Table A1. Total energy supply, disposition, and price summary
(quadrillion Btu per year, unless otherwise noted)

Supply, disposition, and prices	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Production								
Crude oil and lease condensate	11.35	11.59	13.46	14.46	13.80	13.69	13.15	0.5%
Natural gas plant liquids	2.57	2.78	3.30	3.63	3.68	3.71	3.65	1.1%
Dry natural gas	21.09	22.10	24.23	25.81	26.63	27.43	28.51	1.0%
Coal[1]	21.63	22.08	20.50	21.18	22.51	22.78	23.51	0.3%
Nuclear / uranium[2]	8.36	8.44	8.68	9.28	9.60	9.55	9.35	0.4%
Hydropower	2.67	2.51	2.90	2.94	2.97	3.01	3.06	0.8%
Biomass[3]	3.72	4.05	4.40	5.44	6.73	8.36	9.68	3.5%
Other renewable energy[4]	1.11	1.34	1.91	1.97	2.13	2.34	2.80	3.0%
Other[5]	0.47	0.64	0.61	0.66	0.76	0.86	0.88	1.3%
Total	**72.97**	**75.52**	**80.00**	**85.39**	**88.79**	**91.73**	**94.59**	**0.9%**
Imports								
Crude oil	19.70	20.14	18.76	16.54	16.48	16.17	16.71	-0.7%
Liquid fuels and other petroleum[6]	5.40	5.02	4.37	4.30	4.23	4.17	4.35	-0.6%
Natural gas[7]	3.85	3.81	3.70	3.51	2.77	2.98	2.83	-1.2%
Other imports[8]	0.61	0.52	0.39	1.03	1.39	1.78	1.95	5.4%
Total	**29.56**	**29.49**	**27.22**	**25.38**	**24.86**	**25.10**	**25.84**	**-0.5%**
Exports								
Liquid fuels and other petroleum[9]	4.20	4.81	4.99	4.41	4.39	4.61	4.84	0.0%
Natural gas[10]	1.08	1.15	1.93	3.16	3.57	3.92	4.22	5.3%
Coal	1.51	2.10	2.73	2.41	2.82	2.96	3.24	1.8%
Total	**6.79**	**8.06**	**9.65**	**9.97**	**10.78**	**11.48**	**12.31**	**1.7%**
Discrepancy[11]	**1.04**	**-1.22**	**-0.09**	**-0.14**	**-0.05**	**0.06**	**0.16**	**- -**
Consumption								
Liquid fuels and other petroleum[12]	36.49	37.25	36.89	37.15	37.04	37.31	38.00	0.1%
Natural gas	23.42	24.71	25.99	26.13	25.80	26.49	27.11	0.4%
Coal[13]	19.62	20.76	18.01	19.42	20.60	21.04	21.57	0.2%
Nuclear / uranium[2]	8.36	8.44	8.68	9.28	9.60	9.55	9.35	0.4%
Hydropower	2.67	2.51	2.90	2.94	2.97	3.01	3.06	0.8%
Biomass[14]	2.72	2.88	2.99	3.75	4.52	5.29	5.85	2.9%
Other renewable energy[4]	1.11	1.34	1.91	1.97	2.13	2.34	2.80	3.0%
Other[15]	0.32	0.29	0.30	0.29	0.28	0.25	0.24	-0.6%
Total	**94.70**	**98.16**	**97.66**	**100.93**	**102.93**	**105.29**	**107.97**	**0.4%**
Prices (2010 dollars per unit)								
Petroleum (dollars per barrel)								
Imported low sulfur light crude oil[16]	62.37	79.39	116.55	126.58	132.50	138.51	144.56	2.4%
Imported crude oil[16]	59.72	75.87	113.62	115.96	121.23	126.50	132.69	2.3%
Natural gas (dollars per million Btu)								
at Henry hub	4.00	4.39	4.27	4.80	5.75	6.19	7.23	2.0%
at the wellhead[17]	3.75	4.06	3.83	4.28	5.10	5.48	6.36	1.8%
Natural gas (dollars per thousand cubic feet)								
at the wellhead[17]	3.85	4.16	3.92	4.38	5.23	5.61	6.52	1.8%
Coal (dollars per ton)								
at the minemouth[18]	33.62	35.61	41.78	40.91	43.87	46.27	49.24	1.3%
Coal (dollars per million Btu)								
at the minemouth[18]	1.68	1.76	2.07	2.06	2.22	2.36	2.51	1.4%
Average end-use[19]	2.32	2.38	2.55	2.63	2.72	2.84	2.96	0.9%
Average electricity (cents per kilowatthour)	9.9	9.8	9.4	9.2	9.3	9.2	9.5	-0.1%

Table A1. Total energy supply and disposition summary (continued)
(quadrillion Btu per year, unless otherwise noted)

Supply, disposition, and prices	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Prices (nominal dollars per unit)								
Petroleum (dollars per barrel)								
Imported low sulfur light crude oil[16]	61.65	79.39	125.62	150.42	174.17	200.75	229.46	4.3%
Imported crude oil[16]	59.04	75.87	122.46	137.79	159.35	183.34	210.62	4.2%
Natural gas (dollars per million Btu)								
at Henry hub	3.95	4.39	4.61	5.70	7.56	8.98	11.48	3.9%
at the wellhead[17]	3.71	4.06	4.13	5.09	6.71	7.94	10.10	3.7%
Natural gas (dollars per thousand cubic feet)								
at the wellhead[17]	3.80	4.16	4.23	5.21	6.87	8.13	10.34	3.7%
Coal (dollars per ton)								
at the minemouth[18]	33.24	35.61	45.03	48.62	57.67	67.06	78.16	3.2%
Coal (dollars per million Btu)								
at the minemouth[18]	1.66	1.76	2.23	2.45	2.92	3.42	3.98	3.3%
Average end-use[19]	2.30	2.38	2.75	3.12	3.57	4.12	4.69	2.8%
Average electricity (cents per kilowatthour)	9.8	9.8	10.1	11.0	12.2	13.3	15.1	1.8%

[1]Includes waste coal.
[2]These values represent the energy obtained from uranium when it is used in light water reactors. The total energy content of uranium is much larger, but alternative processes are required to take advantage of it.
[3]Includes 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.
[4]Includes grid-connected electricity from landfill gas; biogenic municipal waste; wind; photovoltaic and solar thermal sources; and non-electric energy from renewable sources, such as active and passive solar systems. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table A17 for selected nonmarketed residential and commercial renewable energy data.
[5]Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.
[6]Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.
[7]Includes imports of liquefied natural gas that is later re-exported.
[8]Includes coal, coal coke (net), and electricity (net). Excludes imports of fuel used in nuclear power plants.
[9]Includes crude oil, petroleum products, ethanol, and biodiesel.
[10]Includes re-exported liquefied natural gas and natural gas used for liquefaction at export terminals.
[11]Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.
[12]Includes 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.
[13]Excludes coal converted to coal-based synthetic liquids and natural gas.
[14]Includes grid-connected electricity from wood and wood waste, non-electric energy from wood, and biofuels heat and coproducts used in the production of liquid fuels, but excludes the energy content of the liquid fuels.
[15]Includes non-biogenic municipal waste and net electricity imports.
[16]Weighted average price delivered to U.S. refiners.
[17]Represents lower 48 onshore and offshore supplies.
[18]Includes reported prices for both open market and captive mines.
[19]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 natural gas supply values: U.S. Energy Information Administration (EIA), *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2010 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). 2009 natural gas wellhead price: U.S. Department of the Interior, Office of Natural Resources Revenue; and EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2009 and 2010 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2010*, DOE/EIA-0584(2010) (Washington, DC, November 2011). 2010 petroleum supply values and 2009 crude oil and lease condensate production: EIA, *Petroleum Supply Annual 2010,* DOE/EIA-0340(2010)/1 (Washington, DC, July 2011). Other 2009 petroleum supply values: EIA, *Petroleum Supply Annual 2009,* DOE/EIA-0340(2009)/1 (Washington, DC, July 2010). 2009 and 2010 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2009 and 2010 coal values: *Quarterly Coal Report, October-December 2010*, DOE/EIA-0121(2010/4Q) (Washington, DC, May 2011). Other 2009 and 2010 values: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A2. Energy consumption by sector and source
(quadrillion Btu per year, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Energy consumption								
Residential								
Liquefied petroleum gases	0.51	0.56	0.51	0.50	0.50	0.51	0.51	-0.4%
Kerosene	0.03	0.03	0.02	0.02	0.02	0.02	0.02	-1.7%
Distillate fuel oil	0.60	0.63	0.55	0.48	0.43	0.38	0.35	-2.3%
Liquid fuels and other petroleum subtotal	1.14	1.22	1.08	1.01	0.95	0.91	0.87	-1.3%
Natural gas	4.90	5.06	4.99	4.95	4.88	4.84	4.76	-0.2%
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-1.1%
Renewable energy[1]	0.43	0.42	0.43	0.43	0.43	0.44	0.44	0.1%
Electricity	4.66	4.95	4.79	5.02	5.30	5.63	5.94	0.7%
Delivered energy	**11.13**	**11.66**	**11.30**	**11.42**	**11.58**	**11.83**	**12.02**	**0.1%**
Electricity related losses	9.80	10.39	9.68	10.15	10.70	11.12	11.56	0.4%
Total	**20.93**	**22.05**	**20.98**	**21.56**	**22.28**	**22.95**	**23.58**	**0.3%**
Commercial								
Liquefied petroleum gases	0.13	0.14	0.14	0.14	0.15	0.15	0.16	0.4%
Motor gasoline[2]	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.4%
Kerosene	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.7%
Distillate fuel oil	0.41	0.43	0.35	0.34	0.33	0.33	0.32	-1.2%
Residual fuel oil	0.08	0.08	0.08	0.08	0.08	0.08	0.08	-0.0%
Liquid fuels and other petroleum subtotal	0.68	0.72	0.62	0.62	0.62	0.62	0.62	-0.6%
Natural gas	3.20	3.29	3.41	3.48	3.50	3.58	3.65	0.4%
Coal	0.07	0.06	0.06	0.06	0.06	0.06	0.06	-0.0%
Renewable energy[3]	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.0%
Electricity	4.46	4.54	4.63	4.93	5.23	5.57	5.89	1.0%
Delivered energy	**8.51**	**8.71**	**8.84**	**9.20**	**9.52**	**9.93**	**10.33**	**0.7%**
Electricity related losses	9.39	9.52	9.35	9.95	10.54	10.99	11.45	0.7%
Total	**17.90**	**18.22**	**18.19**	**19.15**	**20.06**	**20.92**	**21.78**	**0.7%**
Industrial[4]								
Liquefied petroleum gases	2.00	2.00	1.88	2.12	2.20	2.21	2.20	0.4%
Motor gasoline[2]	0.24	0.25	0.28	0.29	0.29	0.28	0.28	0.6%
Distillate fuel oil	1.11	1.16	1.18	1.19	1.18	1.16	1.18	0.1%
Residual fuel oil	0.11	0.12	0.08	0.08	0.08	0.08	0.08	-1.3%
Petrochemical feedstocks	0.90	0.94	1.04	1.22	1.27	1.28	1.27	1.2%
Other petroleum[5]	3.57	3.59	3.46	3.30	3.20	3.19	3.25	-0.4%
Liquid fuels and other petroleum subtotal	7.93	8.05	7.92	8.20	8.22	8.21	8.26	0.1%
Natural gas	6.32	6.77	7.14	7.41	7.30	7.18	7.18	0.2%
Natural-gas-to-liquids heat and power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Lease and plant fuel[6]	1.31	1.37	1.42	1.47	1.47	1.50	1.54	0.5%
Natural gas subtotal	7.63	8.14	8.57	8.87	8.77	8.67	8.72	0.3%
Metallurgical coal	0.40	0.55	0.54	0.51	0.49	0.45	0.42	-1.1%
Other industrial coal	0.94	1.01	0.98	0.99	0.99	0.98	0.97	-0.2%
Coal-to-liquids heat and power	0.00	0.00	0.00	0.26	0.36	0.48	0.60	- -
Net coal coke imports	-0.02	-0.01	-0.01	-0.02	-0.03	-0.04	-0.06	9.2%
Coal subtotal	1.32	1.56	1.52	1.74	1.81	1.87	1.94	0.9%
Biofuels heat and coproducts	0.82	0.84	0.81	1.00	1.42	2.21	2.74	4.8%
Renewable energy[7]	1.37	1.50	1.56	1.68	1.78	1.85	1.94	1.0%
Electricity	3.13	3.28	3.42	3.59	3.56	3.49	3.41	0.2%
Delivered energy	**22.20**	**23.37**	**23.79**	**25.09**	**25.57**	**26.30**	**27.01**	**0.6%**
Electricity related losses	6.59	6.89	6.91	7.25	7.18	6.89	6.63	-0.2%
Total	**28.79**	**30.26**	**30.70**	**32.34**	**32.75**	**33.19**	**33.64**	**0.4%**

Table A2. Energy consumption by sector and source (continued)
(quadrillion Btu per year, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Transportation								
Liquefied petroleum gases	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.7%
E85[8]	0.00	0.00	0.01	0.26	0.40	0.90	1.31	27.5%
Motor gasoline[2]	16.84	16.91	16.27	15.58	15.16	14.74	14.66	-0.6%
Jet fuel[9]	2.98	3.07	3.04	3.11	3.20	3.27	3.33	0.3%
Distillate fuel oil[10]	5.53	5.77	6.53	6.91	7.02	7.18	7.42	1.0%
Residual fuel oil	0.81	0.90	0.91	0.92	0.93	0.93	0.94	0.2%
Other petroleum[11]	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.0%
Liquid fuels and other petroleum subtotal	26.36	26.88	26.96	27.00	26.92	27.24	27.90	0.1%
Pipeline fuel natural gas	0.61	0.65	0.69	0.69	0.68	0.67	0.68	0.2%
Compressed natural gas	0.04	0.04	0.06	0.08	0.11	0.14	0.16	5.7%
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	0.06	0.08	5.0%
Delivered energy	**27.03**	**27.59**	**27.73**	**27.81**	**27.75**	**28.11**	**28.82**	**0.2%**
Electricity related losses	0.05	0.05	0.05	0.07	0.09	0.11	0.15	4.7%
Total	**27.08**	**27.63**	**27.79**	**27.87**	**27.84**	**28.23**	**28.97**	**0.2%**
Delivered energy consumption for all sectors								
Liquefied petroleum gases	2.68	2.75	2.57	2.81	2.90	2.92	2.91	0.2%
E85[8]	0.00	0.00	0.01	0.26	0.40	0.90	1.31	27.5%
Motor gasoline[2]	17.13	17.21	16.60	15.92	15.50	15.08	15.01	-0.5%
Jet fuel[9]	2.98	3.07	3.04	3.11	3.20	3.27	3.33	0.3%
Kerosene	0.04	0.04	0.03	0.03	0.03	0.03	0.03	-1.2%
Distillate fuel oil	7.65	7.99	8.61	8.92	8.95	9.05	9.27	0.6%
Residual fuel oil	0.99	1.11	1.07	1.08	1.09	1.10	1.11	0.0%
Petrochemical feedstocks	0.90	0.94	1.04	1.22	1.27	1.28	1.27	1.2%
Other petroleum[12]	3.72	3.76	3.62	3.47	3.37	3.36	3.42	-0.4%
Liquid fuels and other petroleum subtotal	36.10	36.87	36.58	36.83	36.72	36.98	37.66	0.1%
Natural gas	14.46	15.15	15.61	15.92	15.79	15.73	15.76	0.2%
Natural-gas-to-liquids heat and power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Lease and plant fuel[6]	1.31	1.37	1.42	1.47	1.47	1.50	1.54	0.5%
Pipeline natural gas	0.61	0.65	0.69	0.69	0.68	0.67	0.68	0.2%
Natural gas subtotal	16.38	17.17	17.72	18.07	17.94	17.90	17.98	0.2%
Metallurgical coal	0.40	0.55	0.54	0.51	0.49	0.45	0.42	-1.1%
Other coal	1.01	1.08	1.05	1.06	1.05	1.04	1.03	-0.2%
Coal-to-liquids heat and power	0.00	0.00	0.00	0.26	0.36	0.48	0.60	- -
Net coal coke imports	-0.02	-0.01	-0.01	-0.02	-0.03	-0.04	-0.06	9.2%
Coal subtotal	1.39	1.62	1.58	1.81	1.87	1.93	2.00	0.8%
Biofuels heat and coproducts	0.82	0.84	0.81	1.00	1.42	2.21	2.74	4.8%
Renewable energy[13]	1.91	2.03	2.09	2.22	2.33	2.39	2.49	0.8%
Liquid hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Electricity	12.27	12.79	12.88	13.58	14.13	14.75	15.32	0.7%
Delivered energy	**68.87**	**71.33**	**71.66**	**73.52**	**74.42**	**76.18**	**78.18**	**0.4%**
Electricity related losses	25.83	26.84	26.00	27.41	28.51	29.12	29.79	0.4%
Total	**94.70**	**98.16**	**97.66**	**100.93**	**102.93**	**105.29**	**107.97**	**0.4%**
Electric power[14]								
Distillate fuel oil	0.09	0.10	0.09	0.09	0.10	0.10	0.10	0.3%
Residual fuel oil	0.30	0.28	0.22	0.22	0.22	0.23	0.24	-0.7%
Liquid fuels and other petroleum subtotal	0.39	0.38	0.31	0.32	0.32	0.33	0.34	-0.4%
Natural gas	7.04	7.54	8.27	8.06	7.86	8.58	9.13	0.8%
Steam coal	18.23	19.13	16.42	17.61	18.72	19.11	19.57	0.1%
Nuclear / uranium[15]	8.36	8.44	8.68	9.28	9.60	9.55	9.35	0.4%
Renewable energy[16]	3.77	3.85	4.89	5.44	5.87	6.04	6.48	2.1%
Electricity imports	0.12	0.09	0.10	0.09	0.08	0.05	0.04	-3.0%
Total[17]	**38.10**	**39.63**	**38.88**	**40.99**	**42.64**	**43.86**	**45.11**	**0.5%**

Table A2. Energy consumption by sector and source (continued)
(quadrillion Btu per year, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Total energy consumption								
Liquefied petroleum gases	2.68	2.75	2.57	2.81	2.90	2.92	2.91	0.2%
E85[8]	0.00	0.00	0.01	0.26	0.40	0.90	1.31	27.5%
Motor gasoline[2]	17.13	17.21	16.60	15.92	15.50	15.08	15.01	-0.5%
Jet fuel[9]	2.98	3.07	3.04	3.11	3.20	3.27	3.33	0.3%
Kerosene	0.04	0.04	0.03	0.03	0.03	0.03	0.03	-1.2%
Distillate fuel oil	7.74	8.08	8.70	9.01	9.05	9.15	9.37	0.6%
Residual fuel oil	1.29	1.39	1.29	1.30	1.32	1.33	1.34	-0.1%
Petrochemical feedstocks	0.90	0.94	1.04	1.22	1.27	1.28	1.27	1.2%
Other petroleum[12]	3.72	3.76	3.62	3.47	3.37	3.36	3.42	-0.4%
Liquid fuels and other petroleum subtotal	36.49	37.25	36.89	37.15	37.04	37.31	38.00	0.1%
Natural gas	21.50	22.69	23.88	23.98	23.65	24.32	24.89	0.4%
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]	1.31	1.37	1.42	1.47	1.47	1.50	1.54	0.5%
Pipeline natural gas	0.61	0.65	0.69	0.69	0.68	0.67	0.68	0.2%
Natural gas subtotal	23.42	24.71	25.99	26.13	25.80	26.49	27.11	0.4%
Metallurgical coal	0.40	0.55	0.54	0.51	0.49	0.45	0.42	-1.1%
Other coal	19.23	20.21	17.47	18.67	19.78	20.15	20.60	0.1%
Coal-to-liquids heat and power	0.00	0.00	0.00	0.26	0.36	0.48	0.60	- -
Net coal coke imports	-0.02	-0.01	-0.01	-0.02	-0.03	-0.04	-0.06	9.2%
Coal subtotal	19.62	20.76	18.01	19.42	20.60	21.04	21.57	0.2%
Nuclear / uranium[15]	8.36	8.44	8.68	9.28	9.60	9.55	9.35	0.4%
Biofuels heat and coproducts	0.82	0.84	0.81	1.00	1.42	2.21	2.74	4.8%
Renewable energy[18]	5.68	5.88	6.98	7.66	8.19	8.43	8.97	1.7%
Liquid hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Electricity imports	0.12	0.09	0.10	0.09	0.08	0.05	0.04	-3.0%
Total	**94.70**	**98.16**	**97.66**	**100.93**	**102.93**	**105.29**	**107.97**	**0.4%**
Energy use and related statistics								
Delivered energy use	68.87	71.33	71.66	73.52	74.42	76.18	78.18	0.4%
Total energy use	94.70	98.16	97.66	100.93	102.93	105.29	107.97	0.4%
Ethanol consumed in motor gasoline and E85	0.96	1.11	1.23	1.46	1.64	1.94	2.23	2.8%
Population (millions)	307.84	310.83	326.16	342.01	358.06	374.09	390.09	0.9%
Gross domestic product (billion 2005 dollars)	12703	13088	14870	16954	19176	21736	24639	2.6%
Carbon dioxide emissions (million metric tons)	5424.8	5633.6	5433.7	5548.5	5617.5	5695.0	5806.1	0.1%

[1]Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal water heating, and electricity generation from wind and solar photovoltaic sources.
[2]Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
[3]Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal water heating and electricity generation from wind and solar photovoltaic sources.
[4]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[5]Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.
[6]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[7]Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal waste, and other biomass sources. Excludes ethanol blends (10 percent or less) in motor gasoline.
[8]E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
[9]Includes only kerosene type.
[10]Diesel fuel for on- and off- road use.
[11]Includes aviation gasoline and lubricants.
[12]Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.
[13]Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes ethanol and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal water heaters.
[14]Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.
[15]These values represent the energy obtained from uranium when it is used in light water reactors. The total energy content of uranium is much larger, but alternative processes are required to take advantage of it.
[16]Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic, and solar thermal sources. Excludes net electricity imports.
[17]Includes non-biogenic municipal waste not included above.
[18]Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic, and solar thermal sources. Excludes ethanol, net electricity imports, and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal water heaters.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 consumption based on: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 and 2010 population and gross domestic product: IHS Global Insight Industry and Employment models, August 2011. 2009 and 2010 carbon dioxide emissions: EIA, *Monthly Energy Review, October 2011* DOE/EIA-0035(2011/10) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A3. Energy prices by sector and source

(2010 dollars per million Btu, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Residential								
Liquefied petroleum gases	24.84	27.02	30.64	31.19	32.33	33.25	34.55	1.0%
Distillate fuel oil	18.35	21.21	27.17	28.78	30.17	31.53	33.11	1.8%
Natural gas	11.95	11.08	10.28	11.06	12.11	12.66	13.86	0.9%
Electricity	34.01	33.69	33.22	32.46	32.31	31.76	32.47	-0.1%
Commercial								
Liquefied petroleum gases	21.76	23.52	27.36	27.90	29.02	29.93	31.21	1.1%
Distillate fuel oil	16.16	20.77	23.87	25.39	26.87	28.31	29.52	1.4%
Residual fuel oil	13.66	11.07	16.11	17.58	18.23	19.04	18.86	2.2%
Natural gas	9.82	9.10	8.59	9.21	10.12	10.53	11.55	1.0%
Electricity	30.06	29.73	28.07	27.78	27.74	26.98	27.99	-0.2%
Industrial[1]								
Liquefied petroleum gases	20.05	21.80	27.35	27.91	29.27	30.38	31.99	1.5%
Distillate fuel oil	16.74	21.32	24.10	25.62	27.26	28.88	29.89	1.4%
Residual fuel oil	12.16	10.92	19.12	20.45	21.14	21.63	21.99	2.8%
Natural gas[2]	5.33	5.51	4.85	5.30	6.12	6.48	7.41	1.2%
Metallurgical coal	5.49	5.84	7.17	7.54	8.08	8.58	9.05	1.8%
Other industrial coal	2.99	2.93	3.26	3.30	3.38	3.50	3.62	0.8%
Coal to liquids	- -	- -	1.25	2.03	2.11	2.21	2.35	- -
Electricity	20.05	19.63	18.36	18.45	18.84	18.87	20.00	0.1%
Transportation								
Liquefied petroleum gases[3]	25.83	26.89	31.88	32.28	33.41	34.26	35.60	1.1%
E85[4]	20.76	25.21	28.94	27.91	31.86	31.77	32.91	1.1%
Motor gasoline[5]	19.52	22.70	29.17	31.22	32.27	33.62	34.08	1.6%
Jet fuel[6]	12.75	16.22	23.62	25.15	26.47	27.59	29.39	2.4%
Diesel fuel (distillate fuel oil)[7]	18.02	21.87	27.46	29.06	30.50	32.06	32.77	1.6%
Residual fuel oil	10.61	10.42	18.17	19.33	20.31	20.93	21.28	2.9%
Natural gas[8]	14.13	13.21	12.38	12.69	13.32	13.57	14.39	0.3%
Electricity	35.37	32.67	29.97	29.41	30.49	30.69	32.01	-0.1%
Electric power[9]								
Distillate fuel oil	14.67	18.77	22.67	24.11	25.31	26.37	28.13	1.6%
Residual fuel oil	9.03	12.34	22.59	23.86	24.86	25.56	26.03	3.0%
Natural gas	4.85	5.14	4.54	4.91	5.70	6.13	7.08	1.3%
Steam coal	2.22	2.25	2.36	2.46	2.56	2.70	2.83	0.9%
Average price to all users[10]								
Liquefied petroleum gases	16.11	17.29	22.87	23.14	24.21	25.15	26.48	1.7%
E85[4]	20.76	25.21	28.94	27.91	31.86	31.77	32.91	1.1%
Motor gasoline[5]	19.47	22.59	29.17	31.22	32.26	33.62	34.08	1.7%
Jet fuel	12.75	16.22	23.62	25.15	26.47	27.59	29.39	2.4%
Distillate fuel oil	17.73	21.64	26.80	28.40	29.88	31.43	32.26	1.6%
Residual fuel oil	10.55	10.89	18.84	20.06	21.01	21.66	22.01	2.9%
Natural gas	7.37	7.16	6.43	6.95	7.85	8.22	9.18	1.0%
Metallurgical coal	5.49	5.84	7.17	7.54	8.08	8.58	9.05	1.8%
Other coal	2.26	2.29	2.41	2.51	2.61	2.75	2.87	0.9%
Coal to liquids	- -	- -	1.25	2.03	2.11	2.21	2.35	- -
Electricity	29.01	28.67	27.41	27.05	27.22	26.90	27.97	-0.1%
Non-renewable energy expenditures by sector (billion 2010 dollars)								
Residential	240.88	251.69	241.74	247.99	260.34	269.79	288.66	0.5%
Commercial	177.13	179.11	174.58	184.99	197.22	205.36	225.27	0.9%
Industrial	184.39	199.24	221.06	246.03	261.79	267.85	283.68	1.4%
Transportation	479.50	573.77	747.91	790.02	814.47	844.32	871.69	1.7%
Total non-renewable expenditures	1081.91	1203.81	1385.30	1469.03	1533.83	1587.32	1669.31	1.3%
Transportation renewable expenditures	0.07	0.08	0.25	7.35	12.78	28.56	43.16	28.8%
Total expenditures	**1081.98**	**1203.89**	**1385.55**	**1476.38**	**1546.60**	**1615.88**	**1712.46**	**1.4%**

Table A3. Energy prices by sector and source (continued)
(nominal dollars per million Btu, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Residential								
Liquefied petroleum gases	24.55	27.02	33.02	37.06	42.49	48.19	54.85	2.9%
Distillate fuel oil	18.14	21.21	29.29	34.20	39.66	45.70	52.55	3.7%
Natural gas	11.82	11.08	11.08	13.14	15.91	18.35	22.00	2.8%
Electricity	33.62	33.69	35.80	38.58	42.47	46.03	51.54	1.7%
Commercial								
Liquefied petroleum gases	21.51	23.52	29.49	33.16	38.15	43.37	49.53	3.0%
Distillate fuel oil	15.97	20.77	25.73	30.17	35.32	41.04	46.85	3.3%
Residual fuel oil	13.51	11.07	17.36	20.89	23.96	27.60	29.94	4.1%
Natural gas	9.70	9.10	9.26	10.95	13.31	15.25	18.33	2.8%
Electricity	29.71	29.73	30.25	33.01	36.46	39.10	44.43	1.6%
Industrial[1]								
Liquefied petroleum gases	19.82	21.80	29.48	33.17	38.48	44.04	50.78	3.4%
Distillate fuel oil	16.55	21.32	25.98	30.45	35.83	41.86	47.45	3.3%
Residual fuel oil	12.02	10.92	20.60	24.30	27.79	31.34	34.91	4.8%
Natural gas[2]	5.27	5.51	5.23	6.30	8.05	9.39	11.76	3.1%
Metallurgical coal	5.43	5.84	7.73	8.96	10.62	12.44	14.37	3.7%
Other industrial coal	2.96	2.93	3.51	3.92	4.45	5.07	5.74	2.7%
Coal to liquids	- -	- -	1.35	2.41	2.77	3.20	3.73	- -
Electricity	19.83	19.63	19.79	21.92	24.76	27.35	31.74	1.9%
Transportation								
Liquefied petroleum gases[3]	25.54	26.89	34.36	38.36	43.92	49.65	56.52	3.0%
E85[4]	20.52	25.21	31.19	33.17	41.87	46.04	52.25	3.0%
Motor gasoline[5]	19.29	22.70	31.44	37.10	42.41	48.72	54.10	3.5%
Jet fuel[6]	12.61	16.22	25.45	29.89	34.79	39.99	46.65	4.3%
Diesel fuel (distillate fuel oil)[7]	17.82	21.87	29.60	34.53	40.09	46.46	52.01	3.5%
Residual fuel oil	10.49	10.42	19.58	22.97	26.69	30.33	33.78	4.8%
Natural gas[8]	13.97	13.21	13.35	15.08	17.51	19.67	22.84	2.2%
Electricity	34.97	32.67	32.30	34.95	40.08	44.49	50.82	1.8%
Electric power[9]								
Distillate fuel oil	14.50	18.77	24.43	28.65	33.27	38.23	44.65	3.5%
Residual fuel oil	8.93	12.34	24.35	28.36	32.68	37.04	41.31	5.0%
Natural gas	4.80	5.14	4.89	5.83	7.50	8.89	11.25	3.2%
Steam coal	2.19	2.25	2.54	2.93	3.37	3.92	4.49	2.8%

Table A3. Energy prices by sector and source (continued)
(nominal dollars per million Btu, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Average price to all users[10]								
Liquefied petroleum gases	15.93	17.29	24.65	27.50	31.83	36.45	42.04	3.6%
E85[4]	20.52	25.21	31.19	33.17	41.87	46.04	52.25	3.0%
Motor gasoline[5]	19.25	22.59	31.44	37.10	42.41	48.72	54.10	3.6%
Jet fuel	12.61	16.22	25.45	29.89	34.79	39.99	46.65	4.3%
Distillate fuel oil	17.52	21.64	28.88	33.75	39.27	45.55	51.21	3.5%
Residual fuel oil	10.43	10.89	20.31	23.84	27.62	31.39	34.93	4.8%
Natural gas	7.28	7.16	6.93	8.26	10.31	11.92	14.57	2.9%
Metallurgical coal	5.43	5.84	7.73	8.96	10.62	12.44	14.37	3.7%
Other coal	2.23	2.29	2.60	2.99	3.43	3.98	4.56	2.8%
Coal to liquids	- -	- -	1.35	2.41	2.77	3.20	3.73	- -
Electricity	28.68	28.67	29.54	32.14	35.78	38.99	44.40	1.8%
Non-renewable energy expenditures by sector (billion nominal dollars)								
Residential	238.13	251.69	260.55	294.69	342.21	391.02	458.20	2.4%
Commercial	175.11	179.11	188.17	219.83	259.24	297.64	357.58	2.8%
Industrial	182.29	199.24	238.26	292.36	344.11	388.20	450.30	3.3%
Transportation	474.02	573.77	806.11	938.80	1070.59	1223.70	1383.66	3.6%
Total non-renewable expenditures	1069.55	1203.81	1493.09	1745.67	2016.15	2300.56	2649.74	3.2%
Transportation renewable expenditures	0.07	0.08	0.27	8.73	16.79	41.39	68.51	31.2%
Total expenditures	**1069.62**	**1203.89**	**1493.36**	**1754.40**	**2032.95**	**2341.95**	**2718.25**	**3.3%**

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Excludes use for lease and plant fuel.
[3]Includes Federal and State taxes while excluding county and local taxes.
[4]E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
[5]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[6]Kerosene-type jet fuel. Includes Federal and State taxes while excluding county and local taxes.
[7]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[8]Compressed natural gas used as a vehicle fuel. Includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[9]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[10]Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.
Btu = British thermal unit.
- - = Not applicable.
Note: Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the U.S. Energy Information Administration (EIA), *Petroleum Marketing Annual 2009*, DOE/EIA-0487(2009) (Washington, DC, August 2010). 2009 residential and commercial natural gas delivered prices: EIA,*Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2010 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). 2009 and 2010 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey* and industrial and wellhead prices from the *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010) and the *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). 2009 transportation sector natural gas delivered prices are based on: EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010) and estimated State taxes, Federal taxes, and dispensing costs or charges. 2010 transportation sector natural gas delivered prices are model results. 2009 and 2010 electric power sector distillate and residual fuel oil prices: EIA, *Monthly Energy Review*, DOE/EIA-0035(2010/09) (Washington, DC, September 2010). 2009 and 2010 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, April 2010 and April 2011, Table 4.2, and EIA, *State Energy Data Report 2009*, DOE/EIA-0214(2009) (Washington, DC, June 2011). 2009 and 2010 coal prices based on: EIA, *Quarterly Coal Report, October-December 2010*, DOE/EIA-0121(2010/4Q) (Washington, DC, May 2011) and EIA, AEO2012 National Energy Modeling System run REF2012.D121011B. 2009 and 2010 electricity prices: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 and 2010 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A4. Residential sector key indicators and consumption
(quadrillion Btu per year, unless otherwise noted)

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Key indicators								
Households (millions)								
Single-family	81.73	82.11	85.51	89.96	94.22	98.49	102.53	0.9%
Multifamily	25.41	25.52	27.00	29.38	31.47	33.61	35.76	1.4%
Mobile homes	6.65	6.56	6.28	6.66	6.99	7.20	7.31	0.4%
Total	**113.78**	**114.19**	**118.79**	**126.00**	**132.69**	**139.30**	**145.60**	**1.0%**
Average house square footage	**1646**	**1653**	**1683**	**1704**	**1724**	**1743**	**1760**	**0.3%**
Energy intensity								
(million Btu per household)								
Delivered energy consumption	97.8	102.1	95.1	90.6	87.3	84.9	82.6	-0.8%
Total energy consumption	184.0	193.1	176.6	171.1	167.9	164.8	161.9	-0.7%
(thousand Btu per square foot)								
Delivered energy consumption	59.4	61.8	56.5	53.2	50.6	48.7	46.9	-1.1%
Total energy consumption	111.8	116.8	104.9	100.4	97.4	94.5	92.0	-0.9%
Delivered energy consumption by fuel								
Electricity								
Space heating	0.28	0.30	0.28	0.30	0.32	0.33	0.34	0.6%
Space cooling	0.81	1.08	1.02	1.06	1.12	1.19	1.25	0.6%
Water heating	0.44	0.45	0.48	0.51	0.53	0.54	0.54	0.8%
Refrigeration	0.38	0.37	0.37	0.38	0.39	0.41	0.43	0.6%
Cooking	0.11	0.11	0.11	0.12	0.13	0.14	0.15	1.4%
Clothes dryers	0.19	0.19	0.20	0.19	0.18	0.18	0.19	-0.2%
Freezers	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.3%
Lighting	0.70	0.69	0.53	0.49	0.47	0.47	0.48	-1.5%
Clothes washers[1]	0.03	0.03	0.03	0.03	0.02	0.02	0.02	-1.2%
Dishwashers[1]	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.4%
Color televisions and set-top boxes	0.32	0.33	0.33	0.35	0.37	0.40	0.44	1.2%
Personal computers and related equipment	0.17	0.17	0.19	0.22	0.24	0.26	0.27	1.8%
Furnace fans and boiler circulation pumps	0.14	0.13	0.14	0.14	0.14	0.15	0.15	0.4%
Other uses[2]	0.90	0.92	0.94	1.06	1.20	1.34	1.48	1.9%
Delivered energy	**4.66**	**4.95**	**4.79**	**5.02**	**5.30**	**5.63**	**5.94**	**0.7%**
Natural gas								
Space heating	3.31	3.50	3.40	3.34	3.28	3.25	3.20	-0.4%
Space cooling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.2%
Water heating	1.32	1.29	1.31	1.32	1.32	1.30	1.27	-0.1%
Cooking	0.22	0.22	0.22	0.22	0.22	0.23	0.23	0.3%
Clothes dryers	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.7%
Delivered energy	**4.90**	**5.06**	**4.99**	**4.95**	**4.88**	**4.84**	**4.76**	**-0.2%**
Distillate fuel oil								
Space heating	0.50	0.53	0.48	0.43	0.38	0.34	0.31	-2.1%
Water heating	0.10	0.10	0.07	0.06	0.05	0.04	0.04	-4.0%
Delivered energy	**0.60**	**0.63**	**0.55**	**0.48**	**0.43**	**0.38**	**0.35**	**-2.3%**
Liquefied petroleum gases								
Space heating	0.26	0.30	0.26	0.25	0.24	0.23	0.22	-1.1%
Water heating	0.08	0.07	0.05	0.04	0.04	0.04	0.03	-3.0%
Cooking	0.03	0.03	0.03	0.03	0.03	0.03	0.02	-0.9%
Other uses[3]	0.14	0.16	0.17	0.18	0.20	0.21	0.22	1.3%
Delivered energy	**0.51**	**0.56**	**0.51**	**0.50**	**0.50**	**0.51**	**0.51**	**-0.4%**
Marketed renewables (wood)[4]	0.43	0.42	0.43	0.43	0.43	0.44	0.44	0.1%
Other fuels[5]	0.04	0.04	0.03	0.03	0.03	0.03	0.03	-1.6%

Table A4. Residential sector key indicators and consumption (continued)
(quadrillion Btu per year, unless otherwise noted)

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Delivered energy consumption by end use								
Space heating	4.81	5.08	4.88	4.79	4.68	4.62	4.54	-0.4%
Space cooling	0.81	1.08	1.02	1.06	1.12	1.19	1.25	0.6%
Water heating	1.94	1.91	1.91	1.93	1.94	1.92	1.88	-0.1%
Refrigeration	0.38	0.37	0.37	0.38	0.39	0.41	0.43	0.6%
Cooking	0.35	0.35	0.36	0.37	0.38	0.39	0.40	0.5%
Clothes dryers	0.25	0.25	0.25	0.25	0.24	0.24	0.25	0.0%
Freezers	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.3%
Lighting	0.70	0.69	0.53	0.49	0.47	0.47	0.48	-1.5%
Clothes washers[1]	0.03	0.03	0.03	0.03	0.02	0.02	0.02	-1.2%
Dishwashers[1]	0.10	0.10	0.10	0.10	0.10	0.10	0.11	0.4%
Color televisions and set-top boxes	0.32	0.33	0.33	0.35	0.37	0.40	0.44	1.2%
Personal computers and related equipment	0.17	0.17	0.19	0.22	0.24	0.26	0.27	1.8%
Furnace fans and boiler circulation pumps	0.14	0.13	0.14	0.14	0.14	0.15	0.15	0.4%
Other uses[6]	1.04	1.08	1.11	1.24	1.39	1.55	1.70	1.8%
Delivered energy	**11.13**	**11.66**	**11.30**	**11.42**	**11.58**	**11.83**	**12.02**	**0.1%**
Electricity related losses	**9.80**	**10.39**	**9.68**	**10.15**	**10.70**	**11.12**	**11.56**	**0.4%**
Total energy consumption by end use								
Space heating	5.41	5.70	5.45	5.39	5.32	5.28	5.21	-0.4%
Space cooling	2.52	3.34	3.07	3.21	3.38	3.54	3.68	0.4%
Water heating	2.87	2.85	2.87	2.95	3.01	2.99	2.94	0.1%
Refrigeration	1.17	1.15	1.11	1.14	1.19	1.23	1.28	0.4%
Cooking	0.58	0.58	0.59	0.62	0.64	0.67	0.69	0.7%
Clothes dryers	0.65	0.65	0.65	0.63	0.61	0.60	0.61	-0.3%
Freezers	0.26	0.26	0.25	0.26	0.26	0.26	0.26	0.1%
Lighting	2.18	2.13	1.60	1.48	1.42	1.40	1.41	-1.7%
Clothes washers[1]	0.10	0.10	0.10	0.08	0.07	0.07	0.07	-1.4%
Dishwashers[1]	0.31	0.31	0.30	0.30	0.30	0.31	0.33	0.2%
Color televisions and set-top boxes	1.00	1.02	0.99	1.05	1.12	1.20	1.29	1.0%
Personal computers and related equipment	0.53	0.53	0.57	0.66	0.72	0.76	0.79	1.6%
Furnace fans and boiler circulation pumps	0.42	0.42	0.42	0.43	0.44	0.44	0.44	0.2%
Other uses[6]	2.94	3.01	3.02	3.38	3.81	4.20	4.57	1.7%
Total	**20.93**	**22.05**	**20.98**	**21.56**	**22.28**	**22.95**	**23.58**	**0.3%**
Nonmarketed renewables[7]								
Geothermal heat pumps	0.00	0.01	0.01	0.02	0.02	0.02	0.03	6.4%
Solar hot water heating	0.01	0.01	0.02	0.02	0.02	0.02	0.02	2.4%
Solar photovoltaic	0.00	0.01	0.05	0.06	0.06	0.06	0.06	7.9%
Wind	0.00	0.00	0.01	0.01	0.01	0.01	0.01	8.6%
Total	**0.02**	**0.03**	**0.08**	**0.10**	**0.11**	**0.11**	**0.12**	**6.2%**

[1]Does not include water heating portion of load.
[2]Includes small electric devices, heating elements, and motors not listed above.
[3]Includes such appliances as outdoor grills and mosquito traps.
[4]Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 2005*.
[5]Includes kerosene and coal.
[6]Includes all other uses listed above.
[7]Represents delivered energy displaced.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 based on: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A5. Commercial sector key indicators and consumption
(quadrillion Btu per year, unless otherwise noted)

Key indicators and consumption	Reference case							Annual Growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Key indicators								
Total floorspace (billion square feet)								
Surviving	78.0	79.3	82.4	87.1	91.9	96.2	100.7	1.0%
New additions	2.3	1.8	1.7	2.1	2.0	2.0	2.3	1.0%
Total	**80.3**	**81.1**	**84.1**	**89.1**	**93.9**	**98.2**	**103.0**	**1.0%**
Energy consumption intensity (thousand Btu per square foot)								
Delivered energy consumption	106.0	107.3	105.0	103.2	101.3	101.2	100.3	-0.3%
Electricity related losses	117.0	117.3	111.2	111.7	112.3	111.9	111.1	-0.2%
Total energy consumption	223.0	224.6	216.2	214.9	213.6	213.1	211.4	-0.2%
Delivered energy consumption by fuel								
Purchased electricity								
Space heating[1]	0.18	0.18	0.17	0.16	0.16	0.16	0.16	-0.4%
Space cooling[1]	0.47	0.56	0.51	0.51	0.52	0.53	0.54	-0.1%
Water heating[1]	0.09	0.09	0.09	0.09	0.09	0.09	0.09	-0.2%
Ventilation	0.50	0.51	0.54	0.57	0.60	0.63	0.65	1.0%
Cooking	0.02	0.02	0.02	0.02	0.02	0.02	0.02	-0.2%
Lighting	1.03	1.01	1.01	1.05	1.08	1.12	1.15	0.5%
Refrigeration	0.40	0.39	0.35	0.34	0.34	0.35	0.36	-0.3%
Office equipment (PC)	0.22	0.21	0.19	0.19	0.20	0.21	0.22	0.1%
Office equipment (non-PC)	0.25	0.26	0.32	0.37	0.40	0.44	0.46	2.3%
Other uses[2]	1.29	1.30	1.44	1.63	1.82	2.02	2.24	2.2%
Delivered energy	**4.46**	**4.54**	**4.63**	**4.93**	**5.23**	**5.57**	**5.89**	**1.0%**
Natural gas								
Space heating[1]	1.61	1.65	1.69	1.71	1.68	1.68	1.65	-0.0%
Space cooling[1]	0.03	0.04	0.04	0.03	0.03	0.03	0.03	-1.1%
Water heating[1]	0.43	0.44	0.48	0.50	0.52	0.53	0.54	0.9%
Cooking	0.17	0.18	0.19	0.20	0.21	0.22	0.22	0.9%
Other uses[3]	0.95	0.98	1.01	1.03	1.06	1.12	1.21	0.8%
Delivered energy	**3.20**	**3.29**	**3.41**	**3.48**	**3.50**	**3.58**	**3.65**	**0.4%**
Distillate fuel oil								
Space heating[1]	0.16	0.14	0.12	0.11	0.10	0.10	0.09	-1.7%
Water heating[1]	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.9%
Other uses[4]	0.22	0.26	0.20	0.20	0.20	0.20	0.19	-1.2%
Delivered energy	**0.41**	**0.43**	**0.35**	**0.34**	**0.33**	**0.33**	**0.32**	**-1.2%**
Marketed renewables (biomass)	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.0%
Other fuels[5]	0.33	0.34	0.33	0.33	0.34	0.35	0.36	0.2%
Delivered energy consumption by end use								
Space heating[1]	1.95	1.97	1.98	1.99	1.95	1.94	1.90	-0.1%
Space cooling[1]	0.50	0.60	0.54	0.54	0.55	0.56	0.57	-0.2%
Water heating[1]	0.55	0.56	0.60	0.62	0.64	0.66	0.66	0.7%
Ventilation	0.50	0.51	0.54	0.57	0.60	0.63	0.65	1.0%
Cooking	0.20	0.20	0.21	0.22	0.23	0.24	0.25	0.8%
Lighting	1.03	1.01	1.01	1.05	1.08	1.12	1.15	0.5%
Refrigeration	0.40	0.39	0.35	0.34	0.34	0.35	0.36	-0.3%
Office equipment (PC)	0.22	0.21	0.19	0.19	0.20	0.21	0.22	0.1%
Office equipment (non-PC)	0.25	0.26	0.32	0.37	0.40	0.44	0.46	2.3%
Other uses[6]	2.90	3.00	3.09	3.30	3.53	3.79	4.11	1.3%
Delivered energy	**8.51**	**8.71**	**8.84**	**9.20**	**9.52**	**9.93**	**10.33**	**0.7%**

Table A5. Commercial sector key indicators and consumption (continued)
(quadrillion Btu per year, unless otherwise noted)

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Electricity related losses	**9.39**	**9.52**	**9.35**	**9.95**	**10.54**	**10.99**	**11.45**	**0.7%**
Total energy consumption by end use								
Space heating[1]	2.34	2.35	2.32	2.32	2.28	2.26	2.22	-0.2%
Space cooling[1]	1.49	1.76	1.56	1.57	1.59	1.61	1.62	-0.3%
Water heating[1]	0.75	0.75	0.78	0.80	0.82	0.83	0.83	0.4%
Ventilation	1.56	1.57	1.62	1.72	1.80	1.86	1.91	0.8%
Cooking	0.25	0.25	0.26	0.27	0.27	0.28	0.29	0.6%
Lighting	3.21	3.14	3.05	3.16	3.27	3.35	3.40	0.3%
Refrigeration	1.24	1.21	1.06	1.03	1.02	1.03	1.05	-0.5%
Office equipment (PC)	0.67	0.66	0.57	0.58	0.60	0.62	0.64	-0.1%
Office equipment (non-PC)	0.77	0.81	0.95	1.11	1.22	1.30	1.37	2.1%
Other uses[6]	5.62	5.72	6.01	6.58	7.19	7.78	8.46	1.6%
Total	**17.90**	**18.22**	**18.19**	**19.15**	**20.06**	**20.92**	**21.78**	**0.7%**
Nonmarketed renewable fuels[7]								
Solar thermal	0.03	0.03	0.03	0.03	0.03	0.04	0.04	1.3%
Solar photovoltaic	0.00	0.01	0.01	0.01	0.01	0.01	0.01	2.6%
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.7%
Total	**0.03**	**0.03**	**0.04**	**0.04**	**0.04**	**0.05**	**0.05**	**1.6%**

[1]Includes fuel consumption for district services.
[2]Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, and medical equipment.
[3]Includes miscellaneous uses, such as pumps, emergency generators, combined heat and power in commercial buildings, and manufacturing performed in commercial buildings.
[4]Includes miscellaneous uses, such as cooking, emergency generators, and combined heat and power in commercial buildings.
[5]Includes residual fuel oil, liquefied petroleum gases, coal, motor gasoline, and kerosene.
[6]Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, emergency generators, combined heat and power in commercial buildings, manufacturing performed in commercial buildings, and cooking (distillate), plus residual fuel oil, liquefied petroleum gases, coal, motor gasoline, and kerosene.
[7]Represents 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 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 based on: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A6. Industrial sector key indicators and consumption

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Key indicators								
Value of shipments (billion 2005 dollars)								
Manufacturing	4052	4260	4948	5467	5735	5983	6270	1.6%
Nonmanufacturing	1615	1578	1888	2116	2211	2317	2437	1.8%
Total	**5667**	**5838**	**6836**	**7583**	**7946**	**8300**	**8707**	**1.6%**
Energy prices								
(2010 dollars per million Btu)								
Liquefied petroleum gases	20.05	21.80	27.35	27.91	29.27	30.38	31.99	1.5%
Motor gasoline	16.79	16.77	29.11	31.10	32.21	33.58	34.05	2.9%
Distillate fuel oil	16.74	21.32	24.10	25.62	27.26	28.88	29.89	1.4%
Residual fuel oil	12.16	10.92	19.12	20.45	21.14	21.63	21.99	2.8%
Asphalt and road oil	6.59	5.59	9.22	9.82	10.21	10.45	10.89	2.7%
Natural gas heat and power	4.59	4.78	4.12	4.56	5.39	5.76	6.73	1.4%
Natural gas feedstocks	6.16	6.32	5.66	6.12	6.93	7.30	8.21	1.1%
Metallurgical coal	5.49	5.84	7.17	7.54	8.08	8.58	9.05	1.8%
Other industrial coal	2.99	2.93	3.26	3.30	3.38	3.50	3.62	0.8%
Coal for liquids	- -	- -	1.25	2.03	2.11	2.21	2.35	- -
Electricity	20.05	19.63	18.36	18.45	18.84	18.87	20.00	0.1%
(nominal dollars per million Btu)								
Liquefied petroleum gases	19.82	21.80	29.48	33.17	38.48	44.04	50.78	3.4%
Motor gasoline	16.60	16.77	31.38	36.96	42.34	48.67	54.05	4.8%
Distillate fuel oil	16.55	21.32	25.98	30.45	35.83	41.86	47.45	3.3%
Residual fuel oil	12.02	10.92	20.60	24.30	27.79	31.34	34.91	4.8%
Asphalt and road oil	6.52	5.59	9.94	11.67	13.42	15.15	17.28	4.6%
Natural gas heat and power	4.54	4.78	4.44	5.42	7.09	8.35	10.69	3.3%
Natural gas feedstocks	6.09	6.32	6.10	7.28	9.11	10.58	13.04	2.9%
Metallurgical coal	5.43	5.84	7.73	8.96	10.62	12.44	14.37	3.7%
Other industrial coal	2.96	2.93	3.51	3.92	4.45	5.07	5.74	2.7%
Coal for liquids	- -	- -	1.35	2.41	2.77	3.20	3.73	- -
Electricity	19.83	19.63	19.79	21.92	24.76	27.35	31.74	1.9%
Energy consumption (quadrillion Btu)[1]								
Industrial consumption excluding refining								
Liquefied petroleum gases heat and power	0.45	0.41	0.37	0.41	0.41	0.41	0.41	0.0%
Liquefied petroleum gases feedstocks	1.54	1.58	1.50	1.70	1.78	1.79	1.78	0.5%
Motor gasoline	0.24	0.25	0.28	0.29	0.29	0.28	0.28	0.6%
Distillate fuel oil	1.11	1.15	1.18	1.19	1.18	1.16	1.18	0.1%
Residual fuel oil	0.10	0.11	0.08	0.08	0.08	0.08	0.08	-1.1%
Petrochemical feedstocks	0.90	0.94	1.04	1.22	1.27	1.28	1.27	1.2%
Petroleum coke	0.28	0.16	0.20	0.21	0.21	0.20	0.20	0.9%
Asphalt and road oil	0.87	0.88	0.98	1.01	0.97	0.95	0.96	0.3%
Miscellaneous petroleum[2]	0.38	0.52	0.17	0.16	0.16	0.14	0.15	-4.9%
Petroleum subtotal	5.87	6.00	5.79	6.26	6.35	6.31	6.31	0.2%
Natural gas heat and power	4.48	4.84	5.17	5.32	5.22	5.15	5.13	0.2%
Natural gas feedstocks	0.47	0.48	0.49	0.53	0.52	0.48	0.46	-0.1%
Lease and plant fuel[3]	1.31	1.37	1.42	1.47	1.47	1.50	1.54	0.5%
Natural gas subtotal	6.25	6.69	7.09	7.31	7.21	7.13	7.14	0.3%
Metallurgical coal and coke[4]	0.38	0.55	0.53	0.50	0.46	0.41	0.37	-1.6%
Other industrial coal	0.88	0.95	0.92	0.93	0.93	0.92	0.91	-0.2%
Coal subtotal	1.26	1.50	1.46	1.43	1.39	1.33	1.28	-0.6%
Renewables[5]	1.37	1.50	1.56	1.68	1.78	1.85	1.94	1.0%
Purchased electricity	2.94	3.09	3.23	3.39	3.36	3.29	3.20	0.1%
Delivered energy	**17.69**	**18.78**	**19.12**	**20.08**	**20.09**	**19.91**	**19.86**	**0.2%**
Electricity related losses	6.19	6.47	6.52	6.85	6.79	6.49	6.22	-0.2%
Total	**23.88**	**25.25**	**25.64**	**26.93**	**26.88**	**26.40**	**26.08**	**0.1%**

Table A6. Industrial sector key indicators and consumption (continued)

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Refining consumption								
Liquefied petroleum gases heat and power	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.4%
Distillate fuel oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Residual fuel oil	0.01	0.01	0.00	0.00	0.00	0.00	0.00	- -
Petroleum coke	0.52	0.52	0.54	0.52	0.51	0.52	0.54	0.2%
Still gas	1.50	1.50	1.55	1.39	1.33	1.36	1.38	-0.3%
Miscellaneous petroleum[2]	0.02	0.02	0.02	0.02	0.02	0.02	0.02	1.2%
Petroleum subtotal	2.05	2.05	2.13	1.94	1.87	1.91	1.96	-0.2%
Natural gas heat and power	1.38	1.44	1.48	1.56	1.56	1.54	1.58	0.4%
Natural-gas-to-liquids heat and power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural gas subtotal	1.38	1.44	1.48	1.56	1.56	1.54	1.58	0.4%
Other industrial coal	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.0%
Coal-to-liquids heat and power	0.00	0.00	0.00	0.26	0.36	0.48	0.60	- -
Coal subtotal	0.06	0.06	0.06	0.32	0.42	0.54	0.66	10.0%
Biofuels heat and coproducts	0.82	0.84	0.81	1.00	1.42	2.21	2.74	4.8%
Purchased electricity	0.19	0.20	0.20	0.20	0.20	0.20	0.21	0.3%
Delivered energy	**4.51**	**4.60**	**4.67**	**5.01**	**5.48**	**6.40**	**7.15**	**1.8%**
Electricity related losses	0.40	0.41	0.39	0.40	0.40	0.40	0.42	0.0%
Total	**4.91**	**5.01**	**5.06**	**5.41**	**5.87**	**6.80**	**7.56**	**1.7%**
Total industrial sector consumption								
Liquefied petroleum gases heat and power	0.46	0.42	0.38	0.42	0.43	0.42	0.42	0.0%
Liquefied petroleum gases feedstocks	1.54	1.58	1.50	1.70	1.78	1.79	1.78	0.5%
Motor gasoline	0.24	0.25	0.28	0.29	0.29	0.28	0.28	0.6%
Distillate fuel oil	1.11	1.16	1.18	1.19	1.18	1.16	1.18	0.1%
Residual fuel oil	0.11	0.12	0.08	0.08	0.08	0.08	0.08	-1.3%
Petrochemical feedstocks	0.90	0.94	1.04	1.22	1.27	1.28	1.27	1.2%
Petroleum coke	0.80	0.68	0.73	0.73	0.72	0.72	0.74	0.3%
Asphalt and road oil	0.87	0.88	0.98	1.01	0.97	0.95	0.96	0.3%
Still gas	1.50	1.50	1.55	1.39	1.33	1.36	1.38	-0.3%
Miscellaneous petroleum[2]	0.40	0.54	0.19	0.18	0.18	0.16	0.17	-4.5%
Petroleum subtotal	7.93	8.05	7.92	8.20	8.22	8.21	8.26	0.1%
Natural gas heat and power	5.86	6.28	6.65	6.88	6.78	6.69	6.72	0.3%
Natural-gas-to-liquids heat and power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural gas feedstocks	0.47	0.48	0.49	0.53	0.52	0.48	0.46	-0.1%
Lease and plant fuel[3]	1.31	1.37	1.42	1.47	1.47	1.50	1.54	0.5%
Natural gas subtotal	7.63	8.14	8.57	8.87	8.77	8.67	8.72	0.3%
Metallurgical coal and coke[4]	0.38	0.55	0.53	0.50	0.46	0.41	0.37	-1.6%
Other industrial coal	0.94	1.01	0.98	0.99	0.99	0.98	0.97	-0.2%
Coal-to-liquids heat and power	0.00	0.00	0.00	0.26	0.36	0.48	0.60	- -
Coal subtotal	1.32	1.56	1.52	1.74	1.81	1.87	1.94	0.9%
Biofuels heat and coproducts	0.82	0.84	0.81	1.00	1.42	2.21	2.74	4.8%
Renewables[5]	1.37	1.50	1.56	1.68	1.78	1.85	1.94	1.0%
Purchased electricity	3.13	3.28	3.42	3.59	3.56	3.49	3.41	0.2%
Delivered energy	**22.20**	**23.37**	**23.79**	**25.09**	**25.57**	**26.30**	**27.01**	**0.6%**
Electricity related losses	6.59	6.89	6.91	7.25	7.18	6.89	6.63	-0.2%
Total	**28.79**	**30.26**	**30.70**	**32.34**	**32.75**	**33.19**	**33.64**	**0.4%**

Table A6. Industrial sector key indicators and consumption (continued)

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Energy consumption per dollar of shipments (thousand Btu per 2005 dollar)								
Liquid fuels and other petroleum	1.40	1.38	1.16	1.08	1.03	0.99	0.95	-1.5%
Natural gas	1.35	1.39	1.25	1.17	1.10	1.04	1.00	-1.3%
Coal	0.23	0.27	0.22	0.23	0.23	0.23	0.22	-0.7%
Renewable fuels[5]	0.39	0.40	0.35	0.35	0.40	0.49	0.54	1.2%
Purchased electricity	0.55	0.56	0.50	0.47	0.45	0.42	0.39	-1.4%
Delivered energy	**3.92**	**4.00**	**3.48**	**3.31**	**3.22**	**3.17**	**3.10**	**-1.0%**
Industrial combined heat and power								
Capacity (gigawatts)	25.08	25.64	29.71	34.80	39.80	47.61	53.58	3.0%
Generation (billion kilowatthours)	130.57	141.07	164.49	198.37	233.18	289.82	330.95	3.5%

[1]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes lubricants and miscellaneous petroleum products.
[3]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[4]Includes net coal coke imports.
[5]Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal waste, and other biomass sources.
Btu = British thermal unit.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.

Sources: 2009 and 2010 prices for motor gasoline and distillate fuel oil are based on: U.S. Energy Information Administration (EIA), *Petroleum Marketing Annual 2009*, DOE/EIA-0487(2009) (Washington, DC, August 2010). 2009 and 2010 petrochemical feedstock and asphalt and road oil prices are based on: EIA, *State Energy Data Report 2009*, DOE/EIA-0214(2009) (Washington, DC, June 2011). 2009 and 2010 coal prices are based on: EIA, *Quarterly Coal Report, October-December 2010*, DOE/EIA-0121(2010/4Q) (Washington, DC, May 2011) and EIA, AEO2012 National Energy Modeling System run REF2012.D121011B. 2009 and 2010 electricity prices: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 and 2010 natural gas prices are based on: EIA, *Manufacturing Energy Consumption Survey* and industrial and wellhead prices from the *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010) and the *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). 2009 refining consumption values are based on: *Petroleum Supply Annual 2009,* DOE/EIA-0340(2009)/1 (Washington, DC, July 2010). 2010 refining consumption based on: *Petroleum Supply Annual 2010,* DOE/EIA-0340(2010)/1 (Washington, DC, July 2011). Other 2009 and 2010 consumption values are based on: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 and 2010 shipments: IHS Global Insight Industry model, August 2011. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A7. Transportation sector key indicators and delivered energy consumption

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Key indicators								
Travel indicators								
(billion vehicle miles traveled)								
Light-duty vehicles less than 8,501 pounds	2589	2654	2716	2933	3156	3384	3601	1.2%
Commercial light trucks[1]	61	64	71	79	83	88	93	1.5%
Freight trucks greater than 10,000 pounds	229	236	279	307	319	330	344	1.5%
(billion seat miles available)								
Air	964	999	1028	1075	1120	1164	1208	0.8%
(billion ton miles traveled)								
Rail	1532	1578	1539	1738	1828	1871	1921	0.8%
Domestic shipping	477	526	557	597	605	616	629	0.7%
Energy efficiency indicators								
(miles per gallon)								
New light-duty vehicle CAFE standard[2]	25.4	25.7	32.4	35.0	35.2	35.3	35.3	1.3%
New car[2]	28.2	28.2	37.0	39.9	39.9	39.9	39.9	1.4%
New light truck[2]	23.0	23.4	27.9	29.2	29.2	29.2	29.2	0.9%
Compliance new light-duty vehicle[3]	29.3	29.2	32.5	35.9	36.8	37.4	37.9	1.0%
New car[3]	34.0	33.8	37.4	40.3	41.3	42.1	42.8	1.0%
New light truck[3]	25.4	25.5	27.7	30.6	31.0	31.2	31.4	0.8%
Tested new light-duty vehicle[4]	28.2	28.3	31.5	35.9	36.8	37.4	37.9	1.2%
New car[4]	33.2	33.3	36.4	40.3	41.2	42.1	42.8	1.0%
New light truck[4]	24.2	24.3	26.7	30.6	30.9	31.2	31.4	1.0%
On-road new light-duty vehicle[5]	22.7	23.0	25.5	29.0	29.6	30.1	30.5	1.1%
New car[5]	25.8	26.2	28.5	31.5	32.3	33.0	33.5	1.0%
New light truck[5]	20.1	20.4	22.4	25.6	25.9	26.1	26.3	1.0%
Light-duty stock[6]	20.0	20.4	21.4	23.4	25.3	26.8	27.8	1.2%
New commercial light truck[1]	15.6	15.7	16.7	18.8	18.9	19.0	19.1	0.8%
Stock commercial light truck[1]	14.3	14.4	15.2	16.7	18.0	18.7	19.0	1.1%
Freight truck	6.6	6.7	6.9	7.4	7.8	8.1	8.2	0.8%
(seat miles per gallon)								
Aircraft	62.0	62.3	62.8	63.9	65.2	67.0	69.3	0.4%
(ton miles per thousand Btu)								
Rail	3.4	3.4	3.5	3.5	3.5	3.5	3.5	0.1%
Domestic shipping	2.4	2.4	2.4	2.5	2.5	2.5	2.5	0.2%
Energy use by mode (quadrillion Btu)								
Light-duty vehicles	15.93	15.99	15.46	15.20	15.09	15.30	15.72	-0.1%
Commercial light trucks[1]	0.53	0.55	0.59	0.59	0.58	0.59	0.61	0.4%
Bus transportation	0.24	0.25	0.27	0.28	0.29	0.30	0.31	0.8%
Freight trucks	4.74	4.87	5.53	5.68	5.62	5.64	5.78	0.7%
Rail, passenger	0.05	0.05	0.05	0.06	0.06	0.06	0.06	1.2%
Rail, freight	0.42	0.46	0.45	0.50	0.52	0.53	0.54	0.7%
Shipping, domestic	0.19	0.22	0.23	0.24	0.25	0.25	0.25	0.5%
Shipping, international	0.78	0.86	0.87	0.87	0.88	0.88	0.89	0.1%
Recreational boats	0.24	0.25	0.26	0.26	0.27	0.28	0.28	0.5%
Air	2.44	2.52	2.56	2.65	2.72	2.76	2.79	0.4%
Military use	0.73	0.77	0.66	0.65	0.67	0.70	0.74	-0.1%
Lubricants	0.13	0.14	0.13	0.14	0.14	0.14	0.14	0.0%
Pipeline fuel	0.61	0.65	0.69	0.69	0.68	0.67	0.68	0.2%
Total	**27.03**	**27.59**	**27.73**	**27.81**	**27.75**	**28.11**	**28.82**	**0.2%**

Table A7. Transportation sector key indicators and delivered energy consumption (continued)

Key indicators and consumption	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Energy use by mode (million barrels per day oil equivalent)								
Light-duty vehicles	8.52	8.59	8.34	8.27	8.26	8.49	8.80	0.1%
Commercial light trucks[1]	0.27	0.28	0.30	0.30	0.30	0.30	0.31	0.4%
Bus transportation	0.12	0.12	0.13	0.13	0.14	0.15	0.15	0.8%
Freight trucks	2.28	2.35	2.67	2.74	2.71	2.72	2.78	0.7%
Rail, passenger	0.02	0.02	0.02	0.03	0.03	0.03	0.03	1.2%
Rail, freight	0.20	0.22	0.21	0.24	0.25	0.25	0.26	0.7%
Shipping, domestic	0.09	0.10	0.11	0.11	0.11	0.11	0.12	0.5%
Shipping, international	0.34	0.38	0.38	0.38	0.38	0.39	0.39	0.1%
Recreational boats	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.5%
Air	1.18	1.22	1.24	1.28	1.32	1.34	1.35	0.4%
Military use	0.35	0.37	0.32	0.31	0.32	0.34	0.36	-0.1%
Lubricants	0.06	0.07	0.06	0.06	0.07	0.07	0.07	0.0%
Pipeline fuel	0.29	0.31	0.33	0.33	0.32	0.32	0.32	0.2%
Total	**13.86**	**14.16**	**14.24**	**14.33**	**14.35**	**14.64**	**15.10**	**0.3%**

[1]Commercial trucks 8,501 to 10,000 pounds.
[2]CAFE standard based on projected new vehicle sales.
[3]Includes CAFE credits for alternative fueled vehicle sales, but does not include banked credits used for compliance.
[4]Environmental Protection Agency rated miles per gallon.
[5]Tested new vehicle efficiency revised for on-road performance.
[6]Combined"on-the-road" estimate for all cars and light trucks.
CAFE = Corporate average fuel economy.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010: U.S. Energy Information Administration (EIA), *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010); EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011); Federal Highway Administration, *Highway Statistics 2008* (Washington, DC, April 2010); Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 29 and Annual* (Oak Ridge, TN, 2010); National Highway Traffic and Safety Administration, *Summary of Fuel Economy Performance* (Washington, DC, December 9, 2009); U.S. Department of Commerce, Bureau of the Census, "Vehicle Inventory and Use Survey," EC02TV (Washington, DC, December 2004); EIA, Alternatives to Traditional Transportation Fuels 2008 (Part II - User and Fuel Data), April 2010; EIA, *State Energy Data Report 2009*, DOE/EIA-0214(2009) (Washington, DC, June 2011); U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly, December 2010/2009* (Washington, DC, December ; EIA, *Fuel Oil and Kerosene Sales 2009*, DOE/EIA-0535(2009) (Washington, DC, February 2011); and United States Department of Defense, Defense Fuel supply Center, Fact Book (January, 2010). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A8. Electricity supply, disposition, prices, and emissions
(billion kilowatthours, unless otherwise noted)

Supply, disposition, prices, and emissions	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Generation by fuel type								
Electric power sector[1]								
Power only[2]								
Coal	1712	1799	1560	1674	1779	1815	1857	0.1%
Petroleum	32	32	26	27	28	28	29	-0.3%
Natural gas[3]	723	776	906	876	854	970	1068	1.3%
Nuclear power	799	807	830	887	917	913	894	0.4%
Pumped storage/other[4]	2	2	2	2	2	2	2	-1.2%
Renewable sources[5]	384	390	494	544	586	605	652	2.1%
Distributed generation (natural gas)	0	0	0	1	2	3	4	- -
Total	**3651**	**3806**	**3818**	**4011**	**4168**	**4336**	**4505**	**0.7%**
Combined heat and power[6]								
Coal	29	32	31	31	30	31	31	-0.1%
Petroleum	4	3	1	1	1	1	1	-5.2%
Natural gas	118	122	125	124	124	124	123	0.0%
Renewable sources	5	5	4	5	5	5	5	-0.2%
Total	**159**	**165**	**160**	**161**	**160**	**161**	**159**	**-0.1%**
Total net generation	**3810**	**3971**	**3979**	**4172**	**4328**	**4497**	**4664**	**0.6%**
Less direct use	14	16	13	13	13	13	13	-0.9%
Net available to the grid	**3796**	**3955**	**3965**	**4159**	**4316**	**4484**	**4652**	**0.7%**
End-use generation[7]								
Coal	15	20	20	38	46	54	63	4.7%
Petroleum	3	3	2	2	2	2	2	-0.7%
Natural gas	80	84	98	108	121	142	174	3.0%
Other gaseous fuels[8]	10	11	16	15	15	15	15	1.2%
Renewable sources[9]	32	35	55	68	87	121	134	5.5%
Other[10]	4	4	3	3	3	3	3	-0.8%
Total	**144**	**157**	**194**	**234**	**274**	**338**	**391**	**3.7%**
Less direct use	108	114	146	176	199	233	272	3.6%
Total sales to the grid	**36**	**43**	**48**	**58**	**75**	**105**	**119**	**4.1%**
Total electricity generation by fuel								
Coal	1756	1851	1610	1743	1855	1899	1951	0.2%
Petroleum	39	37	29	30	31	31	32	-0.6%
Natural gas	921	982	1129	1109	1101	1239	1368	1.3%
Nuclear power	799	807	830	887	917	913	894	0.4%
Renewable sources[5,9]	420	430	553	617	678	732	791	2.5%
Other[11]	19	21	21	21	20	20	21	-0.0%
Total electricity generation	**3954**	**4128**	**4173**	**4406**	**4603**	**4835**	**5056**	**0.8%**
Total net generation to the grid	**3832**	**3998**	**4013**	**4217**	**4390**	**4590**	**4771**	**0.7%**
Net imports	**34**	**26**	**29**	**26**	**22**	**14**	**12**	**-3.0%**
Electricity sales by sector								
Residential	1364	1451	1405	1473	1554	1651	1742	0.7%
Commercial	1307	1329	1358	1445	1532	1631	1726	1.0%
Industrial	917	962	1004	1052	1044	1023	1000	0.2%
Transportation	7	7	8	10	13	17	23	5.0%
Total	**3596**	**3749**	**3774**	**3979**	**4142**	**4322**	**4490**	**0.7%**
Direct use	122	130	160	189	212	246	285	3.2%
Total electricity use	**3717**	**3879**	**3934**	**4168**	**4355**	**4568**	**4775**	**0.8%**

Table A8. Electricity supply, disposition, prices, and emissions (continued)
(billion kilowatthours, unless otherwise noted)

Supply, disposition, prices, and emissions	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
End-use prices								
(2010 cents per kilowatthour)								
Residential	11.6	11.5	11.3	11.1	11.0	10.8	11.1	-0.1%
Commercial	10.3	10.1	9.6	9.5	9.5	9.2	9.5	-0.2%
Industrial	6.8	6.7	6.3	6.3	6.4	6.4	6.8	0.1%
Transportation	12.1	11.1	10.2	10.0	10.4	10.5	10.9	-0.1%
All sectors average	**9.9**	**9.8**	**9.4**	**9.2**	**9.3**	**9.2**	**9.5**	**-0.1%**
(nominal cents per kilowatthour)								
Residential	11.5	11.5	12.2	13.2	14.5	15.7	17.6	1.7%
Commercial	10.1	10.1	10.3	11.3	12.4	13.3	15.2	1.6%
Industrial	6.8	6.7	6.8	7.5	8.4	9.3	10.8	1.9%
Transportation	11.9	11.1	11.0	11.9	13.7	15.2	17.3	1.8%
All sectors average	**9.8**	**9.8**	**10.1**	**11.0**	**12.2**	**13.3**	**15.1**	**1.8%**
Prices by service category								
(2010 cents per kilowatthour)								
Generation	6.4	6.2	5.6	5.7	6.0	6.0	6.4	0.2%
Transmission	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.0%
Distribution	2.8	2.8	2.9	2.7	2.5	2.4	2.4	-0.7%
(nominal cents per kilowatthour)								
Generation	6.3	6.2	6.1	6.8	7.9	8.7	10.2	2.0%
Transmission	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.9%
Distribution	2.8	2.8	3.1	3.2	3.3	3.5	3.7	1.1%
Electric power sector emissions[1]								
Sulfur dioxide (million tons)	5.72	5.11	2.73	2.78	2.78	2.80	2.81	-2.4%
Nitrogen oxide (million tons)	1.99	2.06	1.82	1.93	1.96	1.96	1.97	-0.2%
Mercury (tons)	36.25	34.77	22.91	24.75	23.90	24.43	24.46	-1.4%

[1]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[2]Includes plants that only produce electricity.
[3]Includes electricity generation from fuel cells.
[4]Includes non-biogenic municipal waste. The U.S. 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 U.S. Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).
[5]Includes conventional hydroelectric, geothermal, wood, wood waste, biogenic municipal waste, landfill gas, other biomass, solar, and wind power.
[6]Includes combined heat and power plants whose primary business is to sell electricity and heat to the public (i.e., those that report North American Industry Classification System code 22).
[7]Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.
[8]Includes refinery gas and still gas.
[9]Includes conventional hydroelectric, geothermal, wood, wood waste, all municipal waste, landfill gas, other biomass, solar, and wind power.
[10]Includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.
[11]Includes 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 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 electric power sector generation; sales to utilities; net imports; electricity sales; electricity end-use prices; and emissions: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011), and supporting databases. 2009 and 2010 prices: EIA, AEO2012 National Energy Modeling System run REF2012.D121011B. **Projections**: EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A9. Electricity generating capacity
(gigawatts)

Net summer capacity[1]	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Electric power sector[2]								
Power only[3]								
Coal	305.9	308.1	288.9	286.2	285.6	285.6	285.8	-0.3%
Oil and natural gas steam[4]	109.1	107.4	97.2	89.9	89.0	87.9	86.7	-0.9%
Combined cycle	167.7	171.7	186.5	187.2	194.5	214.1	241.5	1.4%
Combustion turbine/diesel	133.1	134.8	141.7	145.3	154.9	162.6	167.4	0.9%
Nuclear power[5]	101.1	101.2	103.6	111.2	114.7	114.2	112.0	0.4%
Pumped storage	22.2	22.2	22.2	22.2	22.2	22.2	22.2	0.0%
Fuel cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7%
Renewable sources[6]	120.3	125.3	141.4	142.9	147.5	153.9	168.3	1.2%
Distributed generation[7]	0.0	0.0	0.2	0.6	1.0	1.8	2.8	- -
Total	**959.5**	**970.7**	**981.8**	**985.4**	**1009.4**	**1042.3**	**1086.8**	**0.5%**
Combined heat and power[8]								
Coal	5.3	5.2	5.0	4.9	4.9	4.9	4.9	-0.3%
Oil and natural gas steam[4]	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.0%
Combined cycle	25.8	26.3	26.3	26.3	26.3	26.3	26.3	-0.0%
Combustion turbine/diesel	2.8	2.8	2.8	2.8	2.8	2.8	2.8	-0.0%
Renewable sources[6]	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.2%
Total	**35.4**	**35.9**	**35.6**	**35.5**	**35.5**	**35.5**	**35.5**	**-0.0%**
Cumulative planned additions[9]								
Coal	0.0	0.0	9.3	9.3	9.3	9.3	9.3	- -
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	14.3	14.3	14.3	14.3	14.3	- -
Combustion turbine/diesel	0.0	0.0	5.0	5.0	5.0	5.0	5.0	- -
Nuclear power	0.0	0.0	1.1	6.8	6.8	6.8	6.8	- -
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	14.0	14.0	14.0	14.0	14.0	- -
Distributed generation[7]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	- -
Total	**0.0**	**0.0**	**43.7**	**49.3**	**49.3**	**49.3**	**49.3**	**- -**
Cumulative unplanned additions[9]								
Coal	0.0	0.0	0.0	0.9	0.9	0.9	1.2	- -
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	0.6	1.4	8.8	28.4	55.8	- -
Combustion turbine/diesel	0.0	0.0	4.1	10.5	20.6	31.8	36.8	- -
Nuclear power	0.0	0.0	0.0	0.0	0.0	0.0	2.8	- -
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	2.6	4.0	8.7	15.0	29.4	- -
Distributed generation[7]	0.0	0.0	0.2	0.6	1.0	1.8	2.8	- -
Total	**0.0**	**0.0**	**7.5**	**17.5**	**39.9**	**77.9**	**128.9**	**- -**
Cumulative electric power sector additions	**0.0**	**0.0**	**51.1**	**66.8**	**89.3**	**127.2**	**178.2**	**- -**
Cumulative retirements[10]								
Coal	0.0	0.0	28.8	32.5	33.1	33.1	33.1	- -
Oil and natural gas steam[4]	0.0	0.0	10.2	17.5	18.4	19.5	20.7	- -
Combined cycle	0.0	0.0	0.0	0.2	0.2	0.2	0.2	- -
Combustion turbine/diesel	0.0	0.0	2.2	5.1	5.6	9.1	9.3	- -
Nuclear power	0.0	0.0	0.0	0.6	0.6	1.1	6.1	- -
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	0.4	0.4	0.4	0.4	0.4	- -
Total	**0.0**	**0.0**	**41.6**	**56.2**	**58.2**	**63.3**	**69.7**	**- -**
Total electric power sector capacity	**994.9**	**1006.6**	**1017.4**	**1020.9**	**1044.9**	**1077.8**	**1122.3**	**0.4%**

Table A9. Electricity generating capacity (continued)
(gigawatts)

Net summer capacity[1]	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
End-use generators[11]								
Coal	3.6	4.3	4.2	6.6	7.7	8.8	9.9	3.4%
Petroleum	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.3%
Natural gas	14.7	14.7	17.2	18.9	21.1	24.5	29.2	2.8%
Other gaseous fuels	1.8	1.7	2.5	2.5	2.5	2.5	2.5	1.5%
Renewable sources[6]	7.0	8.6	18.1	21.9	24.7	29.5	31.8	5.4%
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0%
Total	**28.3**	**30.5**	**43.3**	**51.2**	**57.2**	**66.6**	**74.8**	**3.7%**
Cumulative capacity additions[9]	**0.0**	**0.0**	**12.8**	**20.6**	**26.7**	**36.0**	**44.3**	**- -**

[1]Net summer capacity is the steady hourly output that generating equipment is expected to supply to system load (exclusive of auxiliary power), as demonstrated by tests during summer peak demand.
[2]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[3]Includes plants that only produce electricity. Includes capacity increases (uprates) at existing units.
[4]Includes oil-, gas-, and dual-fired capacity.
[5]Nuclear capacity includes 7.3 gigawatts of uprates through 2035.
[6]Includes conventional hydroelectric, geothermal, wood, wood waste, all municipal waste, landfill gas, other biomass, solar, and wind power. Facilities co-firing biomass and coal are classified as coal.
[7]Primarily peak load capacity fueled by natural gas.
[8]Includes combined heat and power plants whose primary business is to sell electricity and heat to the public (i.e., those that report North American Industry Classification System code 22).
[9]Cumulative additions after December 31, 2010.
[10]Cumulative retirements after December 31, 2010.
[11]Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 capacity and projected planned additions: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A10. Electricity trade

(billion kilowatthours, unless otherwise noted)

Electricity trade	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Interregional electricity trade								
Gross domestic sales								
Firm power	232.1	237.5	139.1	104.4	47.1	24.2	24.2	-8.7%
Economy	231.9	138.0	202.7	208.7	246.8	251.5	220.3	1.9%
Total	**464.0**	**375.5**	**341.8**	**313.1**	**293.9**	**275.7**	**244.5**	**-1.7%**
Gross domestic sales (million 2010 dollars)								
Firm power	13923.7	14244.9	8341.5	6259.9	2824.5	1450.4	1450.4	-8.7%
Economy	9065.6	6653.5	8081.5	11012.9	14763.2	14164.9	13329.6	2.8%
Total	**22989.2**	**20898.4**	**16423.0**	**17272.7**	**17587.7**	**15615.2**	**14780.0**	**-1.4%**
International electricity trade								
Imports from Canada and Mexico								
Firm power	19.3	13.7	24.3	17.1	5.2	0.4	0.4	-13.3%
Economy	33.1	31.4	24.8	27.7	34.5	31.0	28.0	-0.5%
Total	**52.4**	**45.1**	**49.0**	**44.8**	**39.7**	**31.4**	**28.4**	**-1.8%**
Exports to Canada and Mexico								
Firm power	3.3	3.7	3.0	2.1	0.6	0.0	0.0	- -
Economy	14.7	15.7	16.9	16.7	17.0	17.0	16.5	0.2%
Total	**18.1**	**19.4**	**19.9**	**18.8**	**17.6**	**17.0**	**16.5**	**-0.7%**

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 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: 2009 and 2010 interregional firm electricity trade data: North American Electric Reliability Council (NERC), Electricity Sales and Demand Database 2007; NERC, 2011 Summer Reliability Assessment (May 2011); and NERC, Winter Reliability Assessment 2011/2012 (November 2011). 2009 and 2010 Mexican electricity trade data: U.S. Energy Information Administration (EIA), *Electric Power Annual 2010* DOE/EIA-0348(2010) (Washington, DC, November 2011). 2009 Canadian international electricity trade data: National Energy Board, *Electricity Exports and Imports Statistics, 2009*. 2010 Canadian electricity trade data: National Energy Board, *Electricity Exports and Imports Statistics, 2010*. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A11. Liquid fuels supply and disposition

(million barrels per day, unless otherwise noted)

Supply and disposition	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Crude oil								
Domestic crude production[1]	5.36	5.47	6.26	6.73	6.42	6.37	6.12	0.4%
Alaska	0.65	0.60	0.46	0.49	0.40	0.44	0.27	-3.2%
Lower 48 states	4.72	4.87	5.80	6.24	6.02	5.93	5.85	0.7%
Net imports	8.97	9.17	8.47	7.40	7.35	7.19	7.44	-0.8%
Gross imports	9.01	9.21	8.50	7.44	7.38	7.23	7.48	-0.8%
Exports	0.04	0.04	0.03	0.04	0.03	0.03	0.03	-1.0%
Other crude supply[2]	0.01	0.08	0.00	0.00	0.00	0.00	0.00	- -
Total crude supply	**14.34**	**14.72**	**14.73**	**14.13**	**13.77**	**13.56**	**13.56**	**-0.3%**
Other petroleum supply	**3.59**	**3.50**	**3.26**	**3.75**	**3.77**	**3.63**	**3.51**	**0.0%**
Natural gas plant liquids	1.91	2.07	2.53	2.79	2.82	2.84	2.80	1.2%
Net product imports	0.75	0.39	-0.23	-0.02	0.00	-0.13	-0.15	- -
Gross refined product imports[3]	1.27	1.23	0.79	0.80	0.86	0.86	0.94	-1.0%
Unfinished oil imports	0.68	0.61	0.64	0.57	0.53	0.50	0.50	-0.8%
Blending component imports	0.72	0.74	0.66	0.65	0.65	0.65	0.66	-0.5%
Exports	1.91	2.19	2.32	2.04	2.04	2.15	2.26	0.1%
Refinery processing gain[4]	0.98	1.07	0.96	0.98	0.95	0.91	0.87	-0.8%
Product stock withdrawal	-0.04	-0.03	0.00	0.00	0.00	0.00	0.00	- -
Other non-petroleum supply	**0.81**	**1.00**	**1.24**	**1.61**	**1.97**	**2.55**	**3.07**	**4.6%**
Supply from renewable sources	0.75	0.87	1.07	1.30	1.57	2.05	2.50	4.3%
Ethanol	0.73	0.85	0.95	1.13	1.26	1.49	1.71	2.8%
Domestic production	0.72	0.88	0.93	1.06	1.22	1.46	1.65	2.6%
Net imports	0.01	-0.02	0.02	0.07	0.04	0.03	0.07	- -
Biodiesel	0.02	0.01	0.09	0.10	0.12	0.13	0.13	9.2%
Domestic production	0.03	0.02	0.09	0.10	0.12	0.13	0.13	7.9%
Net imports	-0.01	-0.01	0.00	0.00	0.00	0.00	0.00	- -
Other biomass-derived liquids[5]	0.00	0.00	0.03	0.07	0.19	0.42	0.65	23.6%
Liquids from gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Liquids from coal	0.00	0.00	0.00	0.12	0.17	0.22	0.28	- -
Other[6]	0.05	0.13	0.17	0.19	0.24	0.28	0.29	3.4%
Total primary supply[7]	**18.74**	**19.22**	**19.23**	**19.49**	**19.51**	**19.74**	**20.14**	**0.2%**
Liquid fuels consumption								
by fuel								
Liquefied petroleum gases	2.13	2.27	1.98	2.17	2.23	2.25	2.24	-0.0%
E85[8]	0.00	0.00	0.01	0.18	0.27	0.62	0.90	27.5%
Motor gasoline[9]	9.00	8.99	8.96	8.62	8.42	8.19	8.16	-0.4%
Jet fuel[10]	1.39	1.43	1.47	1.50	1.55	1.58	1.61	0.5%
Distillate fuel oil[11]	3.63	3.80	4.15	4.30	4.32	4.37	4.47	0.7%
Diesel	3.18	3.32	3.68	3.87	3.91	3.98	4.10	0.9%
Residual fuel oil	0.51	0.54	0.56	0.57	0.57	0.58	0.59	0.4%
Other[12]	2.15	2.14	2.08	2.11	2.09	2.09	2.11	-0.1%
by sector								
Residential and commercial	1.05	1.12	1.00	0.96	0.94	0.92	0.91	-0.9%
Industrial[13]	4.24	4.31	4.20	4.42	4.46	4.46	4.48	0.2%
Transportation	13.54	13.82	13.87	13.92	13.92	14.15	14.54	0.2%
Electric power[14]	0.17	0.17	0.14	0.14	0.14	0.15	0.15	-0.4%
Total	**18.81**	**19.17**	**19.20**	**19.45**	**19.46**	**19.68**	**20.08**	**0.2%**
Discrepancy[15]	**-0.07**	**0.05**	**0.03**	**0.05**	**0.06**	**0.06**	**0.06**	**- -**

Table A11. Liquid fuels supply and disposition (continued)
(million barrels per day, unless otherwise noted)

Supply and disposition	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Domestic refinery distillation capacity[16]	17.7	17.6	17.5	16.1	15.7	15.7	15.5	-0.5%
Capacity utilization rate (percent)[17]	83.0	86.0	86.1	89.7	89.6	88.4	89.8	0.2%
Net import share of product supplied (percent)	51.9	49.6	42.9	38.2	37.9	36.0	36.5	-1.2%
Net expenditures for imported crude oil and petroleum products (billion 2010 dollars)	206.19	243.42	370.19	345.61	352.14	359.35	388.41	1.9%

[1]Includes lease condensate.
[2]Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude product supplied.
[3]Includes other hydrocarbons and alcohols.
[4]The volumetric amount by which total output is greater than input due to the processing of crude oil into products which, in total, have a lower specific gravity than the crude oil processed.
[5]Includes pyrolysis oils, biomass-derived Fischer-Tropsch liquids, and renewable feedstocks used for the production of green diesel and gasoline.
[6]Includes domestic sources of other blending components, other hydrocarbons, and ethers.
[7]Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.
[8]E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
[9]Includes ethanol and ethers blended into gasoline.
[10]Includes only kerosene type.
[11]Includes distillate fuel oil and kerosene from petroleum and biomass feedstocks.
[12]Includes aviation gasoline, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, methanol, and miscellaneous petroleum products.
[13]Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.
[14]Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.
[15]Balancing item. Includes unaccounted for supply, losses, and gains.
[16]End-of-year operable capacity.
[17]Rate is calculated by dividing the gross annual input to atmospheric crude oil distillation units by their operable refining capacity in barrels per calendar day.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 petroleum product supplied based on: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). Other 2009 data: EIA, *Petroleum Supply Annual 2009,* DOE/EIA-0340(2009)/1 (Washington, DC, July 2010). Other 2010 data: EIA, *Petroleum Supply Annual 2010,* DOE/EIA-0340(2010)/1 (Washington, DC, July 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A12. Petroleum product prices

(2010 dollars per gallon, unless otherwise noted)

Sector and fuel	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Crude oil prices (2010 dollars per barrel)								
Imported low sulfur light crude oil[1]	62.37	79.39	116.55	126.58	132.50	138.51	144.56	2.4%
Imported crude oil[1]	59.72	75.87	113.62	115.96	121.23	126.50	132.69	2.3%
Delivered sector product prices								
Residential								
Liquefied petroleum gases	2.104	2.288	2.595	2.641	2.738	2.816	2.926	1.0%
Distillate fuel oil	2.545	2.941	3.769	3.992	4.184	4.373	4.592	1.8%
Commercial								
Distillate fuel oil	2.230	2.866	3.289	3.496	3.701	3.900	4.065	1.4%
Residual fuel oil	2.045	1.657	2.412	2.631	2.729	2.850	2.823	2.2%
Residual fuel oil (2010 dollars per barrel)	85.89	69.58	101.29	110.51	114.61	119.71	118.59	2.2%
Industrial[2]								
Liquefied petroleum gases	1.698	1.846	2.316	2.364	2.479	2.573	2.709	1.5%
Distillate fuel oil	2.306	2.932	3.309	3.517	3.742	3.965	4.104	1.4%
Residual fuel oil	1.821	1.634	2.862	3.061	3.164	3.237	3.292	2.8%
Residual fuel oil (2010 dollars per barrel)	76.47	68.62	120.19	128.54	132.90	135.96	138.27	2.8%
Transportation								
Liquefied petroleum gases	2.188	2.277	2.700	2.734	2.829	2.901	3.015	1.1%
Ethanol (E85)[3]	1.978	2.402	2.758	2.660	3.036	3.027	3.137	1.1%
Ethanol wholesale price	1.589	1.712	2.230	2.490	2.343	2.281	2.201	1.0%
Motor gasoline[4]	2.379	2.756	3.527	3.762	3.875	4.036	4.091	1.6%
Jet fuel[5]	1.722	2.190	3.188	3.396	3.573	3.725	3.968	2.4%
Diesel fuel (distillate fuel oil)[6]	2.473	2.998	3.763	3.982	4.179	4.393	4.490	1.6%
Residual fuel oil	1.588	1.560	2.719	2.893	3.040	3.133	3.185	2.9%
Residual fuel oil (2010 dollars per barrel)	66.71	65.53	114.20	121.51	127.67	131.58	133.78	2.9%
Electric power[7]								
Distillate fuel oil	2.034	2.603	3.144	3.344	3.510	3.658	3.901	1.6%
Residual fuel oil	1.352	1.848	3.381	3.572	3.721	3.826	3.896	3.0%
Residual fuel oil (2010 dollars per barrel)	56.80	77.61	142.01	150.03	156.30	160.68	163.63	3.0%
Refined petroleum product prices[8]								
Liquefied petroleum gases	1.365	1.464	1.936	1.959	2.050	2.130	2.243	1.7%
Motor gasoline[4]	2.373	2.743	3.526	3.761	3.874	4.036	4.091	1.6%
Jet fuel[5]	1.722	2.190	3.188	3.396	3.573	3.725	3.968	2.4%
Distillate fuel oil	2.437	2.974	3.677	3.897	4.099	4.311	4.425	1.6%
Residual fuel oil	1.580	1.631	2.821	3.003	3.145	3.242	3.294	2.9%
Residual fuel oil (2010 dollars per barrel)	66.35	68.49	118.47	126.14	132.11	136.18	138.35	2.9%
Average	**2.170**	**2.529**	**3.301**	**3.481**	**3.611**	**3.767**	**3.872**	**1.7%**

Table A12. Petroleum product prices (continued)
(nominal dollars per gallon, unless otherwise noted)

Sector and fuel	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Crude oil prices (nominal dollars per barrel)								
Imported low sulfur light crude oil[1]	61.65	79.39	125.62	150.42	174.17	200.75	229.46	4.3%
Imported crude oil[1]	59.04	75.87	122.46	137.79	159.35	183.34	210.62	4.2%
Delivered sector product prices								
Residential								
Liquefied petroleum gases	2.080	2.288	2.797	3.138	3.598	4.081	4.644	2.9%
Distillate fuel oil	2.516	2.941	4.062	4.744	5.500	6.339	7.289	3.7%
Commercial								
Distillate fuel oil	2.205	2.866	3.545	4.155	4.865	5.652	6.453	3.3%
Residual fuel oil	2.022	1.657	2.599	3.127	3.587	4.131	4.482	4.1%
Residual fuel oil (nominal dollars per barrel)	84.91	69.58	109.17	131.32	150.66	173.50	188.23	4.1%
Industrial[2]								
Liquefied petroleum gases	1.679	1.846	2.496	2.809	3.259	3.729	4.300	3.4%
Distillate fuel oil	2.280	2.932	3.566	4.180	4.919	5.747	6.514	3.2%
Residual fuel oil	1.800	1.634	3.084	3.637	4.159	4.692	5.226	4.8%
Residual fuel oil (nominal dollars per barrel)	75.59	68.62	129.54	152.75	174.69	197.05	219.48	4.8%
Transportation								
Liquefied petroleum gases	2.163	2.277	2.910	3.248	3.719	4.204	4.786	3.0%
Ethanol (E85)[3]	1.955	2.402	2.972	3.161	3.990	4.387	4.979	3.0%
Ethanol wholesale price	1.571	1.712	2.403	2.959	3.079	3.306	3.494	2.9%
Motor gasoline[4]	2.352	2.756	3.801	4.470	5.093	5.850	6.493	3.5%
Jet fuel[5]	1.702	2.190	3.436	4.035	4.696	5.399	6.298	4.3%
Diesel fuel (distillate fuel oil)[6]	2.445	2.998	4.056	4.732	5.493	6.366	7.127	3.5%
Residual fuel oil	1.570	1.560	2.931	3.438	3.996	4.540	5.056	4.8%
Residual fuel oil (nominal dollars per barrel)	65.95	65.53	123.09	144.39	167.81	190.70	212.35	4.8%
Electric power[7]								
Distillate fuel oil	2.011	2.603	3.389	3.973	4.614	5.301	6.193	3.5%
Residual fuel oil	1.337	1.848	3.644	4.245	4.892	5.545	6.184	5.0%
Residual fuel oil (nominal dollars per barrel)	56.15	77.61	153.06	178.28	205.45	232.88	259.74	5.0%
Refined petroleum product prices[8]								
Liquefied petroleum gases	1.349	1.464	2.087	2.328	2.695	3.087	3.560	3.6%
Motor gasoline[4]	2.346	2.743	3.801	4.470	5.093	5.849	6.493	3.5%
Jet fuel[5]	1.702	2.190	3.436	4.035	4.696	5.399	6.298	4.3%
Distillate fuel oil	2.410	2.974	3.963	4.630	5.388	6.248	7.025	3.5%
Residual fuel oil	1.562	1.631	3.040	3.569	4.135	4.699	5.229	4.8%
Residual fuel oil (nominal dollars per barrel)	65.59	68.49	127.69	149.89	173.65	197.37	219.61	4.8%
Average	**2.145**	**2.529**	**3.558**	**4.137**	**4.746**	**5.460**	**6.146**	**3.6%**

[1]Weighted average price delivered to U.S. refiners.
[2]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[3]E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
[4]Sales weighted-average price for all grades. Includes Federal, State and local taxes.
[5]Includes only kerosene type.
[6]Diesel fuel for on-road use. Includes Federal and State taxes while excluding county and local taxes.
[7]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.
[8]Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.
Note: Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 imported low sulfur light crude oil price: U.S. Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2009 and 2010 imported crude oil price: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 and 2010 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2009*, DOE/EIA-0487(2009) (Washington, DC, August 2010). 2009 and 2010 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." 2009 and 2010 electric power prices based on: EIA, *Monthly Energy Review*, DOE/EIA-0035(2010/09) (Washington, DC, September 2010). 2009 and 2010 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. 2009 and 2010 wholesale ethanol prices derived from Bloomberg U.S. average rack price. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A13. Natural gas supply, disposition, and prices
(trillion cubic feet per year, unless otherwise noted)

Supply, disposition, and prices	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Production								
Dry gas production[1]	20.58	21.58	23.67	25.21	26.00	26.79	27.84	1.0%
Supplemental natural gas[2]	0.07	0.07	0.06	0.06	0.06	0.06	0.06	-0.2%
Net imports	**2.68**	**2.58**	**1.70**	**0.29**	**-0.84**	**-0.97**	**-1.43**	**- -**
Pipeline[3]	2.26	2.21	1.54	1.04	-0.10	-0.26	-0.68	- -
Liquefied natural gas[4]	0.42	0.37	0.16	-0.74	-0.74	-0.71	-0.74	- -
Total supply	**23.32**	**24.22**	**25.43**	**25.56**	**25.22**	**25.88**	**26.48**	**0.4%**
Consumption by sector								
Residential	4.78	4.94	4.87	4.82	4.76	4.72	4.65	-0.2%
Commercial	3.12	3.21	3.33	3.40	3.42	3.49	3.56	0.4%
Industrial[5]	6.17	6.60	6.97	7.23	7.12	7.00	7.00	0.2%
Natural-gas-to-liquids heat and power[6]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Natural gas to liquids production[7]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Electric power[8]	6.87	7.38	8.09	7.89	7.69	8.40	8.93	0.8%
Transportation[9]	0.04	0.04	0.06	0.08	0.11	0.14	0.16	5.9%
Pipeline fuel	0.60	0.63	0.67	0.67	0.66	0.66	0.66	0.2%
Lease and plant fuel[10]	1.28	1.34	1.39	1.43	1.44	1.46	1.50	0.5%
Total	**22.85**	**24.13**	**25.38**	**25.52**	**25.20**	**25.87**	**26.48**	**0.4%**
Discrepancy[11]	**0.47**	**0.09**	**0.05**	**0.04**	**0.03**	**0.01**	**-0.00**	**- -**
Natural gas prices								
(2010 dollars per million Btu)								
Henry hub spot price	4.00	4.39	4.27	4.80	5.75	6.19	7.23	2.0%
Average lower 48 wellhead price[12]	3.75	4.06	3.83	4.28	5.10	5.48	6.36	1.8%
(2010 dollars per thousand cubic feet)								
Average lower 48 wellhead price[12]	3.85	4.16	3.92	4.38	5.23	5.61	6.52	1.8%
Delivered prices								
(2010 dollars per thousand cubic feet)								
Residential	12.25	11.36	10.54	11.33	12.41	12.98	14.21	0.9%
Commercial	10.06	9.32	8.81	9.44	10.38	10.79	11.84	1.0%
Industrial[5]	5.47	5.65	4.97	5.44	6.27	6.64	7.59	1.2%
Electric power[8]	4.97	5.25	4.64	5.02	5.83	6.27	7.24	1.3%
Transportation[13]	14.49	13.54	12.69	13.01	13.66	13.91	14.75	0.3%
Average[14]	**7.55**	**7.33**	**6.58**	**7.12**	**8.03**	**8.42**	**9.40**	**1.0%**

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 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Natural gas prices								
(nominal dollars per million Btu)								
Henry hub spot price	3.95	4.39	4.61	5.70	7.56	8.98	11.48	3.9%
Average lower 48 wellhead price[12]	3.71	4.06	4.13	5.09	6.71	7.94	10.10	3.7%
(nominal dollars per thousand cubic feet)								
Average lower 48 wellhead price[12]	3.80	4.16	4.23	5.21	6.87	8.13	10.34	3.7%
Delivered prices								
(nominal dollars per thousand cubic feet)								
Residential	12.11	11.36	11.36	13.47	16.31	18.81	22.55	2.8%
Commercial	9.95	9.32	9.49	11.22	13.64	15.64	18.79	2.8%
Industrial[5]	5.40	5.65	5.36	6.46	8.25	9.62	12.05	3.1%
Electric power[8]	4.92	5.25	5.00	5.96	7.66	9.08	11.49	3.2%
Transportation[13]	14.32	13.54	13.68	15.46	17.95	20.16	23.41	2.2%
Average[14]	**7.46**	**7.33**	**7.10**	**8.46**	**10.56**	**12.20**	**14.92**	**2.9%**

[1]Marketed production (wet) minus extraction losses.
[2]Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.
[3]Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida, as well as gas from Canada and Mexico.
[4]Includes natural gas used for liquefaction at export terminals.
[5]Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
[6]Includes any natural gas used in the process of converting natural gas to liquid fuel that is not actually converted.
[7]Includes any natural gas that is converted into liquid fuel.
[8]Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.
[9]Compressed natural gas used as vehicle fuel.
[10]Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
[11]Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. In addition, 2009 and 2010 values include net storage injections.
[12]Represents lower 48 onshore and offshore supplies.
[13]Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.
[14]Weighted average prices. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 supply values; and lease, plant, and pipeline fuel consumption: U.S. Energy Information Administration (EIA), *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2010 supply values; and lease, plant, and pipeline fuel consumption; and wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). Other 2009 and 2010 consumption based on: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 wellhead price: U.S. Department of the Interior, Office of Natural Resources Revenue; and EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2009 residential and commercial delivered prices: EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2010 residential and commercial delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). 2009 and 2010 electric power prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, April 2010 and April 2011, Table 4.2, and EIA, *State Energy Data Report 2009*, DOE/EIA-0214(2009) (Washington, DC, June 2011). 2009 and 2010 industrial delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey* and industrial and wellhead prices from the *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010) and the *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). 2009 transportation sector delivered prices are based on: EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010) and estimated state taxes, federal taxes, and dispensing costs or charges. 2010 transportation sector delivered prices are model results. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A14. Oil and gas supply

Production and supply	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Crude oil								
Lower 48 average wellhead price[1] (2010 dollars per barrel)	**103.63**	**80.46**	**117.51**	**124.49**	**130.44**	**135.78**	**137.06**	**2.2%**
Production (million barrels per day)[2]								
United States total	5.36	5.47	6.26	6.73	6.42	6.37	6.12	0.4%
Lower 48 onshore	3.04	3.21	4.03	4.24	4.38	4.32	4.06	1.0%
Lower 48 offshore	1.68	1.67	1.77	2.00	1.64	1.61	1.79	0.3%
Alaska	0.65	0.60	0.46	0.49	0.40	0.44	0.27	-3.2%
Lower 48 end of year reserves[2] (billion barrels)	**18.75**	**18.64**	**20.84**	**23.14**	**23.59**	**24.17**	**24.49**	**1.1%**
Natural gas								
Lower 48 average wellhead price[1] (2010 dollars per million Btu)								
Henry hub spot price	4.00	4.39	4.27	4.80	5.75	6.19	7.23	2.0%
Average lower 48 wellhead price[1]	3.75	4.06	3.83	4.28	5.10	5.48	6.36	1.8%
(2010 dollars per thousand cubic feet)								
Average lower 48 wellhead price[1]	3.85	4.16	3.92	4.38	5.23	5.61	6.52	1.8%
Dry production (trillion cubic feet)[3]								
United States total	20.58	21.58	23.67	25.21	26.00	26.79	27.84	1.0%
Lower 48 onshore	17.50	18.66	21.24	22.29	23.35	23.98	24.86	1.2%
Associated-dissolved[4]	1.40	1.40	1.48	1.50	1.40	1.21	1.07	-1.1%
Non-associated	16.10	17.26	19.76	20.78	21.95	22.77	23.79	1.3%
Tight gas	6.40	5.68	6.00	6.05	6.07	5.93	5.98	0.2%
Shale gas	2.91	4.99	8.09	9.47	11.03	12.34	13.56	4.1%
Coalbed methane	1.99	1.99	1.85	1.87	1.83	1.80	1.82	-0.4%
Other	4.80	4.59	3.82	3.40	3.02	2.70	2.44	-2.5%
Lower 48 offshore	2.70	2.56	2.13	2.65	2.39	2.56	2.75	0.3%
Associated-dissolved[4]	0.70	0.71	0.63	0.85	0.73	0.72	0.78	0.4%
Non-associated	2.00	1.85	1.50	1.80	1.67	1.85	1.97	0.2%
Alaska	0.37	0.36	0.29	0.27	0.25	0.25	0.23	-1.7%
Lower 48 end of year dry reserves[3] (trillion cubic feet)	**263.40**	**260.72**	**275.39**	**289.46**	**297.80**	**306.40**	**311.87**	**0.7%**
Supplemental gas supplies (trillion cubic feet)[5]	**0.07**	**0.07**	**0.06**	**0.06**	**0.06**	**0.06**	**0.06**	**-0.2%**
Total lower 48 wells drilled (thousands)	**34.31**	**43.19**	**48.36**	**53.61**	**59.39**	**58.60**	**62.35**	**1.5%**

[1]Represents lower 48 onshore and offshore supplies.
[2]Includes lease condensate.
[3]Marketed production (wet) minus extraction losses.
[4]Gas which occurs in crude oil reservoirs either as free gas (associated) or as gas in solution with crude oil (dissolved).
[5]Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.

Sources: 2009 and 2010 crude oil lower 48 average wellhead price: U.S. Energy Information Administration (EIA), *Petroleum Marketing Annual 2009*, DOE/EIA-0487(2009) (Washington, DC, August 2010). 2009 and 2010 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: EIA, *Petroleum Supply Annual 2010*, DOE/EIA-0340(2010)/1 (Washington, DC, July 2011). 2009 U.S. crude oil and natural gas reserves: EIA, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, DOE/EIA-0216(2009) (Washington, DC, November 2010). 2009 Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2009 natural gas lower 48 average wellhead price: U.S. Department of the Interior, Office of Natural Resources Revenue; and EIA, *Natural Gas Annual 2009*, DOE/EIA-0131(2009) (Washington, DC, December 2010). 2010 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2011/07) (Washington, DC, July 2011). Other 2009 and 2010 values: EIA, Office of Energy Analysis. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A15. Coal supply, disposition, and prices
(million short tons per year, unless otherwise noted)

Supply, disposition, and prices	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Production[1]								
Appalachia	343	336	297	265	276	259	264	-1.0%
Interior	147	156	157	162	153	161	171	0.4%
West	585	592	552	630	699	731	752	1.0%
East of the Mississippi	450	446	411	384	386	377	393	-0.5%
West of the Mississippi	625	638	595	674	743	773	795	0.9%
Total	**1075**	**1084**	**1006**	**1058**	**1129**	**1150**	**1188**	**0.4%**
Waste coal supplied[2]	**14**	**14**	**14**	**13**	**15**	**16**	**16**	**0.7%**
Net imports								
Imports[3]	21	18	13	41	58	76	85	6.4%
Exports	59	82	110	97	115	121	134	2.0%
Total	**-38**	**-64**	**-97**	**-56**	**-57**	**-45**	**-49**	**-1.0%**
Total supply[4]	**1050**	**1034**	**923**	**1015**	**1087**	**1122**	**1155**	**0.4%**
Consumption by sector								
Residential and commercial	3	3	3	3	3	3	3	-0.3%
Coke plants	15	21	21	20	19	17	16	-1.0%
Other industrial[5]	45	51	48	49	48	48	48	-0.3%
Coal-to-liquids heat and power	0	0	0	13	21	27	35	- -
Coal to liquids production	0	0	0	12	20	26	33	- -
Electric power[6]	934	976	851	918	976	1000	1021	0.2%
Total	**997**	**1051**	**923**	**1014**	**1087**	**1121**	**1155**	**0.4%**
Discrepancy and stock change[7]	**53**	**-17**	**-0**	**0**	**0**	**0**	**-0**	**- -**
Average minemouth price[8]								
(2010 dollars per short ton)	33.62	35.61	41.78	40.91	43.87	46.27	49.24	1.3%
(2010 dollars per million Btu)	1.68	1.76	2.07	2.06	2.22	2.36	2.51	1.4%
Delivered prices (2010 dollars per short ton)[9]								
Coke plants	144.66	153.59	187.81	197.38	211.55	224.61	236.79	1.7%
Other industrial[5]	65.61	64.23	69.90	70.78	72.72	75.12	77.79	0.8%
Coal to liquids	- -	- -	18.55	39.26	36.25	38.62	40.50	- -
Electric power								
(2010 dollars per short ton)	43.83	44.14	45.46	47.26	49.22	51.68	54.19	0.8%
(2010 dollars per million Btu)	2.22	2.25	2.36	2.46	2.56	2.70	2.83	0.9%
Average	**46.41**	**47.28**	**49.90**	**51.09**	**52.56**	**54.75**	**56.93**	**0.7%**
Exports[10]	102.61	120.41	140.11	152.76	163.24	168.43	172.97	1.5%

Table A15. Coal supply, disposition, and prices (continued)
(million short tons per year, unless otherwise noted)

Supply, disposition, and prices	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Average minemouth price[8]								
(nominal dollars per short ton)	33.24	35.61	45.03	48.62	57.67	67.06	78.16	3.2%
(nominal dollars per million Btu)	1.66	1.76	2.23	2.45	2.92	3.42	3.98	3.3%
Delivered prices (nominal dollars per short ton)[9]								
Coke plants	143.01	153.59	202.42	234.55	278.08	325.53	375.87	3.6%
Other industrial[5]	64.86	64.23	75.33	84.10	95.58	108.88	123.48	2.6%
Coal to liquids	- -	- -	20.00	46.65	47.64	55.97	64.28	- -
Electric power								
(nominal dollars per short ton)	43.33	44.14	48.99	56.16	64.69	74.90	86.02	2.7%
(nominal dollars per million Btu)	2.19	2.25	2.54	2.93	3.37	3.92	4.49	2.8%
Average	**45.88**	**47.28**	**53.79**	**60.72**	**69.09**	**79.35**	**90.37**	**2.6%**
Exports[10]	101.44	120.41	151.01	181.53	214.57	244.11	274.56	3.4%

[1]Includes anthracite, bituminous coal, subbituminous coal, and lignite.
[2]Includes waste coal consumed by the electric power and industrial sectors. Waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in the consumption data.
[3]Excludes imports to Puerto Rico and the U.S. Virgin Islands.
[4]Production plus waste coal supplied plus net imports.
[5]Includes consumption for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public. Excludes all coal use in the coal-to-liquids process.
[6]Includes all electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[7]Balancing item: the sum of production, net imports, and waste coal supplied minus total consumption.
[8]Includes reported prices for both open market and captive mines.
[9]Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.
[10]F.a.s. price at U.S. port of exit.
- - = Not applicable.
Btu = British thermal unit.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 data based on: U.S. Energy Information Administration (EIA), *Annual Coal Report 2010*, DOE/EIA-0584(2010) (Washington, DC, November 2011); EIA, *Quarterly Coal Report, October-December 2010*, DOE/EIA-0121(2010/4Q) (Washington, DC, May 2011); and EIA, AEO2012 National Energy Modeling System run REF2012.D121011B. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A16. Renewable energy generating capacity and generation
(gigawatts, unless otherwise noted)

Capacity and generation	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Electric power sector[1]								
Net summer capacity								
Conventional hydropower	78.01	78.03	78.41	78.95	79.62	80.48	81.67	0.2%
Geothermal[2]	2.37	2.37	2.80	3.65	4.40	5.48	6.41	4.1%
Municipal waste[3]	3.20	3.30	3.36	3.36	3.36	3.36	3.36	0.1%
Wood and other biomass[4]	2.43	2.45	2.72	2.72	2.72	2.72	2.73	0.4%
Solar thermal	0.47	0.55	1.44	1.44	1.44	1.44	1.44	3.9%
Solar photovoltaic[5]	0.15	0.38	2.02	2.02	2.33	3.80	8.17	13.0%
Wind	34.52	39.05	51.39	51.42	54.35	57.28	65.23	2.1%
Offshore wind	0.00	0.00	0.20	0.20	0.20	0.20	0.20	- -
Total	**121.16**	**126.13**	**142.35**	**143.76**	**148.42**	**154.76**	**169.20**	**1.2%**
Generation (billion kilowatthours)								
Conventional hydropower	271.50	255.32	294.98	299.72	302.38	306.57	311.50	0.8%
Geothermal[2]	15.01	15.67	18.22	25.02	31.14	39.85	47.40	4.5%
Biogenic municipal waste[6]	16.10	16.56	14.66	14.67	14.67	14.67	14.67	-0.5%
Wood and other biomass	10.74	11.51	22.47	62.22	85.93	78.09	73.09	7.7%
Dedicated plants	9.68	10.15	9.15	12.97	12.43	11.60	10.06	-0.0%
Cofiring	1.06	1.36	13.32	49.25	73.49	66.49	63.03	16.6%
Solar thermal	0.74	0.82	2.99	2.99	2.99	2.99	2.99	5.3%
Solar photovoltaic[5]	0.16	0.46	3.61	3.61	4.44	8.46	20.27	16.4%
Wind	73.88	94.49	140.50	140.57	149.33	158.68	185.76	2.7%
Offshore wind	0.00	0.00	0.75	0.75	0.75	0.75	0.75	- -
Total	**388.11**	**394.82**	**498.19**	**549.56**	**591.62**	**610.08**	**656.44**	**2.1%**
End-use generators[7]								
Net summer capacity								
Conventional hydropower[8]	0.34	0.33	0.33	0.33	0.33	0.33	0.33	0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Municipal waste[9]	0.36	0.35	0.35	0.35	0.35	0.35	0.35	0.0%
Biomass	4.56	4.56	5.55	6.87	9.23	13.39	14.92	4.9%
Solar photovoltaic[5]	1.55	2.96	9.86	12.02	12.46	13.05	13.81	6.4%
Wind	0.18	0.36	1.99	2.29	2.32	2.36	2.43	8.0%
Total	**6.99**	**8.56**	**18.08**	**21.86**	**24.69**	**29.49**	**31.85**	**5.4%**
Generation (billion kilowatthours)								
Conventional hydropower[8]	1.94	1.76	1.75	1.75	1.75	1.75	1.75	-0.0%
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	- -
Municipal waste[9]	2.07	2.02	2.79	2.79	2.79	2.79	2.79	1.3%
Biomass	25.31	26.10	32.34	41.48	59.83	93.51	105.03	5.7%
Solar photovoltaic[5]	2.42	4.58	15.18	18.62	19.36	20.34	21.58	6.4%
Wind	0.24	0.47	2.58	2.98	3.02	3.09	3.18	8.0%
Total	**31.98**	**34.93**	**54.64**	**67.61**	**86.74**	**121.47**	**134.33**	**5.5%**

Table A16. Renewable energy generating capacity and generation (continued)
(gigawatts, unless otherwise noted)

Capacity and generation	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Total, all sectors								
Net summer capacity								
Conventional hydropower	78.35	78.36	78.74	79.28	79.96	80.81	82.00	0.2%
Geothermal	2.37	2.37	2.80	3.65	4.40	5.48	6.41	4.1%
Municipal waste	3.57	3.65	3.71	3.71	3.71	3.71	3.71	0.1%
Wood and other biomass[4]	6.99	7.00	8.26	9.59	11.95	16.11	17.65	3.8%
Solar[5]	2.17	3.89	13.32	15.48	16.22	18.30	23.43	7.4%
Wind	34.70	39.41	53.59	53.91	56.87	59.84	67.86	2.2%
Total	**128.15**	**134.69**	**160.43**	**165.62**	**173.12**	**184.25**	**201.05**	**1.6%**
Generation (billion kilowatthours)								
Conventional hydropower	273.44	257.08	296.73	301.47	304.13	308.32	313.24	0.8%
Geothermal	15.01	15.67	18.22	25.02	31.14	39.85	47.40	4.5%
Municipal waste	18.16	18.59	17.45	17.46	17.46	17.46	17.46	-0.3%
Wood and other biomass	36.05	37.61	54.82	103.70	145.76	171.60	178.12	6.4%
Solar[5]	3.31	5.85	21.78	25.22	26.79	31.79	44.85	8.5%
Wind	74.12	94.95	143.84	144.30	153.10	162.53	189.70	2.8%
Total	**420.08**	**429.75**	**552.82**	**617.17**	**678.37**	**731.55**	**790.77**	**2.5%**

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

[2]Includes both hydrothermal resources (hot water and steam) and near-field enhanced geothermal systems (EGS). Near-field EGS potential occurs on known hydrothermal sites, however this potential requires the addition of external fluids for electricity generation and is only available after 2025.

[3]Includes municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. All municipal waste is included, although a portion of the municipal waste stream contains petroleum-derived plastics and other non-renewable sources.

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

[5]Does not include off-grid photovoltaics (PV). Based on annual PV shipments from 1989 through 2009, EIA estimates that as much as 245 megawatts of remote electricity generation PV applications (i.e., off-grid power systems) were in service in 2009, plus an additional 558 megawatts in communications, transportation, and assorted other non-grid-connected, specialized applications. See U.S. Energy Information Administration, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011), Table 10.9 (annual PV shipments, 1989-2009). 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.

[6]Includes biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. Only biogenic municipal waste is included. The U.S. 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 U.S. Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy* (Washington, DC, May 2007).

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

[8]Represents own-use industrial hydroelectric power.

[9]Includes municipal 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 2009 and 2010 are model results and may differ slightly from official EIA data reports.

Sources: 2009 and 2010 capacity: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). 2009 and 2010 generation: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A17. Renewable energy consumption by sector and source
(quadrillion Btu per year)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Marketed renewable energy[1]								
Residential (wood)	**0.43**	**0.42**	**0.43**	**0.43**	**0.43**	**0.44**	**0.44**	**0.1%**
Commercial (biomass)	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.11**	**0.0%**
Industrial[2]	**2.19**	**2.34**	**2.37**	**2.68**	**3.21**	**4.06**	**4.68**	**2.8%**
Conventional hydroelectric	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.0%
Municipal waste[3]	0.16	0.17	0.17	0.17	0.17	0.17	0.17	-0.1%
Biomass	1.19	1.31	1.37	1.49	1.60	1.66	1.75	1.2%
Biofuels heat and coproducts	0.82	0.84	0.81	1.00	1.42	2.21	2.74	4.8%
Transportation	**0.99**	**1.14**	**1.47**	**1.82**	**2.29**	**3.14**	**3.95**	**5.1%**
Ethanol used in E85[4]	0.00	0.00	0.01	0.17	0.26	0.59	0.86	27.5%
Ethanol used in gasoline blending	0.95	1.10	1.22	1.29	1.37	1.35	1.36	0.8%
Biodiesel used in distillate blending	0.04	0.03	0.17	0.20	0.24	0.25	0.26	9.2%
Liquids from biomass	0.00	0.00	0.03	0.12	0.38	0.91	1.42	- -
Renewable diesel and gasoline[5]	0.00	0.01	0.03	0.03	0.03	0.03	0.03	6.7%
Electric power[6]	**3.77**	**3.85**	**4.89**	**5.44**	**5.87**	**6.04**	**6.48**	**2.1%**
Conventional hydroelectric	2.65	2.49	2.88	2.93	2.95	2.99	3.04	0.8%
Geothermal	0.15	0.15	0.20	0.27	0.33	0.41	0.49	4.7%
Biogenic municipal waste[7]	0.07	0.08	0.09	0.09	0.09	0.09	0.09	0.6%
Biomass	0.17	0.19	0.28	0.71	0.96	0.87	0.82	6.0%
Dedicated plants	0.16	0.17	0.14	0.21	0.20	0.19	0.16	-0.1%
Cofiring	0.01	0.02	0.14	0.50	0.76	0.69	0.65	14.0%
Solar thermal	0.01	0.01	0.03	0.03	0.03	0.03	0.03	5.3%
Solar photovoltaic	0.00	0.00	0.04	0.04	0.04	0.08	0.20	16.4%
Wind	0.72	0.92	1.38	1.38	1.46	1.56	1.82	2.8%
Total marketed renewable energy	**7.49**	**7.87**	**9.26**	**10.48**	**11.91**	**13.78**	**15.65**	**2.8%**
Sources of ethanol								
from corn and other starch	0.94	1.14	1.19	1.32	1.38	1.38	1.53	1.2%
from cellulose	0.00	0.00	0.01	0.05	0.21	0.52	0.61	56.7%
Net imports	0.02	-0.03	0.02	0.09	0.05	0.04	0.09	- -
Total	**0.95**	**1.11**	**1.23**	**1.46**	**1.64**	**1.94**	**2.23**	**2.8%**

Table A17. Renewable energy consumption by sector and source (continued)
(quadrillion Btu per year)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Nonmarketed renewable energy[8]								
Selected consumption								
Residential	**0.02**	**0.03**	**0.08**	**0.10**	**0.11**	**0.11**	**0.12**	**6.2%**
Solar hot water heating	0.01	0.01	0.02	0.02	0.02	0.02	0.02	2.4%
Geothermal heat pumps	0.00	0.01	0.01	0.02	0.02	0.02	0.03	6.4%
Solar photovoltaic	0.00	0.01	0.05	0.06	0.06	0.06	0.06	7.9%
Wind	0.00	0.00	0.01	0.01	0.01	0.01	0.01	8.6%
Commercial	**0.03**	**0.03**	**0.04**	**0.04**	**0.04**	**0.05**	**0.05**	**1.6%**
Solar thermal	0.03	0.03	0.03	0.03	0.03	0.04	0.04	1.3%
Solar photovoltaic	0.00	0.01	0.01	0.01	0.01	0.01	0.01	2.6%
Wind	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.7%

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

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

[3]Includes municipal waste, landfill gas, and municipal sewage sludge. All municipal waste is included, although a portion of the municipal waste stream contains petroleum-derived plastics and other non-renewable sources.

[4]Excludes motor gasoline component of E85.

[5]Renewable feedstocks for the on-site production of diesel and gasoline.

[6]Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators. Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 9,760 Btu per kilowatthour.

[7]Includes biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. Only biogenic municipal waste is included. The U.S. 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 U.S. Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy* (Washington, DC, May 2007).

[8]Includes selected renewable energy consumption data for which the energy is not bought or sold, either directly or indirectly as an input to marketed energy. The U.S. 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 2009 and 2010 are model results and may differ slightly from official EIA data reports.

Sources: 2009 and 2010 ethanol: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 and 2010 electric power sector: EIA, Form EIA-860, "Annual Electric Generator Report" (preliminary). Other 2009 and 2010 values: EIA, Office of Energy Analysis. **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A18. Energy-related carbon dioxide emissions by sector and source
(million metric tons, unless otherwise noted)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Residential								
Petroleum	81	85	74	69	65	61	59	-1.5%
Natural gas	259	267	265	262	259	257	253	-0.2%
Coal	1	1	1	1	1	1	1	-1.3%
Electricity[1]	819	879	759	791	838	883	925	0.2%
Total	**1159**	**1232**	**1098**	**1122**	**1163**	**1202**	**1236**	**0.0%**
Commercial								
Petroleum	49	51	44	44	44	44	44	-0.6%
Natural gas	169	173	181	185	186	190	194	0.5%
Coal	6	6	6	6	6	6	6	0.0%
Electricity[1]	785	805	734	776	826	872	916	0.5%
Total	**1009**	**1035**	**965**	**1010**	**1061**	**1111**	**1159**	**0.5%**
Industrial[2]								
Petroleum	339	344	362	361	358	357	362	0.2%
Natural gas[3]	383	408	442	457	452	448	451	0.4%
Coal	128	157	147	169	174	180	186	0.7%
Electricity[1]	551	583	542	565	563	547	531	-0.4%
Total	**1401**	**1492**	**1493**	**1552**	**1547**	**1532**	**1529**	**0.1%**
Transportation								
Petroleum[4]	1818	1836	1833	1818	1798	1798	1824	-0.0%
Natural gas[5]	34	36	40	41	42	43	45	0.9%
Electricity[1]	4	4	4	5	7	9	12	4.5%
Total	**1856**	**1876**	**1877**	**1864**	**1846**	**1850**	**1881**	**0.0%**
Electric power[6]								
Petroleum	34	33	24	24	25	26	26	-0.9%
Natural gas	373	399	439	428	417	455	483	0.8%
Coal	1741	1828	1565	1673	1780	1818	1862	0.1%
Other[7]	12	12	12	12	12	12	12	0.0%
Total	**2159**	**2271**	**2039**	**2136**	**2234**	**2311**	**2383**	**0.2%**
Total by fuel								
Petroleum[3]	2320	2349	2338	2317	2290	2286	2315	-0.1%
Natural gas	1218	1283	1366	1373	1356	1393	1425	0.4%
Coal	1876	1990	1718	1847	1961	2004	2054	0.1%
Other[7]	12	12	12	12	12	12	12	0.0%
Total	**5425**	**5634**	**5434**	**5549**	**5618**	**5695**	**5806**	**0.1%**
Carbon dioxide emissions (tons per person)	**17.6**	**18.1**	**16.7**	**16.2**	**15.7**	**15.2**	**14.9**	**-0.8%**

[1]Emissions from the electric power sector are distributed to the end-use sectors.
[2]Fuel consumption includes energy for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public.
[3]Includes lease and plant fuel.
[4]This includes carbon dioxide from international bunker fuels, both civilian and military, which are excluded from the accounting of carbon dioxide emissions under the United Nations convention. From 1990 through 2009, international bunker fuels accounted for 90 to 126 million metric tons annually.
[5]Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.
[6]Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.
[7]Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 emissions and emission factors: U.S. Energy Information Administration (EIA), *Monthly Energy Review, October 2011* DOE/EIA-0035(2011/10) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A19. Energy-related carbon dioxide emissions by end use
(million metric tons)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Residential								
Space heating	280.90	298.54	278.95	274.16	269.42	266.51	262.14	-0.5%
Space cooling	142.87	191.47	161.07	167.16	177.20	186.54	194.50	0.1%
Water heating	160.15	159.68	153.12	156.60	159.90	159.11	156.70	-0.1%
Refrigeration	66.17	66.06	58.42	59.58	62.17	64.93	67.63	0.1%
Cooking	32.01	32.25	31.13	32.58	34.16	35.59	36.95	0.5%
Clothes dryers	36.78	37.23	34.11	32.65	31.76	31.47	32.32	-0.6%
Freezers	14.50	14.62	13.26	13.39	13.65	13.74	13.91	-0.2%
Lighting	123.36	122.27	83.69	76.89	74.13	73.66	74.31	-2.0%
Clothes washers[1]	5.87	5.79	5.01	4.26	3.92	3.67	3.76	-1.7%
Dishwashers[1]	17.70	17.75	15.61	15.57	15.53	16.29	17.37	-0.1%
Color televisions and set-top boxes	56.62	58.21	52.01	54.53	58.75	63.33	68.10	0.6%
Personal computers and related equipment	29.75	30.47	29.97	34.15	37.56	40.12	41.89	1.3%
Furnace fans and boiler circulation pumps	23.80	23.93	22.07	22.45	22.86	22.97	23.11	-0.1%
Other uses	167.23	173.12	159.95	178.22	201.51	223.61	243.72	1.4%
Discrepancy[2]	1.73	0.16	0.00	0.00	0.00	0.00	-0.00	- -
Total residential	**1159.44**	**1231.57**	**1098.37**	**1122.20**	**1162.53**	**1201.53**	**1236.41**	**0.0%**
Commercial								
Space heating[3]	129.15	129.69	125.28	125.04	122.78	121.79	119.49	-0.3%
Space cooling[3]	84.29	100.86	81.90	82.06	83.27	84.65	85.77	-0.6%
Water heating[3]	41.32	41.44	41.79	43.04	43.76	44.53	44.68	0.3%
Ventilation	88.64	90.04	85.02	89.60	94.41	98.17	100.70	0.4%
Cooking	13.27	13.58	13.75	14.23	14.51	14.91	15.22	0.5%
Lighting	181.96	180.12	160.03	164.72	171.22	176.24	179.63	-0.0%
Refrigeration	70.13	69.16	55.84	53.69	53.66	54.35	55.56	-0.9%
Office equipment (PC)	38.00	37.69	29.98	30.36	31.22	32.51	33.58	-0.5%
Office equipment (non-PC)	43.86	46.44	49.91	57.60	63.83	68.61	72.32	1.8%
Other uses[4]	317.99	325.62	321.18	349.80	382.79	415.67	452.48	1.3%
Total commercial	**1008.62**	**1034.63**	**964.68**	**1010.15**	**1061.44**	**1111.42**	**1159.43**	**0.5%**
Industrial								
Manufacturing								
Refining	261.44	265.88	268.74	284.65	291.20	303.67	323.07	0.8%
Food products	100.97	105.04	99.58	105.29	110.20	113.93	116.48	0.4%
Paper products	77.15	76.69	72.73	73.68	73.48	72.01	70.91	-0.3%
Bulk chemicals	221.74	234.55	220.50	237.85	237.77	229.63	220.71	-0.2%
Glass	18.92	18.59	19.34	21.11	21.51	20.86	19.91	0.3%
Cement manufacturing	21.19	20.95	25.28	28.49	28.83	28.97	29.09	1.3%
Iron and steel	91.87	116.74	120.52	120.72	114.74	104.89	96.55	-0.8%
Aluminum	27.63	30.90	29.05	28.26	26.76	25.18	23.33	-1.1%
Fabricated metal products	36.69	36.14	36.92	38.43	38.62	35.83	33.60	-0.3%
Machinery	22.80	23.76	25.71	27.18	27.59	25.56	23.65	-0.0%
Computers and electronics	30.68	33.08	33.52	35.92	36.33	36.49	37.09	0.5%
Transportation equipment	43.76	45.62	57.23	56.46	55.52	57.62	59.24	1.1%
Electrical equipment	7.86	8.17	8.60	9.08	9.18	8.71	8.62	0.2%
Wood products	16.74	16.90	19.92	20.46	20.36	19.19	18.67	0.4%
Plastics	37.47	38.26	35.32	36.21	35.54	34.91	34.07	-0.5%
Balance of manufacturing	142.01	142.62	136.24	140.38	138.68	132.64	127.12	-0.5%
Total manufacturing	1158.92	1213.88	1209.22	1264.20	1266.32	1250.08	1242.09	0.1%
Nonmanufacturing								
Agriculture	73.75	73.70	69.26	68.06	67.32	65.95	66.60	-0.4%
Construction	76.16	69.67	84.33	91.77	91.73	92.22	93.41	1.2%
Mining	43.45	46.04	45.11	45.41	43.78	42.93	42.44	-0.3%
Total nonmanufacturing	193.36	189.41	198.70	205.24	202.83	201.10	202.46	0.3%
Discrepancy[2]	48.64	88.24	85.56	82.38	78.26	80.52	84.95	-0.2%
Total industrial	**1400.92**	**1491.53**	**1493.48**	**1551.81**	**1547.41**	**1531.70**	**1529.50**	**0.1%**

Table A19. Energy-related carbon dioxide emissions by end use (continued)
(million metric tons)

Sector and source	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Transportation								
Light-duty vehicles	1071.12	1056.84	1019.26	984.78	965.40	959.78	970.93	-0.3%
Commercial light trucks[5]	36.81	38.00	40.07	39.96	38.97	39.57	41.12	0.3%
Bus transportation	17.00	17.84	17.50	17.43	17.34	17.36	17.49	-0.1%
Freight trucks	341.29	351.41	390.92	400.89	394.03	395.06	404.63	0.6%
Rail, passenger	5.65	5.86	5.82	6.15	6.49	6.78	7.04	0.7%
Rail, freight	30.64	33.38	31.70	35.55	37.00	37.64	38.44	0.6%
Shipping, domestic	14.41	16.44	16.97	17.98	17.98	18.12	18.31	0.4%
Shipping, international	61.04	67.55	67.99	68.42	68.83	69.23	69.63	0.1%
Recreational boats	16.63	17.03	17.22	17.51	17.83	18.29	18.83	0.4%
Air	172.79	178.28	181.46	187.65	192.85	195.89	197.83	0.4%
Military use	52.41	54.83	46.93	45.98	47.34	49.89	52.84	-0.1%
Lubricants	4.71	5.19	5.00	5.11	5.15	5.20	5.25	0.0%
Pipeline fuel	32.53	34.34	36.51	36.52	35.84	35.75	36.06	0.2%
Discrepancy[2]	-1.23	-1.14	-0.22	0.44	1.12	1.77	2.38	- -
Total transportation	**1855.81**	**1875.88**	**1877.14**	**1864.37**	**1846.18**	**1850.34**	**1880.77**	**0.0%**
Biogenic energy combustion[6]								
Biomass	178.16	190.68	204.76	257.63	290.67	288.97	292.18	1.7%
Electric power sector	15.83	18.00	25.97	66.66	89.93	82.05	76.63	6.0%
Other sectors	162.33	172.68	178.78	190.97	200.74	206.92	215.55	0.9%
Biogenic waste	6.56	7.10	8.20	8.21	8.21	8.21	8.21	0.6%
Biofuels heat and coproducts	77.07	79.14	75.88	93.85	133.49	207.38	256.66	4.8%
Ethanol	65.18	75.71	84.07	100.23	112.05	132.86	152.43	2.8%
Biodiesel	3.07	2.11	12.52	14.35	17.17	18.16	19.07	9.2%
Liquids from biomass	0.00	0.00	2.51	9.10	27.89	66.87	104.20	- -
Renewable diesel and gasoline	0.00	0.50	2.54	2.53	2.54	2.52	2.52	6.7%
Total	**330.03**	**355.24**	**390.49**	**485.90**	**592.03**	**724.98**	**835.28**	**3.5%**

[1]Does not include water heating portion of load.

[2]Represents 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.

[3]Includes emissions related to fuel consumption for district services.

[4]Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, emergency generators, combined heat and power in commercial buildings, manufacturing performed in commercial buildings, and cooking (distillate), plus emissions from residual fuel oil, liquefied petroleum gases, coal, motor gasoline, and kerosene.

[5]Commercial trucks 8,501 to 10,000 pounds.

[6]By convention, the direct emissions from biogenic energy sources are excluded from energy-related CO_2 emissions. The release of carbon from these sources is assumed to be balanced by the uptake of carbon when the feedstock is grown, resulting in zero net emissions over some period of time. If, however, increased use of biomass energy results in a decline in terrestrial carbon stocks, a net positive release of carbon may occur. Accordingly, the emissions from biogenic energy sources are reported here as an indication of the potential net release of carbon dioxide in the absence of offsetting sequestration.

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.

Sources: 2009 and 2010 emissions and emission factors: U.S. Energy Information Administration (EIA), *Monthly Energy Review, October 2011* DOE/EIA-0035(2011/10) (Washington, DC, October 2011). **Projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A20. Macroeconomic indicators

(billion 2005 chain-weighted dollars, unless otherwise noted)

Indicators	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Real gross domestic product	**12703**	**13088**	**14870**	**16954**	**19176**	**21736**	**24639**	**2.6%**
Components of real gross domestic product								
Real consumption	9037	9221	10216	11326	12687	14348	16221	2.3%
Real investment	1454	1715	2449	2922	3427	4066	4825	4.2%
Real government spending	2540	2557	2358	2411	2507	2655	2813	0.4%
Real exports	1494	1663	2434	3389	4461	5656	7142	6.0%
Real imports	1853	2085	2531	2972	3669	4593	5740	4.1%
Energy intensity (thousand Btu per 2005 dollar of GDP)								
Delivered energy	5.42	5.45	4.82	4.34	3.88	3.50	3.17	-2.1%
Total energy	7.45	7.50	6.57	5.95	5.37	4.84	4.38	-2.1%
Price indices								
GDP chain-type price index (2005=1.000)	1.097	1.110	1.196	1.319	1.459	1.609	1.762	1.9%
Consumer price index (1982-4=1.00)								
All-urban	2.15	2.18	2.41	2.70	3.02	3.37	3.74	2.2%
Energy commodities and services	1.93	2.12	2.57	2.95	3.37	3.82	4.27	2.8%
Wholesale price index (1982=1.00)								
All commodities	1.73	1.85	2.09	2.26	2.44	2.61	2.79	1.7%
Fuel and power	1.59	1.86	2.25	2.59	3.04	3.47	4.00	3.1%
Metals and metal products	1.87	2.08	2.42	2.57	2.59	2.60	2.59	0.9%
Industrial commodities excluding energy	1.76	1.83	2.04	2.17	2.27	2.36	2.44	1.1%
Interest rates (percent, nominal)								
Federal funds rate	0.16	0.17	3.65	4.68	4.59	4.36	4.07	- -
10-year treasury note	3.26	3.21	4.77	5.33	5.31	5.13	4.93	- -
AA utility bond rate	5.75	5.24	6.80	7.39	7.53	7.46	7.38	- -
Value of shipments (billion 2005 dollars)								
Service sectors	19996	20602	22544	25340	27979	30815	33359	1.9%
Total industrial	5667	5838	6836	7583	7946	8300	8707	1.6%
Nonmanufacturing	1615	1578	1888	2116	2211	2317	2437	1.8%
Manufacturing	4052	4260	4948	5467	5735	5983	6270	1.6%
Energy-intensive	1508	1594	1682	1830	1912	1982	2052	1.0%
Non-energy-intensive	2544	2665	3265	3637	3823	4001	4218	1.9%
Total shipments	**25664**	**26440**	**29379**	**32923**	**35926**	**39115**	**42065**	**1.9%**
Population and employment (millions)								
Population, with armed forces overseas	307.8	310.8	326.2	342.0	358.1	374.1	390.1	0.9%
Population, aged 16 and over	241.8	244.3	256.5	269.4	282.6	296.2	309.6	1.0%
Population, over age 65	39.7	40.4	47.1	55.1	64.2	72.3	77.7	2.6%
Employment, nonfarm	130.7	129.8	140.1	148.4	153.3	161.1	166.7	1.0%
Employment, manufacturing	11.8	11.5	12.4	12.3	11.4	10.2	9.1	-0.9%
Key labor indicators								
Labor force (millions)	154.2	153.9	157.9	163.7	168.3	174.0	181.3	0.7%
Nonfarm labor productivity (1992=1.00)	1.06	1.10	1.16	1.27	1.42	1.58	1.76	1.9%
Unemployment rate (percent)	9.27	9.63	7.11	5.73	5.52	5.48	5.58	- -
Key indicators for energy demand								
Real disposable personal income	9883	10062	11157	12716	14474	16359	18252	2.4%
Housing starts (millions)	0.60	0.63	1.76	1.95	1.94	1.89	1.89	4.5%
Commercial floorspace (billion square feet)	80.3	81.1	84.1	89.1	93.9	98.2	103.0	1.0%
Unit sales of light-duty vehicles (millions)	10.40	11.55	16.35	16.49	17.36	18.03	18.57	1.9%

GDP = Gross domestic product.
Btu = British thermal unit.
- - = Not applicable.
Sources: 2009 and 2010: IHS Global Insight Industry and Employment models, August 2011. **Projections:** U.S. Energy Information Administration, AEO2012 National Energy Modeling System run REF2012.D121011B.

Table A21. International liquids supply and disposition summary
(million barrels per day, unless otherwise noted)

Supply and disposition	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Crude oil prices (2010 dollars per barrel)[1]								
Imported low sulfur light crude oil	62.37	79.39	116.55	126.58	132.50	138.51	144.56	2.4%
Imported crude oil	59.72	75.87	113.62	115.96	121.23	126.50	132.69	2.3%
Crude oil prices (nominal dollars per barrel)[1]								
Imported low sulfur light crude oil	61.65	79.39	125.62	150.42	174.17	200.75	229.46	4.3%
Imported crude oil	59.04	75.87	122.46	137.79	159.35	183.34	210.62	4.2%
Conventional production (conventional)[2]								
OPEC[3]								
Middle East	22.30	23.43	25.46	27.62	30.07	32.29	34.09	1.5%
North Africa	3.92	3.89	3.62	3.42	3.37	3.31	3.27	-0.7%
West Africa	4.16	4.45	5.09	5.35	5.40	5.31	5.26	0.7%
South America	2.43	2.29	2.13	1.97	1.92	1.79	1.72	-1.1%
Total OPEC	**32.80**	**34.05**	**36.30**	**38.37**	**40.75**	**42.70**	**44.33**	**1.1%**
Non-OPEC								
OECD								
United States (50 states)	8.27	8.79	9.93	10.69	10.43	10.40	10.07	0.5%
Canada	1.96	1.91	1.79	1.82	1.82	1.81	1.78	-0.3%
Mexico and Chile	3.00	2.98	2.65	1.97	1.58	1.65	1.68	-2.3%
OECD Europe[4]	4.70	4.36	3.70	3.33	3.15	3.00	2.83	-1.7%
Japan	0.13	0.13	0.14	0.15	0.15	0.15	0.16	0.7%
Australia and New Zealand	0.65	0.62	0.55	0.54	0.54	0.53	0.53	-0.6%
Total OECD	**18.71**	**18.80**	**18.76**	**18.50**	**17.68**	**17.55**	**17.06**	**-0.4%**
Non-OECD								
Russia	9.93	10.14	10.04	10.54	11.06	11.62	12.16	0.7%
Other Europe and Eurasia[5]	3.12	3.22	3.67	4.01	4.37	4.52	4.54	1.4%
China	3.99	4.27	4.29	4.46	4.79	4.93	4.70	0.4%
Other Asia[6]	3.67	3.77	3.79	3.55	3.38	3.17	3.00	-0.9%
Middle East	1.56	1.58	1.43	1.31	1.18	1.06	0.97	-1.9%
Africa	2.44	2.41	2.40	2.54	2.68	2.70	2.68	0.4%
Brazil	2.08	2.19	2.72	3.34	3.87	4.21	4.45	2.9%
Other Central and South America	1.90	2.01	2.29	2.32	2.47	2.67	2.65	1.1%
Total non-OECD	**28.69**	**29.59**	**30.63**	**32.07**	**33.80**	**34.88**	**35.15**	**0.7%**
Total conventional production	**80.21**	**82.44**	**85.69**	**88.93**	**92.23**	**95.13**	**96.54**	**0.6%**
Unconventional production[7]								
United States (50 states)	0.75	0.90	1.05	1.35	1.70	2.24	2.71	4.5%
Other North America	1.69	1.93	2.51	3.08	3.75	4.46	5.16	4.0%
OECD Europe[4]	0.22	0.22	0.23	0.24	0.26	0.27	0.28	1.0%
Middle East	0.01	0.01	0.17	0.21	0.24	0.24	0.24	14.5%
Africa.	0.21	0.21	0.28	0.37	0.38	0.39	0.40	2.6%
Central and South America	1.14	1.20	1.78	2.31	2.61	2.90	3.17	3.9%
Other	0.12	0.13	0.16	0.28	0.61	0.92	1.18	9.1%
Total unconventional production	**4.14**	**4.61**	**6.18**	**7.83**	**9.55**	**11.42**	**13.14**	**4.3%**
Total production	**84.35**	**87.05**	**91.87**	**96.76**	**101.77**	**106.55**	**109.68**	**0.9%**

Table A21. International liquids supply and disposition summary (continued)
(million barrels per day, unless otherwise noted)

Supply and disposition	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
Consumption[8]								
OECD								
United States (50 states)	18.81	19.17	19.20	19.45	19.46	19.68	20.08	0.2%
United States territories	0.27	0.28	0.31	0.32	0.34	0.36	0.36	1.0%
Canada	2.16	2.21	2.15	2.21	2.25	2.29	2.35	0.2%
Mexico and Chile	2.35	2.34	2.38	2.43	2.50	2.60	2.68	0.5%
OECD Europe[4]	14.66	14.58	14.14	14.43	14.65	14.76	14.74	0.0%
Japan	4.39	4.45	4.51	4.60	4.62	4.51	4.42	-0.0%
South Korea	2.14	2.24	2.25	2.35	2.46	2.53	2.56	0.5%
Australia and New Zealand	1.15	1.13	1.11	1.14	1.17	1.21	1.23	0.3%
Total OECD	**45.94**	**46.40**	**46.05**	**46.93**	**47.45**	**47.93**	**48.42**	**0.2%**
Non-OECD								
Russia	2.73	2.93	3.02	2.94	2.91	2.94	2.97	0.1%
Other Europe and Eurasia[5]	2.15	2.08	2.30	2.35	2.45	2.55	2.63	0.9%
China	8.33	9.19	12.10	14.35	16.03	17.65	18.50	2.8%
India	3.11	3.18	3.70	4.58	5.40	5.79	5.80	2.4%
Other non-OECD Asia[6]	6.43	6.73	7.28	7.95	8.85	9.40	9.89	1.5%
Middle East	6.84	7.35	7.78	7.69	8.16	8.98	9.49	1.0%
Africa	3.23	3.34	3.30	3.37	3.57	3.80	4.09	0.8%
Brazil	2.52	2.65	2.84	2.94	3.15	3.47	3.80	1.5%
Other Central and South America	3.07	3.19	3.49	3.66	3.81	4.05	4.09	1.0%
Total non-OECD	**38.41**	**40.65**	**45.82**	**49.83**	**54.32**	**58.62**	**61.26**	**1.7%**
Total consumption	**84.35**	**87.05**	**91.87**	**96.76**	**101.77**	**106.55**	**109.69**	**0.9%**
OPEC production[9]	33.34	34.58	37.30	39.69	42.20	44.27	46.04	1.2%
Non-OPEC production[9]	51.01	52.47	54.57	57.07	59.57	62.28	63.64	0.8%
Net Eurasia exports	10.25	10.53	11.11	12.60	13.94	14.85	15.54	1.6%
OPEC market share (percent)	39.5	39.7	40.6	41.0	41.5	41.5	42.0	- -

[1]Weighted average price delivered to U.S. refiners.
[2]Includes 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.
[3]OPEC = Organization of Petroleum Exporting Countries - Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela.
[4]OECD Europe = Organization for Economic Cooperation and Development - Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.
[5]Other Europe and Eurasia = Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Macedonia, Malta, Moldova, Montenegro, Romania, Serbia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.
[6]Other Asia = Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia (Kampuchea), Fiji, French Polynesia, Guam, Hong Kong, Indonesia, Kiribati, Laos, Malaysia, Macau, Maldives, Mongolia, Myanmar (Burma), Nauru, Nepal, New Caledonia, Niue, North Korea, Pakistan, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, Vanuatu, and Vietnam.
[7]Includes 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.
[8]Includes both OPEC and non-OPEC consumers in the regional breakdown.
[9]Includes both conventional and unconventional liquids production.
- - = Not applicable.
Note: Totals may not equal sum of components due to independent rounding. Data for 2009 and 2010 are model results and may differ slightly from official EIA data reports.
Sources: 2009 and 2010 low sulfur light crude oil price: U.S. Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2009 and 2010 imported crude oil price: EIA, *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011). 2009 quantities derived from: EIA, International Energy Statistics database as of November 2009. **2010 quantities and projections:** EIA, AEO2012 National Energy Modeling System run REF2012.D121011B and EIA, Generate World Oil Balance Model.