

Appendix A
Reference Case

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Production								
Crude Oil and Lease Condensate	10.75	10.51	12.41	13.19	13.22	13.34	13.50	0.9%
Natural Gas Plant Liquids	2.41	2.57	2.27	2.31	2.24	2.32	2.37	-0.3%
Dry Natural Gas	19.62	21.14	19.83	20.54	21.90	23.00	23.92	0.5%
Coal ¹	23.49	23.86	23.31	23.71	24.36	24.68	25.19	0.2%
Nuclear Power	8.46	8.46	8.75	9.26	9.29	9.29	9.41	0.4%
Hydropower	2.45	2.46	2.96	2.96	2.98	2.98	2.99	0.7%
Biomass ²	3.15	3.97	4.60	5.63	6.90	7.93	9.27	3.2%
Other Renewable Energy ³	0.99	1.17	3.01	3.01	3.07	3.17	3.36	4.0%
Other ⁴	0.81	0.10	0.73	0.89	0.94	0.92	0.81	7.9%
Total	72.14	74.23	77.88	81.51	84.91	87.63	90.83	0.8%
Imports								
Crude Oil	21.91	21.39	19.66	18.95	19.21	19.38	19.34	-0.4%
Liquid Fuels and Other Petroleum ⁵	6.98	6.38	5.54	5.61	5.76	5.86	6.08	-0.2%
Natural Gas	4.72	4.06	3.59	4.10	3.94	3.79	3.49	-0.6%
Other Imports ⁶	0.99	0.96	0.79	0.96	0.88	0.95	1.32	1.2%
Total	34.60	32.79	29.58	29.62	29.80	29.97	30.23	-0.3%
Exports								
Petroleum ⁷	2.83	3.71	3.53	3.74	3.91	4.02	4.12	0.4%
Natural Gas	0.83	1.01	1.14	1.44	1.69	1.87	1.96	2.5%
Coal	1.51	2.07	1.49	1.33	1.20	0.87	0.79	-3.5%
Total	5.17	6.80	6.16	6.50	6.80	6.76	6.87	0.0%
Discrepancy⁸	-0.07	0.13	-0.30	-0.38	-0.35	-0.33	-0.32	--
Consumption								
Liquid Fuels and Other Petroleum ⁹	40.59	38.35	38.81	39.36	40.14	41.08	42.02	0.3%
Natural Gas	23.67	23.91	22.35	23.27	24.24	25.01	25.56	0.2%
Coal ¹⁰	22.71	22.41	22.35	23.01	23.63	24.25	25.11	0.4%
Nuclear Power	8.46	8.46	8.75	9.26	9.29	9.29	9.41	0.4%
Hydropower	2.45	2.46	2.96	2.96	2.98	2.98	2.99	0.7%
Biomass ¹¹	2.54	3.10	3.17	3.93	4.70	5.19	5.83	2.4%
Other Renewable Energy ³	0.99	1.17	3.01	3.01	3.07	3.17	3.36	4.0%
Other ¹²	0.23	0.24	0.20	0.20	0.21	0.20	0.22	-0.3%
Total	101.65	100.09	101.61	105.00	108.26	111.18	114.51	0.5%
Prices (2008 dollars per unit)								
Petroleum (dollars per barrel)								
Imported Low Sulfur Light Crude Oil Price ¹³ ...	73.93	99.57	94.52	108.28	115.09	123.50	133.22	1.1%
Imported Crude Oil Price ¹³	68.69	92.61	86.88	98.14	104.49	111.49	121.37	1.0%
Natural Gas (dollars per million Btu)								
Price at Henry Hub	7.12	8.86	6.27	6.64	6.99	8.05	8.88	0.0%
Wellhead Price ¹⁴	6.38	7.85	5.54	5.87	6.18	7.11	7.84	-0.0%
Natural Gas (dollars per thousand cubic feet)								
Wellhead Price ¹⁴	6.56	8.07	5.70	6.03	6.35	7.31	8.06	-0.0%
Coal (dollars per ton)								
Minemouth Price ¹⁵	26.40	31.26	30.38	30.01	28.19	27.43	28.10	-0.4%
Coal (dollars per million Btu)								
Minemouth Price ¹⁵	1.30	1.55	1.52	1.51	1.44	1.41	1.44	-0.3%
Average Delivered Price ¹⁶	1.89	2.16	2.11	2.08	2.07	2.09	2.13	-0.0%
Average Electricity Price (cents per kilowatthour)	9.3	9.8	8.9	9.0	9.3	9.7	10.2	0.1%

Reference Case

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Prices (nominal dollars per unit)								
Petroleum (dollars per barrel)								
Imported Low Sulfur Light Crude Oil Price ¹³ . . .	72.32	99.57	105.33	132.33	156.20	186.40	223.88	3.0%
Imported Crude Oil Price ¹³	67.19	92.61	96.82	119.94	141.80	168.28	203.97	3.0%
Natural Gas (dollars per million Btu)								
Price at Henry Hub	6.96	8.86	6.99	8.11	9.49	12.15	14.92	1.9%
Wellhead Price ¹⁴	6.24	7.85	6.17	7.17	8.38	10.73	13.18	1.9%
Natural Gas (dollars per thousand cubic feet)								
Wellhead Price ¹⁴	6.42	8.07	6.35	7.37	8.62	11.03	13.55	1.9%
Coal (dollars per ton)								
Minemouth Price ¹⁵	25.82	31.26	33.86	36.67	38.25	41.40	47.23	1.5%
Coal (dollars per million Btu)								
Minemouth Price ¹⁵	1.27	1.55	1.69	1.84	1.95	2.13	2.43	1.7%
Average Delivered Price ¹⁶	1.85	2.16	2.35	2.55	2.81	3.16	3.58	1.9%
Average Electricity Price (cents per kilowatthour)	9.1	9.8	9.9	11.1	12.6	14.7	17.1	2.1%

¹Includes waste coal.
²Includes grid-connected electricity from wood and wood waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.
³Includes 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.
⁴Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
⁵Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
⁶Includes coal, coal coke (net), and electricity (net).
⁷Includes crude oil and petroleum products.
⁸Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
⁹Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel, and coal-based synthetic liquids. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids and crude oil consumed as a fuel. Refer to Table A17 for detailed renewable liquid fuels consumption.
¹⁰Excludes coal converted to coal-based synthetic liquids and coal-based synthetic natural gas.
¹¹Includes 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.
¹²Includes non-biogenic municipal waste and net electricity imports.
¹³Weighted average price delivered to U.S. refiners.
¹⁴Represents lower 48 onshore and offshore supplies.
¹⁵Includes reported prices for both open market and captive mines.
¹⁶Prices 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.
Sources: 2007 natural gas supply values: Energy Information Administration (EIA), *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2008 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). 2007 natural gas wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2007 and 2008 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2008*, DOE/EIA-0584(2008) (Washington, DC, September 2009). 2008 petroleum supply values and 2007 crude oil and lease condensate production: EIA, *Petroleum Supply Annual 2008*, DOE/EIA-0340(2008)/1 (Washington, DC, June 2009). Other 2007 petroleum supply values: EIA, *Petroleum Supply Annual 2007*, DOE/EIA-0340(2007)/1 (Washington, DC, July 2008). 2007 and 2008 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2007 and 2008 coal values: *Quarterly Coal Report, October-December 2008*, DOE/EIA-0121(2008/4Q) (Washington, DC, March 2009). Other 2007 and 2008 values: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). **Projections:** EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

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

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Energy Consumption								
Residential								
Liquefied Petroleum Gases	0.48	0.45	0.41	0.40	0.40	0.40	0.40	-0.4%
Kerosene	0.04	0.04	0.04	0.04	0.03	0.03	0.03	-1.0%
Distillate Fuel Oil	0.73	0.68	0.59	0.53	0.49	0.45	0.41	-1.9%
Liquid Fuels and Other Petroleum Subtotal ..	1.25	1.18	1.04	0.97	0.92	0.88	0.85	-1.2%
Natural Gas	4.84	5.01	4.85	4.97	5.04	5.03	5.01	0.0%
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-1.3%
Renewable Energy ¹	0.41	0.45	0.40	0.42	0.42	0.42	0.43	-0.1%
Electricity	4.75	4.71	4.78	5.02	5.30	5.58	5.83	0.8%
Delivered Energy	11.25	11.34	11.07	11.38	11.69	11.93	12.12	0.2%
Electricity Related Losses	10.29	10.20	10.24	10.65	11.08	11.45	11.79	0.5%
Total	21.54	21.54	21.31	22.03	22.76	23.38	23.92	0.4%
Commercial								
Liquefied Petroleum Gases	0.08	0.08	0.09	0.09	0.09	0.09	0.09	0.5%
Motor Gasoline ²	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.2%
Kerosene	0.01	0.01	0.01	0.01	0.01	0.01	0.01	1.7%
Distillate Fuel Oil	0.38	0.36	0.31	0.29	0.28	0.27	0.26	-1.2%
Residual Fuel Oil	0.08	0.07	0.09	0.09	0.09	0.09	0.09	0.7%
Liquid Fuels and Other Petroleum Subtotal ..	0.62	0.58	0.55	0.53	0.53	0.52	0.52	-0.4%
Natural Gas	3.10	3.21	3.32	3.43	3.55	3.66	3.79	0.6%
Coal	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.0%
Renewable Energy ³	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.0%
Electricity	4.56	4.61	5.00	5.37	5.76	6.16	6.55	1.3%
Delivered Energy	8.44	8.58	9.04	9.50	10.00	10.51	11.04	0.9%
Electricity Related Losses	9.88	10.00	10.72	11.39	12.03	12.63	13.27	1.1%
Total	18.32	18.58	19.77	20.89	22.03	23.14	24.30	1.0%
Industrial⁴								
Liquefied Petroleum Gases	2.28	2.14	2.31	2.61	2.55	2.46	2.35	0.3%
Motor Gasoline ²	0.31	0.30	0.30	0.30	0.30	0.30	0.30	0.1%
Distillate Fuel Oil	1.26	1.19	1.19	1.19	1.17	1.17	1.17	-0.1%
Residual Fuel Oil	0.19	0.18	0.14	0.14	0.14	0.14	0.13	-1.1%
Petrochemical Feedstocks	1.31	1.12	1.09	0.81	0.82	0.82	0.81	-1.2%
Other Petroleum ⁵	4.45	4.05	4.01	3.95	3.89	3.94	3.92	-0.1%
Liquid Fuels and Other Petroleum Subtotal ..	9.80	8.99	9.04	9.01	8.87	8.82	8.70	-0.1%
Natural Gas	6.81	6.84	7.08	7.23	7.14	6.94	6.91	0.0%
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	1.22	1.32	1.11	1.12	1.23	1.26	1.29	-0.1%
Natural Gas Subtotal	8.03	8.16	8.19	8.35	8.37	8.20	8.20	0.0%
Metallurgical Coal	0.60	0.58	0.52	0.54	0.50	0.44	0.36	-1.7%
Other Industrial Coal	1.21	1.17	1.07	1.08	1.07	1.06	1.04	-0.4%
Coal-to-Liquids Heat and Power	0.00	0.00	0.16	0.24	0.34	0.45	0.55	27.6%
Net Coal Coke Imports	0.03	0.04	0.01	0.01	0.01	0.01	-0.00	--
Coal Subtotal	1.83	1.79	1.76	1.88	1.92	1.96	1.95	0.3%
Biofuels Heat and Coproducts ⁷	0.40	1.03	0.77	1.02	1.49	1.90	2.56	3.4%
Renewable Energy ⁸	1.62	1.50	1.59	1.69	1.74	1.79	1.83	0.7%
Electricity	3.51	3.35	3.40	3.51	3.49	3.47	3.47	0.1%
Delivered Energy	25.19	24.81	24.76	25.45	25.88	26.14	26.70	0.3%
Electricity Related Losses	7.60	7.26	7.29	7.45	7.29	7.12	7.01	-0.1%
Total	32.79	32.07	32.05	32.90	33.18	33.26	33.72	0.2%

Reference Case

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

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Transportation								
Liquefied Petroleum Gases	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.7%
E85 ⁹	0.00	0.01	0.01	0.26	0.52	0.82	1.75	23.3%
Motor Gasoline ²	17.32	16.76	17.02	16.77	16.91	16.97	16.44	-0.1%
Jet Fuel ¹⁰	3.27	3.15	3.26	3.48	3.62	3.72	3.80	0.7%
Distillate Fuel Oil ¹¹	6.46	6.09	6.32	6.72	7.13	7.69	8.28	1.1%
Residual Fuel Oil	0.99	0.93	0.94	0.95	0.96	0.97	0.97	0.2%
Other Petroleum ¹²	0.18	0.17	0.17	0.18	0.18	0.18	0.19	0.3%
Liquid Fuels and Other Petroleum Subtotal ..	28.26	27.14	27.73	28.38	29.34	30.37	31.47	0.5%
Pipeline Fuel Natural Gas	0.64	0.64	0.61	0.63	0.72	0.74	0.74	0.5%
Compressed Natural Gas	0.04	0.04	0.05	0.08	0.11	0.15	0.19	5.8%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Electricity	0.02	0.02	0.03	0.03	0.04	0.05	0.06	3.5%
Delivered Energy	28.96	27.85	28.42	29.12	30.21	31.30	32.46	0.6%
Electricity Related Losses	0.05	0.05	0.05	0.06	0.08	0.09	0.11	3.2%
Total	29.01	27.90	28.48	29.18	30.29	31.40	32.58	0.6%
Delivered Energy Consumption for All Sectors								
Liquefied Petroleum Gases	2.88	2.70	2.82	3.12	3.06	2.98	2.87	0.2%
E85 ⁹	0.00	0.01	0.01	0.26	0.52	0.82	1.75	23.3%
Motor Gasoline ²	17.69	17.12	17.38	17.14	17.28	17.33	16.80	-0.1%
Jet Fuel ¹⁰	3.27	3.15	3.26	3.48	3.62	3.72	3.80	0.7%
Kerosene	0.07	0.06	0.06	0.06	0.06	0.06	0.06	-0.3%
Distillate Fuel Oil	8.83	8.33	8.40	8.73	9.07	9.57	10.13	0.7%
Residual Fuel Oil	1.26	1.19	1.17	1.17	1.18	1.19	1.19	0.0%
Petrochemical Feedstocks	1.31	1.12	1.09	0.81	0.82	0.82	0.81	-1.2%
Other Petroleum ¹³	4.62	4.21	4.17	4.12	4.06	4.11	4.10	-0.1%
Liquid Fuels and Other Petroleum Subtotal ..	39.93	37.89	38.35	38.89	39.66	40.59	41.53	0.3%
Natural Gas	14.79	15.10	15.31	15.71	15.84	15.78	15.91	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 ⁵	1.22	1.32	1.11	1.12	1.23	1.26	1.29	-0.1%
Pipeline Natural Gas	0.64	0.64	0.61	0.63	0.72	0.74	0.74	0.5%
Natural Gas Subtotal	16.65	17.07	17.03	17.46	17.79	17.78	17.94	0.2%
Metallurgical Coal	0.60	0.58	0.52	0.54	0.50	0.44	0.36	-1.7%
Other Coal	1.28	1.24	1.15	1.16	1.15	1.13	1.11	-0.4%
Coal-to-Liquids Heat and Power	0.00	0.00	0.16	0.24	0.34	0.45	0.55	27.6%
Net Coal Coke Imports	0.03	0.04	0.01	0.01	0.01	0.01	-0.00	--
Coal Subtotal	1.91	1.86	1.84	1.95	2.00	2.03	2.02	0.3%
Biofuels Heat and Coproducts ⁷	0.40	1.03	0.77	1.02	1.49	1.90	2.56	3.4%
Renewable Energy ¹⁴	2.13	2.05	2.10	2.21	2.27	2.32	2.37	0.5%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Electricity	12.84	12.69	13.20	13.93	14.58	15.26	15.90	0.8%
Delivered Energy	73.84	72.59	73.30	75.45	77.78	79.88	82.33	0.5%
Electricity Related Losses	27.81	27.50	28.31	29.55	30.48	31.29	32.19	0.6%
Total	101.65	100.09	101.61	105.00	108.26	111.18	114.51	0.5%
Electric Power¹⁵								
Distillate Fuel Oil	0.11	0.10	0.12	0.13	0.13	0.14	0.14	1.1%
Residual Fuel Oil	0.55	0.36	0.33	0.34	0.34	0.35	0.35	-0.1%
Liquid Fuels and Other Petroleum Subtotal ..	0.66	0.47	0.46	0.47	0.48	0.49	0.49	0.2%
Natural Gas	7.03	6.84	5.32	5.81	6.45	7.23	7.62	0.4%
Steam Coal	20.81	20.55	20.51	21.06	21.63	22.22	23.09	0.4%
Nuclear Power	8.46	8.46	8.75	9.26	9.29	9.29	9.41	0.4%
Renewable Energy ¹⁶	3.45	3.65	6.27	6.69	7.00	7.13	7.26	2.6%
Electricity Imports	0.11	0.11	0.07	0.07	0.08	0.07	0.09	-0.9%
Total¹⁷	40.65	40.20	41.51	43.48	45.06	46.55	48.09	0.7%

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

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Total Energy Consumption								
Liquefied Petroleum Gases	2.88	2.70	2.82	3.12	3.06	2.98	2.87	0.2%
E85 ⁹	0.00	0.01	0.01	0.26	0.52	0.82	1.75	23.3%
Motor Gasoline ²	17.69	17.12	17.38	17.14	17.28	17.33	16.80	-0.1%
Jet Fuel ¹⁰	3.27	3.15	3.26	3.48	3.62	3.72	3.80	0.7%
Kerosene	0.07	0.06	0.06	0.06	0.06	0.06	0.06	-0.3%
Distillate Fuel Oil	8.94	8.43	8.53	8.86	9.20	9.71	10.27	0.7%
Residual Fuel Oil	1.81	1.55	1.50	1.51	1.52	1.54	1.55	-0.0%
Petrochemical Feedstocks	1.31	1.12	1.09	0.81	0.82	0.82	0.81	-1.2%
Other Petroleum ¹³	4.62	4.21	4.17	4.12	4.06	4.11	4.10	-0.1%
Liquid Fuels and Other Petroleum Subtotal	40.59	38.35	38.81	39.36	40.14	41.08	42.02	0.3%
Natural Gas	21.82	21.94	20.63	21.51	22.29	23.01	23.53	0.3%
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	1.22	1.32	1.11	1.12	1.23	1.26	1.29	-0.1%
Pipeline Natural Gas	0.64	0.64	0.61	0.63	0.72	0.74	0.74	0.5%
Natural Gas Subtotal	23.67	23.91	22.35	23.27	24.24	25.01	25.56	0.2%
Metallurgical Coal	0.60	0.58	0.52	0.54	0.50	0.44	0.36	-1.7%
Other Coal	22.09	21.79	21.66	22.22	22.78	23.36	24.20	0.4%
Coal-to-Liquids Heat and Power	0.00	0.00	0.16	0.24	0.34	0.45	0.55	27.6%
Net Coal Coke Imports	0.03	0.04	0.01	0.01	0.01	0.01	-0.00	--
Coal Subtotal	22.71	22.41	22.35	23.01	23.63	24.25	25.11	0.4%
Nuclear Power	8.46	8.46	8.75	9.26	9.29	9.29	9.41	0.4%
Biofuels Heat and Coproducts ⁷	0.40	1.03	0.77	1.02	1.49	1.90	2.56	3.4%
Renewable Energy ¹⁸	5.58	5.70	8.37	8.90	9.27	9.44	9.63	2.0%
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Electricity Imports	0.11	0.11	0.07	0.07	0.08	0.07	0.09	-0.9%
Total	101.65	100.09	101.61	105.00	108.26	111.18	114.51	0.5%
Energy Use and Related Statistics								
Delivered Energy Use	73.84	72.59	73.30	75.45	77.78	79.88	82.33	0.5%
Total Energy Use	101.65	100.09	101.61	105.00	108.26	111.18	114.51	0.5%
Ethanol Consumed in Motor Gasoline and E85	0.56	0.82	1.23	1.38	1.56	1.76	2.35	4.0%
Population (millions)	302.41	305.37	326.70	342.55	358.62	374.67	390.70	0.9%
Gross Domestic Product (billion 2000 dollars)	11524	11652	13289	15416	17561	19883	22362	2.4%
Carbon Dioxide Emissions (million metric tons)	5986.4	5814.4	5730.7	5851.5	6015.8	6175.9	6320.4	0.3%

¹Includes 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 electricity generation from wind and solar photovoltaic sources.

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

³Excludes 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 electricity generation from wind and solar photovoltaic sources.

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

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

⁶Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.

⁷The energy content of biofuels feedstock minus the energy content of liquid fuel produced.

⁸Includes 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.

⁹E85 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.

¹⁰Includes only kerosene type.

¹¹Diesel fuel for on- and off- road use.

¹²Includes aviation gasoline and lubricants.

¹³Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

¹⁴Includes 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.

¹⁵Includes 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.

¹⁶Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic, and solar thermal sources. Excludes net electricity imports.

¹⁷Includes non-biogenic municipal waste not included above.

¹⁸Includes 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 and 2008 population and gross domestic product: IHS Global Insight Industry and Employment models, August 2009. 2007 and 2008 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2008*, DOE/EIA-0573(2008) (Washington, DC, December 2009). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

Table A3. Energy Prices by Sector and Source
(2008 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Residential								
Liquefied Petroleum Gases	26.25	29.35	28.03	30.29	31.55	32.81	34.65	0.6%
Distillate Fuel Oil	20.30	24.47	21.08	24.10	25.23	26.61	28.66	0.6%
Natural Gas	12.94	13.48	11.56	11.95	12.29	13.44	14.40	0.2%
Electricity	31.82	33.29	31.43	31.84	32.26	33.46	34.71	0.2%
Commercial								
Liquefied Petroleum Gases	20.65	26.15	24.77	27.02	28.26	29.50	31.32	0.7%
Distillate Fuel Oil	17.48	21.50	18.72	21.60	22.72	24.11	26.13	0.7%
Residual Fuel Oil	8.39	15.52	13.13	15.46	16.54	17.54	18.84	0.7%
Natural Gas	11.20	11.94	9.99	10.35	10.70	11.78	12.66	0.2%
Electricity	28.81	30.47	26.55	27.12	27.72	28.99	30.37	-0.0%
Industrial¹								
Liquefied Petroleum Gases	22.01	24.20	22.49	24.86	26.12	27.38	29.25	0.7%
Distillate Fuel Oil	18.07	22.31	19.00	21.83	22.97	24.40	26.48	0.6%
Residual Fuel Oil	8.84	16.31	16.47	18.20	19.23	20.27	21.72	1.1%
Natural Gas ²	7.58	9.11	6.45	6.70	7.02	7.98	8.73	-0.2%
Metallurgical Coal	3.69	4.49	5.08	5.32	5.24	5.11	5.06	0.4%
Other Industrial Coal	2.48	2.84	2.69	2.66	2.63	2.66	2.71	-0.2%
Coal to Liquids	--	--	1.42	1.46	1.49	1.44	1.51	--
Electricity	19.02	20.21	17.37	17.92	18.50	19.58	20.71	0.1%
Transportation								
Liquefied Petroleum Gases ³	23.83	29.93	27.88	30.13	31.36	32.58	34.38	0.5%
E85 ⁴	27.43	26.93	25.55	26.95	28.86	30.64	32.23	0.7%
Motor Gasoline ⁵	23.66	26.76	25.37	27.59	28.87	30.42	32.33	0.7%
Jet Fuel ⁶	15.77	22.71	19.04	21.69	22.92	24.51	26.48	0.6%
Diesel Fuel (distillate fuel oil) ⁷	21.55	27.65	22.93	25.60	26.63	27.96	29.96	0.3%
Residual Fuel Oil	9.19	14.49	13.58	14.99	15.93	17.10	18.60	0.9%
Natural Gas ⁸	13.84	15.96	13.37	13.44	13.43	14.19	14.78	-0.3%
Electricity	32.03	33.73	28.79	28.55	28.63	31.01	33.26	-0.1%
Electric Power⁹								
Distillate Fuel Oil	15.75	19.37	17.36	20.25	21.35	22.71	24.70	0.9%
Residual Fuel Oil	9.04	14.56	15.53	17.22	18.30	19.55	21.12	1.4%
Natural Gas	7.26	9.09	6.08	6.42	6.75	7.73	8.46	-0.3%
Steam Coal	1.80	2.05	2.01	1.98	1.99	2.03	2.09	0.1%
Average Price to All Users¹⁰								
Liquefied Petroleum Gases	18.94	20.19	20.30	22.15	23.34	24.55	26.37	1.0%
E85 ⁴	27.43	26.93	25.55	26.95	28.86	30.64	32.23	0.7%
Motor Gasoline ⁵	23.55	26.54	25.36	27.59	28.87	30.41	32.32	0.7%
Jet Fuel	15.77	22.71	19.04	21.69	22.92	24.51	26.48	0.6%
Distillate Fuel Oil	20.71	26.27	22.03	24.79	25.89	27.29	29.34	0.4%
Residual Fuel Oil	9.07	14.77	14.26	15.81	16.80	17.96	19.46	1.0%
Natural Gas	9.19	10.53	8.14	8.44	8.75	9.74	10.54	0.0%
Metallurgical Coal	3.69	4.49	5.08	5.32	5.24	5.11	5.06	0.4%
Other Coal	1.84	2.10	2.05	2.02	2.02	2.06	2.12	0.0%
Coal to Liquids	--	--	1.42	1.46	1.49	1.44	1.51	--
Electricity	27.25	28.81	25.95	26.51	27.17	28.49	29.87	0.1%
Non-Renewable Energy Expenditures by Sector (billion 2008 dollars)								
Residential	241.67	254.66	230.89	245.14	258.70	280.40	301.11	0.6%
Commercial	176.61	191.19	176.90	193.15	210.07	234.79	261.07	1.2%
Industrial	219.69	244.81	213.14	234.86	241.75	253.51	267.18	0.3%
Transportation	613.37	705.86	655.77	729.77	782.71	846.64	908.01	0.9%
Total Non-Renewable Expenditures	1251.35	1396.52	1276.69	1402.91	1493.23	1615.34	1737.37	0.8%
Transportation Renewable Expenditures	0.05	0.17	0.21	7.12	15.06	25.05	56.42	24.1%
Total Expenditures	1251.39	1396.69	1276.90	1410.03	1508.29	1640.39	1793.79	0.9%

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

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Residential								
Liquefied Petroleum Gases	25.67	29.35	31.23	37.02	42.82	49.52	58.23	2.6%
Distillate Fuel Oil	19.86	24.47	23.49	29.45	34.24	40.16	48.16	2.5%
Natural Gas	12.66	13.48	12.88	14.61	16.68	20.29	24.20	2.2%
Electricity	31.12	33.29	35.02	38.92	43.78	50.50	58.33	2.1%
Commercial								
Liquefied Petroleum Gases	20.20	26.15	27.61	33.02	38.35	44.53	52.64	2.6%
Distillate Fuel Oil	17.10	21.50	20.86	26.39	30.83	36.38	43.92	2.7%
Residual Fuel Oil	8.21	15.52	14.63	18.90	22.45	26.47	31.66	2.7%
Natural Gas	10.96	11.94	11.14	12.65	14.53	17.78	21.27	2.2%
Electricity	28.18	30.47	29.58	33.15	37.62	43.75	51.04	1.9%
Industrial¹								
Liquefied Petroleum Gases	21.53	24.20	25.06	30.38	35.45	41.33	49.15	2.7%
Distillate Fuel Oil	17.68	22.31	21.18	26.68	31.18	36.83	44.51	2.6%
Residual Fuel Oil	8.65	16.31	18.35	22.24	26.10	30.60	36.50	3.0%
Natural Gas ²	7.41	9.11	7.18	8.19	9.52	12.04	14.67	1.8%
Metallurgical Coal	3.61	4.49	5.66	6.50	7.11	7.72	8.50	2.4%
Other Industrial Coal	2.43	2.84	3.00	3.26	3.56	4.01	4.55	1.8%
Coal to Liquids	--	--	1.58	1.79	2.02	2.18	2.53	--
Electricity	18.60	20.21	19.36	21.90	25.11	29.55	34.80	2.0%
Transportation								
Liquefied Petroleum Gases ³	23.31	29.93	31.07	36.82	42.56	49.17	57.77	2.5%
E85 ⁴	26.83	26.93	28.47	32.94	39.17	46.25	54.17	2.6%
Motor Gasoline ⁵	23.15	26.76	28.27	33.72	39.18	45.91	54.33	2.7%
Jet Fuel ⁶	15.42	22.71	21.21	26.51	31.10	36.99	44.51	2.5%
Diesel Fuel (distillate fuel oil) ⁷	21.08	27.65	25.56	31.28	36.13	42.20	50.35	2.2%
Residual Fuel Oil	8.99	14.49	15.13	18.32	21.63	25.81	31.26	2.9%
Natural Gas ⁸	13.54	15.96	14.90	16.43	18.23	21.42	24.84	1.7%
Electricity	31.32	33.73	32.08	34.89	38.86	46.80	55.89	1.9%
Electric Power⁹								
Distillate Fuel Oil	15.41	19.37	19.35	24.75	28.98	34.28	41.52	2.9%
Residual Fuel Oil	8.84	14.56	17.30	21.05	24.83	29.50	35.49	3.4%
Natural Gas	7.10	9.09	6.77	7.85	9.17	11.66	14.22	1.7%
Steam Coal	1.76	2.05	2.24	2.42	2.69	3.06	3.51	2.0%

Reference Case

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

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Average Price to All Users¹⁰								
Liquefied Petroleum Gases	18.53	20.19	22.62	27.06	31.68	37.05	44.32	3.0%
E85 ⁴	26.83	26.93	28.47	32.94	39.17	46.25	54.17	2.6%
Motor Gasoline ⁵	23.03	26.54	28.27	33.71	39.17	45.90	54.32	2.7%
Jet Fuel	15.42	22.71	21.21	26.51	31.10	36.99	44.51	2.5%
Distillate Fuel Oil	20.26	26.27	24.55	30.30	35.14	41.20	49.31	2.4%
Residual Fuel Oil	8.87	14.77	15.89	19.33	22.80	27.11	32.70	3.0%
Natural Gas	8.99	10.53	9.07	10.32	11.88	14.70	17.71	1.9%
Metallurgical Coal	3.61	4.49	5.66	6.50	7.11	7.72	8.50	2.4%
Other Coal	1.80	2.10	2.28	2.47	2.74	3.11	3.56	2.0%
Coal to Liquids	--	--	1.58	1.79	2.02	2.18	2.53	--
Electricity	26.66	28.81	28.92	32.40	36.87	43.00	50.19	2.1%
Non-Renewable Energy Expenditures by Sector (billion nominal dollars)								
Residential	236.38	254.66	257.29	299.59	351.09	423.22	506.03	2.6%
Commercial	172.75	191.19	197.13	236.05	285.09	354.37	438.74	3.1%
Industrial	214.89	244.81	237.51	287.03	328.09	382.62	449.00	2.3%
Transportation	599.94	705.86	730.78	891.87	1062.24	1277.85	1525.95	2.9%
Total Non-Renewable Expenditures	1223.96	1396.52	1422.72	1714.54	2026.51	2438.06	2919.72	2.8%
Transportation Renewable Expenditures	0.04	0.17	0.24	8.70	20.44	37.81	94.81	26.5%
Total Expenditures	1224.00	1396.69	1422.95	1723.24	2046.94	2475.87	3014.53	2.9%

¹Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

²Excludes use for lease and plant fuel.

³Includes Federal and State taxes while excluding county and local taxes.

⁴E85 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.

⁵Sales weighted-average price for all grades. Includes Federal, State and local taxes.

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

⁷Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.

⁸Compressed natural gas used as a vehicle fuel. Includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.

⁹Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

¹⁰Weighted 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2008*, DOE/EIA-0487(2008) (Washington, DC, August 2009). 2007 residential and commercial natural gas delivered prices: EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2008 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). 2007 and 2008 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey* and industrial and wellhead prices from the *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009) and the *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). 2007 transportation sector natural gas delivered prices are based on: EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009) and estimated State taxes, Federal taxes, and dispensing costs or charges. 2008 transportation sector natural gas delivered prices are model results. 2007 and 2008 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, April 2008 and April 2009, Table 4.13.B. 2007 and 2008 coal prices based on: EIA, *Quarterly Coal Report, October-December 2008*, DOE/EIA-0121(2008/4Q) (Washington, DC, March 2009) and EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A. 2007 and 2008 electricity prices: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 and 2008 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. **Projections:** EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Key Indicators								
Households (millions)								
Single-Family	80.79	81.32	87.69	92.78	97.25	101.30	104.85	0.9%
Multifamily	24.91	25.27	27.01	28.86	30.82	32.73	34.59	1.2%
Mobile Homes	6.77	6.74	6.63	6.94	7.17	7.31	7.36	0.3%
Total	112.48	113.33	121.33	128.58	135.25	141.34	146.79	1.0%
Average House Square Footage	1646	1658	1763	1831	1888	1938	1982	0.7%
Energy Intensity								
(million Btu per household)								
Delivered Energy Consumption	100.1	100.1	91.2	88.5	86.4	84.4	82.6	-0.7%
Total Energy Consumption	191.5	190.1	175.7	171.3	168.3	165.4	162.9	-0.6%
(thousand Btu per square foot)								
Delivered Energy Consumption	60.8	60.4	51.8	48.4	45.8	43.5	41.7	-1.4%
Total Energy Consumption	116.4	114.6	99.6	93.6	89.1	85.3	82.2	-1.2%
Delivered Energy Consumption by Fuel								
Electricity								
Space Heating	0.27	0.28	0.28	0.28	0.28	0.28	0.28	-0.1%
Space Cooling	0.91	0.77	0.83	0.87	0.92	0.96	0.99	0.9%
Water Heating	0.43	0.43	0.48	0.51	0.53	0.53	0.53	0.7%
Refrigeration	0.38	0.38	0.36	0.37	0.39	0.41	0.43	0.5%
Cooking	0.10	0.11	0.12	0.12	0.13	0.14	0.15	1.2%
Clothes Dryers	0.26	0.26	0.27	0.28	0.29	0.31	0.32	0.7%
Freezers	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.6%
Lighting	0.73	0.72	0.57	0.53	0.52	0.52	0.52	-1.2%
Clothes Washers ¹	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.5%
Dishwashers ¹	0.09	0.09	0.09	0.10	0.10	0.11	0.12	0.9%
Color Televisions and Set-Top Boxes	0.32	0.35	0.39	0.42	0.44	0.47	0.50	1.4%
Personal Computers and Related Equipment	0.15	0.17	0.19	0.19	0.19	0.21	0.21	0.9%
Furnace Fans and Boiler Circulation Pumps	0.13	0.14	0.15	0.16	0.18	0.19	0.19	1.2%
Other Uses ²	0.86	0.89	0.94	1.07	1.21	1.34	1.46	1.9%
Delivered Energy	4.75	4.71	4.78	5.02	5.30	5.58	5.83	0.8%
Natural Gas								
Space Heating	3.21	3.38	3.20	3.27	3.31	3.32	3.33	-0.1%
Space Cooling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Water Heating	1.34	1.33	1.35	1.40	1.42	1.40	1.36	0.1%
Cooking	0.22	0.22	0.22	0.23	0.23	0.24	0.24	0.4%
Clothes Dryers	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.6%
Delivered Energy	4.84	5.01	4.85	4.97	5.04	5.03	5.01	0.0%
Distillate Fuel Oil								
Space Heating	0.61	0.58	0.51	0.47	0.43	0.40	0.37	-1.6%
Water Heating	0.12	0.11	0.08	0.07	0.06	0.05	0.04	-3.3%
Delivered Energy	0.73	0.68	0.59	0.53	0.49	0.45	0.41	-1.9%
Liquefied Petroleum Gases								
Space Heating	0.22	0.19	0.16	0.14	0.14	0.13	0.12	-1.6%
Water Heating	0.09	0.09	0.06	0.05	0.05	0.04	0.04	-3.3%
Cooking	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.7%
Other Uses ³	0.14	0.15	0.16	0.18	0.19	0.21	0.22	1.5%
Delivered Energy	0.48	0.45	0.41	0.40	0.40	0.40	0.40	-0.4%
Marketed Renewables (wood) ⁴	0.41	0.45	0.40	0.42	0.42	0.42	0.43	-0.1%
Other Fuels ⁵	0.05	0.05	0.04	0.04	0.04	0.04	0.04	-1.0%

Reference Case

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Delivered Energy Consumption by End Use								
Space Heating	4.76	4.93	4.59	4.62	4.62	4.58	4.56	-0.3%
Space Cooling	0.91	0.77	0.83	0.87	0.92	0.96	0.99	0.9%
Water Heating	1.97	1.96	1.97	2.02	2.05	2.02	1.97	0.0%
Refrigeration	0.38	0.38	0.36	0.37	0.39	0.41	0.43	0.5%
Cooking	0.35	0.35	0.36	0.38	0.39	0.40	0.41	0.6%
Clothes Dryers	0.34	0.34	0.35	0.36	0.37	0.39	0.41	0.7%
Freezers	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.6%
Lighting	0.73	0.72	0.57	0.53	0.52	0.52	0.52	-1.2%
Clothes Washers ¹	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-0.5%
Dishwashers ¹	0.09	0.09	0.09	0.10	0.10	0.11	0.12	0.9%
Color Televisions and Set-Top Boxes	0.32	0.35	0.39	0.42	0.44	0.47	0.50	1.4%
Personal Computers and Related Equipment	0.15	0.17	0.19	0.19	0.19	0.21	0.21	0.9%
Furnace Fans and Boiler Circulation Pumps	0.13	0.14	0.15	0.16	0.18	0.19	0.19	1.2%
Other Uses ⁶	1.00	1.03	1.11	1.25	1.40	1.55	1.68	1.8%
Delivered Energy	11.25	11.34	11.07	11.38	11.69	11.93	12.12	0.2%
Electricity Related Losses	10.29	10.20	10.24	10.65	11.08	11.45	11.79	0.5%
Total Energy Consumption by End Use								
Space Heating	5.34	5.54	5.18	5.22	5.21	5.16	5.13	-0.3%
Space Cooling	2.88	2.45	2.62	2.72	2.83	2.93	3.01	0.8%
Water Heating	2.90	2.90	2.99	3.11	3.16	3.12	3.03	0.2%
Refrigeration	1.21	1.19	1.13	1.16	1.20	1.26	1.31	0.3%
Cooking	0.58	0.58	0.61	0.64	0.67	0.69	0.71	0.7%
Clothes Dryers	0.91	0.91	0.93	0.96	0.99	1.02	1.06	0.6%
Freezers	0.26	0.25	0.25	0.26	0.27	0.28	0.28	0.4%
Lighting	2.30	2.30	1.79	1.67	1.60	1.57	1.58	-1.4%
Clothes Washers ¹	0.11	0.11	0.09	0.08	0.08	0.09	0.09	-0.7%
Dishwashers ¹	0.30	0.29	0.29	0.30	0.32	0.34	0.36	0.7%
Color Televisions and Set-Top Boxes	1.03	1.09	1.23	1.30	1.37	1.44	1.51	1.2%
Personal Computers and Related Equipment	0.48	0.53	0.60	0.60	0.60	0.63	0.64	0.7%
Furnace Fans and Boiler Circulation Pumps	0.41	0.44	0.47	0.51	0.55	0.57	0.58	1.0%
Other Uses ⁶	2.86	2.96	3.13	3.51	3.92	4.29	4.63	1.7%
Total	21.54	21.54	21.31	22.03	22.76	23.38	23.92	0.4%
Nonmarketed Renewables⁷								
Geothermal Heat Pumps	0.00	0.00	0.02	0.03	0.03	0.04	0.04	9.5%
Solar Hot Water Heating	0.00	0.00	0.00	0.00	0.00	0.01	0.01	2.1%
Solar Photovoltaic	0.00	0.00	0.04	0.05	0.05	0.05	0.05	19.0%
Wind	0.00	0.00	0.01	0.01	0.01	0.01	0.01	19.2%
Total	0.01	0.01	0.07	0.09	0.09	0.10	0.11	10.4%

¹Does not include water heating portion of load.

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

³Includes such appliances as outdoor grills and mosquito traps.

⁴Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 2005*.

⁵Includes kerosene and coal.

⁶Includes all other uses listed above.

⁷Represents delivered energy displaced.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 based on: Energy Information Administration (EIA), *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009).

Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Key Indicators								
Total Floorspace (billion square feet)								
Surviving	74.9	76.4	83.0	88.8	95.1	101.5	108.0	1.3%
New Additions	2.4	2.4	2.0	2.3	2.4	2.5	2.6	0.3%
Total	77.3	78.8	85.1	91.1	97.5	103.9	110.5	1.3%
Energy Consumption Intensity (thousand Btu per square foot)								
Delivered Energy Consumption	109.2	108.9	106.3	104.3	102.6	101.1	99.8	-0.3%
Electricity Related Losses	127.8	126.9	126.0	125.0	123.4	121.5	120.0	-0.2%
Total Energy Consumption	237.0	235.8	232.3	229.3	226.0	222.6	219.8	-0.3%
Delivered Energy Consumption by Fuel								
Purchased Electricity								
Space Heating ¹	0.17	0.18	0.17	0.17	0.17	0.17	0.17	-0.1%
Space Cooling ¹	0.55	0.50	0.55	0.58	0.61	0.64	0.67	1.1%
Water Heating ¹	0.10	0.09	0.09	0.09	0.09	0.09	0.09	-0.1%
Ventilation	0.49	0.49	0.55	0.59	0.63	0.66	0.68	1.2%
Cooking	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-0.1%
Lighting	1.06	1.04	1.04	1.08	1.12	1.16	1.20	0.5%
Refrigeration	0.40	0.40	0.36	0.35	0.36	0.37	0.39	-0.2%
Office Equipment (PC)	0.21	0.23	0.24	0.24	0.24	0.26	0.26	0.5%
Office Equipment (non-PC)	0.22	0.24	0.32	0.37	0.40	0.44	0.46	2.5%
Other Uses ²	1.34	1.42	1.66	1.88	2.11	2.35	2.61	2.3%
Delivered Energy	4.56	4.61	5.00	5.37	5.76	6.16	6.55	1.3%
Natural Gas								
Space Heating ¹	1.45	1.54	1.56	1.59	1.60	1.59	1.57	0.1%
Space Cooling ¹	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.3%
Water Heating ¹	0.44	0.44	0.48	0.52	0.56	0.59	0.61	1.3%
Cooking	0.16	0.17	0.19	0.20	0.21	0.22	0.24	1.3%
Other Uses ³	1.01	1.03	1.05	1.08	1.14	1.22	1.34	1.0%
Delivered Energy	3.10	3.21	3.32	3.43	3.55	3.66	3.79	0.6%
Distillate Fuel Oil								
Space Heating ¹	0.16	0.15	0.13	0.12	0.11	0.10	0.10	-1.6%
Water Heating ¹	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-0.4%
Other Uses ⁴	0.21	0.19	0.16	0.15	0.15	0.15	0.15	-1.0%
Delivered Energy	0.38	0.36	0.31	0.29	0.28	0.27	0.26	-1.2%
Marketed Renewables (biomass)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.0%
Other Fuels ⁵	0.30	0.29	0.31	0.31	0.32	0.32	0.32	0.5%
Delivered Energy Consumption by End Use								
Space Heating ¹	1.77	1.87	1.86	1.88	1.88	1.86	1.84	-0.1%
Space Cooling ¹	0.59	0.53	0.59	0.61	0.64	0.67	0.70	1.0%
Water Heating ¹	0.56	0.55	0.59	0.63	0.67	0.70	0.72	1.0%
Ventilation	0.49	0.49	0.55	0.59	0.63	0.66	0.68	1.2%
Cooking	0.19	0.19	0.21	0.22	0.24	0.25	0.26	1.2%
Lighting	1.06	1.04	1.04	1.08	1.12	1.16	1.20	0.5%
Refrigeration	0.40	0.40	0.36	0.35	0.36	0.37	0.39	-0.2%
Office Equipment (PC)	0.21	0.23	0.24	0.24	0.24	0.26	0.26	0.5%
Office Equipment (non-PC)	0.22	0.24	0.32	0.37	0.40	0.44	0.46	2.5%
Other Uses ⁶	2.95	3.03	3.29	3.53	3.81	4.14	4.52	1.5%
Delivered Energy	8.44	8.58	9.04	9.50	10.00	10.51	11.04	0.9%

Reference Case

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Electricity Related Losses	9.88	10.00	10.72	11.39	12.03	12.63	13.27	1.1%
Total Energy Consumption by End Use								
Space Heating ¹	2.14	2.26	2.22	2.24	2.24	2.22	2.19	-0.1%
Space Cooling ¹	1.78	1.62	1.76	1.84	1.91	1.98	2.05	0.9%
Water Heating ¹	0.76	0.75	0.79	0.83	0.87	0.89	0.91	0.7%
Ventilation	1.55	1.57	1.74	1.84	1.93	2.00	2.06	1.0%
Cooking	0.24	0.24	0.26	0.27	0.28	0.29	0.30	0.9%
Lighting	3.35	3.29	3.26	3.36	3.47	3.55	3.63	0.4%
Refrigeration	1.27	1.28	1.13	1.10	1.10	1.13	1.17	-0.3%
Office Equipment (PC)	0.67	0.71	0.76	0.75	0.76	0.78	0.79	0.3%
Office Equipment (non-PC)	0.69	0.75	1.00	1.15	1.25	1.34	1.40	2.3%
Other Uses ⁶	5.86	6.11	6.85	7.51	8.22	8.97	9.81	1.8%
Total	18.32	18.58	19.77	20.89	22.03	23.14	24.30	1.0%
Nonmarketed Renewable Fuels⁷								
Solar Thermal	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.7%
Solar Photovoltaic	0.00	0.00	0.01	0.01	0.01	0.01	0.02	6.4%
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.3%
Total	0.03	0.03	0.04	0.04	0.04	0.05	0.05	2.3%

¹Includes fuel consumption for district services.

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

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

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

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

⁶Includes 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.

⁷Represents delivered 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 based on: Energy Information Administration (EIA), *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009).

Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Table A6. Industrial Sector Key Indicators and Consumption

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Key Indicators								
Value of Shipments (billion 2000 dollars)								
Manufacturing	4215	4014	4497	5006	5324	5680	6010	1.5%
Nonmanufacturing	1436	1394	1547	1644	1673	1722	1776	0.9%
Total	5652	5408	6044	6651	6997	7401	7786	1.4%
Energy Prices								
(2008 dollars per million Btu)								
Liquefied Petroleum Gases	22.01	24.20	22.49	24.86	26.12	27.38	29.25	0.7%
Motor Gasoline	18.05	16.28	25.17	27.41	28.70	30.24	32.15	2.6%
Distillate Fuel Oil	18.07	22.31	19.00	21.83	22.97	24.40	26.48	0.6%
Residual Fuel Oil	8.84	16.31	16.47	18.20	19.23	20.27	21.72	1.1%
Asphalt and Road Oil	4.53	8.23	7.13	7.95	8.43	8.93	9.76	0.6%
Natural Gas Heat and Power	6.61	8.25	5.62	5.88	6.25	7.24	8.03	-0.1%
Natural Gas Feedstocks	8.32	9.85	7.25	7.52	7.82	8.78	9.54	-0.1%
Metallurgical Coal	3.69	4.49	5.08	5.32	5.24	5.11	5.06	0.4%
Other Industrial Coal	2.48	2.84	2.69	2.66	2.63	2.66	2.71	-0.2%
Coal for Liquids	--	--	1.42	1.46	1.49	1.44	1.51	--
Electricity	19.02	20.21	17.37	17.92	18.50	19.58	20.71	0.1%
(nominal dollars per million Btu)								
Liquefied Petroleum Gases	21.53	24.20	25.06	30.38	35.45	41.33	49.15	2.7%
Motor Gasoline	17.66	16.28	28.05	33.50	38.95	45.65	54.04	4.5%
Distillate Fuel Oil	17.68	22.31	21.18	26.68	31.18	36.83	44.51	2.6%
Residual Fuel Oil	8.65	16.31	18.35	22.24	26.10	30.60	36.50	3.0%
Asphalt and Road Oil	4.43	8.23	7.95	9.72	11.43	13.49	16.40	2.6%
Natural Gas Heat and Power	6.47	8.25	6.27	7.18	8.48	10.92	13.49	1.8%
Natural Gas Feedstocks	8.14	9.85	8.08	9.20	10.61	13.26	16.03	1.8%
Metallurgical Coal	3.61	4.49	5.66	6.50	7.11	7.72	8.50	2.4%
Other Industrial Coal	2.43	2.84	3.00	3.26	3.56	4.01	4.55	1.8%
Coal for Liquids	--	--	1.58	1.79	2.02	2.18	2.53	--
Electricity	18.60	20.21	19.36	21.90	25.11	29.55	34.80	2.0%
Energy Consumption (quadrillion Btu)¹								
Industrial Consumption Excluding Refining								
Liquefied Petroleum Gases Heat and Power ..	0.30	0.29	0.28	0.28	0.27	0.27	0.27	-0.2%
Liquefied Petroleum Gases Feedstocks	1.97	1.85	2.01	2.31	2.25	2.17	2.06	0.4%
Motor Gasoline	0.31	0.30	0.30	0.30	0.30	0.30	0.30	0.1%
Distillate Fuel Oil	1.26	1.19	1.19	1.19	1.17	1.17	1.17	-0.1%
Residual Fuel Oil	0.18	0.17	0.14	0.14	0.14	0.14	0.13	-0.9%
Petrochemical Feedstocks	1.31	1.12	1.09	0.81	0.82	0.82	0.81	-1.2%
Petroleum Coke	0.35	0.25	0.21	0.21	0.20	0.20	0.19	-1.0%
Asphalt and Road Oil	1.20	1.01	1.08	1.08	1.02	0.99	0.96	-0.2%
Miscellaneous Petroleum ²	0.63	0.45	0.36	0.35	0.34	0.34	0.32	-1.2%
Petroleum Subtotal	7.51	6.62	6.65	6.66	6.52	6.39	6.22	-0.2%
Natural Gas Heat and Power	5.12	5.00	5.12	5.22	5.11	4.98	4.92	-0.1%
Natural Gas Feedstocks	0.56	0.57	0.55	0.56	0.52	0.48	0.45	-0.9%
Lease and Plant Fuel ³	1.22	1.32	1.11	1.12	1.23	1.26	1.29	-0.1%
Natural Gas Subtotal	6.90	6.89	6.78	6.90	6.86	6.72	6.65	-0.1%
Metallurgical Coal and Coke ⁴	0.62	0.62	0.53	0.55	0.51	0.45	0.36	-2.0%
Other Industrial Coal	1.15	1.10	1.02	1.02	1.01	1.00	0.98	-0.4%
Coal Subtotal	1.77	1.72	1.55	1.57	1.52	1.45	1.34	-0.9%
Renewables ⁵	1.62	1.50	1.59	1.69	1.74	1.79	1.83	0.7%
Purchased Electricity	3.35	3.19	3.24	3.34	3.31	3.29	3.28	0.1%
Delivered Energy	21.14	19.93	19.82	20.17	19.96	19.63	19.33	-0.1%
Electricity Related Losses	7.25	6.91	6.94	7.09	6.92	6.74	6.63	-0.2%
Total	28.39	26.83	26.76	27.26	26.88	26.38	25.96	-0.1%

Reference Case

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Refining Consumption								
Liquefied Petroleum Gases Heat and Power	0.01	0.01	0.03	0.02	0.03	0.03	0.03	4.0%
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	0.00	0.00	0.00	0.00	--
Petroleum Coke	0.55	0.58	0.59	0.59	0.61	0.61	0.62	0.3%
Still Gas	1.70	1.73	1.74	1.70	1.68	1.77	1.80	0.2%
Miscellaneous Petroleum ²	0.02	0.04	0.03	0.03	0.03	0.03	0.03	-0.7%
Petroleum Subtotal	2.30	2.36	2.38	2.34	2.35	2.44	2.48	0.2%
Natural Gas Heat and Power	1.13	1.27	1.41	1.46	1.51	1.48	1.54	0.7%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas Subtotal	1.13	1.27	1.41	1.46	1.51	1.48	1.54	0.7%
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	0.16	0.24	0.34	0.45	0.55	27.6%
Coal Subtotal	0.06	0.06	0.22	0.30	0.40	0.51	0.61	8.7%
Biofuels Heat and Coproducts ⁶	0.40	1.03	0.77	1.02	1.49	1.90	2.56	3.4%
Purchased Electricity	0.16	0.16	0.16	0.17	0.18	0.18	0.19	0.5%
Delivered Energy	4.05	4.89	4.94	5.28	5.93	6.51	7.38	1.5%
Electricity Related Losses	0.35	0.35	0.35	0.36	0.37	0.37	0.38	0.3%
Total	4.40	5.24	5.29	5.64	6.30	6.88	7.76	1.5%
Total Industrial Sector Consumption								
Liquefied Petroleum Gases Heat and Power	0.30	0.30	0.31	0.30	0.30	0.29	0.30	-0.0%
Liquefied Petroleum Gases Feedstocks	1.97	1.85	2.01	2.31	2.25	2.17	2.06	0.4%
Motor Gasoline	0.31	0.30	0.30	0.30	0.30	0.30	0.30	0.1%
Distillate Fuel Oil	1.26	1.19	1.19	1.19	1.17	1.17	1.17	-0.1%
Residual Fuel Oil	0.19	0.18	0.14	0.14	0.14	0.14	0.13	-1.1%
Petrochemical Feedstocks	1.31	1.12	1.09	0.81	0.82	0.82	0.81	-1.2%
Petroleum Coke	0.91	0.83	0.80	0.80	0.82	0.81	0.81	-0.1%
Asphalt and Road Oil	1.20	1.01	1.08	1.08	1.02	0.99	0.96	-0.2%
Still Gas	1.70	1.73	1.74	1.70	1.68	1.77	1.80	0.2%
Miscellaneous Petroleum ²	0.65	0.49	0.39	0.38	0.37	0.37	0.35	-1.2%
Petroleum Subtotal	9.80	8.99	9.04	9.01	8.87	8.82	8.70	-0.1%
Natural Gas Heat and Power	6.25	6.27	6.53	6.67	6.62	6.46	6.47	0.1%
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Natural Gas Feedstocks	0.56	0.57	0.55	0.56	0.52	0.48	0.45	-0.9%
Lease and Plant Fuel ³	1.22	1.32	1.11	1.12	1.23	1.26	1.29	-0.1%
Natural Gas Subtotal	8.03	8.16	8.19	8.35	8.37	8.20	8.20	0.0%
Metallurgical Coal and Coke ⁴	0.62	0.62	0.53	0.55	0.51	0.45	0.36	-2.0%
Other Industrial Coal	1.21	1.17	1.07	1.08	1.07	1.06	1.04	-0.4%
Coal-to-Liquids Heat and Power	0.00	0.00	0.16	0.24	0.34	0.45	0.55	27.6%
Coal Subtotal	1.83	1.79	1.76	1.88	1.92	1.96	1.95	0.3%
Biofuels Heat and Coproducts ⁶	0.40	1.03	0.77	1.02	1.49	1.90	2.56	3.4%
Renewables ⁵	1.62	1.50	1.59	1.69	1.74	1.79	1.83	0.7%
Purchased Electricity	3.51	3.35	3.40	3.51	3.49	3.47	3.47	0.1%
Delivered Energy	25.19	24.81	24.76	25.45	25.88	26.14	26.70	0.3%
Electricity Related Losses	7.60	7.26	7.29	7.45	7.29	7.12	7.01	-0.1%
Total	32.79	32.07	32.05	32.90	33.18	33.26	33.72	0.2%

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Energy Consumption per dollar of Shipment (thousand Btu per 2000 dollars)								
Liquefied Petroleum Gases Heat and Power . . .	0.05	0.05	0.05	0.05	0.04	0.04	0.04	-1.3%
Liquefied Petroleum Gases Feedstocks	0.35	0.34	0.33	0.35	0.32	0.29	0.26	-0.9%
Motor Gasoline	0.05	0.05	0.05	0.05	0.04	0.04	0.04	-1.3%
Distillate Fuel Oil	0.22	0.22	0.20	0.18	0.17	0.16	0.15	-1.4%
Residual Fuel Oil	0.03	0.03	0.02	0.02	0.02	0.02	0.02	-2.5%
Petrochemical Feedstocks	0.23	0.21	0.18	0.12	0.12	0.11	0.10	-2.5%
Petroleum Coke	0.16	0.15	0.13	0.12	0.12	0.11	0.10	-1.4%
Asphalt and Road Oil	0.21	0.19	0.18	0.16	0.15	0.13	0.12	-1.5%
Still Gas	0.30	0.32	0.29	0.26	0.24	0.24	0.23	-1.2%
Miscellaneous Petroleum ²	0.12	0.09	0.06	0.06	0.05	0.05	0.05	-2.5%
Petroleum Subtotal	1.73	1.66	1.50	1.35	1.27	1.19	1.12	-1.5%
Natural Gas Heat and Power	1.11	1.16	1.08	1.00	0.95	0.87	0.83	-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 Feedstocks	0.10	0.10	0.09	0.08	0.07	0.06	0.06	-2.2%
Lease and Plant Fuel ³	0.22	0.24	0.18	0.17	0.18	0.17	0.17	-1.4%
Natural Gas Subtotal	1.42	1.51	1.36	1.26	1.20	1.11	1.05	-1.3%
Metallurgical Coal and Coke ⁴	0.11	0.11	0.09	0.08	0.07	0.06	0.05	-3.3%
Other Industrial Coal	0.21	0.22	0.18	0.16	0.15	0.14	0.13	-1.8%
Coal-to-Liquids Heat and Power	0.00	0.00	0.03	0.04	0.05	0.06	0.07	25.9%
Coal Subtotal	0.32	0.33	0.29	0.28	0.28	0.26	0.25	-1.0%
Biofuels Heat and Coproducts ⁶	0.07	0.19	0.13	0.15	0.21	0.26	0.33	2.0%
Renewables ⁵	0.29	0.28	0.26	0.25	0.25	0.24	0.24	-0.6%
Purchased Electricity	0.62	0.62	0.56	0.53	0.50	0.47	0.45	-1.2%
Delivered Energy	4.46	4.59	4.10	3.83	3.70	3.53	3.43	-1.1%
Electricity Related Losses	1.34	1.34	1.21	1.12	1.04	0.96	0.90	-1.5%
Total	5.80	5.93	5.30	4.95	4.74	4.49	4.33	-1.2%
Industrial Combined Heat and Power								
Capacity (gigawatts)	25.80	25.78	31.32	35.76	44.54	52.39	56.45	2.9%
Generation (billion kilowatthours)	142.17	136.65	175.43	208.16	273.39	331.57	362.91	3.7%

¹Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

²Includes lubricants and miscellaneous petroleum products.

³Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.

⁴Includes net coal coke imports.

⁵Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal waste, and other biomass sources.

⁶The energy content of biofuels feedstock minus the energy content of liquid fuel produced.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 prices for motor gasoline and distillate fuel oil are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2008*, DOE/EIA-0487(2008) (Washington, DC, August 2009). 2007 and 2008 petrochemical feedstock and asphalt and road oil prices are based on: EIA, *State Energy Data Report 2007*, DOE/EIA-0214(2007) (Washington, DC, August 2009). 2007 and 2008 coal prices are based on: EIA, *Quarterly Coal Report, October-December 2008*, DOE/EIA-0121(2008/4Q) (Washington, DC, March 2009) and EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A. 2007 and 2008 electricity prices: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 and 2008 natural gas prices are based on: EIA, *Manufacturing Energy Consumption Survey* and industrial and wellhead prices from the *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009) and the *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). 2007 refining consumption values are based on: *Petroleum Supply Annual 2007*, DOE/EIA-0340(2007)1 (Washington, DC, July 2008). 2008 refining consumption based on: *Petroleum Supply Annual 2008*, DOE/EIA-0340(2008)1 (Washington, DC, June 2009). Other 2007 and 2008 consumption values are based on: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 and 2008 shipments: IHS Global Insight Industry model, August 2009. **Projections:** EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

Table A7. Transportation Sector Key Indicators and Delivered Energy Consumption

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Key Indicators								
Travel Indicators								
(billion vehicle miles traveled)								
Light-Duty Vehicles less than 8,500 pounds	2746	2676	2916	3193	3554	3891	4203	1.7%
Commercial Light Trucks ¹	74	70	78	85	92	99	105	1.5%
Freight Trucks greater than 10,000 pounds	241	227	248	278	304	333	363	1.7%
(billion seat miles available)								
Air	1040	1030	1163	1264	1341	1408	1470	1.3%
(billion ton miles traveled)								
Rail	1771	1806	1881	2011	2108	2187	2257	0.8%
Domestic Shipping	584	576	587	617	643	667	691	0.7%
Energy Efficiency Indicators								
(miles per gallon)								
New Light-Duty Vehicle CAFE Standard ²	24.8	25.0	32.5	35.2	35.5	35.6	35.8	1.3%
New Car ²	28.0	28.0	37.4	40.0	40.0	40.0	40.0	1.3%
New Light Truck ²	22.2	22.3	27.9	29.7	29.7	29.7	29.7	1.1%
Compliance New Light-Duty Vehicle ³	27.4	27.6	32.0	35.6	37.2	38.5	40.0	1.4%
New Car ³	32.1	32.2	37.1	40.3	41.5	42.8	44.2	1.2%
New Light Truck ³	23.7	23.7	27.4	30.2	31.5	32.6	33.7	1.3%
Tested New Light-Duty Vehicle ⁴	27.4	27.6	30.8	34.4	35.9	37.3	38.8	1.3%
New Car ⁴	32.1	32.2	35.8	39.1	40.2	41.5	43.0	1.1%
New Light Truck ⁴	23.7	23.7	26.2	29.0	30.3	31.4	32.5	1.2%
On-Road New Light-Duty Vehicle ⁵	22.7	22.9	25.6	28.7	30.0	31.3	32.5	1.3%
New Car ⁵	26.2	26.3	29.5	32.3	33.5	34.8	36.0	1.2%
New Light Truck ⁵	19.9	19.9	22.0	24.3	25.4	26.3	27.3	1.2%
Light-Duty Stock ⁶	20.4	20.9	22.3	24.3	26.2	28.0	29.3	1.3%
New Commercial Light Truck ¹	15.1	15.2	16.3	17.6	18.2	18.6	19.1	0.8%
Stock Commercial Light Truck ¹	14.1	14.3	15.1	16.2	17.2	18.0	18.5	1.0%
Freight Truck	6.0	6.0	6.3	6.6	6.8	6.9	7.0	0.6%
(seat miles per gallon)								
Aircraft	61.6	61.8	63.0	64.4	65.9	67.8	69.8	0.5%
(ton miles per thousand Btu)								
Rail	3.1	3.1	3.2	3.2	3.2	3.2	3.2	0.1%
Domestic Shipping	2.0	2.0	2.0	2.0	2.0	2.0	2.1	0.2%
Energy Use by Mode								
(quadrillion Btu)								
Light-Duty Vehicles	16.62	16.06	16.27	16.28	16.75	17.21	17.73	0.4%
Commercial Light Trucks ¹	0.65	0.61	0.64	0.66	0.67	0.69	0.71	0.6%
Bus Transportation	0.26	0.26	0.28	0.30	0.31	0.33	0.35	1.1%
Freight Trucks	5.01	4.72	4.93	5.26	5.58	6.00	6.46	1.2%
Rail, Passenger	0.05	0.05	0.05	0.05	0.06	0.06	0.06	1.2%
Rail, Freight	0.61	0.58	0.60	0.64	0.66	0.68	0.70	0.7%
Shipping, Domestic	0.30	0.29	0.30	0.31	0.32	0.33	0.33	0.5%
Shipping, International	0.96	0.90	0.91	0.91	0.92	0.92	0.93	0.1%
Recreational Boats	0.25	0.25	0.26	0.27	0.28	0.29	0.29	0.6%
Air	2.75	2.64	2.78	2.99	3.12	3.21	3.28	0.8%
Military Use	0.71	0.71	0.66	0.67	0.69	0.70	0.72	0.1%
Lubricants	0.15	0.14	0.14	0.15	0.15	0.15	0.15	0.3%
Pipeline Fuel	0.64	0.64	0.61	0.63	0.72	0.74	0.74	0.5%
Total	28.96	27.85	28.42	29.12	30.21	31.30	32.46	0.6%

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

Key Indicators and Consumption	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Energy Use by Mode								
(million barrels per day oil equivalent)								
Light-Duty Vehicles	8.82	8.57	8.76	8.83	9.14	9.45	9.93	0.5%
Commercial Light Trucks ¹	0.33	0.31	0.33	0.34	0.34	0.35	0.36	0.6%
Bus Transportation	0.17	0.18	0.21	0.25	0.30	0.34	0.40	3.1%
Freight Trucks	2.41	2.27	2.37	2.53	2.68	2.89	3.11	1.2%
Rail, Passenger	0.02	0.02	0.02	0.03	0.03	0.03	0.03	1.2%
Rail, Freight	0.29	0.27	0.28	0.30	0.32	0.33	0.33	0.7%
Shipping, Domestic	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.5%
Shipping, International	0.42	0.39	0.40	0.40	0.40	0.41	0.41	0.1%
Recreational Boats	0.13	0.13	0.14	0.15	0.15	0.15	0.16	0.7%
Air	1.33	1.28	1.35	1.45	1.51	1.55	1.59	0.8%
Military Use	0.34	0.34	0.32	0.32	0.33	0.34	0.35	0.1%
Lubricants	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.3%
Pipeline Fuel	0.32	0.33	0.31	0.32	0.36	0.37	0.38	0.5%
Total	14.80	14.30	14.70	15.13	15.77	16.43	17.27	0.7%

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

²CAFE standard based on projected new vehicle sales.

³Includes CAFE credits for alternative fueled vehicle sales, but does not include banked credits used for compliance.

⁴Environmental Protection Agency rated miles per gallon.

⁵Tested new vehicle efficiency revised for on-road performance.

⁶Combined 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008: Energy Information Administration (EIA), *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009); EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009); Federal Highway Administration, *Highway Statistics 2007* (Washington, DC, October 2008); Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 28 and Annual* (Oak Ridge, TN, 2009); National Highway Traffic and Safety Administration, *Summary of Fuel Economy Performance* (Washington, DC, January 15, 2008); U.S. Department of Commerce, Bureau of the Census, "Vehicle Inventory and Use Survey," EC97TV (Washington, DC, December 2004); EIA, *Alternatives to Traditional Transportation Fuels 2006 (Part II - User and Fuel Data)*, May 2008; EIA, *State Energy Data Report 2007*, DOE/EIA-0214(2007) (Washington, DC, August 2009); U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly, December 2008/2007* (Washington, DC, 2008); EIA, *Fuel Oil and Kerosene Sales 2007*, DOE/EIA-0535(2007) (Washington, DC, December 2008); and United States Department of Defense, Defense Fuel Supply Center. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Generation by Fuel Type								
Electric Power Sector¹								
Power Only²								
Coal	1962	1939	1977	2026	2075	2132	2222	0.5%
Petroleum	57	39	41	42	43	43	44	0.4%
Natural Gas ³	686	682	507	568	650	778	833	0.7%
Nuclear Power	806	806	834	883	886	886	898	0.4%
Pumped Storage/Other ⁴	0	1	1	1	1	1	1	-1.3%
Renewable Sources ⁵	315	334	587	626	656	666	683	2.7%
Distributed Generation (Natural Gas)	0	0	0	0	0	0	0	--
Total	3827	3801	3946	4146	4311	4506	4680	0.8%
Combined Heat and Power⁶								
Coal	36	37	30	31	31	32	32	-0.6%
Petroleum	4	4	0	0	0	0	0	-7.9%
Natural Gas	129	117	97	101	109	107	111	-0.2%
Renewable Sources	4	4	3	5	5	5	5	0.2%
Total	178	165	130	137	145	144	148	-0.4%
Total Net Generation	4005	3966	4077	4283	4456	4650	4828	0.7%
Less Direct Use	34	33	33	34	34	34	33	0.0%
Net Available to the Grid	3971	3933	4043	4249	4422	4617	4794	0.7%
End-Use Generation⁷								
Coal	18	19	31	35	40	46	51	3.8%
Petroleum	4	3	5	5	5	5	5	1.5%
Natural Gas	82	80	86	98	112	129	149	2.3%
Other Gaseous Fuels ⁸	5	5	16	15	15	16	16	4.0%
Renewable Sources ⁹	34	35	59	82	135	181	204	6.8%
Other ¹⁰	10	8	7	7	7	7	7	-0.3%
Total	154	150	204	243	314	383	431	4.0%
Less Direct Use	124	119	165	192	243	295	327	3.8%
Total Sales to the Grid	30	30	39	50	71	89	104	4.7%
Total Electricity Generation by Fuel								
Coal	2017	1995	2037	2093	2147	2210	2305	0.5%
Petroleum	65	45	46	47	48	48	49	0.3%
Natural Gas	897	879	690	767	871	1015	1093	0.8%
Nuclear Power	806	806	834	883	886	886	898	0.4%
Renewable Sources ^{9,9}	353	373	649	713	795	852	891	3.3%
Other ¹¹	20	17	23	23	23	23	23	1.2%
Total Electricity Generation	4159	4116	4280	4525	4769	5034	5259	0.9%
Total Net Generation to the Grid	4001	3963	4082	4300	4493	4705	4898	0.8%
Net Imports	31	33	20	20	22	20	25	-0.9%
Electricity Sales by Sector								
Residential	1392	1379	1400	1471	1553	1637	1707	0.8%
Commercial	1336	1352	1466	1573	1687	1805	1921	1.3%
Industrial	1028	982	997	1029	1023	1017	1016	0.1%
Transportation	6	7	7	9	11	13	16	3.5%
Total	3763	3720	3870	4083	4274	4472	4660	0.8%
Direct Use	158	152	198	226	277	328	361	3.2%
Total Electricity Use	3921	3873	4068	4308	4550	4801	5021	1.0%

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
End-Use Prices								
(2008 cents per kilowatthour)								
Residential	10.9	11.4	10.7	10.9	11.0	11.4	11.8	0.2%
Commercial	9.8	10.4	9.1	9.3	9.5	9.9	10.4	-0.0%
Industrial	6.5	6.9	5.9	6.1	6.3	6.7	7.1	0.1%
Transportation	10.9	11.5	9.8	9.7	9.8	10.6	11.3	-0.1%
All Sectors Average	9.3	9.8	8.9	9.0	9.3	9.7	10.2	0.1%
(nominal cents per kilowatthour)								
Residential	10.6	11.4	11.9	13.3	14.9	17.2	19.9	2.1%
Commercial	9.6	10.4	10.1	11.3	12.8	14.9	17.4	1.9%
Industrial	6.3	6.9	6.6	7.5	8.6	10.1	11.9	2.0%
Transportation	10.7	11.5	10.9	11.9	13.3	16.0	19.1	1.9%
All Sectors Average	9.1	9.8	9.9	11.1	12.6	14.7	17.1	2.1%
Prices by Service Category								
(2008 cents per kilowatthour)								
Generation	6.2	6.7	5.5	5.8	6.1	6.5	7.0	0.1%
Transmission	0.7	0.7	0.9	0.9	0.9	0.9	0.9	1.1%
Distribution	2.4	2.4	2.5	2.5	2.4	2.4	2.4	-0.0%
(nominal cents per kilowatthour)								
Generation	6.0	6.7	6.2	7.1	8.2	9.8	11.7	2.1%
Transmission	0.7	0.7	1.0	1.1	1.2	1.3	1.5	3.0%
Distribution	2.4	2.4	2.8	3.0	3.3	3.6	3.9	1.9%
Electric Power Sector Emissions¹								
Sulfur Dioxide (million tons)	8.93	7.61	4.69	4.23	3.79	3.70	3.77	-2.6%
Nitrogen Oxide (million tons)	3.29	3.00	2.05	2.02	2.04	2.05	2.07	-1.4%
Mercury (tons)	47.02	45.84	30.48	30.22	30.24	30.45	30.47	-1.5%

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

²Includes plants that only produce electricity.

³Includes electricity generation from fuel cells.

⁴Includes non-biogenic municipal waste. The Energy Information Administration estimates approximately 7 billion kilowatthours of electricity were 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).

⁵Includes conventional hydroelectric, geothermal, wood, wood waste, biogenic municipal waste, landfill gas, other biomass, solar, and wind power.

⁶Includes 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).

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

⁸Includes refinery gas and still gas.

⁹Includes conventional hydroelectric, geothermal, wood, wood waste, all municipal waste, landfill gas, other biomass, solar, and wind power.

¹⁰Includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

¹¹Includes pumped storage, non-biogenic municipal waste, refinery gas, still gas, 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 electric power sector generation; sales to utilities; net imports; electricity sales; and emissions: Energy Information Administration (EIA), *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009), and supporting databases. 2007 and 2008 prices: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

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

Net Summer Capacity ¹	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Electric Power Sector²								
Power Only³								
Coal	304.4	303.8	315.2	315.7	315.7	318.7	324.5	0.2%
Oil and Natural Gas Steam ⁴	116.2	115.5	90.8	86.8	86.8	86.8	85.8	-1.1%
Combined Cycle	150.7	156.4	168.5	168.5	175.2	201.1	211.6	1.1%
Combustion Turbine/Diesel	130.3	131.7	130.3	133.5	146.3	151.8	172.5	1.0%
Nuclear Power ⁵	100.5	100.6	104.5	110.9	110.9	110.9	112.9	0.4%
Pumped Storage	21.8	21.8	21.8	21.8	21.8	21.8	21.8	0.0%
Fuel Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Renewable Sources ⁶	100.5	109.4	154.0	154.2	156.3	159.5	167.8	1.6%
Distributed Generation ⁷	0.0	0.0	0.0	0.0	0.0	0.0	0.3	--
Total	924.5	939.2	985.2	991.5	1013.0	1050.7	1097.1	0.6%
Combined Heat and Power⁸								
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	31.8	31.7	32.3	32.3	32.3	32.3	32.3	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	0.0%
Total	40.3	40.3	40.8	40.8	40.8	40.8	40.8	0.0%
Cumulative Planned Additions⁹								
Coal	0.0	0.0	15.6	15.6	15.6	15.6	15.6	--
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	13.0	13.0	13.0	13.0	13.0	--
Combustion Turbine/Diesel	0.0	0.0	4.1	4.1	4.1	4.1	4.1	--
Nuclear Power	0.0	0.0	1.2	1.2	1.2	1.2	1.2	--
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	1.1	1.2	1.3	1.4	1.5	--
Distributed Generation ⁷	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--
Total	0.0	0.0	35.0	35.1	35.2	35.3	35.4	--
Cumulative Unplanned Additions⁹								
Coal	0.0	0.0	0.0	2.0	2.0	5.0	10.8	--
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	0.0	6.7	32.6	43.0	--
Combustion Turbine/Diesel	0.0	0.0	3.6	7.0	19.8	25.6	46.3	--
Nuclear Power	0.0	0.0	0.0	5.2	5.2	5.2	7.2	--
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	43.6	43.7	45.7	48.8	57.0	--
Distributed Generation ⁷	0.0	0.0	0.0	0.0	0.0	0.0	0.3	--
Total	0.0	0.0	47.2	58.0	79.4	117.2	164.6	--
Cumulative Electric Power Sector Additions	0.0	0.0	82.3	93.1	114.6	152.5	200.0	--
Cumulative Retirements¹⁰								
Coal	0.0	0.0	4.3	5.7	5.7	5.7	5.7	--
Oil and Natural Gas Steam ⁴	0.0	0.0	24.7	28.7	28.7	28.7	29.7	--
Combined Cycle	0.0	0.0	0.4	0.4	0.4	0.4	0.4	--
Combustion Turbine/Diesel	0.0	0.0	9.1	9.3	9.3	9.6	9.6	--
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	0.1	0.1	0.1	0.1	0.1	--
Total	0.0	0.0	38.5	44.2	44.2	44.5	45.5	--
Total Electric Power Sector Capacity	964.9	979.5	1026.0	1032.3	1053.8	1091.5	1137.9	0.6%

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

Net Summer Capacity ¹	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
End-Use Generators¹¹								
Coal	3.5	3.5	5.1	5.6	6.3	7.0	7.7	3.0%
Petroleum	0.9	0.9	1.2	1.2	1.2	1.2	1.2	1.2%
Natural Gas	14.7	14.7	15.2	16.7	18.6	20.9	23.7	1.8%
Other Gaseous Fuels	2.0	2.0	3.9	3.8	3.8	3.8	3.9	2.5%
Renewable Sources ⁶	6.4	6.8	16.9	21.9	29.3	36.5	41.0	6.9%
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.1%
Total	28.3	28.5	43.0	50.0	59.9	70.2	78.1	3.8%
Cumulative Capacity Additions⁹	0.0	0.0	14.4	21.4	31.4	41.6	49.6	--

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

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

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

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

⁵Nuclear capacity includes 4.0 gigawatts of uprates through 2035.

⁶Includes 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.

⁷Primarily peak load capacity fueled by natural gas.

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

⁹Cumulative additions after December 31, 2008.

¹⁰Cumulative retirements after December 31, 2008.

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

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

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

Electricity Trade	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Interregional Electricity Trade								
Gross Domestic Sales								
Firm Power	124.5	122.9	110.9	81.8	44.9	37.6	37.6	-4.3%
Economy	133.1	192.8	145.3	143.0	186.1	185.0	182.2	-0.2%
Total	257.6	315.7	256.2	224.8	231.0	222.6	219.7	-1.3%
Gross Domestic Sales (million 2008 dollars)								
Firm Power	7292.7	7197.8	6495.1	4788.3	2632.1	2200.9	2200.9	-4.3%
Economy	8933.0	15234.5	6985.2	7455.4	9667.1	10958.5	11841.1	-0.9%
Total	16225.7	22432.3	13480.3	12243.7	12299.2	13159.4	14041.9	-1.7%
International Electricity Trade								
Imports from Canada and Mexico								
Firm Power	15.8	19.9	12.0	7.3	1.5	0.4	0.4	-13.6%
Economy	35.6	37.0	29.2	33.1	39.2	37.0	41.9	0.5%
Total	51.4	56.9	41.2	40.4	40.8	37.4	42.2	-1.1%
Exports to Canada and Mexico								
Firm Power	3.9	3.3	0.9	0.5	0.1	0.0	0.0	--
Economy	16.2	21.0	20.4	19.4	18.5	17.7	16.8	-0.8%
Total	20.1	24.4	21.3	20.0	18.6	17.7	16.8	-1.4%

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 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: 2007 and 2008 interregional firm electricity trade data: North American Electric Reliability Council (NERC), Electricity Sales and Demand Database 2007. 2007 and 2008 Mexican electricity trade data: Energy Information Administration (EIA), *Annual Energy Review 2008* DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 Canadian international electricity trade data: National Energy Board, *Canadian Energy Overview 2007* (May 2008). 2008 Canadian electricity trade data: National Energy Board, *Canadian Energy Overview 2008* (May 2009). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

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

Supply and Disposition	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Crude Oil								
Domestic Crude Production ¹	5.08	4.96	5.77	6.13	6.13	6.20	6.27	0.9%
Alaska	0.72	0.69	0.49	0.68	0.74	0.58	0.45	-1.6%
Lower 48 States	4.36	4.28	5.28	5.45	5.39	5.62	5.83	1.2%
Net Imports	10.00	9.75	8.88	8.51	8.60	8.65	8.65	-0.4%
Gross Imports	10.03	9.78	8.91	8.54	8.63	8.69	8.68	-0.4%
Exports	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.5%
Other Crude Supply ²	0.09	-0.06	0.00	0.00	0.00	0.00	0.00	--
Total Crude Supply	15.17	14.66	14.66	14.64	14.73	14.85	14.92	0.1%
Other Petroleum Supply								
Natural Gas Plant Liquids	1.78	1.78	1.77	1.80	1.74	1.79	1.83	0.1%
Net Product Imports	2.09	1.39	1.24	1.16	1.10	1.01	1.02	-1.1%
Gross Refined Product Imports ³	1.94	1.54	1.23	1.25	1.25	1.18	1.22	-0.9%
Unfinished Oil Imports	0.72	0.76	0.81	0.81	0.82	0.84	0.85	0.4%
Blending Component Imports	0.75	0.79	0.80	0.81	0.82	0.83	0.84	0.2%
Exports	1.32	1.71	1.60	1.71	1.79	1.84	1.89	0.4%
Refinery Processing Gain ⁴	1.00	1.00	1.04	1.13	1.17	1.16	1.13	0.5%
Product Stock Withdrawal	0.10	-0.07	0.00	0.00	0.00	0.00	0.00	--
Other Non-petroleum Supply	0.57	0.78	1.42	1.71	2.11	2.55	3.11	5.2%
Supply from Renewable Sources	0.48	0.71	1.10	1.28	1.63	2.02	2.58	4.9%
Ethanol	0.45	0.65	0.95	1.07	1.21	1.37	1.82	3.9%
Domestic Production	0.43	0.61	0.91	1.01	1.10	1.12	1.49	3.4%
Net Imports	0.02	0.05	0.04	0.05	0.11	0.25	0.33	7.4%
Biodiesel	0.03	0.05	0.11	0.11	0.11	0.13	0.13	3.9%
Domestic Production	0.03	0.05	0.11	0.11	0.11	0.13	0.13	3.9%
Net Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Other Biomass-derived Liquids ⁵	0.00	0.01	0.04	0.10	0.31	0.53	0.63	16.5%
Liquids from Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Liquids from Coal	0.00	0.00	0.07	0.11	0.15	0.20	0.24	--
Other ⁶	0.09	0.07	0.25	0.32	0.33	0.33	0.29	5.3%
Total Primary Supply⁷	20.71	19.54	20.13	20.44	20.86	21.36	22.00	0.4%
Liquid Fuels Consumption								
by Fuel								
Liquefied Petroleum Gases	2.09	1.95	2.15	2.37	2.33	2.27	2.19	0.4%
E85 ⁸	0.00	0.00	0.01	0.18	0.36	0.56	1.20	23.3%
Motor Gasoline ⁹	9.29	8.99	9.37	9.24	9.32	9.35	9.06	0.0%
Jet Fuel ¹⁰	1.62	1.54	1.57	1.68	1.75	1.80	1.84	0.7%
Distillate Fuel Oil ¹¹	4.20	3.94	4.08	4.24	4.41	4.65	4.91	0.8%
Diesel	3.47	3.44	3.56	3.75	3.93	4.20	4.48	1.0%
Residual Fuel Oil	0.72	0.62	0.66	0.66	0.66	0.67	0.67	0.3%
Other ¹²	2.74	2.47	2.35	2.19	2.17	2.19	2.18	-0.5%
by Sector								
Residential and Commercial	1.05	0.98	0.89	0.85	0.83	0.81	0.79	-0.8%
Industrial ¹³	5.16	4.75	4.82	4.89	4.81	4.76	4.67	-0.1%
Transportation	14.39	13.88	14.27	14.61	15.14	15.69	16.38	0.6%
Electric Power ¹⁴	0.29	0.21	0.20	0.21	0.21	0.22	0.22	0.2%
Total	20.65	19.53	20.18	20.56	20.99	21.48	22.06	0.5%
Discrepancy¹⁵	0.06	0.01	-0.05	-0.13	-0.13	-0.12	-0.06	--

Reference Case

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

Supply and Disposition	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Domestic Refinery Distillation Capacity ¹⁶	17.4	17.6	17.9	16.8	16.8	16.9	17.3	-0.1%
Capacity Utilization Rate (percent) ¹⁷	89.0	85.0	83.7	89.0	89.5	89.6	88.3	0.1%
Net Import Share of Product Supplied (percent)	58.5	57.3	50.5	47.6	47.1	46.4	45.4	-0.9%
Net Expenditures for Imported Crude Oil and Petroleum Products (billion 2008 dollars)	287.15	437.90	301.44	329.52	356.35	383.33	420.54	-0.1%

¹Includes lease condensate.

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

³Includes other hydrocarbons and alcohols.

⁴The 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.

⁵Includes pyrolysis oils, biomass-derived Fischer-Tropsch liquids, and renewable feedstocks used for the production of green diesel and gasoline.

⁶Includes domestic sources of other blending components, other hydrocarbons, and ethers.

⁷Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.

⁸E85 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.

⁹Includes ethanol and ethers blended into gasoline.

¹⁰Includes only kerosene type.

¹¹Includes distillate fuel oil and kerosene from petroleum and biomass feedstocks.

¹²Includes aviation gasoline, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, methanol, and miscellaneous petroleum products.

¹³Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.

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

¹⁵Balancing item. Includes unaccounted for supply, losses, and gains.

¹⁶End-of-year operable capacity.

¹⁷Rate 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). Other 2007 data: EIA, *Petroleum Supply Annual 2007*, DOE/EIA-0340(2007)/1 (Washington, DC, July 2008). Other 2008 data: EIA, *Petroleum Supply Annual 2008*, DOE/EIA-0340(2008)/1 (Washington, DC, June 2009). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Table A12. Petroleum Product Prices
(2008 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Crude Oil Prices (2008 dollars per barrel)								
Imported Low Sulfur Light Crude Oil ¹	73.93	99.57	94.52	108.28	115.09	123.50	133.22	1.1%
Imported Crude Oil ¹	68.69	92.61	86.88	98.14	104.49	111.49	121.37	1.0%
Delivered Sector Product Prices								
Residential								
Liquefied Petroleum Gases	224.4	251.5	240.2	259.6	270.4	281.2	297.0	0.6%
Distillate Fuel Oil	281.6	339.3	292.4	334.2	349.9	369.1	397.5	0.6%
Commercial								
Distillate Fuel Oil	241.5	296.8	258.0	297.7	313.2	332.3	360.3	0.7%
Residual Fuel Oil	125.6	232.4	196.5	231.5	247.6	262.5	282.0	0.7%
Residual Fuel Oil (2008 dollars per barrel) . .	52.75	97.61	82.52	97.22	104.01	110.25	118.45	0.7%
Industrial²								
Liquefied Petroleum Gases	188.2	207.4	192.7	213.0	223.9	234.7	250.6	0.7%
Distillate Fuel Oil	249.5	307.4	260.9	299.6	315.4	335.0	363.6	0.6%
Residual Fuel Oil	132.3	244.1	246.5	272.4	287.9	303.5	325.1	1.1%
Residual Fuel Oil (2008 dollars per barrel) . .	55.57	102.52	103.52	114.41	120.91	127.46	136.54	1.1%
Transportation								
Liquefied Petroleum Gases	203.8	256.5	238.9	258.2	268.8	279.2	294.6	0.5%
Ethanol (E85) ³	260.2	255.5	242.4	255.7	273.8	290.7	305.8	0.7%
Ethanol Wholesale Price	217.2	244.6	198.9	205.7	188.6	199.8	211.5	-0.5%
Motor Gasoline ⁴	290.6	326.7	306.9	333.8	349.3	368.0	391.1	0.7%
Jet Fuel ⁵	212.9	306.5	257.0	292.8	309.4	330.9	357.5	0.6%
Diesel Fuel (distillate fuel oil) ⁶	295.6	379.3	314.3	350.8	364.9	383.1	410.5	0.3%
Residual Fuel Oil	137.5	216.9	203.3	224.4	238.5	255.9	278.5	0.9%
Residual Fuel Oil (2008 dollars per barrel) . .	57.76	91.11	85.37	94.27	100.18	107.49	116.95	0.9%
Electric Power⁷								
Distillate Fuel Oil	218.5	268.6	240.8	280.8	296.1	315.0	342.6	0.9%
Residual Fuel Oil	135.3	218.0	232.4	257.8	273.9	292.6	316.1	1.4%
Residual Fuel Oil (2008 dollars per barrel) . .	56.83	91.57	97.61	108.26	115.04	122.90	132.75	1.4%
Refined Petroleum Product Prices⁸								
Liquefied Petroleum Gases	162.0	173.0	174.0	189.8	200.1	210.4	226.0	1.0%
Motor Gasoline ⁴	289.1	324.0	306.9	333.8	349.3	368.0	391.1	0.7%
Jet Fuel ⁵	212.9	306.5	257.0	292.8	309.4	330.9	357.5	0.6%
Distillate Fuel Oil	285.0	361.2	302.3	340.2	355.2	374.4	402.5	0.4%
Residual Fuel Oil	135.8	221.1	213.4	236.7	251.4	268.8	291.3	1.0%
Residual Fuel Oil (2008 dollars per barrel) . .	57.03	92.85	89.64	99.43	105.61	112.92	122.34	1.0%
Average	254.3	304.7	279.6	307.5	322.9	341.7	366.2	0.7%

Reference Case

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

Sector and Fuel	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Crude Oil Prices (nominal dollars per barrel)								
Imported Low Sulfur Light Crude Oil ¹	72.32	99.57	105.33	132.33	156.20	186.40	223.88	3.0%
Imported Crude Oil ¹	67.19	92.61	96.82	119.94	141.80	168.28	203.97	3.0%
Delivered Sector Product Prices								
Residential								
Liquefied Petroleum Gases	219.5	251.5	267.7	317.3	367.0	424.4	499.1	2.6%
Distillate Fuel Oil	275.4	339.3	325.8	408.4	474.9	557.0	667.9	2.5%
Commercial								
Distillate Fuel Oil	236.2	296.8	287.6	363.9	425.1	501.6	605.5	2.7%
Residual Fuel Oil	122.9	232.4	219.0	282.9	336.1	396.2	474.0	2.7%
Residual Fuel Oil (nominal dollars per barrel)	51.60	97.61	91.96	118.82	141.15	166.40	199.06	2.7%
Industrial²								
Liquefied Petroleum Gases	184.1	207.4	214.8	260.3	303.9	354.2	421.2	2.7%
Distillate Fuel Oil	244.1	307.4	290.7	366.2	428.0	505.6	611.0	2.6%
Residual Fuel Oil	129.4	244.1	274.7	332.9	390.7	458.0	546.4	3.0%
Residual Fuel Oil (nominal dollars per barrel)	54.36	102.52	115.36	139.83	164.09	192.38	229.47	3.0%
Transportation								
Liquefied Petroleum Gases	199.3	256.5	266.3	315.6	364.8	421.4	495.1	2.5%
Ethanol (E85) ³	254.6	255.5	270.1	312.5	371.6	438.8	513.9	2.6%
Ethanol Wholesale Price	212.4	244.6	221.6	251.4	256.0	301.5	355.4	1.4%
Motor Gasoline ⁴	284.2	326.7	342.1	408.0	474.0	555.5	657.3	2.6%
Jet Fuel ⁵	208.2	306.5	286.4	357.9	419.9	499.4	600.8	2.5%
Diesel Fuel (distillate fuel oil) ⁶	289.2	379.3	350.2	428.7	495.2	578.2	689.9	2.2%
Residual Fuel Oil	134.5	216.9	226.5	274.3	323.7	386.3	468.0	2.9%
Residual Fuel Oil (nominal dollars per barrel)	56.49	91.11	95.13	115.21	135.96	162.24	196.55	2.9%
Electric Power⁷								
Distillate Fuel Oil	213.7	268.6	268.4	343.2	401.9	475.4	575.8	2.9%
Residual Fuel Oil	132.4	218.0	259.0	315.0	371.7	441.6	531.2	3.4%
Residual Fuel Oil (nominal dollars per barrel)	55.59	91.57	108.78	132.31	156.12	185.49	223.09	3.4%
Refined Petroleum Product Prices⁸								
Liquefied Petroleum Gases	158.4	173.0	193.9	232.0	271.5	317.6	379.8	3.0%
Motor Gasoline ⁴	282.8	324.0	342.0	407.9	474.0	555.4	657.2	2.7%
Jet Fuel ⁵	208.2	306.5	286.4	357.9	419.9	499.4	600.8	2.5%
Distillate Fuel Oil	278.7	361.2	336.9	415.8	482.1	565.1	676.4	2.4%
Residual Fuel Oil	132.8	221.1	237.9	289.3	341.2	405.8	489.5	3.0%
Residual Fuel Oil (nominal dollars per barrel)	55.79	92.85	99.90	121.51	143.32	170.42	205.59	3.0%
Average	248.7	304.7	311.5	375.8	438.2	515.7	615.4	2.6%

¹Weighted average price delivered to U.S. refiners.

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

³E85 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.

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

⁵Includes only kerosene type.

⁶Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.

⁷Includes 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.

⁸Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.

Note: Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2007 and 2008 imported crude oil price: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 and 2008 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2008*, DOE/EIA-0487(2008) (Washington, DC, August 2009). 2007 and 2008 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." 2007 and 2008 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2007 and 2008 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. 2007 and 2008 wholesale ethanol prices derived from Bloomberg U.S. average rack price. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Production								
Dry Gas Production ¹	19.09	20.56	19.29	19.98	21.31	22.38	23.27	0.5%
Supplemental Natural Gas ²	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.6%
Net Imports	3.79	2.95	2.38	2.57	2.17	1.84	1.46	-2.6%
Pipeline ³	3.06	2.65	1.29	1.07	0.89	0.94	0.64	-5.1%
Liquefied Natural Gas	0.72	0.30	1.09	1.50	1.28	0.89	0.83	3.8%
Total Supply	22.94	23.57	21.73	22.61	23.54	24.28	24.80	0.2%
Consumption by Sector								
Residential	4.70	4.87	4.71	4.83	4.89	4.89	4.87	0.0%
Commercial	3.01	3.12	3.23	3.33	3.45	3.55	3.69	0.6%
Industrial ⁴	6.62	6.65	6.88	7.03	6.94	6.74	6.72	0.0%
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	6.84	6.66	5.18	5.66	6.28	7.04	7.42	0.4%
Transportation ⁸	0.04	0.04	0.05	0.08	0.11	0.15	0.19	5.9%
Pipeline Fuel	0.62	0.63	0.60	0.62	0.70	0.72	0.72	0.5%
Lease and Plant Fuel ⁹	1.18	1.28	1.08	1.09	1.19	1.23	1.25	-0.1%
Total	23.02	23.25	21.74	22.63	23.57	24.33	24.86	0.2%
Discrepancy¹⁰	-0.08	0.32	-0.01	-0.02	-0.03	-0.05	-0.07	--
Natural Gas Prices								
(2008 dollars per million Btu)								
Henry Hub Spot Price	7.12	8.86	6.27	6.64	6.99	8.05	8.88	0.0%
Average Lower 48 Wellhead Price ¹¹	6.38	7.85	5.54	5.87	6.18	7.11	7.84	-0.0%
(2008 dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price ¹¹	6.56	8.07	5.70	6.03	6.35	7.31	8.06	-0.0%
Delivered Prices								
(2008 dollars per thousand cubic feet)								
Residential	13.32	13.87	11.89	12.30	12.65	13.83	14.82	0.2%
Commercial	11.53	12.29	10.28	10.65	11.01	12.12	13.03	0.2%
Industrial ⁴	7.80	9.38	6.63	6.89	7.22	8.21	8.99	-0.2%
Electric Power ⁷	7.45	9.34	6.24	6.59	6.94	7.94	8.69	-0.3%
Transportation ¹²	14.24	16.42	13.76	13.83	13.82	14.60	15.21	-0.3%
Average¹³	9.45	10.83	8.37	8.68	9.00	10.01	10.83	0.0%

Reference Case

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Natural Gas Prices								
(nominal dollars per million Btu)								
Henry Hub Spot Price	6.96	8.86	6.99	8.11	9.49	12.15	14.92	1.9%
Average Lower 48 Wellhead Price ¹¹	6.24	7.85	6.17	7.17	8.38	10.73	13.18	1.9%
(nominal dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price ¹¹	6.42	8.07	6.35	7.37	8.62	11.03	13.55	1.9%
Delivered Prices								
(nominal dollars per thousand cubic feet)								
Residential	13.03	13.87	13.25	15.03	17.16	20.88	24.90	2.2%
Commercial	11.28	12.29	11.46	13.02	14.95	18.30	21.89	2.2%
Industrial ⁴	7.63	9.38	7.39	8.43	9.80	12.39	15.10	1.8%
Electric Power ⁷	7.29	9.34	6.96	8.06	9.41	11.98	14.61	1.7%
Transportation ¹²	13.93	16.42	15.33	16.90	18.76	22.04	25.56	1.7%
Average¹³	9.24	10.83	9.33	10.61	12.21	15.11	18.20	1.9%

¹Marketed production (wet) minus extraction losses.

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

³Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida, as well as gas from Canada and Mexico.

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

⁵Includes any natural gas used in the process of converting natural gas to liquid fuel that is not actually converted.

⁶Includes any natural gas that is converted into liquid fuel.

⁷Includes 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.

⁸Compressed natural gas used as vehicle fuel.

⁹Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.

¹⁰Balancing 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, 2007 and 2008 values include net storage injections.

¹¹Represents lower 48 onshore and offshore supplies.

¹²Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.

¹³Weighted 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 supply values; and lease, plant, and pipeline fuel consumption: Energy Information Administration (EIA), *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2008 supply values; and lease, plant, and pipeline fuel consumption; and wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). Other 2007 and 2008 consumption based on: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2007 residential and commercial delivered prices: EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2008 residential and commercial delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). 2007 and 2008 electric power prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, April 2008 and April 2009, Table 4.13.B. 2007 and 2008 industrial delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey* and industrial and wellhead prices from the *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009) and the *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). 2007 transportation sector delivered prices are based on: EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009) and estimated state taxes, federal taxes, and dispensing costs or charges. 2008 transportation sector delivered prices are model results. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Table A14. Oil and Gas Supply

Production and Supply	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Crude Oil								
Lower 48 Average Wellhead Price¹ (2008 dollars per barrel)	68.52	95.24	90.84	102.00	108.31	114.75	124.69	1.0%
Production (million barrels per day)²								
United States Total	5.08	4.96	5.77	6.13	6.13	6.20	6.27	0.9%
Lower 48 Onshore	2.95	3.00	3.34	3.37	3.25	3.43	3.46	0.5%
Lower 48 Offshore	1.40	1.27	1.94	2.08	2.14	2.19	2.36	2.3%
Alaska	0.72	0.69	0.49	0.68	0.74	0.58	0.45	-1.6%
Lower 48 End of Year Reserves² (billion barrels)	18.65	17.18	19.41	20.78	22.44	23.42	23.57	1.2%
Natural Gas								
Lower 48 Average Wellhead Price¹ (2008 dollars per million Btu)								
Henry Hub Spot Price	7.12	8.86	6.27	6.64	6.99	8.05	8.88	0.0%
Average Lower 48 Wellhead Price ¹	6.38	7.85	5.54	5.87	6.18	7.11	7.84	-0.0%
(2008 dollars per thousand cubic feet)								
Average Lower 48 Wellhead Price ¹	6.56	8.07	5.70	6.03	6.35	7.31	8.06	-0.0%
Dry Production (trillion cubic feet)³								
United States Total	19.09	20.56	19.29	19.98	21.31	22.38	23.27	0.5%
Lower 48 Onshore	15.70	17.56	16.09	16.23	15.96	16.59	17.07	-0.1%
Associated-Dissolved ⁴	1.31	1.39	1.44	1.42	1.25	1.12	1.03	-1.1%
Non-Associated	14.39	16.17	14.65	14.80	14.71	15.47	16.04	-0.0%
Conventional ⁵	11.33	12.71	8.92	8.41	8.00	8.13	8.11	-1.7%
Unconventional	3.06	3.46	5.73	6.40	6.71	7.35	7.93	3.1%
Shale Gas	1.15	1.49	3.85	4.51	4.94	5.50	6.00	5.3%
Coalbed Methane	1.91	1.97	1.89	1.88	1.77	1.85	1.93	-0.1%
Lower 48 Offshore	2.98	2.62	2.91	3.48	3.46	3.91	4.33	1.9%
Associated-Dissolved ⁴	0.62	0.55	0.79	0.93	0.90	0.95	1.00	2.2%
Non-Associated	2.36	2.06	2.12	2.55	2.56	2.96	3.33	1.8%
Alaska	0.41	0.38	0.29	0.27	1.88	1.88	1.87	6.1%
Lower 48 End of Year Dry Reserves³ (trillion cubic feet)	225.81	235.63	254.61	260.13	259.77	263.33	267.94	0.5%
Supplemental Gas Supplies (trillion cubic feet)⁶	0.06	0.05	0.06	0.06	0.06	0.06	0.06	0.6%
Total Lower 48 Wells Drilled (thousands)	50.94	55.72	54.40	56.08	56.68	59.04	60.93	0.3%

¹Represents lower 48 onshore and offshore supplies.

²Includes lease condensate.

³Marketed production (wet) minus extraction losses.

⁴Gas which occurs in crude oil reservoirs either as free gas (associated) or as gas in solution with crude oil (dissolved).

⁵Includes tight gas.

⁶Synthetic 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 crude oil lower 48 average wellhead price: Energy Information Administration (EIA), *Petroleum Marketing Annual 2008*, DOE/EIA-0487(2008) (Washington, DC, August 2009). 2007 and 2008 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: EIA, *Petroleum Supply Annual 2008*, DOE/EIA-0340(2008)/1 (Washington, DC, June 2009). 2007 U.S. crude oil and natural gas reserves: EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, DOE/EIA-0216(2008) (Washington, DC, October 2009). 2007 Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2007 natural gas lower 48 average wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2007*, DOE/EIA-0131(2007) (Washington, DC, January 2009). 2008 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2009/07) (Washington, DC, July 2009). Other 2007 and 2008 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Production¹								
Appalachia	378	391	317	305	291	278	277	-1.3%
Interior	147	147	184	198	199	197	208	1.3%
West	621	634	654	681	744	785	800	0.9%
East of the Mississippi	478	493	444	444	422	407	415	-0.6%
West of the Mississippi	668	678	710	740	813	854	870	0.9%
Total	1147	1172	1155	1183	1234	1260	1285	0.3%
Waste Coal Supplied²	14	14	16	15	15	14	15	0.3%
Net Imports								
Imports ³	34	32	30	37	34	38	53	1.9%
Exports	59	82	60	53	48	36	33	-3.3%
Total	-25	-49	-30	-15	-14	2	20	--
Total Supply⁴	1136	1136	1141	1183	1235	1276	1320	0.6%
Consumption by Sector								
Residential and Commercial	4	4	3	3	3	3	3	-0.2%
Coke Plants	23	22	20	20	19	17	14	-1.7%
Other Industrial ⁵	57	55	53	53	53	52	51	-0.2%
Coal-to-Liquids Heat and Power	0	0	11	17	24	31	37	--
Coal to Liquids Production	0	0	9	15	20	26	31	--
Electric Power ⁶	1045	1042	1044	1073	1116	1147	1183	0.5%
Total	1128	1122	1141	1183	1235	1276	1319	0.6%
Discrepancy and Stock Change⁷	8	15	-0	0	0	0	0	--
Average Minemouth Price⁸								
(2008 dollars per short ton)	26.40	31.26	30.38	30.01	28.19	27.43	28.10	-0.4%
(2008 dollars per million Btu)	1.30	1.55	1.52	1.51	1.44	1.41	1.44	-0.3%
Delivered Prices (2008 dollars per short ton)⁹								
Coke Plants	97.09	118.09	132.98	139.25	137.06	133.66	132.10	0.4%
Other Industrial ⁵	55.64	63.44	57.43	56.95	56.11	56.74	57.88	-0.3%
Coal to Liquids	--	--	20.14	20.37	21.22	20.91	22.34	--
Electric Power								
(2008 dollars per short ton)	36.08	40.71	39.46	38.90	38.49	39.29	40.74	0.0%
(2008 dollars per million Btu)	1.80	2.05	2.01	1.98	1.99	2.03	2.09	0.1%
Average	38.31	43.36	41.58	40.95	40.16	40.44	41.42	-0.2%
Exports ¹⁰	71.82	97.68	109.63	124.95	113.11	102.92	96.29	-0.1%

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Average Minemouth Price⁸								
(nominal dollars per short ton)	25.82	31.26	33.86	36.67	38.25	41.40	47.23	1.5%
(nominal dollars per million Btu)	1.27	1.55	1.69	1.84	1.95	2.13	2.43	1.7%
Delivered Prices (nominal dollars per short ton)⁹								
Coke Plants	94.97	118.09	148.19	170.18	186.00	201.73	221.99	2.4%
Other Industrial ⁵	54.42	63.44	64.00	69.59	76.14	85.64	97.27	1.6%
Coal to Liquids	--	--	22.44	24.90	28.80	31.55	37.54	--
Electric Power								
(nominal dollars per short ton)	35.29	40.71	43.97	47.55	52.24	59.30	68.46	1.9%
(nominal dollars per million Btu)	1.76	2.05	2.24	2.42	2.69	3.06	3.51	2.0%
Average	37.47	43.36	46.34	50.05	54.50	61.03	69.60	1.8%
Exports ¹⁰	70.25	97.68	122.17	152.70	153.50	155.34	161.81	1.9%

¹Includes anthracite, bituminous coal, subbituminous coal, and lignite.

²Includes 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.

³Excludes imports to Puerto Rico and the U.S. Virgin Islands.

⁴Production plus waste coal supplied plus net imports.

⁵Includes 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.

⁶Includes all electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

⁷Balancing item: the sum of production, net imports, and waste coal supplied minus total consumption.

⁸Includes reported prices for both open market and captive mines.

⁹Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.

¹⁰F.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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 data based on: Energy Information Administration (EIA), *Annual Coal Report 2008*, DOE/EIA-0584(2008) (Washington, DC, September 2009); EIA, *Quarterly Coal Report, October-December 2008*, DOE/EIA-0121(2008/4Q) (Washington, DC, March 2009); and EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

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

Capacity and Generation	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Electric Power Sector¹								
Net Summer Capacity								
Conventional Hydropower	76.51	76.51	77.03	77.03	77.34	77.34	77.52	0.0%
Geothermal ²	2.35	2.44	3.24	3.24	3.27	3.53	3.82	1.7%
Municipal Waste ³	3.42	3.43	4.75	4.75	4.75	4.75	4.75	1.2%
Wood and Other Biomass ^{4,5}	2.09	2.17	4.46	4.46	4.75	6.92	11.87	6.5%
Solar Thermal	0.53	0.53	0.87	0.89	0.91	0.93	0.96	2.2%
Solar Photovoltaic ⁶	0.04	0.05	0.14	0.22	0.31	0.40	0.45	8.6%
Wind	16.19	24.89	63.98	64.05	65.42	66.08	68.88	3.8%
Offshore Wind	0.00	0.00	0.20	0.20	0.20	0.20	0.20	--
Total	101.14	110.01	154.68	154.84	156.95	160.15	168.45	1.6%
Generation (billion kilowatthours)								
Conventional Hydropower	245.13	245.45	296.56	296.63	298.57	298.64	299.45	0.7%
Geothermal ²	14.64	14.86	23.53	23.54	23.79	25.88	28.13	2.4%
Biogenic Municipal Waste ⁷	13.88	14.49	24.95	24.95	24.95	24.95	24.95	2.0%
Wood and Other Biomass ⁵	10.59	10.90	47.22	86.80	109.06	114.66	117.45	9.2%
Dedicated Plants	8.65	9.00	26.78	27.11	29.85	46.51	82.01	8.5%
Cofiring	1.94	1.90	20.44	59.69	79.21	68.15	35.43	11.4%
Solar Thermal	0.60	0.81	1.80	1.87	1.94	2.02	2.10	3.6%
Solar Photovoltaic ⁶	0.01	0.03	0.34	0.54	0.76	0.98	1.13	14.2%
Wind	34.45	52.03	195.18	195.47	200.51	202.88	213.84	5.4%
Offshore Wind	0.00	0.00	0.75	0.75	0.75	0.75	0.75	--
Total	319.29	338.56	590.33	630.56	660.33	670.76	687.80	2.7%
End-Use Generators⁸								
Net Summer Capacity								
Conventional Hydropower ⁹	0.68	0.69	0.69	0.69	0.69	0.69	0.69	0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Municipal Waste ¹⁰	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.0%
Biomass	4.88	4.86	6.31	9.04	16.04	22.07	24.51	6.2%
Solar Photovoltaic ⁶	0.47	0.80	8.07	9.91	10.27	11.28	13.14	10.9%
Wind	0.08	0.09	1.52	1.92	2.01	2.11	2.29	12.5%
Total	6.45	6.77	16.92	21.89	29.34	36.48	40.96	6.9%
Generation (billion kilowatthours)								
Conventional Hydropower ⁹	2.38	3.35	3.35	3.35	3.35	3.35	3.35	0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--
Municipal Waste ¹⁰	2.01	2.02	2.79	2.79	2.79	2.79	2.79	1.2%
Biomass	28.43	27.89	37.25	57.37	109.23	153.77	172.75	7.0%
Solar Photovoltaic ⁶	0.74	1.26	13.12	16.12	16.73	18.43	21.58	11.1%
Wind	0.10	0.12	2.10	2.66	2.79	2.94	3.19	12.9%
Total	33.65	34.63	58.60	82.28	134.88	181.28	203.65	6.8%

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

Capacity and Generation	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Total, All Sectors								
Net Summer Capacity								
Conventional Hydropower	77.20	77.19	77.72	77.72	78.03	78.03	78.21	0.0%
Geothermal	2.35	2.44	3.24	3.24	3.27	3.53	3.82	1.7%
Municipal Waste	3.75	3.77	5.08	5.08	5.08	5.08	5.08	1.1%
Wood and Other Biomass ^{4,5}	6.98	7.02	10.76	13.50	20.80	28.99	36.38	6.3%
Solar ⁶	1.04	1.38	9.08	11.02	11.49	12.60	14.55	9.1%
Wind	16.27	24.98	65.71	66.17	67.63	68.39	71.36	4.0%
Total	107.59	116.78	171.60	176.73	186.29	196.63	209.40	2.2%
Generation (billion kilowatthours)								
Conventional Hydropower	247.51	248.79	299.91	299.98	301.92	301.99	302.80	0.7%
Geothermal	14.64	14.86	23.53	23.54	23.79	25.88	28.13	2.4%
Municipal Waste	15.89	16.51	27.74	27.74	27.74	27.74	27.74	1.9%
Wood and Other Biomass ⁵	39.01	38.79	84.47	144.17	218.29	268.44	290.19	7.7%
Solar ⁶	1.35	2.10	15.26	18.53	19.44	21.43	24.81	9.6%
Wind	34.55	52.15	198.03	198.88	204.05	206.57	217.78	5.4%
Total	352.95	373.20	648.94	712.84	795.22	852.04	891.45	3.3%

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

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

³Includes 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.

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

⁵Includes projections for energy crops after 2012.

⁶Does not include off-grid photovoltaics (PV). Based on annual PV shipments from 1989 through 2007, EIA estimates that as much as 221 megawatts of remote electricity generation PV applications (i.e., off-grid power systems) were in service in 2007, plus an additional 542 megawatts in communications, transportation, and assorted other non-grid-connected, specialized applications. See Energy Information Administration, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009), Table 10.9 (annual PV shipments, 1989-2007). The approach used to develop the estimate, based on shipment data, provides an upper estimate of the size of the PV stock, including both grid-based and off-grid PV. It will overestimate the size of the stock, because shipments include a substantial number of units that are exported, and each year some of the PV units installed earlier will be retired from service or abandoned.

⁷Includes 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 that in 2007 approximately 6 billion kilowatthours of electricity were 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).

⁸Includes 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.

⁹Represents own-use industrial hydroelectric power.

¹⁰Includes 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 capacity: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). 2007 and 2008 generation: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

Table A17. Renewable Energy, Consumption by Sector and Source¹
(Quadrillion Btu per Year)

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Marketed Renewable Energy²								
Residential (wood)	0.41	0.45	0.40	0.42	0.42	0.42	0.43	-0.1%
Commercial (biomass)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.0%
Industrial³	2.02	2.53	2.37	2.70	3.23	3.69	4.39	2.1%
Conventional Hydroelectric	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.0%
Municipal Waste ⁴	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.1%
Biomass	1.42	1.30	1.39	1.48	1.54	1.59	1.63	0.8%
Biofuels Heat and Coproducts ⁵	0.40	1.03	0.77	1.02	1.49	1.90	2.56	3.4%
Transportation	0.64	0.96	1.53	1.81	2.41	3.10	3.92	5.4%
Ethanol used in E85 ⁶	0.00	0.00	0.01	0.17	0.34	0.54	1.15	23.3%
Ethanol used in Gasoline Blending	0.58	0.84	1.22	1.20	1.22	1.23	1.20	1.3%
Biodiesel used in Distillate Blending	0.06	0.09	0.21	0.23	0.22	0.25	0.25	3.9%
Liquids from Biomass	0.00	0.00	0.04	0.16	0.56	1.04	1.27	--
Green Liquids	0.00	0.02	0.05	0.05	0.06	0.04	0.04	2.6%
Electric Power⁷	3.45	3.65	6.27	6.69	7.00	7.13	7.26	2.6%
Conventional Hydroelectric	2.42	2.43	2.93	2.93	2.95	2.95	2.96	0.7%
Geothermal	0.31	0.31	0.57	0.57	0.58	0.65	0.73	3.2%
Biogenic Municipal Waste ⁸	0.17	0.17	0.31	0.31	0.31	0.31	0.31	2.3%
Biomass	0.21	0.22	0.50	0.91	1.14	1.18	1.11	6.1%
Dedicated Plants	0.14	0.14	0.30	0.31	0.33	0.47	0.74	6.3%
Cofiring	0.07	0.08	0.21	0.61	0.81	0.71	0.37	5.8%
Solar Thermal	0.01	0.01	0.02	0.02	0.02	0.02	0.02	3.6%
Solar Photovoltaic	0.00	0.00	0.00	0.01	0.01	0.01	0.01	14.2%
Wind	0.34	0.51	1.94	1.94	1.99	2.01	2.12	5.4%
Total Marketed Renewable Energy	6.62	7.68	10.68	11.72	13.16	14.44	16.10	2.8%
Sources of Ethanol								
From Corn	0.55	0.78	1.17	1.19	1.26	1.28	1.49	2.4%
From Cellulose	0.00	0.00	0.02	0.12	0.16	0.16	0.43	--
Imports	0.03	0.06	0.05	0.07	0.14	0.32	0.43	7.4%
Total	0.58	0.84	1.23	1.38	1.56	1.76	2.35	3.9%

Table A17. Renewable Energy, Consumption by Sector and Source¹ (Continued)
(Quadrillion Btu per Year)

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Nonmarketed Renewable Energy⁹								
Selected Consumption								
Residential	0.01	0.01	0.07	0.09	0.09	0.10	0.11	10.4%
Solar Hot Water Heating	0.00	0.00	0.00	0.00	0.00	0.01	0.01	2.1%
Geothermal Heat Pumps	0.00	0.00	0.02	0.03	0.03	0.04	0.04	9.5%
Solar Photovoltaic	0.00	0.00	0.04	0.05	0.05	0.05	0.05	19.0%
Wind	0.00	0.00	0.01	0.01	0.01	0.01	0.01	19.2%
Commercial	0.03	0.03	0.04	0.04	0.04	0.05	0.05	2.3%
Solar Thermal	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.7%
Solar Photovoltaic	0.00	0.00	0.01	0.01	0.01	0.01	0.02	6.4%
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.3%

¹Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 9,884 Btu per kilowatthour.

²Includes nonelectric renewable energy groups for which the energy source is bought and sold in the marketplace, although all transactions may not necessarily be marketed, and marketed renewable energy inputs for electricity entering the marketplace on the electric power grid. Excludes electricity imports; see Table A2.

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

⁴Includes 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.

⁵The energy content of biofuels feedstock minus the energy content of liquid fuel produced.

⁶Excludes motor gasoline component of E85.

⁷Includes 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.

⁸Includes 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 that in 2007 approximately 0.3 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).

⁹Includes 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 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 ethanol: Energy Information Administration (EIA), *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 and 2008 electric power sector: EIA, Form EIA-860, "Annual Electric Generator Report" (preliminary). Other 2007 and 2008 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

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

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Residential								
Petroleum	87	80	72	67	63	60	58	-1.2%
Natural Gas	257	265	257	263	267	267	266	0.0%
Coal	1	1	1	1	1	1	0	-1.2%
Electricity ¹	891	875	824	844	885	927	965	0.4%
Total	1235	1220	1153	1175	1216	1255	1289	0.2%
Commercial								
Petroleum	44	41	40	38	38	38	37	-0.4%
Natural Gas	164	170	176	182	188	194	201	0.6%
Coal	7	6	6	6	6	6	6	0.0%
Electricity ¹	856	858	862	903	961	1022	1086	0.9%
Total	1071	1075	1085	1130	1194	1261	1331	0.8%
Industrial²								
Petroleum	417	385	397	390	387	391	390	0.0%
Natural Gas ³	404	409	420	429	430	423	423	0.1%
Coal	177	172	171	181	186	189	188	0.3%
Electricity ¹	658	623	586	591	582	576	574	-0.3%
Total	1655	1589	1574	1590	1586	1578	1575	-0.0%
Transportation								
Petroleum ⁴	1985	1889	1879	1914	1970	2028	2065	0.3%
Natural Gas ⁵	35	36	35	38	44	47	50	1.2%
Electricity ¹	4	4	4	5	6	8	9	3.0%
Total	2025	1929	1918	1957	2021	2083	2125	0.4%
Electric Power⁶								
Petroleum	55	40	35	36	37	37	38	-0.2%
Natural Gas	372	362	283	308	342	384	404	0.4%
Coal	1971	1946	1947	1987	2043	2100	2180	0.4%
Other ⁷	12	12	12	12	12	12	12	0.0%
Total	2409	2359	2277	2343	2434	2533	2634	0.4%
Total by Fuel								
Petroleum ³	2589	2436	2422	2445	2496	2554	2588	0.2%
Natural Gas	1232	1242	1171	1220	1272	1315	1345	0.3%
Coal	2155	2125	2125	2175	2236	2296	2376	0.4%
Other ⁷	12	12	12	12	12	12	12	0.0%
Total	5986	5814	5731	5851	6016	6176	6320	0.3%
Carbon Dioxide Emissions								
(tons per person)	19.8	19.0	17.5	17.1	16.8	16.5	16.2	-0.6%

¹Emissions from the electric power sector are distributed to the end-use sectors.

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

³Includes lease and plant fuel.

⁴This 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 2008, international bunker fuels accounted for 86 to 130 million metric tons annually.

⁵Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.

⁶Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

⁷Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2008*, DOE/EIA-0573(2008) (Washington, DC, December 2009). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Table A19. Energy-Related Carbon Dioxide Emissions by End Use
(Million Metric Tons)

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Residential								
Space Heating	282.53	289.92	267.63	266.98	265.74	262.58	259.98	-0.4%
Space Cooling	170.72	144.00	143.47	146.33	152.90	159.15	164.77	0.5%
Water Heating	165.45	164.53	163.75	168.19	171.03	169.05	164.76	0.0%
Refrigeration	71.48	69.90	62.10	62.69	64.97	68.33	71.63	0.1%
Cooking	32.94	33.04	33.42	34.70	36.00	37.42	38.75	0.6%
Clothes Dryers	53.45	52.99	50.92	51.42	53.25	55.63	57.68	0.3%
Freezers	15.15	14.86	13.63	13.90	14.43	15.01	15.59	0.2%
Lighting	136.32	134.71	97.95	89.78	86.20	85.58	86.49	-1.6%
Clothes Washers ¹	6.47	6.31	5.16	4.55	4.50	4.70	4.89	-0.9%
Dishwashers ¹	17.51	17.21	15.78	16.18	17.30	18.50	19.64	0.5%
Color Televisions and Set-Top Boxes	60.76	64.14	67.57	69.81	73.77	78.24	82.98	1.0%
Personal Computers and Related Equipment ..	28.48	31.17	32.95	32.35	32.54	34.37	35.28	0.5%
Furnace Fans and Boiler Circulation Pumps ...	24.13	25.62	25.89	27.45	29.76	30.87	31.66	0.8%
Other Uses	169.99	174.12	173.01	190.90	213.54	235.34	255.39	1.4%
Discrepancy ²	0.10	-2.18	0.00	-0.00	0.00	-0.00	0.00	--
Total Residential	1235.49	1220.34	1153.24	1175.21	1215.92	1254.76	1289.49	0.2%
Commercial								
Space Heating ³	119.84	125.84	121.41	121.42	121.61	120.35	118.90	-0.2%
Space Cooling ³	105.04	94.70	96.71	99.04	103.14	107.54	112.17	0.6%
Water Heating ³	42.73	42.01	42.97	44.75	46.76	47.98	49.01	0.6%
Ventilation	91.87	91.92	95.19	99.08	104.51	109.07	112.97	0.8%
Cooking	13.12	13.12	13.82	14.39	15.11	15.67	16.21	0.8%
Lighting	198.68	193.19	178.58	181.18	187.41	193.09	198.73	0.1%
Refrigeration	75.22	75.18	61.97	59.05	59.64	61.46	64.10	-0.6%
Office Equipment (PC)	40.01	41.96	41.43	40.61	40.81	42.38	43.03	0.1%
Office Equipment (non-PC)	40.90	44.17	54.90	62.10	67.50	72.73	76.91	2.1%
Other Uses ⁴	343.32	353.26	377.86	408.02	447.10	490.32	538.70	1.6%
Total Commercial	1070.73	1075.35	1084.84	1129.64	1193.59	1260.59	1330.73	0.8%
Industrial								
Manufacturing								
Refining	252.93	266.30	287.20	295.60	310.27	324.85	341.97	0.9%
Food Products	100.43	100.19	101.47	106.04	111.96	117.46	123.83	0.8%
Paper Products	93.07	88.60	80.84	80.66	80.11	79.37	79.15	-0.4%
Bulk Chemicals	321.82	294.24	285.03	279.21	268.46	255.48	241.94	-0.7%
Glass	17.20	17.33	16.59	18.45	19.38	20.04	19.85	0.5%
Cement Manufacturing	41.63	38.73	36.68	38.40	38.33	37.77	35.74	-0.3%
Iron and Steel	140.11	126.80	113.79	122.17	115.24	101.27	80.51	-1.7%
Aluminum	43.56	42.47	40.33	38.33	35.67	32.69	29.63	-1.3%
Fabricated Metal Products	44.84	43.35	40.36	40.19	38.63	36.81	34.90	-0.8%
Machinery	22.56	21.59	21.82	22.48	22.11	21.79	21.01	-0.1%
Computers and Electronics	24.90	23.78	28.34	31.59	31.44	31.11	32.81	1.2%
Transportation Equipment	45.37	41.17	45.61	42.50	41.93	44.66	49.17	0.7%
Electrical Equipment	17.76	17.28	15.95	16.59	16.88	17.40	17.88	0.1%
Wood Products	17.37	16.29	18.70	18.27	17.08	16.24	15.99	-0.1%
Plastics	42.78	40.47	39.58	40.16	41.45	42.79	44.24	0.3%
Balance of Manufacturing	172.70	162.15	145.06	146.22	144.04	143.54	146.95	-0.4%
Total Manufacturing	1399.03	1340.74	1317.36	1336.84	1333.00	1323.26	1315.57	-0.1%
Nonmanufacturing								
Agriculture	85.24	88.58	83.41	82.05	82.07	82.66	84.24	-0.2%
Mining	74.41	68.80	74.07	74.84	72.04	70.60	69.96	0.1%
Construction	82.70	81.80	74.71	72.45	70.91	69.66	69.22	-0.6%
Total Nonmanufacturing	242.34	239.17	232.19	229.34	225.02	222.92	223.42	-0.3%
Discrepancy ²	14.11	9.36	24.74	23.72	27.60	31.73	36.48	--
Total Industrial	1655.48	1589.27	1574.29	1589.91	1585.62	1577.91	1575.47	-0.0%

Table A19. Energy-Related Carbon Dioxide Emissions by End Use (Continued)
(Million Metric Tons)

Sector and Source	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Transportation								
Light-Duty Vehicles	1150.40	1098.07	1070.56	1061.28	1081.68	1101.06	1097.22	-0.0%
Commercial Light Trucks ⁵	45.87	42.64	43.46	44.64	45.31	46.61	48.17	0.5%
Bus Transportation	18.70	18.05	19.03	19.96	20.91	21.78	22.69	0.9%
Freight Trucks	361.62	338.57	346.46	369.91	392.68	421.14	454.26	1.1%
Rail, Passenger	5.83	5.84	5.96	6.33	6.70	7.08	7.45	0.9%
Rail, Freight	43.83	41.62	42.23	44.92	46.97	48.41	49.82	0.7%
Shipping, Domestic	22.22	21.78	21.61	22.49	23.21	23.83	24.46	0.4%
Shipping, International	75.26	70.49	70.83	71.35	71.84	72.30	72.76	0.1%
Recreational Boats	17.66	17.00	17.39	17.99	18.62	19.19	19.70	0.5%
Air	194.85	187.28	197.09	211.87	221.07	227.35	232.61	0.8%
Military Use	50.57	50.30	46.94	47.90	49.00	50.03	51.05	0.1%
Lubricants	5.65	5.20	5.30	5.41	5.49	5.60	5.70	0.3%
Pipeline Fuel	33.97	34.21	32.57	33.65	38.05	39.09	39.52	0.5%
Discrepancy ²	-1.77	-1.64	-1.06	-0.99	-0.90	-0.81	-0.73	--
Total Transportation	2024.67	1929.42	1918.35	1956.71	2020.64	2082.65	2124.70	0.4%

¹Does not include water heating portion of load.

²Represents differences between total emissions by end-use and total emissions by fuel as reported in Table A18. Emissions by fuel may reflect benchmarking and other modeling adjustments to energy use and the associated emissions that are not assigned to specific end uses.

³Includes emissions related to fuel consumption for district services.

⁴Includes 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 emissions from residual fuel oil, liquefied petroleum gases, coal, motor gasoline, and kerosene.

⁵Commercial trucks 8,500 to 10,000 pounds.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2008*, DOE/EIA-0573(2008) (Washington, DC, December 2009). Projections: EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Table A20. Macroeconomic Indicators
(Billion 2000 Chain-Weighted Dollars, Unless Otherwise Noted)

Indicators	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Real Gross Domestic Product	11524	11652	13289	15416	17561	19883	22362	2.4%
Components of Real Gross Domestic Product								
Real Consumption	8253	8272	9343	10776	12348	14082	15932	2.5%
Real Investment	1810	1689	2178	2600	2988	3486	4104	3.3%
Real Government Spending	2012	2070	2085	2202	2319	2446	2569	0.8%
Real Exports	1426	1514	2000	2839	3773	4882	6211	5.4%
Real Imports	1972	1904	2240	2822	3574	4591	5881	4.3%
Energy Intensity (thousand Btu per 2000 dollar of GDP)								
Delivered Energy	6.41	6.23	5.52	4.89	4.43	4.02	3.68	-1.9%
Total Energy	8.82	8.59	7.65	6.81	6.16	5.59	5.12	-1.9%
Price Indices								
GDP Chain-type Price Index (2000=1.000)	1.198	1.225	1.365	1.497	1.662	1.849	2.059	1.9%
Consumer Price Index (1982-4=1.00)								
All-urban	2.07	2.15	2.43	2.72	3.07	3.46	3.92	2.2%
Energy Commodities and Services	2.08	2.36	2.41	2.81	3.23	3.79	4.46	2.4%
Wholesale Price Index (1982=1.00)								
All Commodities	1.73	1.90	1.93	2.09	2.24	2.42	2.62	1.2%
Fuel and Power	1.78	2.14	2.04	2.38	2.76	3.29	3.92	2.3%
Metals and Metal Products	1.93	2.13	2.19	2.30	2.36	2.41	2.45	0.5%
Interest Rates (percent, nominal)								
Federal Funds Rate	5.02	1.93	4.72	5.10	5.07	5.19	5.19	--
10-Year Treasury Note	4.63	3.67	5.44	5.74	5.84	5.90	5.89	--
AA Utility Bond Rate	5.94	6.19	7.22	7.59	7.79	8.05	8.30	--
Value of Shipments (billion 2000 dollars)								
Service Sectors	19128	18812	20956	23808	27205	31356	36289	2.5%
Total Industrial	5652	5408	6044	6651	6997	7401	7786	1.4%
Nonmanufacturing	1436	1394	1547	1644	1673	1722	1776	0.9%
Manufacturing	4215	4014	4497	5006	5324	5680	6010	1.5%
Energy-Intensive	1238	1230	1315	1406	1467	1515	1542	0.8%
Non-energy Intensive	2977	2784	3182	3600	3856	4164	4468	1.8%
Total Shipments	24779	24220	27001	30458	34202	38757	44074	2.2%
Population and Employment (millions)								
Population, with Armed Forces Overseas . .	302.4	305.4	326.7	342.6	358.6	374.7	390.7	0.9%
Population, aged 16 and over	237.2	240.0	257.4	270.3	283.6	297.2	310.7	1.0%
Population, over age 65	38.0	38.8	47.0	55.0	64.2	72.3	77.7	2.6%
Employment, Nonfarm	137.5	137.0	142.5	151.0	157.4	165.2	171.4	0.8%
Employment, Manufacturing	13.9	13.4	12.2	12.1	11.3	11.4	12.8	-0.2%
Key Labor Indicators								
Labor Force (millions)	153.1	154.3	161.4	167.2	171.4	176.6	183.4	0.6%
Nonfarm Labor Productivity (1992=1.00) . . .	1.37	1.41	1.57	1.75	1.96	2.17	2.39	2.0%
Unemployment Rate (percent)	4.63	5.81	7.32	5.28	5.31	5.36	5.49	--
Key Indicators for Energy Demand								
Real Disposable Personal Income	8644	8753	10091	11967	13974	16069	18168	2.7%
Housing Starts (millions)	1.44	0.98	1.88	2.03	1.89	1.78	1.70	2.0%
Commercial Floorspace (billion square feet)	77.3	78.8	85.1	91.1	97.5	103.9	110.5	1.3%
Unit Sales of Light-Duty Vehicles (millions)	16.09	13.13	17.25	17.43	17.92	19.00	20.09	1.6%

GDP = Gross domestic product.

Btu = British thermal unit.

-- = Not applicable.

Sources: 2007 and 2008: IHS Global Insight Industry and Employment models, August 2009. **Projections:** Energy Information Administration, AEO2010 National Energy Modeling System run AEO2010R.D111809A.

Reference Case

Table A21. International Liquids Supply and Disposition Summary
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Crude Oil Prices (2008 dollars per barrel)¹								
Imported Low Sulfur Light Crude Oil	73.93	99.57	94.52	108.28	115.09	123.50	133.22	1.1%
Imported Crude Oil	68.69	92.61	86.88	98.14	104.49	111.49	121.37	1.0%
Crude Oil Prices (nominal dollars per barrel)¹								
Imported Low Sulfur Light Crude Oil	72.32	99.57	105.33	132.33	156.20	186.40	223.88	3.0%
Imported Crude Oil	67.19	92.61	96.82	119.94	141.80	168.28	203.97	3.0%
Conventional Production (Conventional)²								
OPEC ³								
Middle East	23.06	24.24	25.42	26.57	27.87	29.50	30.94	0.9%
North Africa	4.02	4.06	4.42	4.31	4.32	4.33	4.53	0.4%
West Africa	4.12	4.18	5.30	5.65	5.87	6.09	6.43	1.6%
South America	2.58	2.50	2.14	2.37	2.60	2.63	2.75	0.4%
Total OPEC	33.78	34.98	37.28	38.90	40.65	42.56	44.64	0.9%
Non-OPEC								
OECD								
United States (50 states)	8.14	7.68	8.83	9.37	9.32	9.34	9.14	0.6%
Canada	2.05	1.84	1.52	1.23	1.10	1.01	1.02	-2.2%
Mexico	3.50	3.19	2.12	1.76	1.88	2.08	2.21	-1.3%
OECD Europe ⁴	5.23	4.96	3.66	3.11	2.95	2.88	2.96	-1.9%
Japan	0.13	0.13	0.14	0.15	0.16	0.17	0.17	1.0%
Australia and New Zealand	0.63	0.65	0.57	0.55	0.54	0.55	0.57	-0.5%
Total OECD	19.69	18.46	16.83	16.18	15.96	16.04	16.08	-0.5%
Non-OECD								
Russia	9.87	9.79	9.71	10.92	11.63	12.03	12.68	1.0%
Other Europe and Eurasia ⁵	2.88	2.88	4.22	4.42	4.63	4.98	5.27	2.3%
China	3.91	3.97	3.62	3.46	3.27	3.15	3.27	-0.7%
Other Asia ⁶	3.75	3.76	3.66	3.62	3.56	3.38	3.49	-0.3%
Middle East	1.52	1.54	1.63	1.36	1.30	1.26	1.31	-0.6%
Africa	2.41	2.39	2.49	2.52	2.63	2.70	2.84	0.6%
Brazil	1.94	1.95	3.08	3.93	4.44	4.88	5.18	3.7%
Other Central and South America	1.79	1.82	1.68	1.65	1.82	2.11	2.28	0.8%
Total Non-OECD	28.08	28.09	30.09	31.88	33.28	34.50	36.32	1.0%
Total Conventional Production	81.55	81.53	84.21	86.96	89.89	93.09	97.05	0.6%
Unconventional Production⁷								
United States (50 states)	0.46	0.66	1.14	1.34	1.72	2.11	2.86	5.6%
Other North America	1.39	1.53	2.88	3.49	4.10	4.57	4.84	4.4%
OECD Europe ⁴	0.16	0.25	0.40	0.48	0.56	0.61	0.64	3.6%
Middle East	0.00	0.00	0.10	0.20	0.21	0.22	0.23	15.2%
Africa	0.22	0.23	0.35	0.49	0.57	0.65	0.70	4.3%
Central and South America	0.94	1.09	1.48	1.95	2.41	2.81	3.10	3.9%
Other	0.28	0.23	0.36	0.67	1.23	1.82	2.28	8.9%
Total Unconventional Production	3.46	3.98	6.71	8.61	10.79	12.79	14.65	4.9%
Total Production	85.01	85.51	90.92	95.57	100.68	105.88	111.69	1.0%

Table A21. International Liquids Supply and Disposition Summary (Continued)
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	Reference Case							Annual Growth 2008-2035 (percent)
	2007	2008	2015	2020	2025	2030	2035	
Consumption⁸								
OECD								
United States (50 states)	20.65	19.53	20.18	20.56	20.99	21.48	22.06	0.5%
United States Territories	0.39	0.40	0.49	0.53	0.57	0.62	0.62	1.6%
Canada	2.40	2.40	2.34	2.37	2.45	2.55	2.65	0.4%
Mexico	1.62	1.61	1.65	1.81	1.88	1.95	2.02	0.8%
OECD Europe ³	15.30	15.30	14.36	14.57	14.58	14.58	14.59	-0.2%
Japan	5.00	4.90	4.88	4.99	4.85	4.72	4.59	-0.2%
South Korea	2.83	2.83	2.75	2.59	2.63	2.65	2.67	-0.2%
Australia and New Zealand	1.05	1.05	1.10	1.18	1.24	1.30	1.37	1.0%
Total OECD	49.24	48.03	47.75	48.60	49.20	49.84	50.55	0.2%
Non-OECD								
Russia	2.66	2.71	2.70	2.72	2.70	2.67	2.64	-0.1%
Other Europe and Eurasia ⁵	2.34	2.39	2.34	2.32	2.41	2.50	2.59	0.3%
China	7.60	8.00	10.42	12.36	14.21	15.77	17.50	2.9%
India	2.33	2.37	3.06	3.80	4.18	4.57	5.00	2.8%
Other Asia ⁶	6.68	6.73	7.19	7.66	8.50	9.40	10.40	1.6%
Middle East	6.30	6.61	7.62	8.18	9.01	10.06	11.23	2.0%
Africa	3.09	3.24	3.53	3.57	3.70	3.79	3.89	0.7%
Brazil	2.27	2.38	2.86	3.11	3.49	3.94	4.45	2.3%
Other Central and South America	3.44	3.57	3.45	3.25	3.28	3.34	3.44	-0.1%
Total Non-OECD	36.71	38.00	43.17	46.97	51.48	56.04	61.14	1.8%
Total Consumption	85.95	86.03	90.92	95.57	100.68	105.88	111.69	1.0%
OPEC Production ⁹	34.39	35.63	38.11	39.97	41.91	44.04	46.26	1.0%
Non-OPEC Production ⁹	50.62	49.88	52.80	55.60	58.77	61.84	65.43	1.0%
Net Eurasia Exports	9.70	9.52	11.96	14.23	15.58	16.72	17.90	2.4%
OPEC Market Share (percent)	40.5	41.7	41.9	41.8	41.6	41.6	41.4	--

¹Weighted average price delivered to U.S. refiners.

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

³OPEC = Organization of Petroleum Exporting Countries - Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.

⁴OECD 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.

⁵Other Europe and Eurasia = Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Malta, Moldova, Montenegro, Romania, Serbia, Slovenia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

⁶Other 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.

⁷Includes liquids produced from energy crops, natural gas, coal, extra-heavy oil, oil sands, and shale. Includes both OPEC and non-OPEC producers in the regional breakdown.

⁸Includes both OPEC and non-OPEC consumers in the regional breakdown.

⁹Includes both conventional and unconventional liquids production.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2007 and 2008 are model results and may differ slightly from official EIA data reports.

Sources: 2007 and 2008 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2007 and 2008 imported crude oil price: EIA, *Annual Energy Review 2008*, DOE/EIA-0384(2008) (Washington, DC, June 2009). 2007 quantities derived from: EIA, *International Energy Annual 2007*, DOE/EIA-0219(2007) (Washington, DC, August 2009). **2008 quantities and projections:** EIA, AEO2010 National Energy Modeling System run AEO2010R.D111809A and EIA, Generate World Oil Balance Model.

