	1.80	2.26	4.39
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.66	1.51	1.49	1.49	2.41	2.31	2.09
Renewable Energy[7]	1.69	1.67	1.66	1.66	1.86	1.83	1.80	2.04	2.02	2.00
Electricity	3.42	3.52	3.50	3.48	3.65	3.59	3.52	3.51	3.52	3.58
Delivered Energy	**25.10**	**25.93**	**25.82**	**25.62**	**27.04**	**26.70**	**26.32**	**27.77**	**27.70**	**29.19**
Electricity Related Losses	7.45	7.52	7.50	7.45	7.57	7.57	7.51	7.07	7.28	7.40
Total	**32.55**	**33.45**	**33.32**	**33.07**	**34.61**	**34.27**	**33.83**	**34.84**	**34.98**	**36.59**

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Transportation										
Liquefied Petroleum Gases	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.02
E85[8]	0.00	0.00	0.00	0.00	0.95	0.97	0.91	1.17	1.34	1.65
Motor Gasoline[2]	17.20	17.28	17.25	17.14	17.46	16.56	15.36	17.54	15.97	13.83
Jet Fuel[9]	3.16	3.45	3.44	3.43	4.16	4.15	4.14	4.79	4.79	4.79
Distillate Fuel Oil[10]	6.18	6.56	6.54	6.52	7.75	7.63	7.64	9.09	8.98	9.29
Residual Fuel Oil	0.83	0.85	0.85	0.85	0.86	0.86	0.86	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	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.18
Liquid Fuels and Other Petroleum Subtotal	27.57	28.34	28.29	28.14	31.36	30.37	29.11	33.65	32.15	30.62
Pipeline Fuel Natural Gas	0.59	0.64	0.64	0.64	0.71	0.69	0.66	0.76	0.72	0.70
Compressed Natural Gas	0.02	0.04	0.04	0.04	0.07	0.07	0.07	0.08	0.08	0.09
Electricity	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
Delivered Energy	**28.20**	**29.04**	**28.98**	**28.84**	**32.17**	**31.15**	**29.87**	**34.51**	**32.98**	**31.44**
Electricity Related Losses	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06
Total	**28.25**	**29.09**	**29.03**	**28.89**	**32.23**	**31.21**	**29.92**	**34.57**	**33.04**	**31.50**
Delivered Energy Consumption for All Sectors										
Liquefied Petroleum Gases	2.65	2.72	2.70	2.71	2.50	2.45	2.40	2.41	2.37	2.37
E85[8]	0.00	0.00	0.00	0.00	0.95	0.97	0.91	1.17	1.34	1.65
Motor Gasoline[2]	17.62	17.71	17.68	17.56	17.88	16.99	15.78	17.97	16.40	14.25
Jet Fuel[9]	3.16	3.45	3.44	3.43	4.16	4.15	4.14	4.79	4.79	4.79
Kerosene	0.11	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13	0.11
Distillate Fuel Oil	8.59	8.99	8.97	8.93	10.25	10.00	9.89	11.59	11.28	11.46
Residual Fuel Oil	1.23	1.23	1.23	1.23	1.27	1.19	1.15	1.35	1.20	1.16
Petrochemical Feedstocks	1.41	1.37	1.36	1.36	1.41	1.39	1.36	1.30	1.29	1.30
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]	4.64	4.47	4.40	4.29	4.83	4.38	3.88	5.09	4.56	3.77
Liquid Fuels and Other Petroleum Subtotal	39.41	40.06	39.90	39.64	43.38	41.65	39.63	45.80	43.37	40.87
Natural Gas	14.12	15.21	15.19	15.11	16.04	15.98	15.85	16.11	16.27	16.19
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Lease and Plant Fuel[6]	1.17	1.21	1.21	1.21	1.25	1.25	1.26	1.27	1.27	1.30
Pipeline Natural Gas	0.59	0.64	0.64	0.64	0.71	0.69	0.66	0.76	0.72	0.70
Natural Gas Subtotal	15.88	17.06	17.04	16.96	18.00	17.93	17.97	18.14	18.26	18.39
Metallurgical Coal	0.60	0.60	0.60	0.59	0.56	0.54	0.51	0.50	0.48	0.47
Other Coal	1.35	1.40	1.40	1.40	1.28	1.29	1.28	1.25	1.27	1.27
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.09	0.34	0.45	0.09	0.55	2.69
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal Subtotal	2.02	2.03	2.03	2.02	1.96	2.21	2.28	1.89	2.35	4.48
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.66	1.51	1.49	1.49	2.41	2.31	2.09
Renewable Energy[13]	2.23	2.24	2.23	2.23	2.38	2.37	2.35	2.53	2.52	2.53
Electricity	12.49	13.23	13.20	13.16	14.68	14.54	14.38	16.12	16.05	16.03
Delivered Energy	**72.32**	**75.30**	**75.08**	**74.67**	**81.92**	**80.18**	**78.10**	**86.88**	**84.86**	**84.38**
Electricity Related Losses	27.19	28.27	28.26	28.20	30.47	30.67	30.68	32.51	33.16	33.15
Total	**99.52**	**103.57**	**103.34**	**102.87**	**112.39**	**110.85**	**108.78**	**119.39**	**118.01**	**117.54**
Electric Power[14]										
Distillate Fuel Oil	0.18	0.18	0.18	0.18	0.20	0.20	0.20	0.22	0.23	0.22
Residual Fuel Oil	0.46	0.38	0.38	0.38	0.72	0.39	0.37	0.87	0.40	0.39
Liquid Fuels and Other Petroleum Subtotal	0.64	0.56	0.56	0.56	0.92	0.59	0.57	1.09	0.63	0.61
Natural Gas	6.42	7.05	6.89	6.76	7.55	6.09	4.74	7.34	5.13	3.85
Steam Coal	20.48	21.00	21.01	21.01	22.21	23.67	24.54	25.50	27.55	27.63
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Renewable Energy[15]	3.74	4.41	4.53	4.53	5.40	5.64	5.76	5.80	6.13	6.21
Electricity Imports	0.06	0.05	0.05	0.06	0.04	0.04	0.07	0.05	0.08	0.09
Total[16]	**39.68**	**41.50**	**41.46**	**41.36**	**45.16**	**45.21**	**45.06**	**48.63**	**49.21**	**49.18**

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

Sector and Source	2006	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	2.65	2.72	2.70	2.71	2.50	2.45	2.40	2.41	2.37	2.37
E85[8]	0.00	0.00	0.00	0.00	0.95	0.97	0.91	1.17	1.34	1.65
Motor Gasoline[2]	17.62	17.71	17.68	17.56	17.88	16.99	15.78	17.97	16.40	14.25
Jet Fuel[9]	3.16	3.45	3.44	3.43	4.16	4.15	4.14	4.79	4.79	4.79
Kerosene	0.11	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13	0.11
Distillate Fuel Oil	8.77	9.17	9.15	9.11	10.45	10.20	10.09	11.81	11.51	11.68
Residual Fuel Oil	1.69	1.61	1.60	1.61	1.99	1.58	1.52	2.22	1.60	1.55
Petrochemical Feedstocks	1.41	1.37	1.36	1.36	1.41	1.39	1.36	1.30	1.29	1.30
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]	4.64	4.47	4.40	4.29	4.83	4.38	3.88	5.09	4.56	3.77
Liquid Fuels and Other Petroleum Subtotal	40.06	40.61	40.46	40.19	44.30	42.24	40.20	46.89	43.99	41.48
Natural Gas	20.54	22.26	22.08	21.88	23.59	22.07	20.58	23.45	21.40	20.04
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Lease and Plant Fuel[6]	1.17	1.21	1.21	1.21	1.25	1.25	1.26	1.27	1.27	1.30
Pipeline Natural Gas	0.59	0.64	0.64	0.64	0.71	0.69	0.66	0.76	0.72	0.70
Natural Gas Subtotal	22.30	24.11	23.93	23.72	25.55	24.01	22.71	25.47	23.39	22.24
Metallurgical Coal	0.60	0.60	0.60	0.59	0.56	0.54	0.51	0.50	0.48	0.47
Other Coal	21.83	22.40	22.41	22.41	23.49	24.96	25.82	26.75	28.82	28.90
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.09	0.34	0.45	0.09	0.55	2.69
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal Subtotal	22.50	23.03	23.03	23.03	24.18	25.87	26.81	27.38	29.90	32.11
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.66	1.51	1.49	1.49	2.41	2.31	2.09
Renewable Energy[17]	5.97	6.65	6.76	6.76	7.79	8.01	8.11	8.34	8.66	8.74
Electricity Imports	0.06	0.05	0.05	0.06	0.04	0.04	0.07	0.05	0.08	0.09
Total	**99.52**	**103.57**	**103.34**	**102.87**	**112.39**	**110.85**	**108.78**	**119.39**	**118.01**	**117.54**
Energy Use and Related Statistics										
Delivered Energy Use	72.32	75.30	75.08	74.67	81.92	80.18	78.10	86.88	84.86	84.38
Total Energy Use	99.52	103.57	103.34	102.87	112.39	110.85	108.78	119.39	118.01	117.54
Ethanol Consumed in Motor Gasoline and E85	0.47	1.05	1.05	1.03	1.82	1.82	1.68	1.97	2.01	2.07
Population (millions)	300.13	310.85	310.85	310.85	337.74	337.74	337.74	365.59	365.59	365.59
Gross Domestic Product (billion 2000 dollars)	11319	12465	12453	12426	16030	15984	15944	20228	20219	20258
Carbon Dioxide Emissions (million metric tons)	5890.3	6030.9	6010.6	5983.0	6450.0	6384.1	6258.9	6941.2	6851.0	6799.2

[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]Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal 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, 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 waste, and other biomass sources. Excludes ethanol blends (10 percent or less) in motor gasoline.
[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 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, 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 ethanol and 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, biogenic municipal waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
[16]Includes non-biogenic municipal waste not included above.
[17]Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic and solar thermal sources. Excludes ethanol, 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 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: 2006 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 population and gross domestic product: Global Insight, Global Insight Industry and Employment models, July 2007. 2006 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2006,* DOE/EIA-0573(2006) (Washington, DC, November 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

Table C3. Energy Prices by Sector and Source
(2006 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Residential										
Liquefied Petroleum Gases	23.08	24.91	25.21	25.59	23.30	24.23	25.36	24.26	25.43	26.63
Distillate Fuel Oil	17.94	16.45	17.21	18.25	10.60	14.27	22.09	11.54	16.27	24.45
Natural Gas	13.40	11.85	12.15	12.55	10.43	11.39	12.57	11.71	12.91	14.10
Electricity	30.52	31.02	31.37	31.79	29.21	30.20	31.09	29.82	30.63	31.48
Commercial										
Distillate Fuel Oil	14.59	14.51	15.24	16.12	9.51	13.24	20.37	10.27	15.00	23.16
Residual Fuel Oil	8.60	9.64	10.06	10.69	5.03	7.95	13.09	5.50	9.22	15.41
Natural Gas	11.50	10.30	10.59	10.98	8.97	9.91	11.04	10.26	11.43	12.61
Electricity	27.75	27.52	27.89	28.35	24.45	25.64	26.90	25.01	26.17	27.33
Industrial[1]										
Liquefied Petroleum Gases	19.71	17.49	17.74	18.12	15.94	16.79	17.75	16.77	17.79	19.02
Distillate Fuel Oil	15.33	15.02	15.72	16.46	10.85	14.62	21.23	11.56	16.26	24.32
Residual Fuel Oil	9.06	10.10	10.86	11.00	5.48	8.29	12.92	6.20	9.62	15.20
Natural Gas[2]	7.66	6.94	7.21	7.58	5.35	6.21	7.29	6.22	7.29	8.44
Metallurgical Coal	3.54	4.06	4.07	4.08	3.39	3.42	3.48	3.56	3.60	3.67
Other Industrial Coal	2.34	2.41	2.42	2.43	2.20	2.28	2.38	2.23	2.33	2.48
Coal to Liquids	- -	- -	- -	- -	0.86	1.09	1.26	0.95	1.30	1.57
Electricity	17.97	18.90	19.21	19.60	16.47	17.27	17.89	16.98	17.63	18.11
Transportation										
Liquefied Petroleum Gases[3]	21.72	25.74	26.03	26.35	24.02	24.94	26.04	24.87	26.03	27.21
E85[4]	24.81	21.86	23.58	26.14	15.25	18.15	27.14	15.22	19.62	28.81
Motor Gasoline[5]	21.19	20.43	21.23	23.66	15.35	19.64	27.35	15.35	20.37	29.37
Jet Fuel[6]	14.83	15.13	15.77	17.13	9.18	13.27	21.13	10.22	15.37	23.87
Distillate Fuel Oil[7]	19.72	19.00	19.68	20.45	14.47	18.26	24.74	14.87	19.59	27.72
Residual Fuel Oil	7.89	9.93	10.53	10.83	5.68	8.69	14.02	6.50	10.39	16.44
Natural Gas[8]	14.28	13.33	13.60	13.99	11.22	12.15	13.37	11.64	12.83	14.12
Electricity	29.73	30.48	30.95	31.53	27.77	29.05	30.29	28.56	29.65	30.43
Electric Power[9]										
Distillate Fuel Oil	13.35	12.88	13.62	14.64	7.07	10.69	18.33	8.02	12.71	20.66
Residual Fuel Oil	8.17	8.87	9.45	9.79	4.43	7.50	12.73	5.09	9.04	15.14
Natural Gas	6.87	6.71	6.96	7.31	5.11	5.95	6.96	5.90	6.93	8.06
Steam Coal	1.69	1.83	1.84	1.85	1.62	1.72	1.82	1.66	1.78	1.93
Average Price to All Users[10]										
Liquefied Petroleum Gases	20.35	19.01	19.27	19.65	17.70	18.59	19.63	18.72	19.82	21.03
E85[4]	24.81	21.86	23.58	26.14	15.25	18.15	27.14	15.22	19.62	28.81
Motor Gasoline[5]	21.06	20.43	21.23	23.66	15.35	19.64	27.35	15.35	20.37	29.37
Jet Fuel	14.83	15.13	15.77	17.13	9.18	13.27	21.13	10.22	15.37	23.87
Distillate Fuel Oil	18.56	17.78	18.48	19.25	13.39	17.20	23.84	13.99	18.74	26.92
Residual Fuel Oil	8.21	9.69	10.31	10.61	5.16	8.29	13.50	5.84	9.87	15.90
Natural Gas	9.22	8.43	8.72	9.10	7.00	7.98	9.18	8.07	9.36	10.63
Metallurgical Coal	3.54	4.06	4.07	4.08	3.39	3.42	3.48	3.56	3.60	3.67
Other Coal	1.73	1.86	1.88	1.89	1.66	1.75	1.85	1.69	1.81	1.95
Coal to Liquids	- -	- -	- -	- -	0.86	1.09	1.26	0.95	1.30	1.57
Electricity	26.10	26.54	26.90	27.34	24.19	25.23	26.22	25.03	25.93	26.79

Table C3. Energy Prices by Sector and Source (Continued)
(2006 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	2006	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 2006 dollars)										
Residential	225.38	238.17	241.71	246.28	232.30	243.22	256.49	262.54	274.70	287.88
Commercial	166.54	171.75	174.38	177.84	179.61	189.37	201.22	215.50	227.37	240.45
Industrial	205.11	218.32	224.65	230.83	171.15	193.16	221.31	177.82	203.93	235.22
Transportation	542.63	540.60	560.74	608.98	426.17	530.80	712.89	462.11	587.86	797.19
Total Non-Renewable Expenditures	1139.66	1168.84	1201.48	1263.94	1009.23	1156.54	1391.91	1117.96	1293.86	1560.74
Transportation Renewable Expenditures	0.03	0.07	0.06	0.07	14.43	17.64	24.80	17.78	26.35	47.45
Total Expenditures	**1139.70**	**1168.91**	**1201.54**	**1264.00**	**1023.66**	**1174.18**	**1416.71**	**1135.74**	**1320.22**	**1608.20**

[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 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.
- - = Not applicable.
Note: Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 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 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 transportation sector natural gas delivered prices are model results. 2006 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2006 through April 2007. 2006 coal prices based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report.
Projections: EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

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

Supply and Disposition	2006	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]	5.10	5.97	5.93	5.87	6.35	6.23	6.31	5.18	5.59	6.37
Alaska	0.74	0.69	0.69	0.68	0.77	0.70	0.65	0.32	0.30	0.41
Lower 48 States	4.36	5.29	5.24	5.19	5.59	5.53	5.66	4.86	5.30	5.96
Net Imports	10.09	9.72	9.60	9.27	10.12	9.75	8.87	11.93	11.03	8.54
Gross Imports	10.12	9.75	9.63	9.30	10.15	9.79	8.90	11.95	11.06	8.57
Exports	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Other Crude Supply[2]	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply	**15.24**	**15.69**	**15.53**	**15.15**	**16.47**	**15.98**	**15.17**	**17.11**	**16.63**	**14.91**
Other Supply										
Natural Gas Plant Liquids	1.74	1.69	1.68	1.68	1.72	1.72	1.69	1.56	1.57	1.56
Net Product Imports	2.31	1.63	1.72	2.07	2.00	1.37	1.15	2.41	1.26	0.88
Gross Refined Product Imports[3]	2.17	1.48	1.61	1.72	1.74	1.41	1.22	2.11	1.56	1.16
Unfinished Oil Imports	0.69	0.70	0.67	0.58	0.79	0.64	0.57	0.87	0.70	0.54
Blending Component Imports	0.68	0.77	0.74	1.09	0.85	0.67	0.78	0.81	0.52	0.68
Exports	1.22	1.31	1.30	1.32	1.38	1.36	1.41	1.38	1.52	1.50
Refinery Processing Gain[4]	0.99	1.06	1.05	0.96	0.99	1.00	0.86	0.99	0.99	0.68
Other Inputs	0.45	1.03	1.04	1.02	1.87	1.97	2.11	2.20	2.41	3.53
Ethanol	0.36	0.81	0.81	0.80	1.41	1.41	1.30	1.53	1.56	1.61
Domestic Production	0.32	0.76	0.74	0.73	1.19	1.17	1.10	1.44	1.44	1.35
Net Imports	0.05	0.06	0.07	0.06	0.22	0.24	0.20	0.09	0.12	0.26
Biodiesel	0.02	0.04	0.04	0.04	0.07	0.07	0.08	0.07	0.08	0.10
Domestic Production	0.02	0.04	0.04	0.04	0.07	0.07	0.08	0.07	0.08	0.10
Net Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquids from Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.13
Liquids from Coal	0.00	0.00	0.00	0.00	0.04	0.15	0.20	0.04	0.24	1.18
Liquids from Biomass	0.00	0.00	0.00	0.00	0.14	0.14	0.20	0.33	0.29	0.28
Other[5]	0.07	0.18	0.18	0.19	0.21	0.21	0.20	0.24	0.24	0.23
Total Primary Supply[6]	**20.74**	**21.10**	**21.02**	**20.87**	**23.06**	**22.04**	**20.99**	**24.26**	**22.86**	**21.57**
Liquid Fuels Consumption										
by Fuel										
Liquefied Petroleum Gases	2.05	2.06	2.05	2.06	1.90	1.86	1.82	1.83	1.80	1.80
E85[7]	0.00	0.00	0.00	0.00	0.65	0.67	0.63	0.80	0.92	1.13
Motor Gasoline[8]	9.25	9.60	9.59	9.54	9.73	9.24	8.60	9.77	8.91	7.75
Jet Fuel[9]	1.63	1.67	1.66	1.66	2.01	2.01	2.00	2.31	2.31	2.31
Distillate Fuel Oil[10]	4.17	4.41	4.40	4.38	5.03	4.91	4.85	5.68	5.53	5.61
Diesel	3.21	3.73	3.72	3.71	4.31	4.23	4.22	4.96	4.87	5.01
Residual Fuel Oil	0.69	0.70	0.70	0.70	0.87	0.69	0.66	0.97	0.70	0.67
Other[11]	2.86	2.61	2.58	2.53	2.80	2.58	2.35	2.85	2.62	2.28
by Sector										
Residential and Commercial	1.07	1.09	1.08	1.08	1.18	1.13	1.06	1.20	1.12	1.05
Industrial[12]	5.15	5.10	5.06	5.01	5.08	4.79	4.50	5.09	4.73	4.37
Transportation	14.05	14.63	14.60	14.54	16.31	15.79	15.11	17.46	16.66	15.87
Electric Power[13]	0.29	0.25	0.25	0.25	0.41	0.26	0.26	0.48	0.28	0.27
Total	**20.65**	**21.06**	**20.99**	**20.87**	**22.99**	**21.96**	**20.92**	**24.22**	**22.80**	**21.57**
Discrepancy[14]	**0.09**	**0.04**	**0.03**	**-0.00**	**0.07**	**0.08**	**0.08**	**0.04**	**0.06**	**0.00**

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

Supply and Disposition	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Domestic Refinery Distillation Capacity[15]	17.3	18.3	18.3	18.3	18.3	18.3	18.3	18.6	18.4	18.3
Capacity Utilization Rate (percent)[16]	90.0	87.6	86.8	84.6	92.0	89.3	84.7	93.8	92.0	83.2
Net Import Share of Product Supplied (percent)	60.0	54.1	54.2	54.6	53.5	51.6	48.7	59.5	54.3	44.9
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2006 dollars)	264.86	243.47	254.07	266.30	148.06	207.19	311.47	178.98	261.91	324.14

[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]The volumetric amount by which total output is greater than input due to the processing of crude oil into products which, in total, have a lower specific gravity than the crude oil processed.
[5]Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, 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 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, 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.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 data: EIA, *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

Table C5. Petroleum Product Prices
(2006 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Crude Oil Prices (2006 dollars per barrel)										
Imported Low Sulfur Light Crude Oil[1]	66.02	71.45	74.03	79.02	39.07	59.70	102.07	42.35	70.45	118.65
Imported Crude Oil[1]	59.05	62.64	65.18	69.19	33.46	51.55	88.31	34.61	58.66	96.42
Delivered Sector Product Prices										
Residential										
Liquefied Petroleum Gases	198.1	213.8	216.3	219.6	200.0	207.9	217.7	208.2	218.3	228.6
Distillate Fuel Oil	248.8	228.1	238.6	253.1	147.0	198.0	306.3	160.1	225.7	339.0
Commercial										
Distillate Fuel Oil	201.8	200.2	210.2	222.4	131.1	182.5	280.9	141.5	206.7	319.3
Residual Fuel Oil	128.8	144.3	150.7	160.0	75.3	118.9	196.0	82.3	138.0	230.6
Residual Fuel Oil (2006 dollars per barrel)	54.09	60.60	63.27	67.19	31.64	49.95	82.32	34.55	57.97	96.87
Industrial[2]										
Liquefied Petroleum Gases	169.2	150.1	152.3	155.5	136.8	144.1	152.4	144.0	152.7	163.2
Distillate Fuel Oil	212.1	206.6	216.2	226.4	149.0	200.7	291.4	158.7	223.1	333.9
Residual Fuel Oil	135.6	151.1	162.6	164.7	82.1	124.0	193.3	92.7	144.0	227.6
Residual Fuel Oil (2006 dollars per barrel)	56.96	63.48	68.29	69.16	34.47	52.10	81.20	38.95	60.48	95.58
Transportation										
Liquefied Petroleum Gases	186.4	220.9	223.4	226.1	206.2	214.0	223.5	213.4	223.4	233.5
Ethanol (E85)[3]	235.4	207.4	223.7	248.0	144.6	172.2	257.5	144.4	186.1	273.4
Ethanol Wholesale Price	250.0	179.5	180.8	203.5	196.5	200.7	194.1	145.9	152.2	179.6
Motor Gasoline[4]	263.3	245.8	255.4	284.1	184.1	235.5	327.5	184.2	244.6	352.3
Jet Fuel[5]	200.2	204.3	212.8	231.2	123.9	179.2	285.2	137.9	207.5	322.3
Diesel Fuel (distillate fuel oil)[6]	271.0	260.5	269.8	280.3	198.3	250.2	339.0	203.8	268.5	379.9
Residual Fuel Oil	118.1	148.6	157.7	162.1	85.1	130.1	209.9	97.3	155.5	246.1
Residual Fuel Oil (2006 dollars per barrel)	49.62	62.41	66.22	68.09	35.73	54.64	88.14	40.86	65.32	103.38
Electric Power[7]										
Distillate Fuel Oil	185.1	178.6	189.0	203.1	98.1	148.3	254.3	111.2	176.2	286.5
Residual Fuel Oil	122.3	132.8	141.5	146.6	66.4	112.3	190.5	76.1	135.3	226.6
Residual Fuel Oil (2006 dollars per barrel)	51.37	55.80	59.43	61.56	27.87	47.18	80.02	31.98	56.84	95.17
Refined Petroleum Product Prices[8]										
Liquefied Petroleum Gases	174.6	163.2	165.4	168.7	151.9	159.5	168.5	160.7	170.1	180.5
Motor Gasoline[4]	261.6	245.7	255.4	284.1	184.0	235.5	327.5	184.2	244.6	352.2
Jet Fuel[5]	200.2	204.3	212.8	231.2	123.9	179.2	285.2	137.9	207.5	322.3
Distillate Fuel Oil	255.9	244.4	253.9	264.5	183.8	236.1	327.2	191.9	257.1	369.4
Residual Fuel Oil	122.9	145.1	154.3	158.8	77.3	124.1	202.1	87.5	147.7	238.0
Residual Fuel Oil (2006 dollars per barrel)	51.63	60.93	64.80	66.69	32.47	52.12	84.89	36.74	62.04	99.95
Average	**234.5**	**224.3**	**233.1**	**252.3**	**166.4**	**214.1**	**296.3**	**171.4**	**229.6**	**326.4**

[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 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 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 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." 2006 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2006 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2006 wholesale ethanol prices derived from Bloomberg U.S. average rack price. **Projections:** EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

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

Supply and Disposition	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
Crude Oil Prices (2006 dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price[1]	66.02	71.45	74.03	79.02	39.07	59.70	102.07	42.35	70.45	118.65
Imported Crude Oil Price[1]	59.05	62.64	65.18	69.19	33.46	51.55	88.31	34.61	58.66	96.42
Conventional Production (Conventional)[2]										
OPEC[3]										
Asia	1.11	1.04	1.03	1.03	1.03	0.98	0.82	1.14	0.94	0.67
Middle East	23.21	25.67	22.41	20.69	30.59	24.09	21.58	38.17	27.35	22.18
North Africa	3.90	4.28	4.28	4.24	4.98	4.78	3.99	5.80	4.82	3.40
West Africa	4.02	5.78	5.77	5.73	7.71	7.41	6.19	9.89	8.23	5.79
South America	2.06	1.99	1.99	1.97	2.27	2.18	1.82	2.60	2.16	1.52
Total OPEC	**34.30**	**38.76**	**35.48**	**33.67**	**46.58**	**39.45**	**34.40**	**57.59**	**43.50**	**33.55**
Non-OPEC										
OECD										
United States (50 states)	7.91	8.89	8.84	8.70	9.28	9.15	9.06	7.96	8.39	8.70
Canada	2.00	1.86	1.85	1.84	1.66	1.32	1.05	1.32	1.05	0.76
Mexico	3.74	3.39	3.37	3.34	4.12	3.25	2.59	4.21	3.35	2.44
OECD Europe[4]	5.52	4.93	4.89	4.85	4.51	3.59	2.86	4.25	3.39	2.47
Japan	0.13	0.12	0.12	0.12	0.16	0.14	0.11	0.19	0.15	0.11
Australia and New Zealand	0.57	0.62	0.62	0.61	0.83	0.65	0.52	0.83	0.66	0.48
Total OECD	**19.85**	**19.81**	**19.69**	**19.46**	**20.57**	**18.10**	**16.19**	**18.76**	**16.99**	**14.96**
Non-OECD										
Russia	9.82	10.40	10.34	10.27	13.82	10.90	8.69	14.71	11.69	8.50
Other Eurasia[5]	2.85	3.80	3.77	3.75	6.92	5.46	4.35	8.01	6.36	4.63
China	3.80	3.86	3.83	3.80	4.90	3.87	3.09	4.43	3.53	2.57
Other Asia[6]	2.89	2.94	2.92	2.90	4.30	3.40	2.71	3.99	3.17	2.31
Middle East[7]	1.69	1.61	2.00	1.59	2.36	2.40	1.48	2.45	2.90	1.42
Africa	2.49	2.93	2.92	2.90	4.86	3.83	3.06	5.03	3.99	2.91
Brazil	1.84	2.42	2.40	2.39	4.30	3.39	2.71	4.61	3.66	2.67
Other Central and South America	2.36	2.33	2.32	2.30	3.39	2.67	2.13	4.41	3.51	2.55
Total Non-OECD	**27.73**	**30.28**	**30.51**	**29.89**	**44.83**	**35.94**	**28.23**	**47.64**	**38.81**	**27.55**
Total Conventional Production	**81.88**	**88.85**	**85.67**	**83.02**	**111.98**	**93.48**	**78.82**	**123.99**	**99.30**	**76.07**
Unconventional Production[8]										
United States (50 states)	0.34	0.80	0.78	0.78	1.44	1.53	1.71	1.87	2.06	3.19
Other North America	1.23	1.89	1.91	1.92	1.71	2.85	3.48	2.10	3.96	4.88
OECD Europe[3]	0.04	0.07	0.07	0.07	0.09	0.15	0.27	0.14	0.26	0.51
Middle East[7]	0.00	0.03	0.03	0.03	0.18	0.31	0.36	0.66	1.24	1.45
Africa.	0.17	0.31	0.31	0.31	0.27	0.44	0.79	0.44	0.83	1.51
Central and South America	0.80	1.17	1.18	1.19	1.05	1.76	2.46	1.33	2.51	3.64
Other	0.20	0.43	0.44	0.44	0.76	1.28	2.46	1.66	3.15	6.47
Total Unconventional Production	**2.78**	**4.70**	**4.73**	**4.75**	**5.49**	**8.32**	**11.52**	**8.19**	**14.00**	**21.65**
Total Production	**84.66**	**93.55**	**90.40**	**87.76**	**117.47**	**101.80**	**90.34**	**132.18**	**113.31**	**97.71**

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

Supply and Disposition	2006	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)	20.65	21.06	20.99	20.87	22.51	21.47	20.45	23.62	22.11	20.73
United States Territories	0.38	0.46	0.43	0.39	0.62	0.51	0.48	0.70	0.59	0.54
Canada	2.27	2.43	2.32	2.23	2.82	2.36	2.04	2.87	2.40	2.01
Mexico	2.06	2.29	2.19	2.10	3.09	2.61	2.24	3.53	2.95	2.48
OECD Europe[3]	15.42	16.22	15.47	14.85	18.69	15.71	13.59	18.99	15.86	13.27
Japan	5.16	5.41	5.18	4.98	6.18	5.22	4.54	6.26	5.26	4.44
South Korea	2.18	2.36	2.25	2.16	3.07	2.57	2.23	3.37	2.81	2.36
Australia and New Zealand	1.03	1.12	1.07	1.03	1.41	1.19	1.03	1.54	1.28	1.08
Total OECD	**49.16**	**51.36**	**49.90**	**48.61**	**58.38**	**51.64**	**46.60**	**60.88**	**53.28**	**46.89**
Non-OECD										
Russia	2.79	3.00	2.89	2.80	3.65	3.13	2.77	3.90	3.32	2.84
Other Non-OECD Eurasia[5]	2.09	2.37	2.26	2.17	3.11	2.64	2.29	3.50	2.96	2.50
China	7.26	9.86	9.44	9.08	14.21	11.96	10.39	18.73	15.69	13.20
India	2.49	2.81	2.68	2.57	4.30	3.62	3.14	5.23	4.37	3.67
Other Non-OECD Asia	6.14	6.97	6.67	6.40	9.86	8.35	7.20	11.74	9.86	8.29
Middle East[7]	6.15	7.30	7.13	7.05	9.65	8.46	7.61	11.36	9.84	8.61
Africa	2.99	3.53	3.36	3.20	5.20	4.35	3.71	5.94	4.93	4.09
Brazil	2.34	2.69	2.57	2.47	3.75	3.15	2.72	4.42	3.68	3.08
Other Central and South America	3.26	3.68	3.51	3.41	5.37	4.51	3.90	6.48	5.37	4.53
Total Non-OECD	**35.51**	**42.20**	**40.51**	**39.16**	**59.09**	**50.16**	**43.73**	**71.30**	**60.02**	**50.81**
Total Consumption	**84.66**	**93.55**	**90.40**	**87.76**	**117.48**	**101.80**	**90.34**	**132.18**	**113.30**	**97.70**
OPEC Production[10]	34.90	39.67	36.40	34.59	47.42	40.87	36.12	59.00	46.16	36.75
Non-OPEC Production[10]	49.76	53.88	54.00	53.17	70.05	60.94	54.22	73.19	67.15	60.96
Net Eurasia Exports	9.63	11.25	11.37	11.44	18.28	13.98	10.70	19.92	15.43	10.46
OPEC Market Share	41.2	42.4	40.3	39.4	40.4	40.1	40.0	44.6	40.7	37.6

[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, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Does not include Ecuador, which was admitted to OPEC as a full member on November 17, 2007.
[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 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **2006 quantities and projections:** Energy Information Administration, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

Appendix D

Results from Side Cases

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

Energy Consumption	2006	2010				2020			
		2008 Technology	Reference	High Technology	Best Available Technology	2008 Technology	Reference	High Technology	Best Available Technology
Residential									
Energy Consumption (quadrillion Btu)									
Liquefied Petroleum Gases	0.47	0.48	0.48	0.48	0.47	0.53	0.52	0.51	0.49
Kerosene	0.07	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.07
Distillate Fuel Oil	0.70	0.75	0.75	0.75	0.74	0.74	0.73	0.72	0.65
Liquid Fuels and Other Petroleum	1.25	1.32	1.31	1.31	1.28	1.36	1.33	1.31	1.20
Natural Gas	4.50	4.97	4.95	4.93	4.78	5.49	5.30	5.18	4.46
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy[1]	0.41	0.44	0.44	0.44	0.43	0.42	0.40	0.40	0.37
Electricity	4.61	5.00	4.95	4.94	4.40	5.53	5.25	5.08	4.30
Delivered Energy	**10.77**	**11.74**	**11.66**	**11.63**	**10.91**	**12.81**	**12.30**	**11.97**	**10.34**
Electricity Related Losses	10.04	10.70	10.59	10.57	9.42	11.66	11.08	10.72	9.06
Total	**20.82**	**22.45**	**22.25**	**22.20**	**20.33**	**24.47**	**23.39**	**22.69**	**19.41**
Delivered Energy Intensity (million Btu per household)	**95.8**	**101.2**	**100.5**	**100.2**	**94.0**	**99.2**	**95.3**	**92.7**	**80.1**
Nonmarketed Renewables Consumption (quadrillion Btu)	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**	**0.03**	**0.04**	**0.04**	**0.03**
Commercial									
Energy Consumption (quadrillion Btu)									
Liquefied Petroleum Gases	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Motor Gasoline[2]	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Kerosene	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Distillate Fuel Oil	0.42	0.38	0.38	0.38	0.38	0.42	0.41	0.41	0.45
Residual Fuel Oil	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Liquid Fuels and Other Petroleum	0.68	0.63	0.63	0.63	0.64	0.68	0.68	0.67	0.71
Natural Gas	2.92	3.05	3.04	3.03	3.00	3.50	3.47	3.41	3.29
Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Renewable Energy[3]	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Electricity	4.43	4.78	4.73	4.69	4.58	5.95	5.67	5.39	4.90
Delivered Energy	**8.25**	**8.68**	**8.62**	**8.56**	**8.43**	**10.34**	**10.03**	**9.69**	**9.11**
Electricity Related Losses	9.66	10.24	10.12	10.03	9.80	12.56	11.96	11.38	10.34
Total	**17.91**	**18.92**	**18.74**	**18.59**	**18.23**	**22.90**	**21.98**	**21.06**	**19.45**
Delivered Energy Intensity (thousand Btu per square foot)	**110.3**	**110.1**	**109.3**	**108.6**	**107.0**	**115.9**	**112.3**	**108.5**	**102.1**
Commercial Sector Generation									
Net Summer Generation Capacity (megawatts)									
Natural Gas	630	662	665	671	672	908	1106	1325	1452
Solar Photovoltaic	243	505	505	505	506	789	860	902	1013
Wind	18	18	18	19	21	45	71	118	254
Electricity Generation (billion kilowatthours)									
Natural Gas	4.54	4.76	4.79	4.83	4.84	6.53	8.00	9.59	10.52
Solar Photovoltaic	0.38	0.81	0.81	0.81	0.81	1.27	1.41	1.48	1.66
Wind	0.02	0.02	0.02	0.03	0.03	0.06	0.10	0.17	0.36
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, biogenic municipal 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 2006 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, AEO2008 National Energy Modeling System, runs BLDFRZN.D030408A, AEO2008.D030208F, BLDHIGH.D030408A, and BLDBEST.D030408A.

2030				Annual Growth 2006-2030 (percent)			
2008 Technology	Reference	High Technology	Best Available Technology	2008 Technology	Reference	High Technology	Best Available Technology
0.58	0.55	0.54	0.50	0.9%	0.7%	0.6%	0.3%
0.09	0.08	0.08	0.05	0.7%	0.5%	0.1%	-1.4%
0.69	0.65	0.63	0.55	-0.1%	-0.3%	-0.5%	-1.1%
1.35	1.29	1.24	1.10	0.3%	0.1%	-0.0%	-0.5%
5.72	5.32	5.04	3.96	1.0%	0.7%	0.5%	-0.5%
0.01	0.01	0.01	0.01	-0.1%	-0.4%	-0.5%	-0.6%
0.40	0.38	0.36	0.33	-0.1%	-0.3%	-0.5%	-0.9%
6.30	5.88	5.58	4.59	1.3%	1.0%	0.8%	-0.0%
13.78	**12.88**	**12.24**	**9.99**	**1.0%**	**0.7%**	**0.5%**	**-0.3%**
13.01	12.14	11.53	9.49	1.1%	0.8%	0.6%	-0.2%
26.78	**25.01**	**23.77**	**19.48**	**1.1%**	**0.8%**	**0.6%**	**-0.3%**
98.0	**91.6**	**87.0**	**71.1**	**0.1%**	**-0.2%**	**-0.4%**	**-1.2%**
0.05	**0.07**	**0.07**	**0.08**	**4.2%**	**5.9%**	**6.2%**	**6.7%**
0.09	0.09	0.09	0.09	0.6%	0.6%	0.6%	0.6%
0.05	0.05	0.05	0.05	0.4%	0.4%	0.4%	0.4%
0.02	0.02	0.02	0.02	0.2%	0.2%	0.2%	0.2%
0.42	0.41	0.41	0.48	0.0%	-0.0%	-0.1%	0.6%
0.10	0.10	0.10	0.10	-0.4%	-0.4%	-0.4%	-0.4%
0.69	0.68	0.68	0.75	0.1%	0.0%	-0.0%	0.4%
3.81	3.78	3.75	3.62	1.1%	1.1%	1.1%	0.9%
0.08	0.08	0.08	0.08	-0.1%	-0.1%	-0.1%	-0.1%
0.13	0.13	0.13	0.13	0.0%	0.0%	-0.0%	0.0%
7.07	6.62	6.17	5.38	2.0%	1.7%	1.4%	0.8%
11.79	**11.30**	**10.81**	**9.95**	**1.5%**	**1.3%**	**1.1%**	**0.8%**
14.61	13.68	12.73	11.11	1.7%	1.5%	1.2%	0.6%
26.40	**24.98**	**23.55**	**21.06**	**1.6%**	**1.4%**	**1.1%**	**0.7%**
117.0	**112.2**	**107.3**	**98.8**	**0.2%**	**0.1%**	**-0.1%**	**-0.5%**
1462	2621	3631	4720	3.6%	6.1%	7.6%	8.8%
1098	1700	2235	4628	6.5%	8.4%	9.7%	13.1%
168	239	588	2249	9.8%	11.4%	15.7%	22.3%
10.53	19.02	26.37	34.29	3.6%	6.2%	7.6%	8.8%
1.75	2.84	3.73	7.73	6.6%	8.7%	10.0%	13.4%
0.24	0.35	0.84	3.08	10.2%	11.9%	16.0%	22.5%
0.03	**0.04**	**0.04**	**0.07**	**1.1%**	**1.7%**	**2.2%**	**4.0%**

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

Consumption	2006	2010			2020			2030		
		2008 Technology	Reference	High Technology	2008 Technology	Reference	High Technology	2008 Technology	Reference	High Technology
Value of Shipments (billion 2000 dollars)										
Manufacturing	4290	4577	4577	4577	5493	5493	5493	6283	6283	6283
Nonmanufacturing	1531	1419	1419	1419	1619	1619	1619	1715	1715	1715
Total	**5821**	**5997**	**5997**	**5997**	**7113**	**7113**	**7113**	**7997**	**7997**	**7997**
Energy Consumption excluding Refining[1] (quadrillion Btu)										
Liquefied Petroleum Gases	2.08	2.15	2.08	2.02	2.07	1.80	1.59	1.99	1.70	1.48
Heat and Power	0.16	0.17	0.17	0.17	0.18	0.16	0.16	0.18	0.16	0.15
Feedstocks	1.91	1.98	1.92	1.86	1.90	1.64	1.43	1.82	1.55	1.34
Motor Gasoline	0.38	0.38	0.38	0.37	0.40	0.37	0.34	0.42	0.38	0.35
Distillate Fuel Oil	1.28	1.31	1.29	1.27	1.34	1.23	1.14	1.39	1.23	1.11
Residual Fuel Oil	0.27	0.29	0.28	0.27	0.27	0.22	0.21	0.27	0.21	0.20
Petrochemical Feedstocks	1.41	1.38	1.36	1.35	1.45	1.39	1.34	1.37	1.29	1.23
Petroleum Coke	0.36	0.35	0.34	0.34	0.38	0.31	0.29	0.39	0.30	0.27
Asphalt and Road Oil	1.26	1.26	1.22	1.19	1.27	1.08	0.93	1.36	1.13	0.92
Miscellaneous Petroleum[2]	0.56	0.41	0.39	0.38	0.46	0.33	0.31	0.44	0.29	0.26
Petroleum Subtotal	7.60	7.53	7.34	7.20	7.65	6.73	6.14	7.63	6.55	5.82
Natural Gas Heat and Power	5.01	5.30	5.12	5.10	6.05	5.22	5.13	6.16	5.22	5.07
Natural Gas Feedstocks	0.57	0.56	0.54	0.52	0.55	0.46	0.40	0.48	0.39	0.33
Lease and Plant Fuel[3]	1.17	1.21	1.21	1.21	1.25	1.25	1.25	1.27	1.27	1.27
Natural Gas Subtotal	6.74	7.08	6.86	6.83	7.85	6.93	6.78	7.90	6.88	6.66
Metallurgical Coal and Coke[4]	0.66	0.64	0.63	0.61	0.63	0.57	0.49	0.60	0.52	0.42
Other Industrial Coal	1.20	1.26	1.25	1.24	1.23	1.14	1.10	1.23	1.12	1.07
Coal Subtotal	1.86	1.90	1.87	1.85	1.86	1.71	1.59	1.82	1.64	1.49
Renewables[5]	1.69	1.66	1.66	1.68	1.79	1.83	1.91	1.92	2.02	2.17
Purchased Electricity	3.27	3.40	3.35	3.30	3.67	3.42	3.26	3.73	3.35	3.08
Delivered Energy	**21.17**	**21.57**	**21.09**	**20.86**	**22.81**	**20.62**	**19.68**	**23.00**	**20.44**	**19.22**
Electricity Related Losses	7.13	7.28	7.17	7.06	7.73	7.22	6.87	7.70	6.92	6.36
Total	**28.29**	**28.85**	**28.27**	**27.92**	**30.54**	**27.84**	**26.55**	**30.70**	**27.35**	**25.58**
Delivered Energy Use per Dollar of Shipments (thousand Btu per 2000 dollar)	**4.31**	**4.38**	**4.31**	**4.27**	**4.06**	**3.75**	**3.62**	**3.79**	**3.46**	**3.31**
Onsite Industrial Combined Heat and Power										
Capacity (gigawatts)	25.69	28.05	28.11	28.28	36.43	36.84	37.90	43.57	44.85	47.23
Generation (billion kilowatthours)	139.50	155.16	155.59	156.67	218.02	220.78	227.59	272.50	281.41	296.46

[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, biogenic municipal waste, and other biomass.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 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, AEO2008 National Energy Modeling System runs INDFRZN.D030608A, AEO2008.D030208F, and INDHIGH.D032208A.

Table D3. Key Results for Transportation Sector Technology Cases

Consumption and Indicators	2006	2010		2020		2030	
		Reference	High Technology	Reference	High Technology	Reference	High Technology
Level of Travel							
(billion vehicle miles traveled)							
Light-Duty Vehicles less than 8,500	2693	2777	2777	3375	3379	4069	4074
Commercial Light Trucks[1]	70	73	73	87	87	101	101
Freight Trucks greater than 10,000	235	250	250	304	304	351	351
(billion seat miles available)							
Air	994	1130	1130	1457	1457	1665	1665
(billion ton miles traveled)							
Rail	1656	1702	1703	1932	1933	2147	2148
Domestic Shipping	619	643	643	701	701	721	721
Energy Efficiency Indicators							
(miles per gallon)							
New Light-Duty Vehicle[2]	26.5	27.2	27.6	35.8	36.1	36.6	37.2
New Car[2]	31.1	31.5	32.2	42.0	42.2	42.1	42.6
New Light Truck[2]	23.2	23.7	24.1	31.4	32.2	32.4	33.4
Light-Duty Stock[3]	20.3	20.3	20.3	23.7	23.9	27.9	28.2
New Commercial Light Truck[1]	15.6	15.7	16.0	19.8	20.7	20.2	21.4
Stock Commercial Light Truck[1]	14.3	14.9	14.9	17.4	17.8	19.8	20.6
Freight Truck	6.0	6.0	6.1	6.5	6.7	6.8	7.2
(seat miles per gallon)							
Aircraft	62.2	63.5	63.5	67.2	67.4	70.0	70.6
(ton miles per thousand Btu)							
Rail	2.9	2.9	2.9	3.0	3.1	3.0	3.2
Domestic Shipping	2.0	2.0	2.0	2.0	2.1	2.0	2.2
Energy Use (quadrillion Btu)							
by Mode							
Light-Duty Vehicles	16.41	16.52	16.48	17.10	16.98	17.52	17.37
Commercial Light Trucks[1]	0.62	0.62	0.61	0.63	0.62	0.64	0.62
Bus Transportation	0.26	0.26	0.26	0.27	0.26	0.29	0.27
Freight Trucks	4.89	5.18	5.15	5.85	5.66	6.44	6.14
Rail, Passenger	0.04	0.05	0.05	0.05	0.05	0.06	0.06
Rail, Freight	0.57	0.58	0.58	0.65	0.63	0.72	0.67
Shipping, Domestic	0.32	0.33	0.32	0.35	0.33	0.36	0.33
Shipping, International	0.78	0.79	0.79	0.79	0.79	0.80	0.80
Recreational Boats	0.24	0.25	0.25	0.28	0.28	0.30	0.30
Air	2.65	2.90	2.90	3.61	3.60	4.22	4.18
Military Use	0.69	0.73	0.73	0.73	0.73	0.76	0.76
Lubricants	0.15	0.14	0.14	0.14	0.14	0.15	0.15
Pipeline Fuel	0.59	0.64	0.64	0.69	0.69	0.72	0.72
Total	**28.20**	**28.98**	**28.91**	**31.15**	**30.77**	**32.98**	**32.37**
by Fuel							
Liquefied Petroleum Gases	0.02	0.02	0.02	0.01	0.01	0.01	0.01
E85[4]	0.00	0.00	0.00	0.97	0.98	1.34	1.35
Motor Gasoline[5]	17.20	17.25	17.21	16.56	16.42	15.97	15.78
Jet Fuel[6]	3.16	3.44	3.44	4.15	4.14	4.79	4.75
Distillate Fuel Oil[7]	6.18	6.54	6.51	7.63	7.39	8.98	8.60
Residual Fuel Oil	0.83	0.85	0.85	0.86	0.85	0.87	0.86
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum[8]	0.18	0.17	0.17	0.18	0.18	0.18	0.18
Liquid Fuels and Other Petroleum	27.57	28.29	28.21	30.37	29.98	32.15	31.54
Pipeline Fuel Natural Gas	0.59	0.64	0.64	0.69	0.69	0.72	0.72
Compressed Natural Gas	0.02	0.04	0.04	0.07	0.07	0.08	0.08
Electricity	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Delivered Energy	**28.20**	**28.98**	**28.91**	**31.15**	**30.76**	**32.98**	**32.37**
Electricity Related Losses	0.05	0.05	0.05	0.06	0.06	0.06	0.06
Total	**28.25**	**29.03**	**28.96**	**31.21**	**30.82**	**33.04**	**32.43**

[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 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 2006 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, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and TRNHIGH.D031408A.

Table D4. Key Results for Integrated Technology Cases

Consumption and Emissions	2006	2010			2020			2030		
		2008 Technology	Reference	High Technology	2008 Technology	Reference	High Technology	2008 Technology	Reference	High Technology
Energy Consumption by Sector (quadrillion Btu)										
Residential	10.77	11.73	11.66	11.64	12.79	12.30	12.00	13.73	12.88	12.29
Commercial	8.25	8.66	8.62	8.57	10.30	10.03	9.73	11.69	11.30	10.88
Industrial[1]	25.10	26.30	25.82	25.58	28.96	26.70	25.79	30.15	27.70	26.57
Transportation	28.20	28.98	28.98	28.92	31.18	31.15	30.80	33.00	32.98	32.44
Electric Power[2]	39.68	41.77	41.46	41.23	47.34	45.21	43.63	52.40	49.21	45.79
Total	**99.52**	**104.11**	**103.34**	**102.82**	**115.28**	**110.85**	**107.94**	**123.83**	**118.01**	**112.79**
Energy Consumption by Fuel (quadrillion Btu)										
Liquid Fuels and Other Petroleum[3]	40.06	40.69	40.46	40.24	43.25	42.24	41.30	45.16	43.99	42.68
Natural Gas	22.30	24.44	23.93	23.68	25.24	24.01	23.10	24.96	23.39	22.19
Coal	22.50	23.06	23.03	23.01	28.11	25.87	24.82	33.61	29.90	28.00
Nuclear Power	8.21	8.31	8.31	8.31	8.98	9.05	9.15	8.85	9.57	8.99
Renewable Energy[4]	6.27	7.42	7.43	7.39	9.52	9.50	9.39	11.02	10.97	10.75
Other [5]	0.19	0.19	0.18	0.18	0.18	0.17	0.17	0.23	0.20	0.18
Total	**99.52**	**104.11**	**103.34**	**102.82**	**115.28**	**110.85**	**107.94**	**123.83**	**118.01**	**112.79**
Energy Intensity (thousand Btu per 2000 dollar of GDP)	**8.79**	**8.37**	**8.30**	**8.25**	**7.22**	**6.93**	**6.74**	**6.14**	**5.84**	**5.57**
Carbon Dioxide Emissions by Sector (million metric tons)										
Residential	338	356	355	354	385	374	367	396	372	354
Commercial	213	215	215	215	242	241	238	259	258	257
Industrial[1]	1010	1074	1052	1044	1173	1069	1032	1193	1086	1038
Transportation	1985	1975	1976	1971	2074	2072	2047	2188	2188	2149
Electric Power[6]	2344	2429	2413	2404	2827	2627	2509	3299	2948	2746
Total	**5890**	**6049**	**6011**	**5987**	**6701**	**6384**	**6193**	**7335**	**6851**	**6543**
Carbon Dioxide Emissions by Fuel (million metric tons)										
Petroleum	2581	2565	2555	2546	2692	2650	2607	2816	2767	2701
Natural Gas	1163	1282	1256	1243	1325	1262	1216	1312	1231	1169
Coal	2134	2190	2188	2186	2671	2459	2359	3194	2841	2661
Other[7]	12	12	12	12	12	12	12	12	12	12
Total	**5890**	**6049**	**6011**	**5987**	**6701**	**6384**	**6193**	**7335**	**6851**	**6543**
Carbon Dioxide Emissions (tons per person)	**19.6**	**19.5**	**19.3**	**19.3**	**19.8**	**18.9**	**18.3**	**20.1**	**18.7**	**17.9**

[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 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 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 non-biogenic municipal waste and net electricity imports.
[6]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 waste because under international guidelines these are accounted for as waste, not energy.
[7]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 2006 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HTECHCOST.D031408A, AEO2008.D030208F, and LTECHCOST.D032208A.

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

Net Summer Capacity, Generation, Emissions, and Fuel Prices	2006	2010			2020			2030		
		High Nuclear Cost	Reference	Low Nuclear Cost	High Nuclear Cost	Reference	Low Nuclear Cost	High Nuclear Cost	Reference	Low Nuclear Cost
Capacity										
Coal	309.8	316.0	316.0	316.0	343.8	343.1	341.5	415.1	406.1	389.8
Oil and Natural Gas Steam	119.7	118.4	118.4	118.4	92.8	93.3	91.4	92.4	92.9	89.9
Combined Cycle	176.5	190.0	190.0	190.0	196.8	196.7	196.8	213.5	210.0	208.4
Combustion Turbine/Diesel	130.9	137.4	137.4	137.4	132.1	132.1	132.0	162.9	164.7	162.3
Nuclear Power	100.2	100.9	100.9	100.9	108.9	110.9	113.6	104.4	114.9	136.6
Pumped Storage	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources	96.3	111.6	111.6	111.6	123.6	123.6	123.5	133.1	132.5	131.2
Distributed Generation (Natural Gas)	0.0	0.3	0.3	0.3	2.6	2.7	2.7	9.1	9.8	9.7
Combined Heat and Power[1]	27.9	30.7	30.7	30.7	40.5	40.4	40.5	51.8	51.8	52.4
Total	**982.9**	**1026.7**	**1026.7**	**1026.7**	**1062.5**	**1064.2**	**1063.5**	**1203.8**	**1204.2**	**1201.8**
Cumulative Additions										
Coal	0.0	7.7	7.7	7.7	37.7	37.0	35.5	109.2	100.2	83.8
Oil and Natural Gas 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	13.5	13.5	13.5	20.3	20.2	20.3	36.9	33.4	31.8
Combustion Turbine/Diesel	0.0	7.2	7.2	7.2	10.5	10.5	10.3	42.0	43.4	41.9
Nuclear Power	0.0	0.0	0.0	0.0	6.0	8.0	10.7	6.0	16.6	38.2
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	15.2	15.3	15.3	27.3	27.3	27.2	36.8	36.2	34.9
Distributed Generation	0.0	0.3	0.3	0.3	2.6	2.7	2.7	9.1	9.8	9.7
Combined Heat and Power[1]	0.0	2.9	2.9	2.9	12.6	12.5	12.7	23.9	23.9	24.5
Total	**0.0**	**46.7**	**46.8**	**46.8**	**117.0**	**118.2**	**119.3**	**264.0**	**263.5**	**264.8**
Cumulative Retirements	**0.0**	**3.6**	**3.6**	**3.6**	**40.0**	**39.5**	**41.4**	**45.7**	**44.8**	**48.6**
Generation by Fuel (billion kilowatthours)										
Coal	1966	2034	2034	2034	2332	2319	2310	2856	2787	2656
Petroleum	59	50	50	50	53	53	53	57	57	56
Natural Gas	732	821	820	820	724	722	710	610	599	574
Nuclear Power	787	797	797	797	854	868	888	837	917	1082
Pumped Storage	0	1	1	1	1	1	1	1	1	1
Renewable Sources	351	424	424	424	521	522	523	557	558	554
Distributed Generation	0	0	0	0	1	1	1	3	4	4
Combined Heat and Power[1]	152	169	169	169	238	238	239	313	313	317
Total	**4047**	**4294**	**4294**	**4294**	**4723**	**4723**	**4724**	**5234**	**5235**	**5243**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[2]										
Petroleum	55	43	43	43	45	45	45	48	48	47
Natural Gas	340	366	365	366	324	323	318	275	272	263
Coal	1938	1992	1993	1992	2259	2247	2241	2675	2615	2515
Other[3]	12	12	12	12	12	12	12	12	12	12
Total	**2344**	**2413**	**2413**	**2413**	**2641**	**2627**	**2616**	**3010**	**2948**	**2837**
Prices to the Electric Power Sector[2] (2006 dollars per million Btu)										
Petroleum	9.63	10.80	10.79	10.79	8.58	8.57	8.57	10.38	10.37	10.29
Natural Gas	6.87	6.97	6.96	6.97	5.95	5.95	5.92	6.95	6.93	6.85
Coal	1.69	1.84	1.84	1.84	1.72	1.72	1.72	1.80	1.78	1.76

[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 waste.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HCNUC08.D030308A, AEO2008.D030208F, and LCNUC08.D030308A.

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

Net Summer Capacity, Generation Consumption, and Emissions	2006	2010			2020			2030		
		High Fossil Cost	Reference	Low Fossil Cost	High Fossil Cost	Reference	Low Fossil Cost	High Fossil Cost	Reference	Low Fossil Cost
Capacity										
Pulverized Coal	309.3	315.5	315.5	315.5	341.5	338.2	325.3	397.5	376.1	331.7
Coal Gasification Combined-Cycle	0.5	0.5	0.5	0.5	3.1	4.8	17.6	4.7	30.0	94.6
Conventional Natural Gas Combined-Cycle	176.5	190.0	190.0	190.0	192.3	192.1	192.1	194.5	192.1	192.1
Advanced Natural Gas Combined-Cycle	0.0	0.0	0.0	0.0	0.5	4.6	8.7	0.9	17.9	37.4
Conventional Combustion Turbine	130.9	136.6	136.5	136.5	128.2	127.9	127.7	132.1	128.4	125.7
Advanced Combustion Turbine	0.0	0.8	0.9	0.9	7.9	4.2	3.1	37.9	36.3	25.8
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear	100.2	100.9	100.9	100.9	111.2	110.9	109.9	121.5	114.9	105.4
Oil and Natural Gas Steam	119.7	118.4	118.4	118.4	91.3	93.3	94.6	90.9	92.9	92.6
Renewable Sources/Pumped Storage	117.8	133.1	133.1	133.1	145.5	145.1	144.4	154.1	154.0	150.8
Distributed Generation	0.0	0.3	0.3	0.3	2.7	2.7	1.5	12.6	9.8	5.7
Combined Heat and Power[1]	27.9	30.7	30.7	30.7	40.6	40.4	40.5	52.1	51.8	51.0
Total	**982.9**	**1026.7**	**1026.7**	**1026.7**	**1065.0**	**1064.2**	**1065.4**	**1198.9**	**1204.2**	**1212.8**
Cumulative Additions										
Pulverized Coal	0.0	7.7	7.7	7.7	36.0	32.7	19.8	92.2	70.7	26.4
Coal Gasification Combined-Cycle	0.0	0.0	0.0	0.0	2.5	4.3	17.1	4.2	29.5	94.1
Conventional Natural Gas Combined-Cycle	0.0	13.5	13.5	13.5	15.8	15.5	15.5	17.9	15.5	15.5
Advanced Natural Gas Combined-Cycle	0.0	0.0	0.0	0.0	0.5	4.6	8.7	0.9	17.9	37.4
Conventional Combustion Turbine	0.0	6.4	6.3	6.3	6.9	6.4	6.3	10.7	7.1	6.3
Advanced Combustion Turbine	0.0	0.8	0.9	0.9	7.9	4.2	3.1	37.9	36.3	25.8
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	8.4	8.0	7.0	23.1	16.6	7.0
Oil and Natural 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	15.3	15.3	15.3	27.7	27.3	26.6	36.3	36.2	33.0
Distributed Generation	0.0	0.3	0.3	0.3	2.7	2.7	1.5	12.6	9.8	5.7
Combined Heat and Power[1]	0.0	2.9	2.9	2.9	12.8	12.5	12.6	24.2	23.9	23.1
Total	**0.0**	**46.8**	**46.8**	**46.8**	**121.2**	**118.2**	**118.2**	**260.1**	**263.5**	**274.4**
Cumulative Retirements	**0.0**	**3.6**	**3.6**	**3.6**	**41.8**	**39.5**	**38.3**	**46.8**	**44.8**	**47.0**
Generation by Fuel (billion kilowatthours)										
Coal	1966	2034	2034	2034	2334	2319	2319	2749	2787	2917
Petroleum	59	50	50	50	53	53	51	58	57	52
Natural Gas	732	820	820	820	704	722	733	575	599	588
Nuclear Power	787	797	797	797	871	868	861	967	917	845
Renewable Sources/Pumped Storage	351	425	425	425	523	523	524	558	559	553
Distributed Generation	0	0	0	0	1	1	1	4	4	2
Combined Heat and Power[1]	152	169	169	169	240	238	238	315	313	308
Total	**4047**	**4294**	**4294**	**4294**	**4727**	**4723**	**4727**	**5225**	**5235**	**5266**
Fuel Consumption by the Electric Power Sector (quadrillion Btu)[2]										
Coal	20.48	21.01	21.01	21.01	23.84	23.67	23.54	27.45	27.55	27.62
Petroleum	0.64	0.56	0.56	0.56	0.59	0.59	0.57	0.63	0.63	0.59
Natural Gas	6.42	6.89	6.89	6.89	5.99	6.09	6.12	5.06	5.13	4.83
Nuclear Power	8.21	8.31	8.31	8.31	9.08	9.05	8.98	10.08	9.57	8.81
Renewable Sources	3.74	4.52	4.53	4.52	5.66	5.64	5.66	6.10	6.13	6.06
Total	**39.62**	**41.42**	**41.41**	**41.41**	**45.29**	**45.16**	**45.00**	**49.46**	**49.13**	**48.04**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[2]										
Coal	1938	1992	1993	1992	2263	2247	2235	2608	2615	2623
Petroleum	55	43	43	43	45	45	44	49	48	45
Natural Gas	340	366	365	366	318	323	325	268	272	256
Other[1]	12	12	12	12	12	12	12	12	12	12
Total	**2344**	**2413**	**2413**	**2413**	**2639**	**2627**	**2616**	**2938**	**2948**	**2937**

[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 waste.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HCFOSS08.D030308A, AEO2008.D030208F, and LCFOSS08.D030308A.

Table D7. Key Results for Renewable Technology Cases

Capacity, Generation, and Emissions	2006	2010			2020			2030		
		High Renewable Cost	Reference	Low Renewable Cost	High Renewable Cost	Reference	Low Renewable Cost	High Renewable Cost	Reference	Low Renewable Cost
Net Summer Capacity (gigawatts)										
Electric Power Sector[1]										
Conventional Hydropower	76.72	76.73	76.73	76.73	77.35	77.26	77.13	77.35	77.32	77.32
Geothermal[2]	2.29	2.50	2.50	2.50	3.15	3.28	3.26	4.06	4.18	3.96
Municipal Waste[3]	3.39	3.99	3.99	3.92	4.06	4.02	3.96	4.07	4.06	3.97
Wood and Other Biomass[4]	2.01	2.20	2.20	2.20	4.56	4.39	4.53	5.33	5.58	6.48
Solar Thermal	0.40	0.54	0.54	0.54	0.82	0.82	0.82	0.86	0.86	0.86
Solar Photovoltaic	0.03	0.07	0.07	0.07	0.22	0.22	0.22	0.39	0.39	0.39
Wind	11.50	25.61	25.61	25.61	31.53	33.64	36.92	36.57	40.15	43.80
Total	**96.34**	**111.63**	**111.63**	**111.57**	**121.68**	**123.62**	**126.83**	**128.63**	**132.54**	**136.77**
End-Use Sector[5]										
Conventional Hydropower	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Waste[6]	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Wood and Other Biomass	4.64	4.87	4.89	4.95	8.32	8.57	8.95	11.97	12.60	13.13
Solar Photovoltaic	0.27	0.67	0.67	0.70	1.01	1.13	1.23	1.39	2.80	3.97
Wind	0.04	0.04	0.04	0.04	0.07	0.09	0.11	0.19	0.26	0.33
Total	**6.00**	**6.63**	**6.65**	**6.74**	**10.45**	**10.85**	**11.33**	**14.60**	**16.72**	**18.48**
Generation (billion kilowatthours)										
Electric Power Sector[1]										
Coal	1966	2035	2034	2035	2316	2319	2315	2784	2787	2777
Petroleum	59	50	50	50	52	53	53	56	57	56
Natural Gas	732	821	820	820	728	722	720	606	599	593
Total Fossil	**2757**	**2905**	**2903**	**2904**	**3097**	**3093**	**3088**	**3447**	**3443**	**3426**
Conventional Hydropower	285.07	289.47	289.47	289.47	298.51	298.00	297.16	298.72	298.53	298.35
Geothermal	14.84	17.52	17.52	17.52	22.95	23.96	23.80	30.13	31.05	29.32
Municipal Waste[3]	13.46	18.85	18.85	18.30	19.44	19.08	18.67	19.48	19.47	18.70
Wood and Other Biomass[4]	10.97	21.75	22.98	22.42	86.48	77.53	68.58	92.57	82.55	71.51
Dedicated Plants	9.06	10.94	11.06	11.21	28.80	27.74	28.50	34.54	36.64	42.84
Cofiring	1.91	10.80	11.92	11.22	57.68	49.79	40.07	58.03	45.91	28.68
Solar Thermal	0.49	1.15	1.15	1.15	2.04	2.04	2.04	2.18	2.18	2.18
Solar Photovoltaic	0.01	0.16	0.16	0.16	0.52	0.52	0.52	0.96	0.96	0.96
Wind	25.78	72.85	74.13	73.50	89.99	101.23	113.36	105.86	123.18	137.80
Total Renewable	**350.62**	**421.75**	**424.27**	**422.53**	**519.94**	**522.35**	**524.12**	**549.91**	**557.91**	**558.82**
End-Use Sector[5]										
Total Fossil	99	115	115	115	156	157	158	201	198	200
Conventional Hydropower[7]	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Municipal Waste[6]	2.06	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82	2.82
Wood and Other Biomass	28.44	29.83	29.98	30.29	55.52	57.00	59.20	83.13	86.99	89.54
Solar Photovoltaic	0.43	1.07	1.07	1.12	1.61	1.85	2.01	2.22	4.76	6.75
Wind	0.06	0.06	0.06	0.06	0.09	0.13	0.15	0.27	0.38	0.48
Total Renewable	**34.22**	**37.02**	**37.17**	**37.53**	**63.30**	**65.05**	**67.43**	**91.69**	**98.19**	**102.84**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[1]										
Coal	1938	1994	1993	1993	2243	2247	2246	2610	2615	2609
Petroleum	55	43	43	43	45	45	45	48	48	47
Natural Gas	340	366	365	366	326	323	323	275	272	270
Other[8]	12	12	12	12	12	12	12	12	12	12
Total	**2344**	**2414**	**2413**	**2414**	**2625**	**2627**	**2626**	**2945**	**2948**	**2938**

[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 biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities.
[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 waste, landfill gas, and municipal sewage sludge. All municipal waste is included, although a portion of the municipal 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 waste.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HIRENCST08.D030408A, AEO2008.D030208F, and LORENCST08.D030408A.

Table D8. Natural Gas Supply and Disposition, Oil and Gas Technological Progress Cases
(Trillion Cubic Feet per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2010			2020			2030		
		Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology
Natural Gas Prices										
(2006 dollars per million Btu)										
Henry Hub Spot Price	6.73	6.94	6.90	6.86	6.13	5.95	5.69	7.72	7.22	6.66
Average Lower 48 Wellhead Price[1]	6.24	6.19	6.16	6.12	5.45	5.29	5.05	6.90	6.45	5.94
(2006 dollars per thousand cubic feet)										
Average Lower 48 Wellhead Price[1]	6.42	6.37	6.33	6.30	5.61	5.44	5.20	7.10	6.63	6.11
Dry Gas Production[2]	**18.51**	**19.27**	**19.29**	**19.32**	**19.27**	**19.67**	**20.40**	**18.50**	**19.44**	**20.69**
Lower 48 Onshore	15.04	15.27	15.26	15.26	13.90	14.16	14.70	12.82	13.95	15.21
Associated-Dissolved	1.42	1.41	1.41	1.41	1.29	1.33	1.38	1.10	1.20	1.24
Non-Associated	13.62	13.86	13.85	13.84	12.61	12.83	13.32	11.72	12.76	13.97
Conventional	5.14	4.82	4.81	4.80	3.59	3.47	3.31	3.57	3.23	2.83
Unconventional	8.48	9.04	9.04	9.05	9.02	9.36	10.01	8.15	9.53	11.14
Lower 48 Offshore	3.05	3.58	3.61	3.65	4.18	4.31	4.51	3.32	3.47	3.47
Associated-Dissolved	0.62	0.72	0.73	0.74	0.93	0.97	1.02	0.73	0.77	0.83
Non-Associated	2.43	2.86	2.88	2.91	3.25	3.35	3.49	2.59	2.69	2.64
Alaska	0.42	0.42	0.42	0.42	1.19	1.19	1.19	2.37	2.01	2.01
Supplemental Natural Gas[3]	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Net Imports	**3.46**	**3.85**	**3.85**	**3.85**	**3.60**	**3.55**	**3.41**	**3.23**	**3.18**	**2.73**
Pipeline[4]	2.94	2.64	2.64	2.65	1.14	1.18	1.22	0.23	0.33	0.44
Liquefied Natural Gas	0.52	1.21	1.20	1.20	2.46	2.37	2.19	3.00	2.84	2.29
Total Supply	**22.03**	**23.18**	**23.20**	**23.23**	**22.93**	**23.28**	**23.87**	**21.80**	**22.68**	**23.48**
Consumption by Sector										
Residential	4.37	4.80	4.81	4.81	5.13	5.15	5.17	5.12	5.17	5.22
Commercial	2.83	2.95	2.96	2.96	3.35	3.37	3.39	3.63	3.67	3.72
Industrial[5]	6.49	6.94	6.95	6.96	6.88	6.93	6.99	6.76	6.87	7.02
Electric Power[6]	6.24	6.69	6.70	6.72	5.69	5.92	6.36	4.37	4.99	5.49
Transportation[7]	0.02	0.03	0.03	0.03	0.07	0.07	0.07	0.08	0.09	0.09
Pipeline Fuel	0.58	0.62	0.62	0.62	0.66	0.67	0.69	0.68	0.70	0.72
Lease and Plant Fuel[8]	1.14	1.18	1.18	1.18	1.20	1.22	1.25	1.20	1.23	1.28
Total	**21.66**	**23.23**	**23.25**	**23.28**	**22.98**	**23.33**	**23.92**	**21.85**	**22.72**	**23.53**
Discrepancy[9]	**0.37**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.04**
Lower 48 End of Year Reserves	**202.99**	**219.82**	**220.62**	**221.61**	**209.51**	**219.31**	**237.64**	**176.29**	**200.42**	**233.48**

[1]Represents lower 48 onshore and offshore supplies.
[2]Marketed production (wet) minus extraction losses.
[3]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.
[4]Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.
[5]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[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]Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[8]Represents natural gas used in field gathering and processing plant machinery.
[9]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, 2006 values include net storage injections.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs OGLTEC08.D030508A, AEO2008.D030208F, and OGHTEC08.D030508A.

Table D9. Liquid Fuels Supply and Disposition, Oil and Gas Technological Progress Cases
(Million Barrels per Day, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2010			2020			2030		
		Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology	Slow Technology	Reference	Rapid Technology
Prices (2006 dollars per barrel)										
Imported Low Sulfur Light Crude Oil[1]	**66.02**	**74.11**	**74.03**	**73.96**	**60.00**	**59.70**	**59.39**	**71.11**	**70.45**	**70.03**
Imported Crude Oil[1]	**59.05**	**65.25**	**65.18**	**65.02**	**51.85**	**51.55**	**51.08**	**61.36**	**58.66**	**57.97**
Crude Oil Supply										
Domestic Crude Oil Production[2]	5.10	5.88	5.93	5.98	5.94	6.23	6.53	4.98	5.59	5.94
Alaska	0.74	0.69	0.69	0.69	0.69	0.70	0.70	0.29	0.30	0.30
Lower 48 Onshore	2.93	3.08	3.10	3.13	3.08	3.28	3.46	2.88	3.38	3.58
Lower 48 Offshore	1.43	2.12	2.14	2.16	2.17	2.25	2.37	1.80	1.92	2.06
Net Crude Oil Imports	10.09	9.61	9.60	9.58	10.01	9.75	9.53	11.50	11.03	10.78
Other Crude Oil Supply	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Oil Supply	**15.24**	**15.49**	**15.53**	**15.56**	**15.95**	**15.98**	**16.06**	**16.48**	**16.63**	**16.72**
Other Supply										
Natural Gas Plant Liquids	1.74	1.68	1.68	1.68	1.70	1.72	1.74	1.50	1.57	1.61
Net Product Imports[3]	2.31	1.76	1.72	1.70	1.39	1.37	1.29	1.38	1.26	1.13
Refinery Processing Gain[4]	0.99	1.05	1.05	1.05	1.00	1.00	1.01	0.98	0.99	0.99
Other Supply[5]	0.45	1.04	1.04	1.04	2.00	1.97	1.98	2.44	2.41	2.44
Total Primary Supply[6]	**20.74**	**21.01**	**21.02**	**21.03**	**22.05**	**22.04**	**22.08**	**22.79**	**22.86**	**22.89**
Liquid Fuels Consumption by Sector										
Residential and Commercial	1.07	1.08	1.08	1.08	1.12	1.13	1.13	1.11	1.12	1.12
Industrial[7]	5.15	5.06	5.06	5.06	4.79	4.79	4.80	4.71	4.73	4.73
Transportation	14.05	14.59	14.60	14.60	15.79	15.79	15.81	16.63	16.66	16.69
Electric Power[8]	0.29	0.25	0.25	0.25	0.26	0.26	0.26	0.28	0.28	0.28
Total	**20.65**	**20.98**	**20.99**	**21.00**	**21.96**	**21.96**	**21.99**	**22.74**	**22.80**	**22.83**
Discrepancy[9]	**0.09**	**0.03**	**0.03**	**0.03**	**0.08**	**0.08**	**0.09**	**0.05**	**0.06**	**0.06**
Lower 48 End of Year Reserves (billion barrels)[2]	**19.02**	**19.59**	**19.89**	**20.20**	**19.68**	**20.78**	**21.91**	**17.69**	**19.89**	**20.98**

[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]The volumetric amount by which total output is greater than input due to the processing of crude oil into products which, in total, have a lower specific gravity than the crude oil processed.
[5]Includes ethanol (including imports), alcohols, ethers, petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, biodiesel (including imports), natural gas converted to liquid fuel, coal converted to liquid fuel, and biomass 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 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 product supplied data based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 data: EIA, *Petroleum Supply Annual 2006,* DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs OGLTEC08.D030508A, AEO2008.D030208F, and OGHTEC08.D030508A.

Table D10. Natural Gas Supply and Disposition, Liquefied Natural Gas Supply Cases

(Trillion Cubic Feet per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2010			2020			2030		
		Low LNG Supply	Reference	High LNG Supply	Low LNG Supply	Reference	High LNG Supply	Low LNG Supply	Reference	High LNG Supply
Dry Gas Production[1]	**18.51**	**19.46**	**19.29**	**19.30**	**20.52**	**19.67**	**18.57**	**20.63**	**19.44**	**16.86**
Lower 48 Onshore	15.04	15.39	15.26	15.26	14.94	14.16	13.19	14.74	13.95	11.75
Associated-Dissolved	1.42	1.41	1.41	1.41	1.34	1.33	1.33	1.20	1.20	1.19
Non-Associated	13.62	13.98	13.85	13.85	13.61	12.83	11.86	13.54	12.76	10.55
Conventional	5.14	4.87	4.81	4.81	3.74	3.47	3.11	3.53	3.23	2.48
Unconventional	8.48	9.11	9.04	9.04	9.87	9.36	8.75	10.01	9.53	8.08
Lower 48 Offshore	3.05	3.65	3.61	3.61	4.38	4.31	4.19	3.53	3.47	3.10
Associated-Dissolved	0.62	0.73	0.73	0.73	0.97	0.97	0.97	0.78	0.77	0.76
Non-Associated	2.43	2.92	2.88	2.88	3.41	3.35	3.23	2.75	2.69	2.34
Alaska	0.42	0.42	0.42	0.42	1.19	1.19	1.19	2.37	2.01	2.01
Supplemental Natural Gas[2]	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Net Imports	**3.46**	**3.67**	**3.85**	**3.85**	**2.36**	**3.55**	**5.71**	**1.56**	**3.18**	**8.33**
Pipeline[3]	2.94	2.67	2.64	2.64	1.33	1.18	0.97	0.53	0.33	-0.19
Liquefied Natural Gas	0.52	0.99	1.20	1.20	1.03	2.37	4.74	1.03	2.84	8.53
Total Supply	**22.03**	**23.19**	**23.20**	**23.20**	**22.94**	**23.28**	**24.35**	**22.26**	**22.68**	**25.25**
Consumption by Sector										
Residential	4.37	4.80	4.81	4.81	5.13	5.15	5.19	5.14	5.17	5.27
Commercial	2.83	2.95	2.96	2.96	3.35	3.37	3.40	3.65	3.67	3.77
Industrial[4]	6.49	6.95	6.95	6.95	6.87	6.93	7.04	6.82	6.87	7.19
Electric Power[5]	6.24	6.69	6.70	6.70	5.65	5.92	6.84	4.61	4.99	7.13
Transportation[6]	0.02	0.03	0.03	0.03	0.07	0.07	0.07	0.08	0.09	0.09
Pipeline Fuel	0.58	0.62	0.62	0.62	0.67	0.67	0.68	0.70	0.70	0.73
Lease and Plant Fuel[7]	1.14	1.19	1.18	1.18	1.25	1.22	1.17	1.29	1.23	1.12
Total	**21.66**	**23.23**	**23.25**	**23.25**	**22.98**	**23.33**	**24.39**	**22.30**	**22.72**	**25.30**
Discrepancy[8]	**0.37**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.04**
Lower 48 End of Year Reserves	**202.99**	**221.15**	**220.62**	**220.63**	**226.28**	**219.31**	**212.07**	**207.46**	**200.42**	**183.11**
Natural Gas Prices										
(2006 dollars per million Btu)										
Henry Hub Spot Price	6.73	7.00	6.90	6.90	6.18	5.95	5.51	7.52	7.22	6.03
Average Lower 48 Wellhead Price[9]	6.24	6.25	6.16	6.16	5.50	5.29	4.89	6.72	6.45	5.37
(2006 dollars per thousand cubic feet)										
Average Lower 48 Wellhead Price[9]	6.42	6.43	6.33	6.34	5.66	5.44	5.03	6.92	6.63	5.52
Delivered Prices										
(2006 dollars per thousand cubic feet)										
Residential	13.80	12.61	12.52	12.52	11.97	11.74	11.30	13.59	13.30	12.09
Commercial	11.85	11.00	10.91	10.91	10.43	10.20	9.77	12.07	11.78	10.59
Industrial[4]	7.89	7.52	7.43	7.43	6.62	6.40	5.98	7.80	7.50	6.35
Electric Power[5]	7.07	7.25	7.16	7.16	6.33	6.11	5.74	7.41	7.13	6.05
Transportation[10]	14.71	14.09	14.01	14.01	12.74	12.52	12.12	13.49	13.22	12.13
Average[11]	**9.49**	**9.06**	**8.97**	**8.97**	**8.47**	**8.22**	**7.72**	**9.96**	**9.63**	**8.25**

[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, 2006 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.
LNG = Liquefied natural gas.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs LOLNG08.D0305086A, AEO2008.D030208F, and HILNG08.D030508A.

Table D11. Liquid Fuels Supply and Disposition, ANWR Drilling Case
(Million Barrels per Day, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2010		2020		2030	
		Reference	ANWR	Reference	ANWR	Reference	ANWR
Crude Oil							
Domestic Crude Production[1]	5.10	5.93	5.93	6.23	6.48	5.59	6.28
Alaska	0.74	0.69	0.69	0.70	0.95	0.30	1.01
Lower 48 States	4.36	5.24	5.24	5.53	5.53	5.30	5.27
Net Imports	10.09	9.60	9.60	9.75	9.53	11.03	10.58
Other Crude Supply[2]	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Total Crude Supply	**15.24**	**15.53**	**15.53**	**15.98**	**16.00**	**16.63**	**16.86**
Other Supply							
Natural Gas Plant Liquids	1.74	1.68	1.68	1.72	1.73	1.57	1.60
Net Product Imports[3]	2.31	1.72	1.72	1.37	1.37	1.26	1.09
Refinery Processing Gain[4]	0.99	1.05	1.05	1.00	1.01	0.99	1.04
Ethanol[5]	0.36	0.81	0.81	1.41	1.41	1.56	1.54
Biodiesel[5]	0.02	0.04	0.04	0.07	0.07	0.08	0.08
Liquids from Coal	0.00	0.00	0.00	0.15	0.13	0.24	0.20
Liquids from Biomass	0.00	0.00	0.00	0.14	0.14	0.29	0.30
Other[6]	0.07	0.18	0.18	0.21	0.21	0.24	0.25
Total Primary Supply[7]	**20.74**	**21.02**	**21.02**	**22.04**	**22.08**	**22.86**	**22.97**
Liquid Fuels Consumption							
by Fuel							
Liquefied Petroleum Gases	2.05	2.05	2.05	1.86	1.86	1.80	1.80
E85[8]	0.00	0.00	0.00	0.67	0.67	0.92	0.90
Motor Gasoline[9]	9.25	9.59	9.59	9.24	9.24	8.91	8.96
Jet Fuel[10]	1.63	1.66	1.66	2.01	2.01	2.31	2.31
Distillate Fuel Oil[11]	4.17	4.40	4.40	4.91	4.91	5.53	5.53
Residual Fuel Oil	0.69	0.70	0.70	0.69	0.69	0.70	0.70
Other[12]	2.86	2.58	2.58	2.58	2.60	2.62	2.67
by Sector							
Residential and Commercial	1.07	1.08	1.08	1.13	1.13	1.12	1.12
Industrial[13]	5.15	5.06	5.06	4.79	4.80	4.73	4.78
Transportation	14.05	14.60	14.60	15.79	15.80	16.66	16.68
Electric Power[14]	0.29	0.25	0.25	0.26	0.26	0.28	0.28
Total	**20.65**	**20.99**	**20.99**	**21.96**	**21.98**	**22.80**	**22.86**
Discrepancy[15]	**0.09**	**0.03**	**0.03**	**0.08**	**0.10**	**0.06**	**0.11**
Imported Low Sulfur Light Crude Oil Price [16] (2006 dollars per barrel)	66.02	74.03	74.03	59.70	59.46	70.45	69.78
Imported Crude Oil Price [16] (2006 dollars per barrel)	59.05	65.18	65.18	51.55	51.00	58.66	57.32
Import Share of Product Supplied (percent)	60.0	54.2	54.2	51.6	50.5	54.3	51.3
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2006 dollars)	264.86	254.07	254.07	207.19	200.42	261.91	241.11

[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]The volumetric amount by which total output is greater than input due to the processing of crude oil into products which, in total, have a lower specific gravity than the crude oil processed.
[5]Includes net imports.
[6]Includes petroleum product stock withdrawals; domestic sources of blending components, other hydrocarbons, alcohols, and ethers.
[7]Total crude supply plus all components of Other Supply.
[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 varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
[9]Includes ethanol and ethers blended into gasoline.
[10]Includes only kerosene type.
[11]Includes distillate and kerosene.
[12]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.
[13]Includes consumption for combined heat and power (CHP), which produces electricity and other useful thermal energy.
[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]Balancing item. Includes unaccounted for supply, losses, and gains.
[16]Weighted average price delivered to U.S. refiners.
ANWR = Arctic National Wildlife Refuge.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 data: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F and ANWR2008.D031008A.

Table D12. Key Results for Coal Cost Cases

(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2015			2030			Growth Rate, 2006-2030		
		Low Coal Cost	Reference	High Coal Cost	Low Coal Cost	Reference	High Coal Cost	Low Coal Cost	Reference	High Coal Cost
Supply										
Production[1]	1163	1240	1215	1180	1620	1455	1110	1.4%	0.9%	-0.2%
Appalachia	392	347	340	335	365	328	309	-0.3%	-0.7%	-1.0%
Interior	151	189	193	186	241	241	236	2.0%	2.0%	1.9%
West	619	703	682	659	1015	885	565	2.1%	1.5%	-0.4%
Waste Coal Supplied[2]	14	11	14	16	8	12	18	-2.0%	-0.4%	1.1%
Net Imports	-15	-5	-3	0	52	78	118	- -	- -	- -
Total Supply[3]	**1161**	**1245**	**1225**	**1197**	**1681**	**1545**	**1246**	**1.6%**	**1.2%**	**0.3%**
Consumption by Sector										
Residential and Commercial	4	4	4	4	4	4	4	-0.2%	-0.2%	-0.2%
Coke Plants	23	21	21	21	19	18	18	-0.8%	-0.9%	-1.0%
Other Industrial[4]	61	60	60	59	57	58	56	-0.2%	-0.2%	-0.3%
Coal-to-Liquids Heat and Power	0	14	9	6	63	35	8	- -	- -	- -
Coal-to-Liquids Liquids Production	0	12	7	5	53	29	6	- -	- -	- -
Electric Power[5]	1026	1135	1125	1102	1485	1401	1155	1.5%	1.3%	0.5%
Total Coal Use	**1114**	**1245**	**1225**	**1197**	**1681**	**1545**	**1246**	**1.7%**	**1.4%**	**0.5%**
Average Minemouth Price[6]										
(2006 dollars per short ton)	24.63	19.64	23.38	28.25	13.13	23.32	44.23	-2.6%	-0.2%	2.5%
(2006 dollars per million Btu)	1.21	0.98	1.17	1.41	0.67	1.19	2.21	-2.4%	-0.1%	2.5%
Delivered Prices[7]										
(2006 dollars per short ton)										
Coke Plants	92.87	82.67	92.85	105.20	65.65	94.68	131.91	-1.4%	0.1%	1.5%
Other Industrial[4]	51.67	45.43	49.16	54.03	38.70	49.91	69.85	-1.2%	-0.1%	1.3%
Coal to Liquids	- -	15.03	14.44	17.29	12.42	20.60	32.23	- -	- -	- -
Electric Power[5]										
(2006 dollars per short ton)	33.85	30.75	34.24	38.95	25.22	35.03	54.10	-1.2%	0.1%	2.0%
(2006 dollars per million Btu)	1.69	1.56	1.74	1.97	1.28	1.78	2.69	-1.1%	0.2%	2.0%
Average	**36.03**	**32.00**	**35.71**	**40.63**	**25.24**	**35.70**	**55.68**	**-1.5%**	**-0.0%**	**1.8%**
Exports[8]	70.93	64.55	71.83	79.72	55.19	79.44	95.10	-1.0%	0.5%	1.2%
Cumulative Electricity Generating Capacity Additions (gigawatts)[9]										
Coal	0.0	22.7	18.4	14.2	134.8	104.2	40.1	- -	- -	- -
Conventional: Pulverized Coal	0.0	18.0	15.8	11.9	99.8	70.7	33.5	- -	- -	- -
Advanced: IGCC	0.0	4.8	2.6	2.3	34.9	33.5	6.6	- -	- -	- -
Petroleum	0.0	0.5	0.5	0.5	0.9	0.9	1.0	- -	- -	- -
Natural Gas	0.0	28.0	28.3	29.8	91.7	94.9	97.6	- -	- -	- -
Nuclear	0.0	0.0	0.0	0.0	6.0	16.6	59.8	- -	- -	- -
Renewables [10]	0.0	22.9	23.2	22.6	47.8	46.9	44.9	- -	- -	- -
Other	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	- -	- -	- -
Total	**0.0**	**74.1**	**70.5**	**67.1**	**281.0**	**263.5**	**243.4**	**- -**	**- -**	**- -**
Liquids from Coal (million barrels per day)	0.00	0.10	0.06	0.04	0.43	0.24	0.05	- -	- -	- -
Labor Productivity										
Coal Mining (short tons per miner per hour)	6.26	8.36	6.71	5.29	14.93	7.25	2.98	3.7%	0.6%	-3.0%
Rail: Eastern Railroads (billion freight ton-miles per employee per year)	8.58	15.09	12.49	10.29	29.86	17.20	9.77	5.3%	2.9%	0.5%
Rail: Western Railroads (billion freight ton-miles per employee per year)	12.49	18.87	15.56	12.77	33.35	19.08	10.77	4.2%	1.8%	-0.6%

Table D12. Key Results for Coal Cost Cases (Continued)

(Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2015			2030			Growth Rate, 2006-2030		
		Low Coal Cost	Reference	High Coal Cost	Low Coal Cost	Reference	High Coal Cost	Low Coal Cost	Reference	High Coal Cost
Cost Indices (constant dollar index, 2006=1.000)										
Transportation Rate Multipliers										
Eastern Railroads	1.000	1.013	1.031	1.048	0.936	1.006	1.080	-0.3%	0.0%	0.3%
Western Railroads	1.000	1.016	1.031	1.045	0.962	1.018	1.077	-0.2%	0.1%	0.3%
Equipment Costs										
Mining										
Underground	1.000	0.954	1.024	1.098	0.821	1.024	1.275	-0.8%	0.1%	1.0%
Surface	1.000	0.933	1.001	1.073	0.803	1.001	1.246	-0.9%	0.0%	0.9%
Railroads	1.000	0.893	0.967	1.047	0.785	0.987	1.238	-1.0%	-0.1%	0.9%
Average Coal Miner Wage (2006 dollars per hour)	**22.08**	**20.58**	**22.08**	**23.67**	**17.71**	**22.08**	**27.49**	**-0.9%**	**0.0%**	**0.9%**

[1]Includes anthracite, bituminous coal, subbituminous 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 waste coal supplied plus net imports.
[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, 2006. 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.
Btu = British thermal unit.
IGCC = Integrated gasification combined cycle.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 data based on: Energy Information Administration (EIA), *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007); EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007); 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 : ceu1021210008; and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. **Projections:** EIA, AEO2008 National Energy Modeling System runs LCCST08.D030508A, AEO2008.D030208F, and HCCST08.D030508A.

Table D13. Energy Supply, Disposition, Prices, and Emissions, Natural Gas Cases

Supply, Disposition, and Prices	2006	2015				2030			
		Reference	Restricted Natural Gas Supply	Restricted Non-Natural Gas Electricity Generation	Combined High Demand/Low Natural Gas Supply	Reference	Restricted Natural Gas Supply	Restricted Non-Natural Gas Electricity Generation	Combined High Demand/Low Natural Gas Supply
Production (quadrillion Btu)									
Crude Oil and Lease Condensate	10.80	13.25	12.21	13.27	12.23	12.04	10.17	12.10	10.24
Natural Gas Plant Liquids	2.36	2.29	2.28	2.30	2.28	2.11	2.05	2.32	2.26
Dry Natural Gas	19.04	20.08	19.97	20.30	20.53	20.00	17.46	22.26	19.48
Coal[1]	23.79	24.48	25.22	23.99	24.05	28.63	29.38	21.39	22.33
Nuclear Power	8.21	8.41	8.41	8.29	8.29	9.57	10.12	7.88	7.88
Hydropower	2.89	2.99	3.00	2.99	3.02	3.00	3.01	3.07	3.10
Biomass[2]	2.94	5.12	5.18	5.05	5.04	8.12	8.04	8.46	8.59
Other Renewable Energy[3]	0.88	1.75	1.82	1.74	1.88	2.45	3.05	2.96	3.94
Other[4]	0.50	0.58	0.59	0.58	0.59	0.64	0.64	0.66	0.63
Total	**71.41**	**78.96**	**78.67**	**78.50**	**77.92**	**86.56**	**83.92**	**81.09**	**78.44**
Net Imports (quadrillion Btu)									
Liquid Fuels and Other Petroleum[5]	26.70	24.23	25.26	24.24	25.34	26.52	28.82	26.62	28.96
Natural Gas	3.56	4.15	2.95	4.25	3.05	3.28	2.03	4.70	3.06
Other[6]	-0.28	-0.09	-0.09	-0.01	0.02	1.86	1.98	2.80	2.90
Total	**29.99**	**28.29**	**28.12**	**28.49**	**28.41**	**31.66**	**32.83**	**34.12**	**34.92**
Consumption (quadrillion Btu)									
Liquid Fuels and Other Petroleum[7]	40.06	41.80	41.81	41.80	41.88	43.99	44.79	44.05	44.90
Natural Gas	22.30	24.35	23.05	24.67	23.70	23.39	19.20	27.08	22.26
Coal[8]	22.50	24.19	24.92	23.81	23.88	29.90	30.74	23.91	24.90
Nuclear Power	8.21	8.41	8.41	8.29	8.29	9.57	10.12	7.88	7.88
Hydropower	2.89	2.99	3.00	2.99	3.02	3.00	3.01	3.07	3.10
Biomass[9]	2.50	3.60	3.66	3.53	3.53	5.51	5.47	5.84	5.98
Other Renewable Energy[3]	0.88	1.75	1.82	1.74	1.88	2.45	3.05	2.96	3.94
Other[10]	0.19	0.17	0.17	0.17	0.18	0.20	0.23	0.27	0.33
Total	**99.52**	**107.26**	**106.83**	**107.00**	**106.36**	**118.01**	**116.60**	**115.05**	**113.28**
Prices (2006 dollars per unit)									
Imported Low Sulfur Light Crude Oil[11] (dollars per barrel)	66.02	59.85	60.44	59.86	60.49	70.45	71.62	70.57	71.79
Natural Gas Wellhead Price[12] (dollars per thousand cubic feet)	6.42	5.36	6.13	5.43	6.48	6.63	9.61	7.57	12.55
Coal Minemouth Price[13] (dollars per ton)	24.63	23.38	23.72	28.29	28.43	23.32	23.88	44.35	45.27
Average Electricity Price (cents per kilowatthour)	8.9	8.5	8.8	8.7	9.1	8.8	9.3	10.0	12.1
Carbon Dioxide Emissions by Fuel (million metric tons)									
Petroleum	2581	2636	2638	2637	2644	2767	2837	2787	2862
Natural Gas	1163	1279	1210	1296	1245	1231	999	1427	1157
Coal	2134	2299	2369	2262	2270	2841	2921	2264	2271
Total	**5890**	**6226**	**6229**	**6207**	**6171**	**6851**	**6769**	**6490**	**6303**

[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.
[3]Includes grid-connected electricity from landfill gas; biogenic municipal 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.
[4]Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
[5]Includes crude oil, finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[6]Includes coal, coal coke, and electricity.
[7]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol, biodiesel, and coal-based synthetic liquids. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen.
[8]Excludes coal converted to coal-based synthetic liquids.
[9]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.
[10]Includes non-biogenic municipal waste and net electricity imports.
[11]Weighted average price delivered to U.S. refiners.
[12]Represents lower 48 onshore and offshore supplies.
[13]Includes reported prices for both open market and captive mines.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth price: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and LOGASSUP.D030408A, HIGASDEM.D030408A, and HDEMLSUP.D030408A.

Table D14. Natural Gas Supply and Disposition, Natural Gas Cases

(Trillion Cubic Feet per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	2006	2015				2030			
		Reference	Restricted Natural Gas Supply	Restricted Non-Natural Gas Electricity Generation	Combined High Demand/Low Natural Gas Supply	Reference	Restricted Natural Gas Supply	Restricted Non-Natural Gas Electricity Generation	Combined High Demand/Low Natural Gas Supply
Dry Gas Production[1]	**18.51**	**19.52**	**19.41**	**19.73**	**19.95**	**19.44**	**16.97**	**21.64**	**18.93**
Lower 48 Onshore	15.04	14.81	14.83	14.98	15.30	13.95	12.57	15.65	14.17
Associated-Dissolved	1.42	1.40	1.32	1.40	1.32	1.20	1.00	1.20	1.01
Non-Associated	13.62	13.41	13.51	13.59	13.98	12.76	11.57	14.45	13.16
Conventional	5.14	3.96	4.25	4.02	4.44	3.23	3.86	3.86	4.48
Unconventional	8.48	9.45	9.26	9.56	9.53	9.53	7.71	10.59	8.68
Lower 48 Offshore	3.05	4.32	4.20	4.36	4.27	3.47	3.50	3.62	3.65
Associated-Dissolved	0.62	0.95	0.90	0.95	0.90	0.77	0.72	0.78	0.74
Non-Associated	2.43	3.37	3.30	3.41	3.37	2.69	2.77	2.84	2.90
Alaska	0.42	0.38	0.38	0.38	0.38	2.01	0.90	2.37	1.12
Supplemental Natural Gas[2]	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Net Imports	**3.46**	**4.03**	**2.87**	**4.13**	**2.96**	**3.18**	**1.97**	**4.57**	**2.97**
Pipeline	2.94	1.91	1.83	1.95	1.93	0.33	0.93	0.74	1.94
Liquefied Natural Gas	0.52	2.12	1.03	2.18	1.03	2.84	1.03	3.83	1.03
Total Supply	**22.03**	**23.61**	**22.34**	**23.92**	**22.98**	**22.68**	**19.00**	**26.27**	**21.96**
Consumption by Sector									
Residential	4.37	5.01	4.95	5.01	4.92	5.17	4.92	5.09	4.74
Commercial	2.83	3.20	3.14	3.19	3.12	3.67	3.46	3.63	3.30
Industrial[3]	6.49	7.00	6.80	6.99	6.74	6.87	5.53	6.49	5.40
Natural Gas-to-Liquids Heat and Power[4]	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.28
Natural Gas-to-Liquids Production[5]	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.38
Electric Power[6]	6.24	6.56	5.65	6.88	6.35	4.99	2.84	8.91	6.06
Transportation[7]	0.02	0.06	0.05	0.06	0.05	0.09	0.08	0.08	0.07
Pipeline Fuel	0.58	0.64	0.61	0.64	0.62	0.70	0.53	0.78	0.58
Lease and Plant Fuel[8]	1.14	1.19	1.19	1.20	1.21	1.23	1.10	1.34	1.19
Total	**21.66**	**23.66**	**22.39**	**23.97**	**23.02**	**22.72**	**18.92**	**26.31**	**22.01**
Lower 48 End of Year Reserves	**202.99**	**227.01**	**209.85**	**228.55**	**212.55**	**200.42**	**156.39**	**214.14**	**165.54**
Natural Gas Prices									
(2006 dollars per million Btu)									
Henry Hub Spot Price	6.73	5.87	6.69	5.94	7.06	7.22	10.37	8.21	13.47
Average Lower 48 Wellhead Price[9]	6.24	5.21	5.96	5.28	6.30	6.45	9.34	7.35	12.20
(2006 dollars per thousand cubic feet)									
Average Lower 48 Wellhead Price[9]	6.42	5.36	6.13	5.43	6.48	6.63	9.61	7.57	12.55
Delivered Prices									
(2006 dollars per thousand cubic feet)									
Residential	13.80	11.54	12.39	11.61	12.74	13.30	16.53	14.26	19.61
Commercial	11.85	9.97	10.80	10.04	11.13	11.78	14.93	12.72	17.94
Industrial[5]	7.89	6.33	7.12	6.41	7.48	7.50	10.61	8.51	13.63
Electric Power[6]	7.07	6.10	6.84	6.19	7.23	7.13	9.90	8.24	13.14
Transportation[10]	14.71	12.71	13.46	12.78	13.80	13.22	16.24	14.17	19.16
Average[11]	**9.49**	**8.00**	**8.89**	**8.06**	**9.18**	**9.63**	**13.13**	**10.27**	**15.67**

[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 energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[4]Includes any natural gas used in the process of converting natural gas to liquid fuel that is not actually converted.
[5]Includes any natural gas that is converted into liquid fuel.
[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]Compressed natural gas used as vehicle fuel.
[8]Represents natural gas used in field gathering and processing plant machinery.
[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.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and LOGASSUP.D030408A, HIGASDEM.D030408A, and HDEMLSUP.D030408A.

Table D15. Electricity Generating Capacity, Natural Gas Cases
(Gigawatts, Unless Otherwise Noted)

Net Summer Capacity[1]	2006	2015				2030			
		Reference	Restricted Natural Gas Supply	Restricted Non-Natural Gas Electricity Generation	Combined High Demand/Low Natural Gas Supply	Reference	Restricted Natural Gas Supply	Restricted Non-Natural Gas Electricity Generation	Combined High Demand/Low Natural Gas Supply
Capacity									
Coal	309.8	323.9	336.0	318.3	319.0	406.1	436.3	319.1	336.3
Oil and Natural Gas Steam	119.7	93.6	84.7	99.0	94.5	92.9	83.3	97.6	92.5
Combined Cycle	176.5	192.4	192.3	195.0	194.8	210.0	195.2	289.1	255.3
Combustion Turbine/Diesel	130.9	130.0	123.7	130.8	129.8	164.7	153.3	145.3	144.2
Nuclear Power	100.2	102.1	102.1	102.1	102.1	114.9	121.5	114.9	114.9
Pumped Storage	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources	96.3	117.3	119.1	117.4	118.6	132.5	142.4	138.4	142.6
Distributed Generation (Natural Gas)	0.0	0.9	0.5	1.0	0.4	9.8	5.1	6.0	3.1
Combined Heat and Power[1]	27.9	34.6	34.1	34.6	34.1	51.8	49.9	53.1	53.0
Total	**982.9**	**1016.3**	**1013.8**	**1019.6**	**1014.7**	**1204.2**	**1208.4**	**1185.0**	**1163.4**
Cumulative Additions									
Coal	0.0	17.5	28.3	11.3	11.3	100.2	129.4	12.1	28.6
Oil and Natural Gas Steam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Combined Cycle	0.0	15.8	15.8	18.5	18.3	33.4	18.7	112.6	78.8
Combustion Turbine/Diesel	0.0	8.4	8.1	10.1	9.2	43.4	39.9	25.7	25.1
Nuclear Power	0.0	0.0	0.0	0.0	0.0	16.6	23.1	16.6	16.6
Pumped Storage	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
Renewable Sources	0.0	21.0	22.8	21.1	22.3	36.2	46.1	42.1	46.2
Distributed Generation	0.0	0.9	0.5	1.0	0.4	9.8	5.1	6.0	3.1
Combined Heat and Power[1]	0.0	6.8	6.2	6.7	6.2	23.9	22.0	25.2	25.1
Total	**0.0**	**70.5**	**81.5**	**68.7**	**67.6**	**263.5**	**284.2**	**240.3**	**223.6**
Cumulative Retirements	**0.0**	**38.9**	**52.4**	**33.8**	**37.7**	**44.8**	**61.4**	**40.9**	**45.7**
Generation by Fuel (billion kilowatthours)									
Coal	1966	2154	2235	2115	2122	2787	2904	2136	2256
Petroleum	59	51	52	51	59	57	90	61	152
Natural Gas	732	806	684	848	785	599	310	1218	809
Nuclear Power	787	807	807	795	795	917	970	756	756
Pumped Storage	0	1	1	1	1	1	1	1	1
Renewable Sources	351	469	482	464	474	558	602	613	652
Distributed Generation	0	1	0	2	0	4	2	5	1
Combined Heat and Power[1]	152	197	193	197	193	313	294	318	301
Total	**4047**	**4485**	**4455**	**4473**	**4429**	**5235**	**5174**	**5107**	**4928**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[2]									
Petroleum	55	44	45	44	51	48	78	54	116
Natural Gas	340	358	308	375	347	272	155	486	331
Coal	1938	2105	2176	2072	2080	2615	2698	2088	2097
Other[3]	12	12	12	12	12	12	12	13	13
Total	**2344**	**2519**	**2541**	**2503**	**2490**	**2948**	**2943**	**2640**	**2557**
Prices to the Electric Power Sector[2] (2006 dollars per million Btu)									
Petroleum	9.63	8.45	8.55	8.47	8.36	10.37	10.10	9.91	10.55
Natural Gas	6.87	5.93	6.66	6.02	7.03	6.93	9.63	8.02	12.78
Coal	1.69	1.74	1.76	1.97	1.98	1.78	1.81	2.69	2.76

[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 waste.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2006 capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). **Projections:** EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and LOGASSUP.D030408A, HIGASDEM.D030408A, and HDEMLSUP.D030408A.

Table D16. Electricity Generating Capacity, Commodity Cost Cases
(Gigawatts, Unless Otherwise Noted)

Net Summer Capacity, Generation, Emissions, and Fuel Prices	2006	2010			2020			2030		
		Low Commodity Cost	Reference	High Commodity Cost	Low Commodity Cost	Reference	High Commodity Cost	Low Commodity Cost	Reference	High Commodity Cost
Capacity										
Coal	309.8	316.0	316.0	316.0	344.4	343.1	337.3	410.9	406.1	393.2
Oil and Natural Gas Steam	119.7	118.4	118.4	118.4	95.6	93.3	92.7	93.4	92.9	92.6
Combined Cycle	176.5	190.0	190.0	190.0	197.6	196.7	193.5	208.9	210.0	209.8
Combustion Turbine/Diesel	130.9	137.4	137.4	137.4	132.1	132.1	140.1	155.8	164.7	176.9
Nuclear Power	100.2	100.9	100.9	100.9	113.6	110.9	102.9	125.2	114.9	98.4
Pumped Storage	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5	21.5
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources	96.3	111.6	111.6	111.9	125.4	123.6	120.3	135.2	132.5	124.1
Distributed Generation (Natural Gas)	0.0	0.3	0.3	0.2	4.0	2.7	0.5	16.5	9.8	0.5
Combined Heat and Power[1]	27.9	30.8	30.7	30.8	41.1	40.4	40.0	52.5	51.8	54.1
Total	**982.9**	**1026.7**	**1026.7**	**1026.8**	**1075.4**	**1064.2**	**1048.8**	**1219.7**	**1204.2**	**1171.0**
Cumulative Additions										
Coal	0.0	7.7	7.7	7.7	38.2	37.0	31.5	104.7	100.2	87.6
Oil and Natural Gas 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	13.5	13.5	13.5	21.1	20.2	16.9	32.4	33.4	33.3
Combustion Turbine/Diesel	0.0	7.2	7.2	7.1	10.1	10.5	20.1	35.6	43.4	56.9
Nuclear Power	0.0	0.0	0.0	0.0	10.7	8.0	0.0	26.8	16.6	0.0
Pumped Storage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Renewable Sources	0.0	15.2	15.3	15.5	29.1	27.3	24.0	38.9	36.2	27.8
Distributed Generation	0.0	0.3	0.3	0.2	4.0	2.7	0.5	16.5	9.8	0.5
Combined Heat and Power[1]	0.0	2.9	2.9	2.9	13.3	12.5	12.2	24.6	23.9	26.2
Total	**0.0**	**46.8**	**46.8**	**46.9**	**126.6**	**118.2**	**105.2**	**279.4**	**263.5**	**232.3**
Cumulative Retirements	**0.0**	**3.6**	**3.6**	**3.6**	**36.7**	**39.5**	**42.0**	**45.2**	**44.8**	**46.8**
Generation by Fuel (billion kilowatthours)										
Coal	1966	2034	2034	2033	2343	2319	2235	2809	2787	2664
Petroleum	59	50	50	49	53	53	51	55	57	53
Natural Gas	732	823	820	813	698	722	814	533	599	749
Nuclear Power	787	797	797	797	888	868	812	999	917	789
Pumped Storage	0	1	1	1	1	1	1	1	1	1
Renewable Sources	351	423	424	427	522	522	534	559	558	563
Distributed Generation	0	0	0	0	2	1	1	6	4	1
Combined Heat and Power[1]	152	169	169	169	244	238	235	320	313	325
Total	**4047**	**4296**	**4294**	**4289**	**4750**	**4723**	**4683**	**5282**	**5235**	**5146**
Carbon Dioxide Emissions by the Electric Power Sector (million metric tons)[2]										
Petroleum	55	43	43	43	45	45	44	47	48	46
Natural Gas	340	367	365	363	314	323	362	248	272	331
Coal	1938	1993	1993	1991	2269	2247	2164	2623	2615	2502
Other[3]	12	12	12	12	12	12	12	12	12	12
Total	**2344**	**2414**	**2413**	**2408**	**2640**	**2627**	**2582**	**2931**	**2948**	**2890**
Prices to the Electric Power Sector[2] (2006 dollars per million Btu)										
Petroleum	9.63	10.81	10.79	10.81	8.60	8.57	8.57	10.39	10.37	10.44
Natural Gas	6.87	6.93	6.96	6.99	5.66	5.95	6.34	6.58	6.93	7.55
Coal	1.69	1.84	1.84	1.84	1.72	1.72	1.73	1.77	1.78	1.79
Average Electricity Price (2006 cents per kilowatthour)	**8.9**	**9.1**	**9.2**	**9.2**	**8.4**	**8.6**	**9.0**	**8.5**	**8.8**	**9.7**

[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 waste.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Source: Energy Information Administration, AEO2008 National Energy Modeling System runs LC2008.D030308A, AEO2008.D030208F, and HC2008.D030308A.

Table D17. Oil and Gas Supply, Commodity Cost Cases

Production and Prices	2006	2010			2020			2030		
		Low Commodity Cost	Reference	High Commodity Cost	Low Commodity Cost	Reference	High Commodity Cost	Low Commodity Cost	Reference	High Commodity Cost
Crude Oil										
Lower 48 Average Wellhead Price[1] (2006 dollars per barrel)	**60.18**	**79.17**	**78.45**	**78.00**	**52.26**	**52.54**	**52.85**	**60.77**	**60.59**	**62.05**
Production (million barrels per day)[2]										
United States Total	5.10	5.93	5.93	5.89	6.25	6.23	6.18	5.61	5.59	5.29
Lower 48 Onshore	2.93	3.11	3.10	3.10	3.30	3.28	3.23	3.40	3.38	3.05
Lower 48 Offshore	1.43	2.14	2.14	2.10	2.25	2.25	2.25	1.92	1.92	1.95
Alaska	0.74	0.69	0.69	0.69	0.70	0.70	0.70	0.30	0.30	0.30
Lower 48 End of Year Reserves[2] (billion barrels)	**19.02**	**19.91**	**19.89**	**19.79**	**20.86**	**20.78**	**20.60**	**19.94**	**19.89**	**18.79**
Natural Gas										
Prices (2006 dollars per million Btu)										
Henry Hub Spot Price	6.73	6.88	6.90	6.92	5.66	5.95	6.34	6.87	7.22	7.74
Average Lower 48 Wellhead Price[3]	6.24	6.13	6.16	6.17	5.02	5.29	5.65	6.13	6.45	6.92
Prices (2006 dollars per thousand cubic feet)										
Average Lower 48 Wellhead Price[3]	6.42	6.31	6.33	6.35	5.17	5.44	5.81	6.30	6.63	7.12
Production (trillion cubic feet)	**18.57**	**19.37**	**19.36**	**19.28**	**19.25**	**19.73**	**20.36**	**18.98**	**19.50**	**20.61**
Dry Gas Production[4]	18.51	19.30	19.29	19.21	19.19	19.67	20.29	18.91	19.44	20.55
Lower 48 Onshore	15.04	15.27	15.26	15.23	13.78	14.16	14.66	13.50	13.95	14.62
Lower 48 Offshore	3.05	3.61	3.61	3.56	4.22	4.31	4.44	3.40	3.47	3.56
Alaska	0.42	0.42	0.42	0.42	1.19	1.19	1.19	2.01	2.01	2.37
Supplemental Gaseous Supplies[5]	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Net Imports (trillion cubic feet)	**3.46**	**3.88**	**3.85**	**3.83**	**3.98**	**3.55**	**3.53**	**3.35**	**3.18**	**3.14**
Pipeline	2.94	2.64	2.64	2.65	1.41	1.18	1.41	0.54	0.33	0.61
Liquefied Natural Gas	0.52	1.24	1.20	1.18	2.57	2.37	2.12	2.81	2.84	2.54
Total Supply (trillion cubic feet)	**22.03**	**23.25**	**23.20**	**23.11**	**23.23**	**23.28**	**23.89**	**22.33**	**22.68**	**23.76**
Consumption by Sector (trillion cubic feet)										
Residential	4.37	4.81	4.81	4.80	5.18	5.15	5.11	5.20	5.17	5.12
Commercial	2.83	2.96	2.96	2.96	3.39	3.37	3.34	3.69	3.67	3.66
Industrial[6]	6.49	6.97	6.95	6.91	7.02	6.93	6.85	6.95	6.87	6.85
Electric Power[7]	6.24	6.72	6.70	6.65	5.75	5.92	6.63	4.55	4.99	6.06
Transportation[8]	0.02	0.03	0.03	0.03	0.07	0.07	0.07	0.09	0.09	0.08
Pipeline Fuel	0.58	0.62	0.62	0.62	0.67	0.67	0.68	0.69	0.70	0.73
Lease and Plant Fuel[9]	1.14	1.18	1.18	1.17	1.20	1.22	1.25	1.21	1.23	1.29
Total	**21.66**	**23.30**	**23.25**	**23.15**	**23.28**	**23.33**	**23.93**	**22.37**	**22.72**	**23.80**
Lower 48 End of Year Dry Reserves (trillion cubic feet)	**202.99**	**221.43**	**220.62**	**219.40**	**219.15**	**219.31**	**218.76**	**197.47**	**200.42**	**204.82**
Total Lower 48 Wells Drilled (thousands)	**49.72**	**64.60**	**62.33**	**60.72**	**36.07**	**37.19**	**40.30**	**35.80**	**35.78**	**38.59**

[1]Represents lower 48 onshore and offshore supplies.
[2]Includes lease condensate.
[3]Represents lower 48 onshore and offshore supplies.
[4]Marketed production (wet) minus extraction losses.
[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.
[6]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[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 field gathering and processing plant machinery.
Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 crude oil lower 48 average wellhead price: Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). Other 2006 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2008 National Energy Modeling System runs LC2008.D030308A, AEO2008.D030208F, and HC2008.D030308A.

Table D18. Energy Supply, Disposition, and Prices
AEO2008 Reference Case Compared to the Early Release

Supply, Disposition, and Prices	2006	2010		2020		2030	
		Reference	Early-Release Reference	Reference	Early-Release Reference	Reference	Early-Release Reference
Production (quadrillion Btu)							
Petroleum[1]	13.16	15.03	14.92	15.71	16.02	14.15	14.30
Dry Natural Gas	19.04	19.85	19.61	20.24	20.28	20.00	20.41
Coal[2]	23.79	23.97	23.31	25.20	25.61	28.63	31.16
Nuclear Power	8.21	8.31	8.31	9.05	9.15	9.57	9.89
Hydropower	2.89	2.92	2.92	3.00	3.00	3.00	3.00
Biomass[3]	2.94	4.05	4.11	6.42	4.93	8.12	5.52
Other Renewable Energy[4]	0.88	1.51	1.50	2.00	1.99	2.45	2.49
Other[5]	0.50	0.54	0.55	0.58	0.64	0.64	0.72
Total	71.41	76.17	75.22	82.21	81.62	86.56	87.48
Net Imports (quadrillion Btu)							
Petroleum[6]	26.70	23.93	24.49	24.03	26.72	26.52	31.20
Natural Gas	3.56	3.96	4.13	3.66	4.40	3.28	3.51
Other Imports[7]	-0.28	-0.84	-0.26	1.06	1.03	1.86	1.79
Total	29.99	27.04	28.36	28.75	32.15	31.66	36.50
Consumption (quadrillion Btu)							
Liquid Fuels and Other Petroleum[8]	40.06	40.46	40.82	42.24	44.41	43.99	48.23
Natural Gas	22.30	23.93	23.90	24.01	24.83	23.39	24.07
Coal[9]	22.50	23.03	22.94	25.87	26.23	29.90	31.71
Nuclear Power	8.21	8.31	8.31	9.05	9.15	9.57	9.89
Hydropower	2.89	2.92	2.92	3.00	3.00	3.00	3.00
Biomass[10]	2.50	3.01	3.08	4.50	3.83	5.51	4.17
Other Renewable Energy[4]	0.88	1.51	1.50	2.00	1.99	2.45	2.49
Other[11]	0.19	0.18	0.18	0.17	0.18	0.20	0.20
Total	99.52	103.34	103.64	110.85	113.61	118.01	123.76
Prices (2006 dollars per unit)							
Imported Low Sulfur Light Crude Oil Price[12] (dollars per barrel)	66.02	74.03	66.89	59.70	61.05	70.45	71.87
Natural Gas Wellhead Price[13] (dollars per thousand cubic feet)	6.42	6.33	6.09	5.44	5.42	6.63	6.60
Coal Minemouth Price[14] (dollars per ton)	24.63	26.16	24.53	22.51	22.63	23.32	23.45
Average Electricity Price (cents per kilowatthour)	8.9	9.2	9.1	8.6	8.6	8.8	8.8
Liquids Supply and Disposition (million barrels per day)							
Domestic Crude Oil Production[15]	5.10	5.93	5.91	6.23	6.39	5.59	5.63
Net Petroleum Imports	12.41	11.32	11.60	11.12	12.50	12.29	14.46
Natural Gas Plant Liquids	1.74	1.68	1.64	1.72	1.68	1.57	1.61
Refinery Processing Gain[16]	0.99	1.05	1.08	1.00	1.10	0.99	1.14
Biofuels[17]	0.38	0.85	0.84	1.62	1.04	1.93	1.33
of which: Ethanol[18]	0.36	0.81	0.83	1.41	0.96	1.56	1.11
Liquids from Coal	0.00	0.00	0.00	0.15	0.16	0.24	0.58
Other[19]	0.12	0.18	0.18	0.21	0.23	0.24	0.27
Total Primary Supply	20.74	21.02	21.24	22.04	23.10	22.86	25.03
Liquid Fuels Consumption	20.65	20.99	21.18	21.96	23.01	22.80	24.93
Net Import Share of Product Supplied (percent)	60.0	54.2	54.8	51.6	55.0	54.3	59.2
Natural Gas Supply and Disposition (trillion cubic feet)							
Dry Gas Production[20]	18.51	19.29	19.06	19.67	19.70	19.43	19.84
Supplemental Natural Gas[21]	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Net Imports	3.46	3.85	4.01	3.55	4.28	3.18	3.41
Total Supply	22.03	23.20	23.14	23.28	24.04	22.68	23.31
Total Consumption	21.66	23.25	23.22	23.33	24.12	22.72	23.39

Table D18. Energy Supply, Disposition, and Prices (Continued) AEO2008 Reference Case Compared to the Early Release

Supply, Disposition, Indicators and Emissions	2006	2010		2020		2030	
		Reference	Early-Release Reference	Reference	Early-Release Reference	Reference	Early-Release Reference
Coal Supply and Disposition (million tons)							
Production	1163	1166	1139	1270	1289	1455	1595
Waste Coal Supplied[22]	14	13	13	11	11	12	13
Net Imports	-15	-34	-11	46	45	78	75
Total Supply	1161	1144	1141	1326	1345	1545	1683
Total Consumption	1114	1145	1141	1327	1344	1545	1682
Macroeconomic Indicators							
Real Gross Domestic Product (billion 2000 chain-weighted dollars)	11319	12453	12555	15984	16177	20219	20832
GDP Chain-type Price Index (2000=1.000)	1.166	1.260	1.267	1.520	1.509	1.871	1.838
Industrial Value of Shipments (billion 2000 dollars)	5821	5997	5882	7113	7044	7997	8226
Nonmanufacturing	1531	1419	1494	1619	1672	1715	1804
Manufacturing	4290	4577	4389	5493	5372	6283	6422
Energy-Intensive	1225	1283	1204	1387	1338	1447	1442
Non-energy Intensive	3065	3295	3185	4107	4034	4836	4980
Real Disposable Personal Income (billion 2000 dollars)	8397	9472	9594	12654	12811	16246	16916
Housing Starts (millions)	1.93	1.68	1.85	1.78	1.84	1.70	1.72
Commercial Floorspace (billion square feet)	74.8	78.8	78.7	89.3	89.3	100.8	100.9
Unit Sales of Light-Duty Vehicles (millions)	16.50	16.38	16.92	17.47	18.72	19.39	20.04
Energy Intensity (thousand Btu per 2000 dollar of GDP)	**8.79**	**8.30**	**8.25**	**6.91**	**7.02**	**5.80**	**5.94**
Carbon Dioxide Emissions (million metric tons)	**5890**	**6011**	**6034**	**6384**	**6646**	**6851**	**7373**

[1]Includes crude oil, lease condensate, and natural gas plant liquids.
[2]Includes waste coal.
[3]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.
[4]Includes grid-connected electricity from landfill gas; biogenic municipal 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.
[5]Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
[6]Includes crude oil, finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[7]Includes coal, coal coke, and electricity.
[8]Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol, biodiesel, and coal-based synthetic liquids. 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.
[9]Excludes coal converted to coal-based synthetic liquids.
[10]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.
[11]Includes non-biogenic municipal waste and net electricity imports.
[12]Weighted average price delivered to U.S. refiners.
[13]Represents lower 48 onshore and offshore supplies.
[14]Includes reported prices for both open market and captive mines.
[15]Includes lease condensate.
[16]The volumetric amount by which total output is greater than input due to the processing of crude oil into products which, in total, have a lower specific gravity than the crude oil processed.
[17]Domestic production and net imports of ethanol, biodiesel, and liquids from biomass.
[18]Includes net imports.
[19]Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, ethers, and renewable fuels such as biodiesel.
[20]Marketed production (wet) minus extraction losses.
[21]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.
[22]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.
Btu = British thermal unit.
GDP = Gross domestic product.
Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.
Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly,* DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, #PSA#. 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F and AEO2008.D112607A.

Appendix E

NEMS Overview and Brief Description of Cases

The National Energy Modeling System

The projections in the *Annual Energy Outlook 2008* (*AEO2008*) 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 *Annual Energy Outlook* (*AEO*) projections, NEMS is also used in analytical studies for the U.S. Congress, the White House, other offices within the U.S. Department of Energy (DOE), and other Federal agencies. The *AEO* projections are also used by analysts and planners in other government agencies and nongovernment 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. The modular design also 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, such as petroleum product imports, crude oil imports, and several macroeconomic indicators, also are evaluated for convergence.

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. The version of NEMS used for *AEO2008* represents current legislation and environmental regulations as of December 31, 2007 (such as the Energy Independence and Security Act of 2007 [EISA2007], which was signed into law on December 19, 2007; the Energy Policy Acts of 2005 [EPACT2005]; 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 and Clean Air Mercury Rule [CAMR], both of which were finalized and published in 2005, and the new stationary diesel regulations issued by the U.S. Environmental Protection Agency [EPA] in July 2006 [*2*].) 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 *AEO2008* projections were based on EIA's *Annual Energy Review 2006*, published in June 2007 [*3*]; however, data were taken from multiple sources. In some cases, only partial or preliminary data were available for 2006. CO_2 emissions were calculated by using CO_2 coefficients from the EIA report, *Emissions of Greenhouse Gases in the United States 2006*, published in November 2007 [*4*].

Historical numbers are presented for comparison only and may be estimates. Source documents should be consulted for the official data values. Footnotes to the *AEO2008* appendix tables indicate the definitions and sources of historical data.

The *AEO2008* projections for years 2007 and 2008 incorporate short-term projections from EIA's January 2008 *Short-Term Energy Outlook* (*STEO*). For short-term energy projections, readers are referred to monthly updates of the *STEO* [*5*].

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, value of industrial shipments, new housing starts, new light-duty vehicle sales, interest rates, and employment. The module uses the following models from Global Insight, Inc.: 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 value of shipments 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 reduced-form models of international liquids supply and demand (new to *AEO2008*), 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, including the recently enacted provisions of the EISA2007. 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 a 10-year average and on State-level population projections. The Residential Demand Module projects an increase in the average square footage of both new construction and existing structures, 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 eight energy-intensive industries, seven 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 generalized 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 Energy Policy Act of 1992 (EPACT1992) and other legislation and legislative proposals. EPACT2005 is used to assess the impact of tax credits on the purchase of hybrid gas-electric, alternative-fuel, and fuel-cell vehicles. The module also includes a component to assess the penetration of alternative-fuel vehicles. The corporate average fuel economy and biofuel representation in the module reflect the provisions in EISA2007.

The air transportation component explicitly represents air travel in domestic and foreign markets and includes the industry practice of parking aircraft in both domestic and international markets to reduce operating costs, as well as the movement of aging aircraft from passenger to cargo markets [*6*]. For air freight shipments, the model represents regional 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 and 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.

All specifically identified options promulgated by the EPA for compliance with the Clean Air Act Amendments of 1990 (CAAA90) 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, the regulations are represented in *AEO2008*.

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 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, 2009.

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. For *AEO2008*, new plants coming on line before January 1, 2009, are eligible to receive the credit. Significant changes made for *AEO2008* in the accounting of new renewable energy capacity resulting

from State renewable portfolio standard programs, mandates, and goals will be described in *Assumptions to the Annual Energy Outlook 2008* [7].

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. The 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 natural 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 imports and exports of liquefied natural gas (LNG).

Crude oil production quantities are used as inputs to the PMM in NEMS for conversion and blending into refined petroleum products. Supply curves for natural gas are used as inputs to the Natural Gas Transmission and Distribution Module for 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 U.S. 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 biofuels (ethanol, biodiesel, biobutanol, etc.). The module represents refining activities in the five PADDs. It explicitly models the requirements of EISA2007 and CAAA90 and the costs of automotive fuels, such as conventional and reformulated gasoline, and includes the production of biofuels for blending in gasoline and diesel.

AEO2008 represents regulations that limit the sulfur content of all nonroad and locomotive/marine diesel to 15 parts per million (ppm) by mid-2012. The module also reflects the renewable fuels standard (RFS) in EISA2007 that requires the use of 36 billion gallons per year of biofuels by 2022, with corn ethanol limited to 15 billion gallons per year. Demand growth and regulatory changes necessitate capacity expansion for refinery processing units. End-use prices are based on the marginal costs of production, plus markups representing the costs of product marketing and distribution and State and Federal taxes [*8*]. Refinery capacity expansion at existing sites is permitted in each of the five refining regions modeled.

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 (E10), 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 in the future it may also be produced from cellulosic material, such as switchgrass and poplar. Biodiesel is produced from seed oil, imported palm oil, animal fats, or yellow grease (primarily, recycled cooking oil).

Both domestic and imported ethanol count toward the RFS. Domestic ethanol production is modeled from two feedstocks: corn and cellulosic materials. Corn-based ethanol plants are numerous (more than 100 are now in operation, producing more than 5 billion gallons annually) and are based on a well-known technology that converts sugar into ethanol. Ethanol

from cellulosic sources is a new technology with no pilot plants in operation; however, DOE awarded grants (up to $385 million) in 2007 to construct capacity totaling 147 million gallons per year, which *AEO2008* assumes will be operational in 2012. Imported ethanol may be produced from cane sugar or bagasse, the cellulosic byproduct of sugar milling. The sources of ethanol are modeled to compete on an economic basis and to meet the EISA2007 renewable fuels mandate.

Fuels produced by gasification and Fischer-Tropsch synthesis are modeled in the PMM, based on their economics relative to competing feedstocks and products. The three processes modeled are coal-to-liquids (CTL), gas-to-liquids (GTL), and biomass-to-liquids (BTL). CTL facilities are likely to be built at locations close to coal supplies and water sources, where liquid products and surplus electricity could also be distributed to nearby demand regions. GTL facilities may be built in Alaska, but they would compete with the Alaska Natural Gas Transportation System for available natural gas resources. BTL facilities are likely to be built where there are large supplies of biomass, such as crop residues and forestry waste. Because the BTL process uses cellulosic feedstocks, it is also modeled as a choice to meet the EISA2007 cellulosic biofuels requirement.

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 2008 Cases

Table E1 provides a summary of the cases used to derive the *AEO2008* 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 will be described in *Assumptions to the Annual Energy Outlook 2008* [*9*].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 *AEO2008* 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), nonfarm employment (0.5 percent per year), and labor productivity (1.5 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 1.8 percent per year from 2006 through 2030, and growth in real GDP per capita averages 1.3 percent per year.
- The *high economic growth case* assumes higher growth rates for population (1.2 percent per year), nonfarm employment (1.2 percent per year), and labor productivity (2.4 percent per year). With higher productivity gains and employment growth, inflation and interest rates are lower than in the reference case, and consequently economic

Table E1. Summary of the *AEO2008* cases

Case name	Description	Integration mode	Reference in text	Reference in Appendix E
Reference	Baseline economic growth (2.4 percent per year from 2006 through 2030), world oil price, and technology assumptions. Complete projection tables in Appendix A.	Fully integrated	-	-
Early-Release Reference	Released in 12/2007, this case excludes EISA2007 and other changes in the reference case. Partial projection tables in Appendix D.	Fully Integrated	p. 3	-
Low Economic Growth	GDP grows at an average annual rate of 1.8 percent from 2006 through 2030. Other assumptions are the same as in the reference case. Partial projection tables in Appendix B.	Fully integrated	p. 54	p. 195
High Economic Growth	GDP grows at an average annual rate of 3.0 percent from 2006 through 2030. Other assumptions are the same as in the reference case. Partial projection tables in Appendix B.	Fully integrated	p. 54	p. 195
Low Price	More optimistic assumptions for worldwide crude oil and natural gas resources and the behavior of the Organization of the Petroleum Exporting Countries (OPEC) than in the reference case. World light, sweet crude oil prices are $42 per barrel in 2030, compared with $70 per barrel in the reference case (2006 dollars). Other assumptions are the same as in the reference case. Partial projection tables in Appendix C.	Fully integrated	p. 50	p. 199
High Price	More pessimistic assumptions for worldwide crude oil and natural gas resources and OPEC behavior than in the reference case. World light, sweet crude oil prices are about $119 per barrel (2006 dollars) in 2030. Other assumptions are the same as in the reference case. Partial projection tables in Appendix C.	Fully integrated	p. 50	p. 199
Residential: 2008 Technology	Future equipment purchases based on equipment available in 2008. Existing building shell efficiencies fixed at 2008 levels. Partial projection tables in Appendix D.	With commercial	p. 59	p. 199
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 2016. Partial projection tables in Appendix D.	With commercial	p. 59	p. 199
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 2008. Partial projection tables in Appendix D.	With commercial	p. 60	p. 199
Commercial: 2008 Technology	Future equipment purchases based on equipment available in 2008. Building shell efficiencies fixed at 2008 levels. Partial projection tables in Appendix D.	With residential	p. 61	p. 199
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. 61	p. 200

Table E1. Summary of the *AEO2008* cases (continued)

Case name	Description	Integration mode	Reference in text	Reference in Appendix E
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. 62	p. 200
Industrial: 2008 Technology	Efficiency of plant and equipment fixed at 2008 levels. Partial projection tables in Appendix D.	Standalone	p. 65	p. 200
Industrial: High Technology	Earlier availability, lower costs, and higher efficiencies assumed for more advanced equipment. Partial projection tables in Appendix D.	Standalone	p. 65	p. 200
Transportation: High Technology	Reduced costs and improved efficiencies assumed for advanced technologies. Partial projection tables in Appendix D.	Standalone	p. 66	p. 200
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. 177	p. 201
Electricity: High Nuclear Cost	Costs for new nuclear technology assumed not to improve from 2008 levels in the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 177	p. 201
Electricity: Low Fossil Cost	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. 178	p. 201
Electricity: High Fossil Cost	New advanced fossil generating technologies assumed not to improve over time from 2008. Partial projection tables in Appendix D.	Fully integrated	p. 178	p. 201
Renewable Fuels: High Renewable Cost	New renewable generating technologies assumed not to improve over time from 2008. Partial projection tables in Appendix D.	Fully integrated	p. 71	p. 201
Renewable Fuels: Low Renewable Cost	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. 71	p. 201
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. 76	p. 202
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. 76	p. 202
Oil and Gas: High LNG Supply	LNG imports exogenously set to a factor times the reference case levels from 2010 forward, with remaining assumptions from the reference case. The factor starts at 1.0 in 2010 and increases linearly to 3.0 by 2030. Partial projection tables in Appendix D.	Fully integrated	p. 49	p. 202
Oil and Gas: Low LNG Supply	LNG imports held constant at 2009 levels, with remaining assumptions from the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 49	p. 202
Oil and Gas: ANWR	The Arctic National Wildlife Refuge (ANWR) in Alaska is opened to Federal oil and natural gas leasing, with remaining assumptions from the reference case. Partial projection tables in Appendix D.	Fully integrated	p. 183	p. 202

Table E1. Summary of the *AEO2008* cases (continued)

Case name	Description	Integration mode	Reference in text	Reference in Appendix E
Coal: 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. 84	p. 202
Coal: 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. 84	p. 203
Integrated 2008 Technology	Combination of the residential, commercial, and industrial 2008 technology cases; and the electricity high fossil cost, high renewable cost, and high nuclear cost cases. Partial projection tables in Appendix D.	Fully integrated	p. 176	p. 203
Integrated High Technology	Combination of the residential, commercial, industrial, and transportation high technology cases; and the electricity low fossil cost, low renewable cost, and low nuclear cost cases. Partial projection tables in Appendix D.	Fully integrated	p. 176	p. 203
Integrated Alternative Weather	Assumes future weather resembles 30-year average, as opposed to 10-year average.	Fully integrated	p. 45	p. 203
High Energy Project Cost	Recent cost increases are assumed to continue. Base costs for new electricity generation capacity increase throughout the projection. Capital costs for oil and gas exploration and production (E&P) activities remain at increased levels, as experienced since 2003. Refining costs increase from current costs.	Fully integrated	p. 34	p. 203
Low Energy Project Cost	Recent cost increases are assumed to revert back to lower levels of a few years ago. Base costs for new electricity generation capacity decrease by 15 percent over 10 years, then remain flat. Capital costs for oil and gas E&P fall back toward their pre-2003 levels over time. Refining costs are set to 2004 levels.	Fully integrated	p. 34	p. 203
Limited Electricity Generation Supply	New coal-fired plants are not built unless they include sequestration. Other non-natural-gas capacity restricted to reference case levels or assumed to have higher costs. Existing nuclear units assumed to have lower output than in the reference case.	Fully integrated	p. 38	p. 203
Limited Natural Gas Supply	No Arctic natural gas pipelines are in operation by 2030. LNG import values are held constant at 2009 levels from 2010 forward. Oil and gas resources are 15 percent lower, and the technological progress rate is 50 percent below the rate in the reference case.	Fully integrated	p. 38	p. 204
Combined Limited	Combines all the assumptions of the limited electricity generation supply and limited natural gas supply cases.	Fully integrated	p. 38	p. 204

output grows at a higher rate (3.0 percent per year) than in the reference case (2.4 percent). GDP per capita grows by 1.8 percent per year, compared with 1.6 percent in the reference case.

Price Cases

The world oil price in *AEO2008* is defined as the average price of light, low-sulfur crude oil delivered in Cushing, Oklahoma, and is similar to the price for light sweet crude oil traded on the New York Mercantile Exchange. *AEO2008* also includes a projection of the U.S. annual average refiners' acquisition cost of imported crude oil, which is more representative of the average cost of all crude oils used by refiners.

The historical record shows substantial variability in world oil prices, and there is arguably even more uncertainty about future prices in the long term. *AEO2008* 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 2016 before beginning to rise to $70 per barrel in 2030 (2006 dollars). The low and high price cases define a wide range of potential price paths (from $42 to $119 per barrel in 2030). The two cases reflect different assumptions about decisions by OPEC members regarding the preferred rate of oil production and about the future finding and development costs and accessibility of conventional oil resources in non-OPEC countries. Because the low and high price cases are not fully 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 exploration and development costs and accessibility of oil resources in non-OPEC countries. It also assumes that OPEC producers will choose to maintain their share of the market and will schedule investments in incremental production capacity so that OPEC's conventional oil production will represent about 40 percent of the world's total liquids production.
- The *low price case* assumes that OPEC countries will increase their conventional oil production to obtain approximately a 44-percent share of total world liquids production, and that conventional oil resources in non-OPEC countries will be more accessible and/or less costly to produce (as a result of technology advances, more attractive fiscal regimes, or both) than in the reference case. With these assumptions, non-OPEC conventional oil production is higher in the low price case than in the reference case.
- The *high price case* assumes that OPEC countries will continue to hold their production at approximately the current rate, sacrificing market share as global liquids production increases. It also assumes that oil resources in non-OPEC countries will be less accessible and/or more costly to produce than assumed in the reference case.

Buildings Sector Cases

In addition to the *AEO2008* 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 *2008 technology case* assumes that all future equipment purchases are based only on the range of equipment available in 2008. Existing building shell efficiencies are assumed to be fixed at 2008 levels (no further improvements). For new construction, building shell technology options are constrained to those available in 2008.
- The *high technology case* assumes earlier availability, lower costs, and higher efficiencies for more advanced equipment [*10*]. For new construction, building shell efficiencies are assumed to meet ENERGY STAR requirements after 2016.
- 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 the most efficient components after 2008.

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

- The *2008 technology case* assumes that all future equipment purchases are based only on the range of equipment available in 2008. Building shell efficiencies are assumed to be fixed at 2008 levels.

- The *high technology case* assumes earlier availability, lower costs, and/or higher efficiencies for more advanced equipment than in the reference case [*11*]. 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 renewable and low renewable cost cases, which are discussed in more detail as part of the Renewable 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 *low renewable cost case* assumes greater improvements in residential and commercial PV and wind systems than in the reference case. The low renewable cost assumptions result in capital cost estimates for 2030 that are approximately 10 percent lower than reference case costs for distributed PV technologies.
- The *high renewable cost case* assumes that costs and performance levels for residential and commercial PV and wind systems remain constant at 2008 levels through 2030.

Industrial Sector Cases

In addition to the *AEO2008* 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 estimated as part of the PMM in NEMS. The Industrial Demand Module was also used as part of the integrated low and high renewable cost cases. For the industrial sector:

- The *2008 technology case* holds the energy efficiency of plant and equipment constant at the 2008 level over the projection period. In this case, delivered energy intensity falls by 1.1 percent annually between 2006 and 2030, as compared with 1.6 percent annually 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, 2008 technology, and high technology cases, any change in energy intensity in the two technology cases is attributable to efficiency changes.
- The *high technology case* assumes earlier availability, lower costs, and higher efficiency for more advanced equipment [*12*] 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 low renewable cost case, which focuses on electricity generation. Although the choice of 0.7-percent annual rate of improvement in byproduct 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 1.9 percent annually in the high technology case.

The 2008 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, and energy consumption and production in the refining industry, which are modeled in the PMM, were excluded.

Transportation Sector Cases

In addition to the *AEO2008* reference case, one standalone case using the Transportation Demand Module of NEMS was developed to examine the effect of more rapid technology change and adoption. For the transportation sector:

- In the *high technology case*, the characteristics of conventional and alternative-fuel light-duty vehicles reflect more optimistic assumptions about

incremental improvements in fuel economy and costs [*13*]. 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 air, rail and shipping sectors.

The high technology case was 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 an 18-percent reduction in the capital costs of nuclear power plants from 2007 to 2030. The low nuclear cost case assumes a 26-percent reduction between 2007 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 2008 levels assumed in the reference case.

Fossil Technology Cases

- In the *low fossil cost 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 occurs in the reference case, costs and performance in the low fossil cost case are reduced from initial levels by more than 10 percent. Heat rates in the low fossil cost case fall to between 16 and 31 percent below initial levels, and capital costs are reduced by 19 to 25 percent between 2007 and 2030, depending on the technology.
- In the *high fossil cost 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 2008 values assumed in the reference case.

Additional details about annual capital costs, operating and maintenance costs, plant efficiencies, and other factors used in the high and low fossil technology cases will be provided in *Assumptions to the Annual Energy Outlook 2008* [*15*].

Renewable Fuels Cases

In addition to the *AEO2008* 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. The cases are as follows:

- In the *high renewable cost case*, capital costs, operating and maintenance costs, and performance levels for wind, solar, biomass, and geothermal resources are assumed to remain constant at 2008 levels through 2030.
- In the *low renewable cost case*, the levelized costs of energy for 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 represented 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 also are 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 low renewable cost case, the rate of improvement in recovery of biomass byproducts from industrial processes is also increased.

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 supply cases were developed to examine the impacts of variations in LNG imports on the domestic natural gas market.

- 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 also are increased by 50 percent in the rapid technology case. Key supply parameters for Canadian oil and natural gas are also modified to simulate the assumed impacts of more rapid oil and natural gas technology penetration on 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 will be provided in *Assumptions to the Annual Energy Outlook 2008* [*16*].
- 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 *AEO2008* reference case are reduced by 50 percent. A number of key E&P technologies for unconventional natural gas also are 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 supply case* exogenously specifies LNG import levels for 2010 through 2030 equal to a factor times the reference case levels. The factor starts at 1.0 in 2010 and linearly increases to 3.0 by 2030. 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 supply case* exogenously specifies LNG imports at the 2009 levels projected in the reference case for 2010 through 2030. 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 *ANWR case* assumes that Federal legislation is passed during 2008, which permits Federal oil and gas leasing in ANWR. This case also assumes that oil and natural gas leasing will commence after 2008 in the State and Native lands, which are either in or adjoining ANWR.

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 2009 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 variations in annual productivity growth rates over the historical period are estimated at 3.3 percent for coal mining and 2.5 percent for rail transportation. 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*, the average annual growth rates for coal mining and railroad productivity are higher than those in the reference case. On the mining side, adjustments to mine productivity are applied at the supply curve level, and adjustments to railroad productivity are made at the regional (East and West) level. As an example, the average growth rate for western railroad productivity is increased from 1.8 percent per year in the reference case to 4.2 percent per year in the low coal cost case. 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 remain constant in real dollars in the reference case, are assumed to decrease at a rate of 1.0 percent per year in the low coal cost case.

- In the *high coal cost case*, the average annual productivity growth rates for coal mining and railroad productivity are lower than those in the 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 also are assumed to increase by 1.0 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.

Cross-Cutting Integrated Cases

In addition to the sector-specific cases described above, a series of cross-cutting integrated cases were used to analyze specific scenarios with broader sectoral impacts. For example, two integrated technology progress cases were formed by combining the assumptions from the other technology progress cases to analyze the broader impact of more rapid and slower technology improvement rates. Another case examined the implications of assuming different levels of heating and cooling degree-days than in the reference case. Two sets of additional cases were analyzed: one set examines the potential impact of uncertainty in energy project costs, and the other set examines the implications of severe demand pressure on the natural gas industry.

Integrated Technology Cases

The *integrated 2008 technology case* combines the assumptions from the residential, commercial, and industrial 2008 technology cases and the electricity high fossil cost, high renewable cost, and high nuclear cost cases. 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 low renewables cost case, and the low nuclear cost case.

Integrated Alternative Weather Case

The main cases in *AEO2008* assume a 10-year average for heating and cooling degree-days. The *integrated alternative weather case* assumes a 30-year average for heating and cooling degree-days, in order to examine the impacts of a smaller number of heating and cooling degree-days on energy consumption in the residential, commercial, and electricity generation sectors, as well as on energy prices and CO_2 emissions. Results from this case are summarized in the Issues in Focus section of this report.

Energy Project Cost Cases

Investment in new power plants and new refining and drilling activities depend on the price of certain commodities, such as steel and concrete, that have increased significantly in recent years, as well as other factors such as capital costs for energy equipment and facilities and labor costs. The reference case assumes that investment costs are based on the latest cost data, including any commodity price increases over the past few years, and that they will remain at those levels through 2030; however, there is considerable uncertainty surrounding the future path of commodity prices.

The *high energy project cost case* assumes that costs will continue to rise, leading to increasing investment costs in the energy industry, which are assumed to grow at the historical rate of the past 5 years. Drilling costs in the oil and gas industry are assumed to double from 2006 to 2030, and the costs of steel and other materials are assumed to increase the cost of construction for LNG liquefaction facilities and the cost of the Alaska pipeline.

The *low energy project cost case* assumes that costs will decline gradually, back to the levels of the early 2000s. Results from these two case are summarized in the Issues in Focus section of this report. Additional details will be provided in *Assumptions to the Annual Energy Outlook 2008* [*17*].

Limited Electricity Generation Supply, Limited Natural Gas Supply, and Combined Limited Cases

Considerable uncertainty surrounds the types of new generating capacity that will be built in the electricity generation sector, depending on potential environmental legislation and technological hurdles for new designs and alternative fuel sources. The volume of recoverable undiscovered natural gas resources, the costs associated with producing those resources, and the potential for bringing new sources of supply to markets in the lower 48 States, either by Arctic pipeline or as LNG, also are uncertain. Three cases were developed to analyze these uncertainties.

The *limited electricity generation supply case* focuses only on the potential challenges facing non-natural-gas generating technologies. This case assumes that, due to the uncertainty of future environmental requirements, no new coal-fired plants will be built unless they include carbon sequestration. It also assumes that new builds of nuclear, wind and biomass will be restricted to reference case levels. New

non-gas capacity, including sequestration and other renewables, is assumed to cost 25 percent more than in the reference case. Output from existing nuclear capacity is also assumed to decline after plants reach 40 years of age due to uncertainties surrounding the ability of older plants to maintain high capacity factors.

The *limited natural gas supply case* examines the impacts of constraints on the development of new natural gas resources. This case assumes that the two large gas pipelines under consideration for development in the Arctic region of North America, to transport gas from the North Slope of Alaska and the MacKenzie Delta to market, will not be in operation by 2030. In the reference case, only the Alaska pipeline is economical, coming on-line in 2020. The *limited natural gas supply case* also assumes that LNG import volumes will remain at 2009 levels through 2030, reflecting the potential inability of the U.S. market to attract significant volumes from the world market. This case also uses an assumption consistent with the *high price case*—a 15-percent reduction in U.S. oil and natural gas resources—and an assumption consistent with the *oil and gas slow technology case*—a 50-percent reduction in the rate of technological progress related to costs, finding rates, and success rates. Like the reference case, the *limited natural gas supply case* also assumes that no additional capacity will be built to produce pipeline-quality natural gas from coal.

The *combined limited case* combines the assumptions of the limited electricity generation supply and limited natural gas supply cases. Results from these three case are summarized in the "Issues in Focus" section of this report. Additional details will be provided in *Assumptions to the Annual Energy Outlook 2008* [*18*].

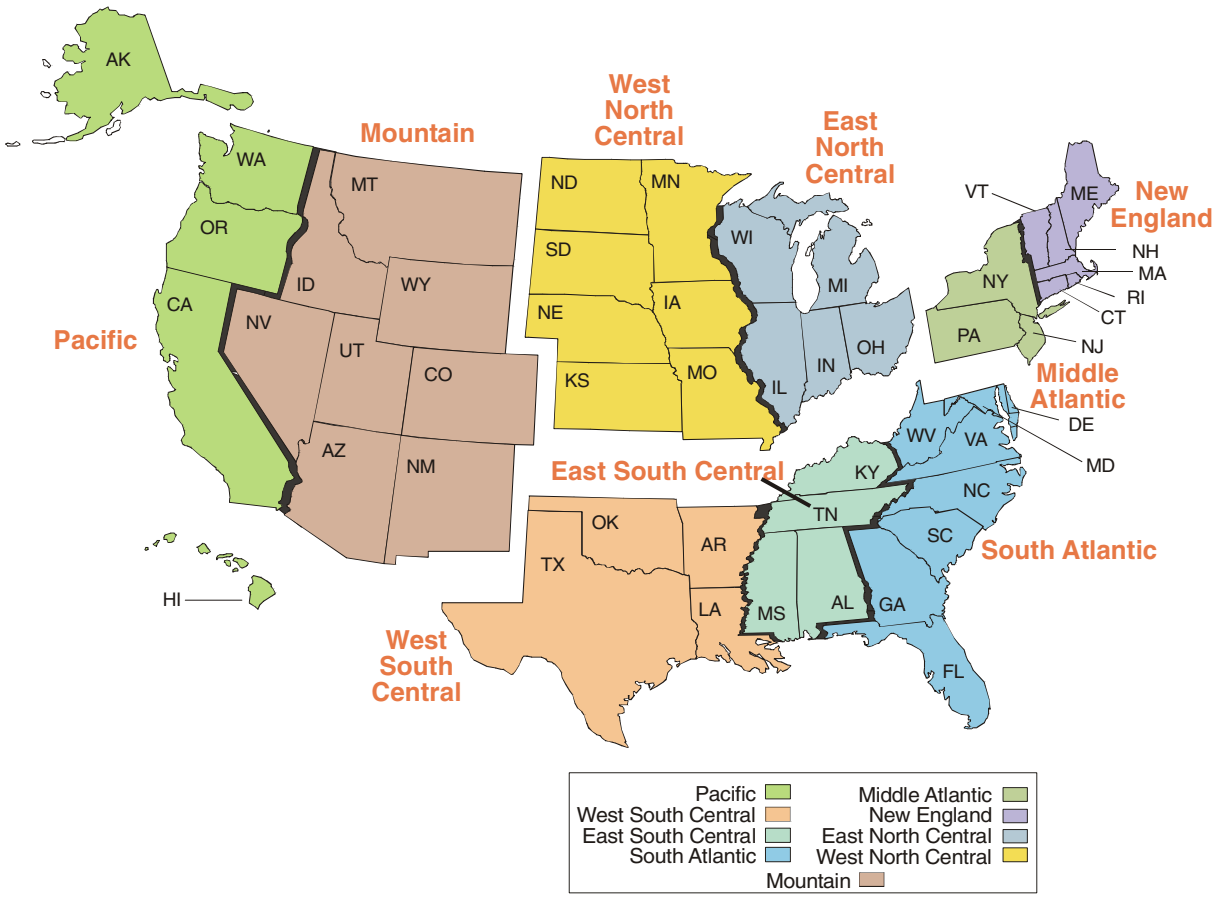
Endnotes

1. Energy Information Administration, *The National Energy Modeling System: An Overview 2003*, DOE/EIA-0581(2003) (Washington, DC, March 2003).
2. On February 8, 2008, the U.S. Court of Appeals found CAMR to be unlawful and voided it, ruling that the EPA had not proved that mercury was a pollutant eligible for regulation under a less stringent portion of the Clean Air Act; however, EIA did not have time to revise *AEO2008* before publication to remove the impact of CAMR.
3. Energy Information Administration, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007).
4. Energy Information Administration, *Emissions of Greenhouse Gases in the United States 2006*, DOE/EIA-0573(2006) (Washington, DC, November 2007).
5. 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.
6. Jet Information Services, Inc., *World Jet Inventory Year-End 2006* (Utica, NY, March 2007); and personal communication from Stuart Miller (Jet Information Services).
7. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2008*, DOE/EIA-0554(2008) (Washington, DC, to be published), web site www.eia.doe.gov/oiaf/aeo/assumption.
8. For gasoline blended with ethanol, the tax credit of 51 cents (nominal) per gallon of ethanol is assumed to be available through 2010. It is assumed to expire after 2010 under current law.
9. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2008*, DOE/EIA-0554(2008) (Washington, DC, to be published), web site www.eia.doe.gov/oiaf/aeo/assumption.
10. High technology assumptions are based on Energy Information Administration, *EIA—Technology Forecast Updates—Residential and Commercial Building Technologies—Advanced Case Second Edition (Revised)* (Navigant Consulting, Inc., September 2007), 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. High technology assumptions are based on Energy Information Administration, *EIA—Technology Forecast Updates—Residential and Commercial Building Technologies—Advanced Case Second Edition (Revised)* (Navigant Consulting, Inc., September 2007), 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).
12. These assumptions are based in part on Energy Information Administration, *Industrial Technology and Data Analysis Supporting the NEMS Industrial Model* (FOCIS Associates, October 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. 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).
15. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2008*, DOE/EIA-0554 (2008) (Washington, DC, to be published), web site www.eia.doe.gov/oiaf/aeo/assumption.
16. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2008*, DOE/EIA-0554 (2008) (Washington, DC, to be published), web site www.eia.doe.gov/oiaf/aeo/assumption.
17. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2008*, DOE/EIA-0554 (2008) (Washington, DC, to be published), web site www.eia.doe.gov/oiaf/aeo/assumption.
18. Energy Information Administration, *Assumptions to the Annual Energy Outlook 2008*, DOE/EIA-0554 (2008) (Washington, DC, to be published), web site www.eia.doe.gov/oiaf/aeo/assumption.

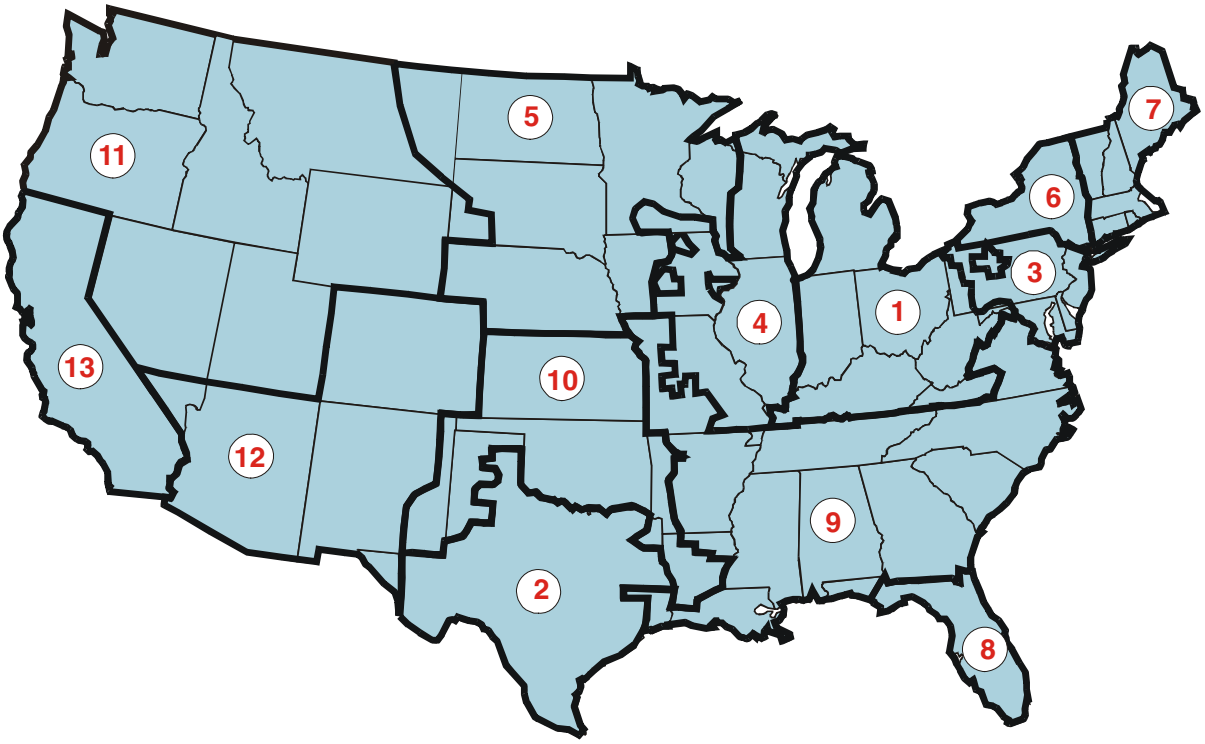
Regional Maps

F1. United States Census Divisions



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

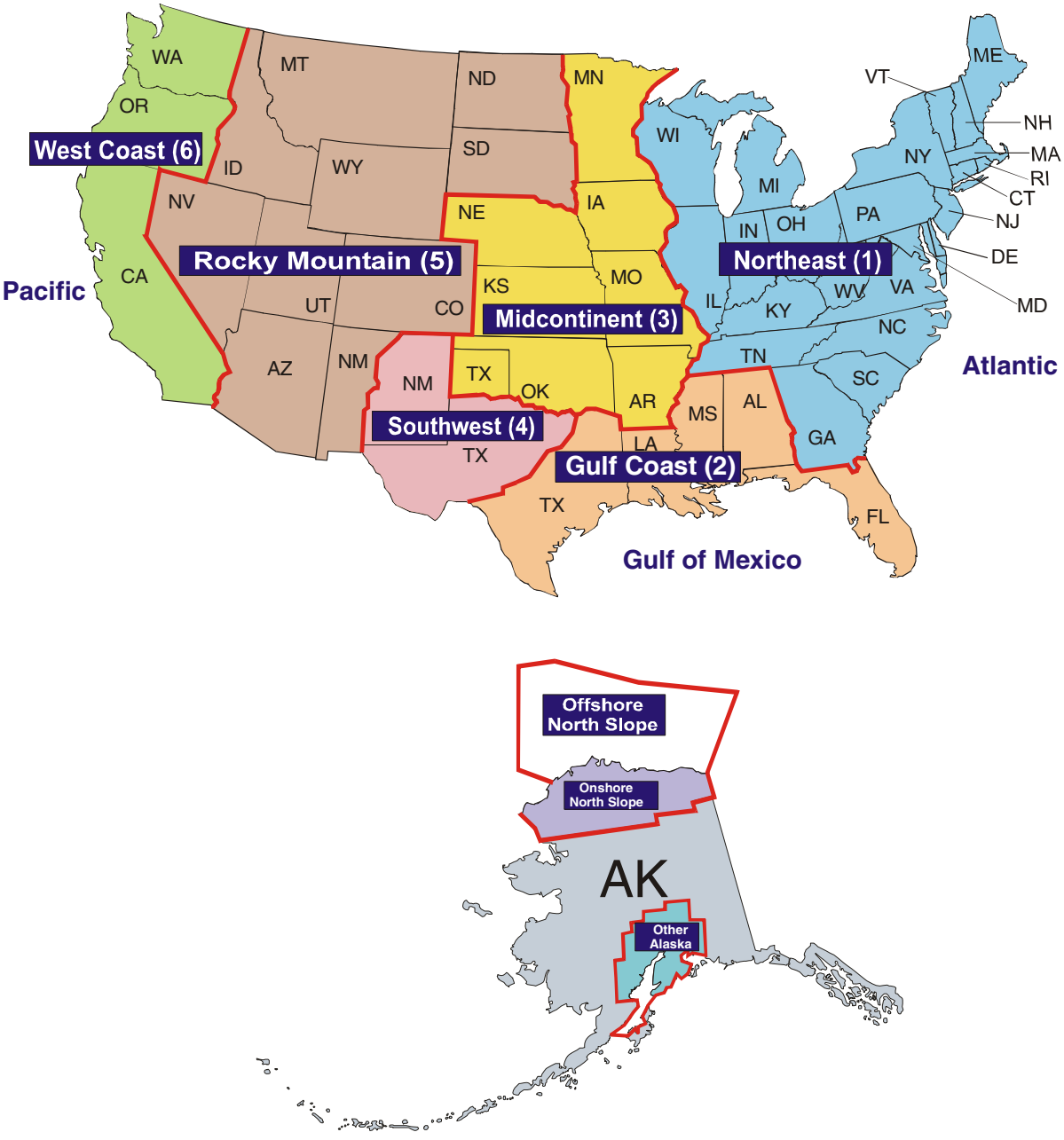
F2. Electricity Market Module Regions



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)
7. New England (NE)
8. Florida Reliability Coordinating Council (FL)
9. Southeastern Electric Reliability Council (SEF
10. Southwest Power Pool (SPP)
11. Northwest Power Pool (NWP)
12. Rocky Mountain Power Area, Arizona, New Mexico, and Southern Nevada (RA)
13. California (CA)

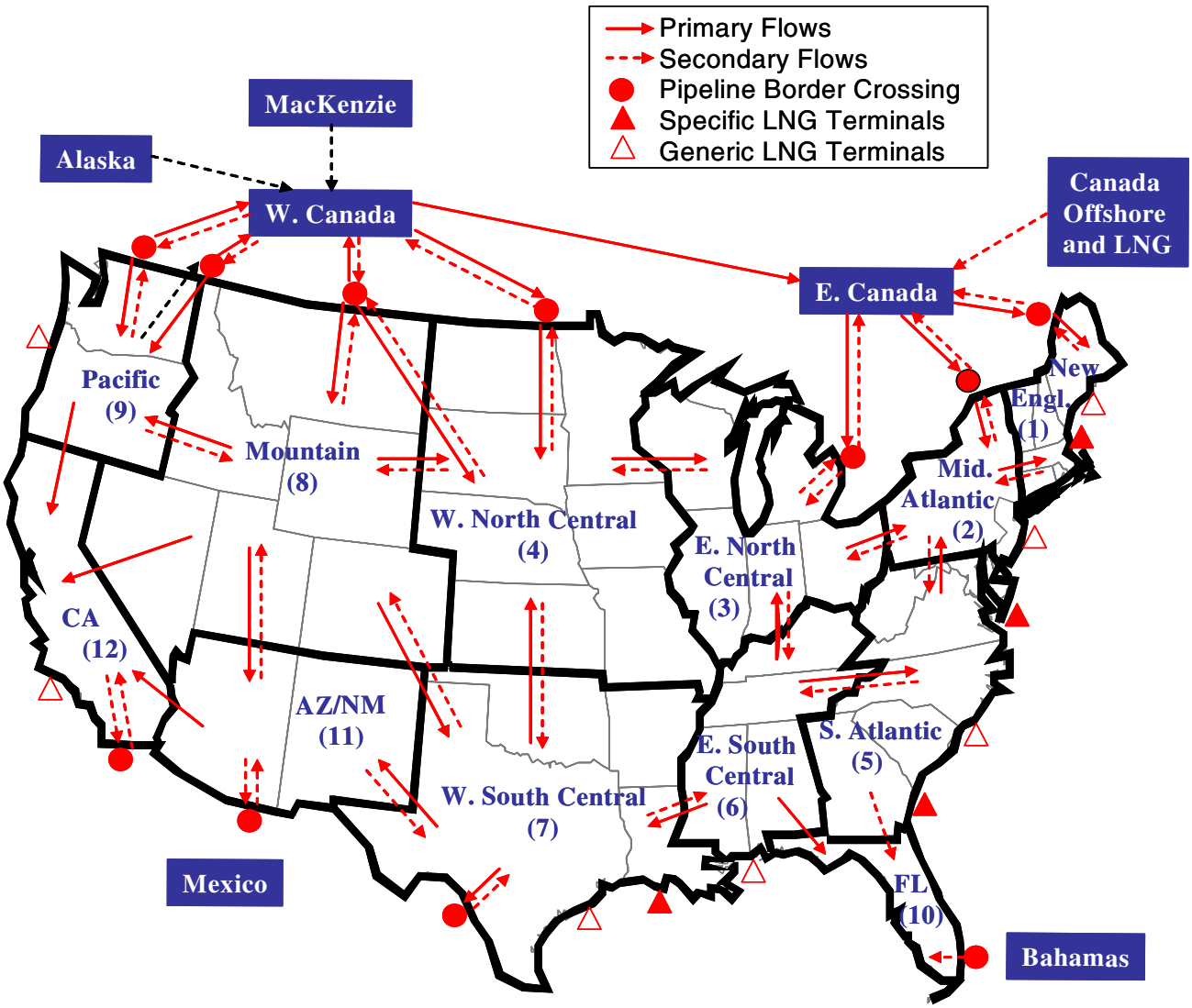
Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F3. Oil and Gas Supply Model Regions



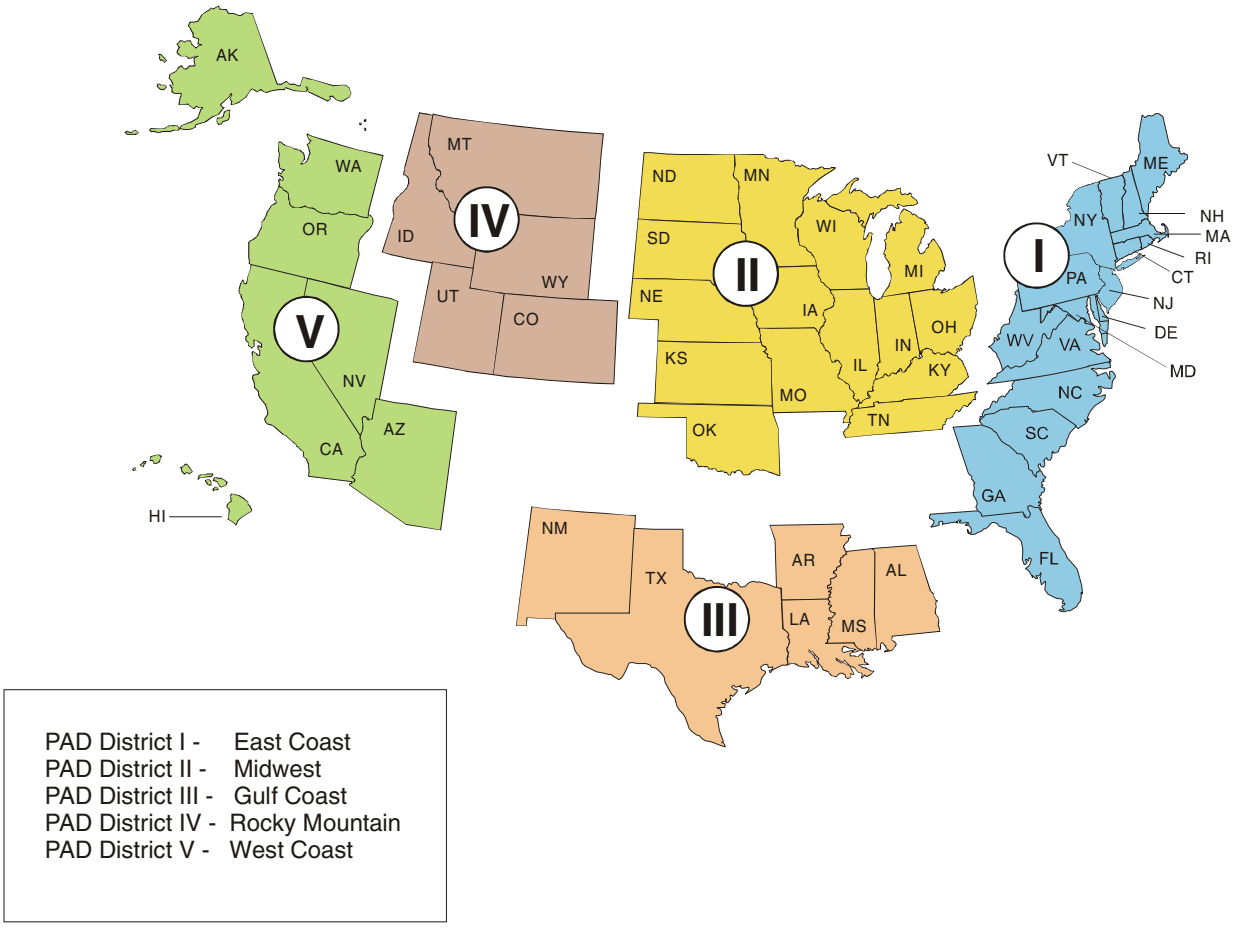
Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F4. Natural Gas Transmission and Distribution Model Regions



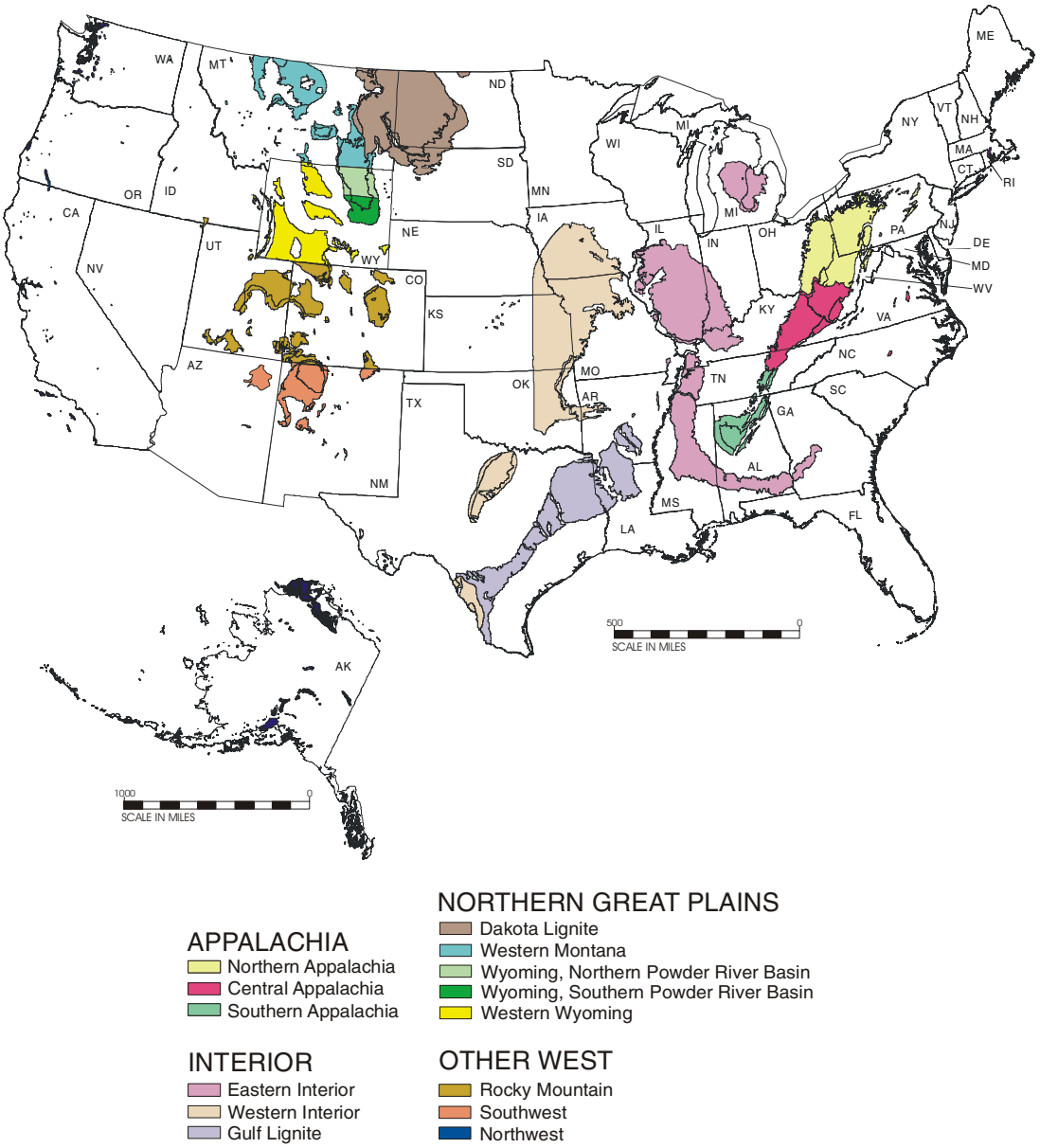
Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F5. Petroleum Administration for Defense Districts



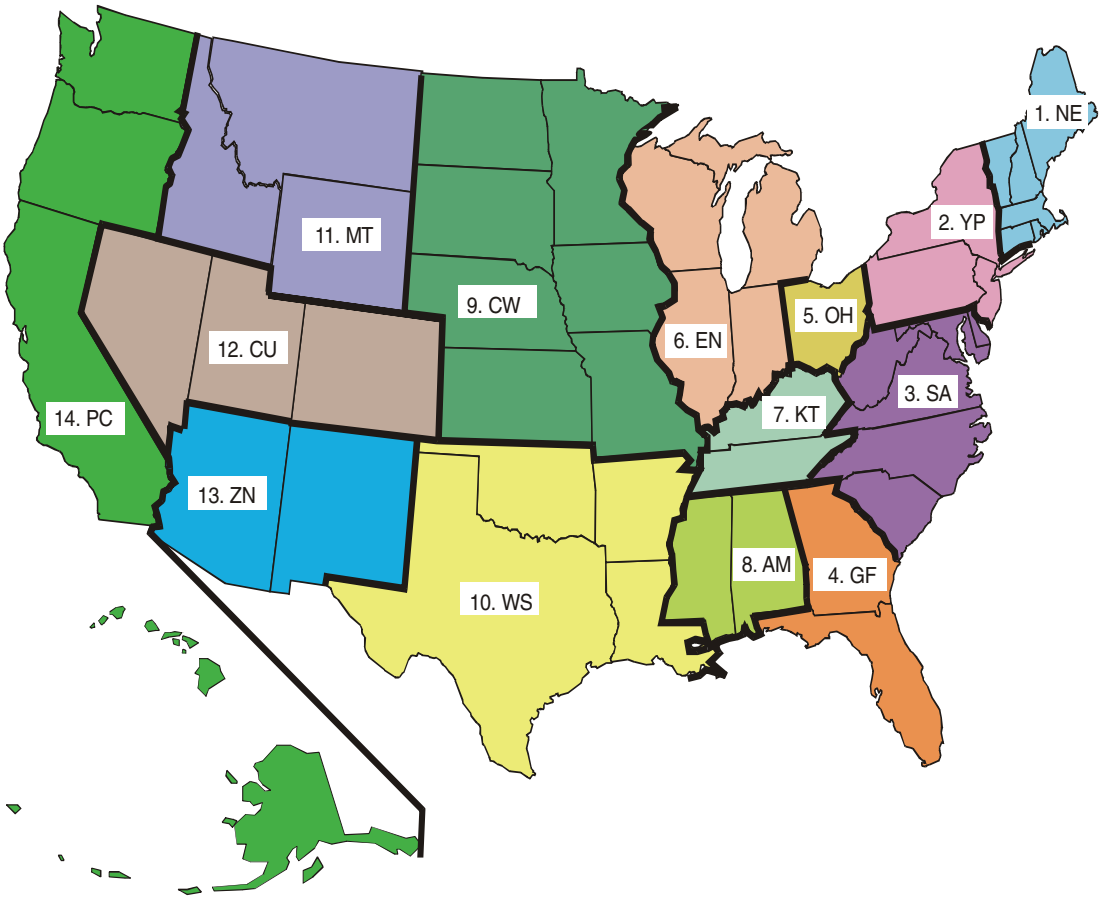
Source: Energy Information Administration. Office of Integrated Analysis and Forecasting.

F6. Coal Supply Regions



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.

Conversion Factors

Table G1. Heat Rates

Fuel	Units	Approximate Heat Content
Coal		
Production	million Btu per short ton	20.310
Consumption	million Btu per short ton	20.183
Coke Plants	million Btu per short ton	26.263
Industrial	million Btu per short ton	21.652
Residential and Commercial	million Btu per short ton	22.016
Electric Power Sector	million Btu per short ton	19.952
Imports	million Btu per short ton	25.073
Exports	million Btu per short ton	25.378
Coal Coke	million Btu per short ton	24.800
Crude Oil		
Production	million Btu per barrel	5.800
Imports	million Btu per barrel	5.980
Liquids		
Consumption	million Btu per barrel	5.338
Motor Gasoline	million Btu per barrel	5.218
Jet Fuel, Kerosene Type	million Btu per barrel	5.670
Distillate Fuel Oil	million Btu per barrel	5.790
Residual Fuel Oil	million Btu per barrel	6.287
Liquefied Petroleum Gas	million Btu per barrel	3.605
Kerosene	million Btu per barrel	5.670
Petrochemical Feedstocks	million Btu per barrel	5.554
Unfinished Oils	million Btu per barrel	6.118
Imports	million Btu per barrel	5.450
Exports	million Btu per barrel	5.727
Ethanol	million Btu per barrel	3.539
Biodiesel	million Btu per barrel	5.376
Natural Gas Plant Liquids		
Production	million Btu per barrel	3.712
Natural Gas		
Production, Dry	Btu per cubic foot	1,029
Consumption	Btu per cubic foot	1,029
End-Use Sectors	Btu per cubic foot	1,030
Electric Power Sector	Btu per cubic foot	1,028
Imports	Btu per cubic foot	1,025
Exports	Btu per cubic foot	1,009
Electricity Consumption	Btu per kilowatthour	3,412

Btu = British thermal unit.

Note: Conversion factors vary from year to year. Values correspond to those published by EIA for 2006 and may differ slightly from model results.

Sources: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007), and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.