

Appendix A  
**Reference Case**

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

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

# Reference Case

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

Supply, Disposition, and Prices	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
<b>Prices (2006 dollars per unit)</b>								
Petroleum (dollars per barrel)								
Imported Low Sulfur Light Crude Oil Price <sup>13</sup> . . .	58.28	66.02	74.03	59.85	59.70	64.49	70.45	0.3%
Imported Crude Oil Price <sup>13</sup> . . . . .	50.40	59.05	65.18	52.03	51.55	55.68	58.66	-0.0%
Natural Gas (dollars per million Btu)								
Price at Henry Hub . . . . .	8.93	6.73	6.90	5.87	5.95	6.39	7.22	0.3%
Wellhead Price <sup>14</sup> . . . . .	7.62	6.24	6.16	5.21	5.29	5.69	6.45	0.1%
Natural Gas (dollars per thousand cubic feet)								
Wellhead Price <sup>14</sup> . . . . .	7.85	6.42	6.33	5.36	5.44	5.86	6.63	0.1%
Coal (dollars per ton)								
Minemouth Price <sup>15</sup> . . . . .	24.08	24.63	26.16	23.38	22.51	22.75	23.32	-0.2%
Coal (dollars per million Btu)								
Minemouth Price <sup>15</sup> . . . . .	1.18	1.21	1.28	1.17	1.14	1.16	1.19	-0.1%
Average Delivered Price <sup>16</sup> . . . . .	1.67	1.78	1.93	1.80	1.77	1.78	1.82	0.1%
Average Electricity Price (cents per kilowatthour)	8.4	8.9	9.2	8.5	8.6	8.7	8.8	-0.0%

<sup>1</sup>Includes waste coal.  
<sup>2</sup>Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.  
<sup>3</sup>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.  
<sup>4</sup>Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.  
<sup>5</sup>Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.  
<sup>6</sup>Includes coal, coal coke (net), and electricity (net).  
<sup>7</sup>Includes crude oil and petroleum products.  
<sup>8</sup>Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.  
<sup>9</sup>Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol, biodiesel, and coal-based synthetic liquids. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.  
<sup>10</sup>Excludes coal converted to coal-based synthetic liquids.  
<sup>11</sup>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.  
<sup>12</sup>Includes non-biogenic municipal waste and net electricity imports.  
<sup>13</sup>Weighted average price delivered to U.S. refiners.  
<sup>14</sup>Represents lower 48 onshore and offshore supplies.  
<sup>15</sup>Includes reported prices for both open market and captive mines.  
<sup>16</sup>Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.  
 Btu = British thermal unit.  
 - - = Not applicable.  
 Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.  
**Sources:** 2005 natural gas supply values: Energy Information Administration (EIA), *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 natural gas wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2005 and 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values and 2005 crude oil and lease condensate production: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Other 2005 petroleum supply values: EIA, *Petroleum Supply Annual 2005*, DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2005 and 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 and 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2005 and 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

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

## Reference Case

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

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

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

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

<sup>1</sup>Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

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

<sup>3</sup>Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

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

<sup>5</sup>Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

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

<sup>7</sup>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.

<sup>8</sup>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.

<sup>9</sup>Includes only kerosene type.

<sup>10</sup>Diesel fuel for on- and off- road use.

<sup>11</sup>Includes aviation gasoline and lubricants.

<sup>12</sup>Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

<sup>13</sup>Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes ethanol and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

<sup>14</sup>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.

<sup>15</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

<sup>16</sup>Includes non-biogenic municipal waste not included above.

<sup>17</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic and solar thermal sources. Includes petroleum coke used in the electric power sector. Excludes ethanol, net electricity imports, and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports. Consumption values of 0.00 are values that round to 0.00, because they are less than 0.005.

Sources: 2005 and 2006 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 population and gross domestic product: Global Insight, Global Insight Industry and Employment models, July 2007. 2005 and 2006 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2006*, DOE/EIA-0573(2006) (Washington, DC, November 2007).

Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

## Reference Case

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

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

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

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

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

<sup>2</sup>Excludes use for lease and plant fuel.

<sup>3</sup>Includes Federal and State taxes while excluding county and local taxes.

<sup>4</sup>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.

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

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

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

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

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

<sup>10</sup>Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

-- = Not applicable.

Note: Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

**Sources:** 2005 and 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 residential and commercial natural gas delivered prices: EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 and 2006 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 transportation sector natural gas delivered prices are based on: EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and estimated state taxes, federal taxes, and dispensing costs or charges. 2006 transportation sector natural gas delivered prices are model results. 2005 and 2006 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2003 through April 2004, Table 4.11.A. 2005 and 2006 coal prices based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2005 and 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Reference Case

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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
<b>Key Indicators</b>								
<b>Households (millions)</b>								
Single-Family .....	79.65	80.81	83.48	88.66	93.38	97.49	101.28	0.9%
Multifamily .....	24.49	24.81	25.86	27.42	29.05	30.69	32.44	1.1%
Mobile Homes .....	6.94	6.89	6.67	6.65	6.73	6.78	6.86	-0.0%
<b>Total .....</b>	<b>111.09</b>	<b>112.51</b>	<b>116.00</b>	<b>122.73</b>	<b>129.15</b>	<b>134.96</b>	<b>140.58</b>	<b>0.9%</b>
<b>Average House Square Footage .....</b>	<b>1802</b>	<b>1815</b>	<b>1858</b>	<b>1916</b>	<b>1965</b>	<b>2008</b>	<b>2046</b>	<b>0.5%</b>
<b>Energy Intensity</b>								
<b>(million Btu per household)</b>								
Delivered Energy Consumption .....	103.7	95.8	100.5	97.3	95.3	93.2	91.6	-0.2%
Total Energy Consumption .....	194.8	185.0	191.8	183.8	181.1	179.0	177.9	-0.2%
<b>(thousand Btu per square foot)</b>								
Delivered Energy Consumption .....	57.5	52.8	54.1	50.8	48.5	46.4	44.8	-0.7%
Total Energy Consumption .....	108.1	101.9	103.2	95.9	92.1	89.1	87.0	-0.7%
<b>Delivered Energy Consumption by Fuel</b>								
<b>Electricity</b>								
Space Heating .....	0.31	0.27	0.30	0.32	0.32	0.33	0.33	0.8%
Space Cooling .....	0.82	0.75	0.79	0.85	0.91	0.97	1.04	1.4%
Water Heating .....	0.38	0.38	0.38	0.40	0.42	0.43	0.43	0.5%
Refrigeration .....	0.39	0.39	0.37	0.36	0.37	0.38	0.39	0.0%
Cooking .....	0.10	0.10	0.11	0.12	0.12	0.13	0.14	1.2%
Clothes Dryers .....	0.25	0.25	0.25	0.26	0.27	0.28	0.30	0.6%
Freezers .....	0.08	0.08	0.08	0.08	0.09	0.10	0.11	1.3%
Lighting .....	0.73	0.74	0.72	0.55	0.51	0.47	0.49	-1.7%
Clothes Washers <sup>1</sup> .....	0.03	0.04	0.03	0.03	0.03	0.03	0.03	-1.1%
Dishwashers <sup>1</sup> .....	0.10	0.10	0.09	0.09	0.10	0.10	0.11	0.4%
Color Televisions and Set-Top Boxes .....	0.30	0.33	0.39	0.40	0.43	0.48	0.55	2.2%
Personal Computers .....	0.07	0.07	0.10	0.11	0.12	0.14	0.16	3.6%
Furnace Fans .....	0.06	0.05	0.06	0.07	0.07	0.08	0.08	1.6%
Other Uses <sup>2</sup> .....	1.01	1.05	1.26	1.37	1.49	1.61	1.73	2.1%
<b>Delivered Energy .....</b>	<b>4.64</b>	<b>4.61</b>	<b>4.95</b>	<b>5.02</b>	<b>5.25</b>	<b>5.53</b>	<b>5.88</b>	<b>1.0%</b>
<b>Natural Gas</b>								
Space Heating .....	3.59	3.13	3.57	3.73	3.83	3.87	3.88	0.9%
Space Cooling .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.1%
Water Heating .....	1.09	1.08	1.08	1.12	1.15	1.14	1.09	0.1%
Cooking .....	0.22	0.22	0.22	0.24	0.25	0.26	0.26	0.8%
Clothes Dryers .....	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.6%
<b>Delivered Energy .....</b>	<b>4.97</b>	<b>4.50</b>	<b>4.95</b>	<b>5.16</b>	<b>5.30</b>	<b>5.35</b>	<b>5.32</b>	<b>0.7%</b>
<b>Distillate Fuel Oil</b>								
Space Heating .....	0.75	0.60	0.66	0.66	0.65	0.62	0.59	-0.1%
Water Heating .....	0.11	0.10	0.09	0.09	0.08	0.08	0.07	-1.8%
<b>Delivered Energy .....</b>	<b>0.85</b>	<b>0.70</b>	<b>0.75</b>	<b>0.75</b>	<b>0.73</b>	<b>0.69</b>	<b>0.65</b>	<b>-0.3%</b>
<b>Liquefied Petroleum Gases</b>								
Space Heating .....	0.26	0.23	0.24	0.24	0.24	0.23	0.23	0.0%
Water Heating .....	0.06	0.06	0.05	0.05	0.05	0.04	0.04	-1.1%
Cooking .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.3%
Other Uses <sup>3</sup> .....	0.15	0.15	0.16	0.18	0.20	0.22	0.25	2.0%
<b>Delivered Energy .....</b>	<b>0.50</b>	<b>0.47</b>	<b>0.48</b>	<b>0.50</b>	<b>0.52</b>	<b>0.54</b>	<b>0.55</b>	<b>0.7%</b>
Marketed Renewables (wood) <sup>4</sup> .....	0.45	0.41	0.44	0.42	0.40	0.39	0.38	-0.3%
Other Fuels <sup>5</sup> .....	0.10	0.08	0.09	0.09	0.09	0.09	0.09	0.4%



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

Key Indicators and Consumption	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
<b>Delivered Energy Consumption by End Use</b>								
Space Heating .....	5.46	4.72	5.30	5.46	5.53	5.53	5.50	0.6%
Space Cooling .....	0.82	0.75	0.79	0.85	0.91	0.97	1.04	1.4%
Water Heating .....	1.64	1.62	1.61	1.66	1.70	1.69	1.63	0.0%
Refrigeration .....	0.39	0.39	0.37	0.36	0.37	0.38	0.39	0.0%
Cooking .....	0.35	0.35	0.36	0.38	0.41	0.42	0.43	0.9%
Clothes Dryers .....	0.32	0.33	0.33	0.34	0.35	0.36	0.38	0.6%
Freezers .....	0.08	0.08	0.08	0.08	0.09	0.10	0.11	1.3%
Lighting .....	0.73	0.74	0.72	0.55	0.51	0.47	0.49	-1.7%
Clothes Washers .....	0.03	0.04	0.03	0.03	0.03	0.03	0.03	-1.1%
Dishwashers .....	0.10	0.10	0.09	0.09	0.10	0.10	0.11	0.4%
Color Televisions and Set-Top Boxes .....	0.30	0.33	0.39	0.40	0.43	0.48	0.55	2.2%
Personal Computers .....	0.07	0.07	0.10	0.11	0.12	0.14	0.16	3.6%
Furnace Fans .....	0.06	0.05	0.06	0.07	0.07	0.08	0.08	1.6%
Other Uses <sup>6</sup> .....	1.16	1.21	1.42	1.56	1.69	1.83	1.98	2.1%
<b>Delivered Energy</b> .....	<b>11.52</b>	<b>10.77</b>	<b>11.66</b>	<b>11.95</b>	<b>12.30</b>	<b>12.58</b>	<b>12.88</b>	<b>0.7%</b>
<b>Electricity Related Losses</b> .....	<b>10.12</b>	<b>10.04</b>	<b>10.59</b>	<b>10.61</b>	<b>11.08</b>	<b>11.57</b>	<b>12.14</b>	<b>0.8%</b>
<b>Total Energy Consumption by End Use</b>								
Space Heating .....	6.14	5.31	5.95	6.13	6.21	6.22	6.18	0.6%
Space Cooling .....	2.61	2.39	2.48	2.64	2.83	3.01	3.19	1.2%
Water Heating .....	2.47	2.44	2.43	2.51	2.59	2.59	2.52	0.1%
Refrigeration .....	1.26	1.24	1.15	1.12	1.14	1.16	1.20	-0.1%
Cooking .....	0.57	0.58	0.60	0.63	0.67	0.70	0.72	0.9%
Clothes Dryers .....	0.88	0.88	0.87	0.90	0.92	0.95	0.99	0.5%
Freezers .....	0.27	0.26	0.25	0.26	0.29	0.31	0.34	1.1%
Lighting .....	2.31	2.35	2.26	1.71	1.58	1.47	1.49	-1.9%
Clothes Washers .....	0.11	0.11	0.10	0.09	0.08	0.08	0.08	-1.2%
Dishwashers .....	0.31	0.30	0.29	0.29	0.30	0.31	0.33	0.3%
Color Televisions and Set-Top Boxes .....	0.95	1.05	1.23	1.26	1.33	1.49	1.69	2.0%
Personal Computers .....	0.21	0.21	0.30	0.34	0.38	0.43	0.48	3.5%
Furnace Fans .....	0.19	0.17	0.20	0.21	0.23	0.24	0.24	1.5%
Other Uses <sup>6</sup> .....	3.37	3.50	4.13	4.46	4.84	5.19	5.55	1.9%
<b>Total</b> .....	<b>21.64</b>	<b>20.82</b>	<b>22.25</b>	<b>22.56</b>	<b>23.39</b>	<b>24.15</b>	<b>25.01</b>	<b>0.8%</b>
<b>Nonmarketed Renewables<sup>7</sup></b>								
Geothermal Heat Pumps .....	0.00	0.00	0.00	0.01	0.01	0.01	0.01	6.1%
Solar Hot Water Heating .....	0.01	0.01	0.02	0.02	0.03	0.04	0.05	5.3%
Solar Photovoltaic .....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	16.9%
<b>Total</b> .....	<b>0.01</b>	<b>0.02</b>	<b>0.02</b>	<b>0.03</b>	<b>0.04</b>	<b>0.05</b>	<b>0.07</b>	<b>5.9%</b>

<sup>1</sup>Does not include water heating portion of load.

<sup>2</sup>Includes small electric devices, heating elements, and motors not listed above.

<sup>3</sup>Includes such appliances as outdoor grills and mosquito traps.

<sup>4</sup>Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 2001*.

<sup>5</sup>Includes kerosene and coal.

<sup>6</sup>Includes all other uses listed above.

<sup>7</sup>Represents primary energy displaced.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Reference Case

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

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

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

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

<sup>1</sup>Includes fuel consumption for district services.

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

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

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

<sup>5</sup>Includes residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

<sup>6</sup>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.

<sup>7</sup>Represents primary energy displaced by solar thermal space heating and water heating, and electricity generation by solar photovoltaic systems.

Btu = British thermal unit.

PC = Personal computer.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Reference Case

**Table A6. Industrial Sector Key Indicators and Consumption**

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

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

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

## Reference Case

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

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

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

<sup>2</sup>Includes lubricants and miscellaneous petroleum products.

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

<sup>4</sup>Includes net coal coke imports.

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

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

**Sources:** 2005 and 2006 prices for motor gasoline and distillate fuel oil are based on: Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 and 2006 petrochemical feedstock and asphalt and road oil prices are based on: *State Energy Data Report 2005*, DOE/EIA-0214(2005) (Washington, DC, June 2007). 2005 and 2006 coal prices are based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2005 and 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 natural gas prices are based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 refining consumption based on: *Petroleum Supply Annual 2005*, DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). 2006 refining consumption based on: *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Other 2005 and 2006 consumption values are based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 industrial shipments: Global Insight, Global Insight Industry model, July 2007. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

Table A7. Transportation Sector Key Indicators and Delivered Energy Consumption

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

## Reference Case

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

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

<sup>1</sup>Commercial trucks 8,500 to 10,000 pounds.

<sup>2</sup>Environmental Protection Agency rated miles per gallon.

<sup>3</sup>Tested new vehicle efficiency revised for on-road performance.

<sup>4</sup>Combined car and light truck "on-the-road" estimate.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

**Sources:** 2005 and 2006: Energy Information Administration (EIA), *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006); EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007); Federal Highway Administration, *Highway Statistics 2005* (Washington, DC, December 2006); Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 26 and Annual* (Oak Ridge, TN, 2007); National Highway Traffic and Safety Administration, *Summary of Fuel Economy Performance* (Washington, DC, March 2004); U.S. Department of Commerce, Bureau of the Census, "Vehicle Inventory and Use Survey," EC97TV (Washington, DC, October 1999); EIA, *State Energy Data Report 2005*, DOE/EIA-0214(2005) (Washington, DC, June 2007); EIA, *Alternatives to Traditional Transportation Fuels 2005 (Part II-User and Fuel Data)*, November 2007; U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly, December 2006/2005* (Washington, DC, 2006); EIA, *Fuel Oil and Kerosene Sales 2004*, DOE/EIA-0535(2004) (Washington, DC, November 2005); and United States Department of Defense, Defense Fuel Supply Center. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.



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

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

## Reference Case

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

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

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

<sup>2</sup>Includes plants that only produce electricity.

<sup>3</sup>Includes electricity generation from fuel cells.

<sup>4</sup>Includes non-biogenic municipal waste. The Energy Information Administration estimates approximately 7 billion kilowatthours of electricity was generated from this material in 2005. See Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).

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

<sup>6</sup>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).

<sup>7</sup>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.

<sup>8</sup>Includes refinery gas and still gas.

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

<sup>10</sup>Includes batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 electric power sector generation; sales to utilities; net imports; electricity sales; and emissions: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007), and supporting databases. 2005 and 2006 prices: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

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

## Reference Case

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

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

<sup>1</sup>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.

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

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

<sup>4</sup>Includes oil-, gas-, and dual-fired capacity.

<sup>5</sup>Nuclear capacity includes 2.7 gigawatts of uprates through 2030.

<sup>6</sup>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.

<sup>7</sup>Primarily peak load capacity fueled by natural gas.

<sup>8</sup>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).

<sup>9</sup>Cumulative additions after December 31, 2006.

<sup>10</sup>Cumulative retirements after December 31, 2006.

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

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 capacity and projected planned additions: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

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

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports. Firm Power Sales are capacity sales, meaning the delivery of the power is scheduled as part of the normal operating conditions of the affected electric systems. Economy Sales are subject to curtailment or cessation of delivery by the supplier in accordance with prior agreements or under specified conditions.

Sources: 2005 and 2006 interregional firm electricity trade data: North American Electric Reliability Council (NERC), Electricity Sales and Demand Database 2004. 2005 and 2006 Mexican electricity trade data: Energy Information Administration (EIA), *Electric Power Annual 2006* DOE/EIA-0348(2006) (Washington, DC, November 2007). 2005 Canadian international electricity trade data: National Energy Board, *Annual Report 2005*. 2006 Canadian electricity trade data: National Energy Board, *Annual Report 2006*. Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

## Reference Case

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

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

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

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

<sup>1</sup>Includes lease condensate.

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

<sup>3</sup>Includes other hydrocarbons and alcohols.

<sup>4</sup>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.

<sup>5</sup>Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, and ethers.

<sup>6</sup>Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.

<sup>7</sup>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.

<sup>8</sup>Includes ethanol and ethers blended into gasoline.

<sup>9</sup>Includes only kerosene type.

<sup>10</sup>Includes distillate fuel oil and kerosene from petroleum and biomass feedstocks.

<sup>11</sup>Includes aviation gasoline, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, methanol, liquid hydrogen, and miscellaneous petroleum products.

<sup>12</sup>Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.

<sup>13</sup>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.

<sup>14</sup>Balancing item. Includes unaccounted for supply, losses, and gains.

<sup>15</sup>End-of-year operable capacity.

<sup>16</sup>Rate is calculated by dividing the gross annual input to atmospheric crude oil distillation units by their operable refining capacity in barrels per calendar day.

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2005 data: EIA, *Petroleum Supply Annual 2005*, DOE/EIA-0340(2005)/1 (Washington, DC, October 2006). Other 2006 data: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Reference Case

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

Sector and Fuel	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
<b>Crude Oil Prices (2006 dollars per barrel)</b>								
Imported Low Sulfur Light Crude Oil <sup>1</sup> . . . . .	58.28	66.02	74.03	59.85	59.70	64.49	70.45	0.3%
Imported Crude Oil <sup>1</sup> . . . . .	50.40	59.05	65.18	52.03	51.55	55.68	58.66	-0.0%
<b>Delivered Sector Product Prices</b>								
<b>Residential</b>								
Liquefied Petroleum Gases . . . . .	162.3	198.1	216.3	207.3	207.9	211.4	218.3	0.4%
Distillate Fuel Oil . . . . .	235.6	248.8	238.6	197.9	198.0	209.9	225.7	-0.4%
<b>Commercial</b>								
Distillate Fuel Oil . . . . .	191.2	201.8	210.2	177.5	182.5	191.3	206.7	0.1%
Residual Fuel Oil . . . . .	167.8	128.8	150.7	119.0	118.9	129.1	138.0	0.3%
Residual Fuel Oil (2006 dollars per barrel) . .	70.46	54.09	63.27	49.97	49.95	54.21	57.97	0.3%
<b>Industrial<sup>2</sup></b>								
Liquefied Petroleum Gases . . . . .	151.1	169.2	152.3	142.9	144.1	146.8	152.7	-0.4%
Distillate Fuel Oil . . . . .	200.8	212.1	216.2	191.6	200.7	207.3	223.1	0.2%
Residual Fuel Oil . . . . .	156.2	135.6	162.6	123.4	124.0	134.7	144.0	0.2%
Residual Fuel Oil (2006 dollars per barrel) . .	65.60	56.96	68.29	51.82	52.10	56.57	60.48	0.2%
<b>Transportation</b>								
Liquefied Petroleum Gases . . . . .	176.6	186.4	223.4	214.0	214.0	216.9	223.4	0.8%
Ethanol (E85) <sup>3</sup> . . . . .	226.6	235.4	223.7	167.0	172.2	175.5	186.1	-1.0%
Ethanol Wholesale Price . . . . .	196.8	250.0	180.8	171.3	200.7	164.6	152.2	-2.0%
Motor Gasoline <sup>4</sup> . . . . .	239.5	263.3	255.4	225.4	235.5	236.0	244.6	-0.3%
Jet Fuel <sup>5</sup> . . . . .	179.6	200.2	212.8	177.6	179.2	191.0	207.5	0.1%
Diesel Fuel (distillate fuel oil) <sup>6</sup> . . . . .	249.1	271.0	269.8	241.8	250.2	254.1	268.5	-0.0%
Residual Fuel Oil . . . . .	129.9	118.1	157.7	128.2	130.1	142.1	155.5	1.2%
Residual Fuel Oil (2006 dollars per barrel) . .	54.56	49.62	66.22	53.84	54.64	59.70	65.32	1.2%
<b>Electric Power<sup>7</sup></b>								
Distillate Fuel Oil . . . . .	175.1	185.1	189.0	148.0	148.3	160.8	176.2	-0.2%
Residual Fuel Oil . . . . .	110.8	122.3	141.5	110.9	112.3	123.4	135.3	0.4%
Residual Fuel Oil (2006 dollars per barrel) . .	46.52	51.37	59.43	46.56	47.18	51.85	56.84	0.4%
<b>Refined Petroleum Product Prices<sup>8</sup></b>								
Liquefied Petroleum Gases . . . . .	153.0	174.6	165.4	157.2	159.5	163.3	170.1	-0.1%
Motor Gasoline <sup>4</sup> . . . . .	238.4	261.6	255.4	225.4	235.5	236.0	244.6	-0.3%
Jet Fuel <sup>5</sup> . . . . .	179.6	200.2	212.8	177.6	179.2	191.0	207.5	0.1%
Distillate Fuel Oil . . . . .	236.3	255.9	253.9	227.4	236.1	241.9	257.1	0.0%
Residual Fuel Oil . . . . .	126.4	122.9	154.3	122.6	124.1	135.6	147.7	0.8%
Residual Fuel Oil (2006 dollars per barrel) . .	53.07	51.63	64.80	51.50	52.12	56.94	62.04	0.8%
<b>Average</b> . . . . .	<b>213.0</b>	<b>234.5</b>	<b>233.1</b>	<b>206.6</b>	<b>214.1</b>	<b>218.0</b>	<b>229.6</b>	<b>-0.1%</b>

<sup>1</sup>Weighted average price delivered to U.S. refiners.

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

<sup>3</sup>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.

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

<sup>5</sup>Includes only kerosene type.

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

<sup>7</sup>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.

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

Note: Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 and 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2005 and 2006 residential, commercial, industrial, and transportation sector petroleum product prices are derived from: EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report." 2005 and 2006 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2005 and 2006 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2005 and 2006 wholesale ethanol prices derived from Bloomberg U.S. average rack price. Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.



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

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

<sup>1</sup>Marketed production (wet) minus extraction losses.

<sup>2</sup>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.

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

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

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

<sup>6</sup>Includes any natural gas that is converted into liquid fuel.

<sup>7</sup>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.

<sup>8</sup>Compressed natural gas used as vehicle fuel.

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

<sup>10</sup>Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. 2005 and 2006 values include net storage injections.

<sup>11</sup>Represents lower 48 onshore and offshore supplies.

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

<sup>13</sup>Weighted average prices. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

**Sources:** 2005 supply values; lease, plant, and pipeline fuel consumption; and residential and commercial delivered prices: Energy Information Administration (EIA), *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2006 supply values; lease, plant, and pipeline fuel consumption; wellhead price; and residential and commercial delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). Other 2005 and 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 wellhead price: Minerals Management Service and EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006). 2005 and 2006 electric power prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2006 through April 2007, Table 4.11.A. 2005 and 2006 industrial delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2005 transportation sector delivered prices are based on: EIA, *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and estimated state taxes, federal taxes, and dispensing costs or charges. 2006 transportation sector delivered prices are model results. **Projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Reference Case

**Table A14. Oil and Gas Supply**

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

<sup>1</sup>Represents lower 48 onshore and offshore supplies.

<sup>2</sup>Includes lease condensate.

<sup>3</sup>Marketed production (wet) minus extraction losses.

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

<sup>5</sup>Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

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

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

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

<sup>1</sup>Includes anthracite, bituminous coal, subbituminous coal, and lignite.

<sup>2</sup>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.

<sup>3</sup>Excludes imports to Puerto Rico and the U.S. Virgin Islands.

<sup>4</sup>Production plus waste coal supplied plus net imports.

<sup>5</sup>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.

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

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

<sup>8</sup>Includes reported prices for both open market and captive mines.

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

<sup>10</sup>F.a.s. price at U.S. port of exit.

-- = Not applicable.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 data based on: Energy Information Administration (EIA), *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007); EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007); and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Reference Case

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

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

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

<sup>2</sup>Includes hydrothermal resources only (hot water and steam).

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

<sup>4</sup>Facilities co-firing biomass and coal are classified as coal.

<sup>5</sup>Includes projections for energy crops after 2012.

<sup>6</sup>Does not include off-grid PV. Based on annual PV shipments from 1989 through 2005, EIA estimates that as much as 192 megawatts of remote electricity generation PV applications (i.e., off-grid power systems) were in service in 2005, plus an additional 481 megawatts in communications, transportation, and assorted other non-grid-connected, specialized applications. See Energy Information Administration, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007), Table 10.8 (annual PV shipments, 1989-2005). The approach used to develop the estimate, based on shipment data, provides an upper estimate of the size of the PV stock, including both grid-based and off-grid PV. It will overestimate the size of the stock, because shipments include a substantial number of units that are exported, and each year some of the PV units installed earlier will be retired from service or abandoned.

<sup>7</sup>Includes biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. Only biogenic municipal waste is included. The Energy Information Administration estimates approximately 7 billion kilowatthours of electricity was generated from a municipal waste stream containing petroleum-derived plastics and other non-renewable sources. See Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).

<sup>8</sup>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.

<sup>9</sup>Represents own-use industrial hydroelectric power.

<sup>10</sup>Includes municipal waste, landfill gas, and municipal sewage sludge. All municipal waste is included, although a portion of the municipal waste stream contains petroleum-derived plastics and other non-renewable sources.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 capacity: Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report" (preliminary). 2005 and 2006 generation: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

**Table A17. Renewable Energy, Consumption by Sector and Source<sup>1</sup>**  
(Quadrillion Btu per Year)

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

## Reference Case

**Table A17. Renewable Energy, Consumption by Sector and Source<sup>1</sup> (Continued)**  
(Quadrillion Btu per Year)

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

<sup>1</sup>Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 10,022 Btu per kilowatt-hour.

<sup>2</sup>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.

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

<sup>4</sup>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.

<sup>5</sup>Excludes motor gasoline component of E85.

<sup>6</sup>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.

<sup>7</sup>Includes biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities. Only biogenic municipal waste is included. The Energy Information Administration estimates approximately .38 quadrillion Btus were consumed from a municipal waste stream containing petroleum-derived plastics and other non-renewable sources. See Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).

<sup>8</sup>Includes selected renewable energy consumption data for which the energy is not bought or sold, either directly or indirectly as an input to marketed energy.

The Energy Information Administration does not estimate or project total consumption of nonmarketed renewable energy.

-- = Not applicable.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 ethanol: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 electric power sector: EIA, Form EIA-860, "Annual Electric Generator Report" (preliminary). Other 2005 and 2006 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

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

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

<sup>1</sup>Emissions from the electric power sector are distributed to the end-use sectors.

<sup>2</sup>Fuel consumption includes energy for combined heat and power plants (CHP), except those plants whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>3</sup>Includes lease and plant fuel.

<sup>4</sup>This includes carbon dioxide from international bunker fuels, both civilian and military, which are excluded from the accounting of carbon dioxide emissions under the United Nations convention. From 1990 through 2006, international bunker fuels accounted for 84 to 126 million metric tons annually.

<sup>5</sup>Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.

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

<sup>7</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2006*, DOE/EIA-0573(2006) (Washington, DC, November 2007). Projections: EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

## Reference Case

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

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

GDP = Gross domestic product.

Btu = British thermal unit.

-- = Not applicable.

Sources: 2005 and 2006: Global Insight, Global Insight Industry and Employment models, July 2007. Projections: Energy Information Administration, AEO2008 National Energy Modeling System run AEO2008.D030208F.



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

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

## Reference Case

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

Supply and Disposition	Reference Case							Annual Growth 2006-2030 (percent)
	2005	2006	2010	2015	2020	2025	2030	
<b>Consumption<sup>9</sup></b>								
OECD								
United States (50 states) .....	20.80	20.65	20.99	21.59	21.47	21.52	22.11	0.3%
United States Territories .....	0.37	0.38	0.43	0.47	0.51	0.55	0.59	1.9%
Canada .....	2.26	2.27	2.32	2.34	2.36	2.38	2.40	0.2%
Mexico .....	2.03	2.06	2.19	2.36	2.61	2.75	2.95	1.5%
OECD Europe <sup>3</sup> .....	15.42	15.42	15.47	15.63	15.71	15.79	15.86	0.1%
Japan .....	5.16	5.16	5.18	5.21	5.22	5.24	5.26	0.1%
South Korea .....	2.17	2.18	2.25	2.47	2.57	2.68	2.81	1.1%
Australia and New Zealand .....	1.03	1.03	1.07	1.13	1.19	1.25	1.28	0.9%
<b>Total OECD .....</b>	<b>49.24</b>	<b>49.16</b>	<b>49.90</b>	<b>51.20</b>	<b>51.64</b>	<b>52.16</b>	<b>53.28</b>	<b>0.3%</b>
Non-OECD								
Russia .....	2.77	2.79	2.89	3.03	3.13	3.25	3.32	0.7%
Other Non-OECD Eurasia <sup>5</sup> .....	2.05	2.09	2.26	2.43	2.64	2.79	2.96	1.5%
China .....	6.73	7.26	9.44	10.55	11.96	13.63	15.69	3.3%
India .....	2.44	2.49	2.68	3.25	3.62	4.03	4.37	2.4%
Other Non-OECD Asia .....	6.02	6.14	6.67	7.64	8.35	9.08	9.86	2.0%
Middle East <sup>7</sup> .....	5.91	6.15	7.13	7.79	8.46	9.18	9.84	2.0%
Africa .....	2.90	2.99	3.36	3.88	4.35	4.62	4.93	2.1%
Brazil .....	2.40	2.34	2.57	2.87	3.15	3.42	3.68	1.9%
Other Central and South America .....	3.17	3.26	3.51	4.05	4.51	4.98	5.37	2.1%
<b>Total Non-OECD .....</b>	<b>34.41</b>	<b>35.51</b>	<b>40.51</b>	<b>45.50</b>	<b>50.16</b>	<b>54.98</b>	<b>60.02</b>	<b>2.2%</b>
<b>Total Consumption .....</b>	<b>83.65</b>	<b>84.66</b>	<b>90.40</b>	<b>96.70</b>	<b>101.80</b>	<b>107.14</b>	<b>113.30</b>	<b>1.2%</b>
OPEC Production <sup>10</sup> .....	34.31	34.90	36.40	39.26	40.87	42.91	46.16	1.2%
Non-OPEC Production <sup>10</sup> .....	49.34	49.76	54.00	57.44	60.94	64.23	67.15	1.3%
Net Eurasia Exports .....	9.15	9.63	11.37	12.91	13.98	14.86	15.43	2.0%
OPEC Market Share (percent) .....	41.0	41.2	40.3	40.6	40.1	40.0	40.7	-0.0%

<sup>1</sup>Weighted average price delivered to U.S. refiners.

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

<sup>3</sup>OPEC = Organization of Petroleum Exporting Countries - Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Does not include Ecuador, which was admitted to OPEC as a full member on November 17, 2007.

<sup>4</sup>OECD Europe = Organization for Economic Cooperation and Development - Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

<sup>5</sup>Eurasia consists of Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

<sup>6</sup>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.

<sup>7</sup>Non-OPEC Middle East includes Turkey.

<sup>8</sup>Includes liquids produced from energy crops, natural gas, coal, oil sands, and shale. Includes both OPEC and non-OPEC producers in the regional breakdown.

<sup>9</sup>Includes both OPEC and non-OPEC consumers in the regional breakdown.

<sup>10</sup>Includes both conventional and nonconventional liquids production.

- - = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2005 and 2006 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2005 and 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 quantities derived from: EIA, *International Energy Annual 2005*, DOE/EIA-0219(2005) (Washington, DC, June-October 2007). **2006 quantities and projections:** EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F.

# Economic Growth Case Comparisons

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

Supply, Disposition, and Prices	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Production</b>										
Crude Oil and Lease Condensate	10.80	12.75	12.76	12.77	13.38	13.40	13.52	11.87	12.04	12.18
Natural Gas Plant Liquids	2.36	2.26	2.27	2.29	2.25	2.31	2.36	2.01	2.11	2.20
Dry Natural Gas	19.04	19.53	19.85	20.13	19.50	20.24	20.63	19.07	20.00	21.10
Coal <sup>1</sup>	23.79	23.95	23.97	24.00	23.63	25.20	27.23	25.47	28.63	32.20
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Hydropower	2.89	2.92	2.92	2.92	2.99	3.00	3.00	2.99	3.00	3.00
Biomass <sup>2</sup>	2.94	4.02	4.05	4.10	6.29	6.42	6.61	7.84	8.12	8.53
Other Renewable Energy <sup>3</sup>	0.88	1.46	1.51	1.51	1.78	2.00	2.08	2.09	2.45	2.61
Other <sup>4</sup>	0.50	0.53	0.54	0.54	0.59	0.58	0.58	0.64	0.64	0.65
<b>Total</b>	<b>71.41</b>	<b>75.71</b>	<b>76.17</b>	<b>76.56</b>	<b>79.31</b>	<b>82.21</b>	<b>85.27</b>	<b>80.71</b>	<b>86.56</b>	<b>93.39</b>
<b>Imports</b>										
Crude Oil	22.08	20.76	21.14	21.33	20.61	21.58	22.36	22.66	24.41	25.77
Liquid Fuels and Other Petroleum <sup>5</sup>	7.21	5.44	5.61	6.02	4.61	5.43	6.41	3.90	5.44	6.93
Natural Gas	4.29	4.70	4.80	4.89	4.42	4.68	4.93	4.16	4.64	4.80
Other Imports <sup>6</sup>	0.98	0.94	0.95	0.95	1.96	1.93	1.95	2.80	2.74	2.85
<b>Total</b>	<b>34.57</b>	<b>31.84</b>	<b>32.49</b>	<b>33.20</b>	<b>31.60</b>	<b>33.62</b>	<b>35.65</b>	<b>33.52</b>	<b>37.22</b>	<b>40.36</b>
<b>Exports</b>										
Petroleum <sup>7</sup>	2.60	2.83	2.82	2.84	3.00	2.98	3.00	3.42	3.33	3.11
Natural Gas	0.73	0.85	0.84	0.84	1.05	1.02	1.00	1.43	1.36	1.30
Coal	1.26	1.79	1.79	1.79	0.88	0.87	0.86	0.88	0.88	0.88
<b>Total</b>	<b>4.59</b>	<b>5.47</b>	<b>5.45</b>	<b>5.47</b>	<b>4.93</b>	<b>4.87</b>	<b>4.86</b>	<b>5.73</b>	<b>5.56</b>	<b>5.29</b>
<b>Discrepancy<sup>8</sup></b>	<b>1.87</b>	<b>-0.10</b>	<b>-0.13</b>	<b>-0.17</b>	<b>0.17</b>	<b>0.12</b>	<b>0.02</b>	<b>0.29</b>	<b>0.21</b>	<b>0.07</b>
<b>Consumption</b>										
Liquid Fuels and Other Petroleum <sup>9</sup>	40.06	39.85	40.46	41.12	40.15	42.24	44.43	40.08	43.99	48.01
Natural Gas	22.30	23.51	23.93	24.31	22.99	24.01	24.68	21.91	23.39	24.71
Coal	22.50	23.00	23.03	23.06	24.48	25.87	27.74	27.00	29.90	32.99
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Hydropower	2.89	2.92	2.92	2.92	2.99	3.00	3.00	2.99	3.00	3.00
Biomass <sup>10</sup>	2.50	2.97	3.01	3.06	4.35	4.50	4.69	5.23	5.51	5.94
Other Renewable Energy <sup>3</sup>	0.88	1.46	1.51	1.51	1.78	2.00	2.08	2.09	2.45	2.61
Other <sup>11</sup>	0.19	0.18	0.18	0.18	0.17	0.17	0.17	0.18	0.20	0.20
<b>Total</b>	<b>99.52</b>	<b>102.19</b>	<b>103.34</b>	<b>104.46</b>	<b>105.82</b>	<b>110.85</b>	<b>116.04</b>	<b>108.21</b>	<b>118.01</b>	<b>128.38</b>

# Economic Growth Case Comparisons

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

Supply, Disposition, and Prices	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Prices (2006 dollars per unit)</b>										
Petroleum (dollars per barrel)										
Imported Low Sulfur Light Crude Oil Price <sup>12</sup>	66.02	73.52	74.03	74.56	58.73	59.70	60.62	68.43	70.45	72.15
Imported Crude Oil Price <sup>12</sup>	59.05	64.48	65.18	66.21	50.37	51.55	52.42	55.52	58.66	62.27
Natural Gas (dollars per million Btu)										
Price at Henry Hub	6.73	6.69	6.90	7.11	5.72	5.95	5.93	6.84	7.22	7.61
Wellhead Price <sup>13</sup>	6.24	5.96	6.16	6.35	5.08	5.29	5.27	6.10	6.45	6.80
Natural Gas (dollars per thousand cubic feet)										
Wellhead Price <sup>13</sup>	6.42	6.13	6.33	6.53	5.22	5.44	5.43	6.27	6.63	7.00
Coal (dollars per ton)										
Minemouth Price <sup>14</sup>	24.63	26.02	26.16	26.33	22.24	22.51	23.16	22.15	23.32	24.09
Coal (dollars per million Btu)										
Minemouth Price <sup>14</sup>	1.21	1.27	1.28	1.29	1.12	1.14	1.18	1.13	1.19	1.24
Average Delivered Price <sup>15</sup>	1.78	1.92	1.93	1.94	1.74	1.77	1.81	1.76	1.82	1.87
Average Electricity Price (cents per kilowatthour)										
	8.9	9.1	9.2	9.3	8.3	8.6	8.7	8.6	8.8	9.1

<sup>1</sup>Includes waste coal.

<sup>2</sup>Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.

<sup>3</sup>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.

<sup>4</sup>Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.

<sup>5</sup>Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.

<sup>6</sup>Includes coal, coal coke (net), and electricity (net).

<sup>7</sup>Includes crude oil and petroleum products.

<sup>8</sup>Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.

<sup>9</sup>Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.

<sup>10</sup>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.

<sup>11</sup>Includes non-biogenic municipal waste and net electricity imports.

<sup>12</sup>Weighted average price delivered to U.S. refiners.

<sup>13</sup>Represents lower 48 onshore and offshore supplies.

<sup>14</sup>Includes reported prices for both open market and captive mines.

<sup>15</sup>Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.

Btu = British thermal unit.

-- = Not applicable.

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

Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

## Economic Growth Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Energy Consumption</b>										
<b>Residential</b>										
Liquefied Petroleum Gases	0.47	0.48	0.48	0.48	0.51	0.52	0.53	0.52	0.55	0.58
Kerosene	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.09
Distillate Fuel Oil	0.70	0.76	0.75	0.75	0.73	0.73	0.73	0.65	0.65	0.65
Liquid Fuels and Other Petroleum Subtotal	1.25	1.31	1.31	1.32	1.32	1.33	1.35	1.26	1.29	1.32
Natural Gas	4.50	4.94	4.95	4.96	5.18	5.30	5.44	5.07	5.32	5.57
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy <sup>1</sup>	0.41	0.44	0.44	0.44	0.40	0.40	0.41	0.36	0.38	0.39
Electricity	4.61	4.93	4.95	4.97	5.10	5.25	5.41	5.52	5.88	6.22
<b>Delivered Energy</b>	<b>10.77</b>	<b>11.63</b>	<b>11.66</b>	<b>11.69</b>	<b>12.01</b>	<b>12.30</b>	<b>12.63</b>	<b>12.23</b>	<b>12.88</b>	<b>13.52</b>
Electricity Related Losses	10.04	10.58	10.59	10.60	10.81	11.08	11.36	11.54	12.14	12.74
<b>Total</b>	<b>20.82</b>	<b>22.22</b>	<b>22.25</b>	<b>22.29</b>	<b>22.82</b>	<b>23.39</b>	<b>23.99</b>	<b>23.77</b>	<b>25.01</b>	<b>26.25</b>
<b>Commercial</b>										
Liquefied Petroleum Gases	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10
Motor Gasoline <sup>2</sup>	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Kerosene	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Distillate Fuel Oil	0.42	0.38	0.38	0.38	0.41	0.41	0.42	0.40	0.41	0.42
Residual Fuel Oil	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Liquid Fuels and Other Petroleum Subtotal	0.68	0.63	0.63	0.63	0.67	0.68	0.69	0.67	0.68	0.70
Natural Gas	2.92	3.02	3.04	3.06	3.34	3.47	3.60	3.54	3.78	4.03
Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Renewable Energy <sup>3</sup>	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Electricity	4.43	4.69	4.73	4.75	5.49	5.67	5.84	6.24	6.62	7.01
<b>Delivered Energy</b>	<b>8.25</b>	<b>8.56</b>	<b>8.62</b>	<b>8.65</b>	<b>9.71</b>	<b>10.03</b>	<b>10.34</b>	<b>10.66</b>	<b>11.30</b>	<b>11.95</b>
Electricity Related Losses	9.66	10.07	10.12	10.14	11.63	11.96	12.26	13.04	13.68	14.34
<b>Total</b>	<b>17.91</b>	<b>18.63</b>	<b>18.74</b>	<b>18.80</b>	<b>21.34</b>	<b>21.98</b>	<b>22.60</b>	<b>23.70</b>	<b>24.98</b>	<b>26.29</b>
<b>Industrial<sup>4</sup></b>										
Liquefied Petroleum Gases	2.09	2.07	2.12	2.18	1.65	1.83	2.04	1.40	1.71	2.05
Motor Gasoline <sup>2</sup>	0.38	0.36	0.38	0.39	0.34	0.37	0.41	0.33	0.38	0.43
Distillate Fuel Oil	1.28	1.24	1.29	1.34	1.12	1.23	1.34	1.07	1.23	1.40
Residual Fuel Oil	0.28	0.27	0.28	0.29	0.22	0.23	0.24	0.20	0.23	0.25
Petrochemical Feedstocks	1.41	1.32	1.36	1.41	1.22	1.39	1.57	1.01	1.29	1.60
Other Petroleum <sup>5</sup>	4.48	4.11	4.25	4.38	3.99	4.22	4.48	4.02	4.41	4.79
Liquid Fuels and Other Petroleum Subtotal	9.92	9.38	9.67	9.98	8.53	9.27	10.07	8.03	9.25	10.53
Natural Gas	6.68	7.03	7.16	7.24	6.67	7.14	7.60	6.14	7.08	7.94
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease and Plant Fuel <sup>6</sup>	1.17	1.20	1.21	1.22	1.22	1.25	1.27	1.23	1.27	1.32
Natural Gas Subtotal	7.85	8.23	8.37	8.47	7.89	8.39	8.87	7.37	8.35	9.26
Metallurgical Coal	0.60	0.59	0.60	0.61	0.49	0.54	0.58	0.39	0.48	0.57
Other Industrial Coal	1.26	1.29	1.31	1.32	1.15	1.20	1.24	1.10	1.18	1.25
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.15	0.34	0.58	0.34	0.55	1.27
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.06
Coal Subtotal	1.92	1.91	1.93	1.96	1.82	2.11	2.45	1.84	2.26	3.15
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.67	1.50	1.49	1.49	2.34	2.31	2.29
Renewable Energy <sup>7</sup>	1.69	1.62	1.66	1.71	1.70	1.83	1.98	1.71	2.02	2.33
Electricity	3.42	3.44	3.50	3.57	3.32	3.59	3.87	2.94	3.52	4.10
<b>Delivered Energy</b>	<b>25.10</b>	<b>25.26</b>	<b>25.82</b>	<b>26.36</b>	<b>24.75</b>	<b>26.70</b>	<b>28.73</b>	<b>24.23</b>	<b>27.70</b>	<b>31.67</b>
Electricity Related Losses	7.45	7.38	7.50	7.62	7.03	7.57	8.13	6.14	7.28	8.39
<b>Total</b>	<b>32.55</b>	<b>32.64</b>	<b>33.32</b>	<b>33.98</b>	<b>31.78</b>	<b>34.27</b>	<b>36.86</b>	<b>30.37</b>	<b>34.98</b>	<b>40.06</b>

# Economic Growth Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Transportation</b>										
Liquefied Petroleum Gases	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.02
E85 <sup>8</sup>	0.00	0.00	0.00	0.00	1.07	0.97	0.95	1.53	1.34	1.26
Motor Gasoline <sup>2</sup>	17.20	17.13	17.25	17.40	15.81	16.56	17.32	14.66	15.97	17.34
Jet Fuel <sup>9</sup>	3.16	3.41	3.44	3.47	4.10	4.15	4.13	4.62	4.79	4.83
Distillate Fuel Oil <sup>10</sup>	6.18	6.38	6.54	6.72	7.05	7.63	8.26	7.67	8.98	10.30
Residual Fuel Oil	0.83	0.85	0.85	0.86	0.85	0.86	0.87	0.86	0.87	0.88
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum <sup>11</sup>	0.18	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.19
Liquid Fuels and Other Petroleum Subtotal	27.57	27.97	28.29	28.63	29.06	30.37	31.72	29.53	32.15	34.82
Pipeline Fuel Natural Gas	0.59	0.63	0.64	0.65	0.66	0.69	0.71	0.68	0.72	0.76
Compressed Natural Gas	0.02	0.03	0.04	0.04	0.06	0.07	0.08	0.07	0.08	0.10
Electricity	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
<b>Delivered Energy</b>	<b>28.20</b>	<b>28.66</b>	<b>28.98</b>	<b>29.34</b>	<b>29.81</b>	<b>31.15</b>	<b>32.53</b>	<b>30.31</b>	<b>32.98</b>	<b>35.71</b>
Electricity Related Losses	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06
<b>Total</b>	<b>28.25</b>	<b>28.70</b>	<b>29.03</b>	<b>29.39</b>	<b>29.87</b>	<b>31.21</b>	<b>32.59</b>	<b>30.38</b>	<b>33.04</b>	<b>35.77</b>
<b>Delivered Energy Consumption for All Sectors</b>										
Liquefied Petroleum Gases	2.65	2.65	2.70	2.76	2.26	2.45	2.68	2.03	2.37	2.75
E85 <sup>8</sup>	0.00	0.00	0.00	0.00	1.07	0.97	0.95	1.53	1.34	1.26
Motor Gasoline <sup>2</sup>	17.62	17.54	17.68	17.84	16.20	16.99	17.78	15.04	16.40	17.83
Jet Fuel <sup>9</sup>	3.16	3.41	3.44	3.47	4.10	4.15	4.13	4.62	4.79	4.83
Kerosene	0.11	0.12	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13
Distillate Fuel Oil	8.59	8.76	8.97	9.19	9.31	10.00	10.74	9.80	11.28	12.77
Residual Fuel Oil	1.23	1.22	1.23	1.24	1.17	1.19	1.21	1.15	1.20	1.24
Petrochemical Feedstocks	1.41	1.32	1.36	1.41	1.22	1.39	1.57	1.01	1.29	1.60
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum <sup>12</sup>	4.64	4.27	4.40	4.54	4.14	4.38	4.64	4.18	4.56	4.96
Liquid Fuels and Other Petroleum Subtotal	39.41	39.30	39.90	40.56	39.58	41.65	43.83	39.49	43.37	47.37
Natural Gas	14.12	15.03	15.19	15.30	15.25	15.98	16.72	14.82	16.27	17.64
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease and Plant Fuel <sup>6</sup>	1.17	1.20	1.21	1.22	1.22	1.25	1.27	1.23	1.27	1.32
Pipeline Natural Gas	0.59	0.63	0.64	0.65	0.66	0.69	0.71	0.68	0.72	0.76
Natural Gas Subtotal	15.88	16.86	17.04	17.17	17.13	17.93	18.70	16.73	18.26	19.73
Metallurgical Coal	0.60	0.59	0.60	0.61	0.49	0.54	0.58	0.39	0.48	0.57
Other Coal	1.35	1.38	1.40	1.41	1.24	1.29	1.33	1.19	1.27	1.34
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.15	0.34	0.58	0.34	0.55	1.27
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.06
Coal Subtotal	2.02	2.00	2.03	2.05	1.92	2.21	2.54	1.93	2.35	3.25
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.67	1.50	1.49	1.49	2.34	2.31	2.29
Renewable Energy <sup>13</sup>	2.23	2.19	2.23	2.28	2.22	2.37	2.52	2.21	2.52	2.85
Electricity	12.49	13.08	13.20	13.31	13.93	14.54	15.16	14.74	16.05	17.36
<b>Delivered Energy</b>	<b>72.32</b>	<b>74.10</b>	<b>75.08</b>	<b>76.05</b>	<b>76.28</b>	<b>80.18</b>	<b>84.23</b>	<b>77.43</b>	<b>84.86</b>	<b>92.85</b>
Electricity Related Losses	27.19	28.08	28.26	28.41	29.54	30.67	31.81	30.78	33.16	35.54
<b>Total</b>	<b>99.52</b>	<b>102.19</b>	<b>103.34</b>	<b>104.46</b>	<b>105.82</b>	<b>110.85</b>	<b>116.04</b>	<b>108.21</b>	<b>118.01</b>	<b>128.38</b>
<b>Electric Power<sup>14</sup></b>										
Distillate Fuel Oil	0.18	0.18	0.18	0.18	0.18	0.20	0.21	0.20	0.23	0.24
Residual Fuel Oil	0.46	0.38	0.38	0.38	0.38	0.39	0.39	0.39	0.40	0.41
Liquid Fuels and Other Petroleum Subtotal	0.64	0.55	0.56	0.56	0.56	0.59	0.60	0.59	0.63	0.64
Natural Gas	6.42	6.64	6.89	7.14	5.86	6.09	5.97	5.18	5.13	4.99
Steam Coal	20.48	21.00	21.01	21.01	22.57	23.67	25.20	25.07	27.55	29.75
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Renewable Energy <sup>15</sup>	3.74	4.48	4.53	4.52	5.41	5.64	5.75	5.77	6.13	6.40
Electricity Imports	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.05	0.08	0.07
<b>Total<sup>16</sup></b>	<b>39.68</b>	<b>41.16</b>	<b>41.46</b>	<b>41.72</b>	<b>43.47</b>	<b>45.21</b>	<b>46.96</b>	<b>45.52</b>	<b>49.21</b>	<b>52.90</b>

## Economic Growth Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Total Energy Consumption</b>										
Liquefied Petroleum Gases	2.65	2.65	2.70	2.76	2.26	2.45	2.68	2.03	2.37	2.75
E85 <sup>8</sup>	0.00	0.00	0.00	0.00	1.07	0.97	0.95	1.53	1.34	1.26
Motor Gasoline <sup>2</sup>	17.62	17.54	17.68	17.84	16.20	16.99	17.78	15.04	16.40	17.83
Jet Fuel <sup>9</sup>	3.16	3.41	3.44	3.47	4.10	4.15	4.13	4.62	4.79	4.83
Kerosene	0.11	0.12	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13
Distillate Fuel Oil	8.77	8.94	9.15	9.37	9.49	10.20	10.96	10.01	11.51	13.01
Residual Fuel Oil	1.69	1.60	1.60	1.62	1.55	1.58	1.60	1.54	1.60	1.65
Petrochemical Feedstocks	1.41	1.32	1.36	1.41	1.22	1.39	1.57	1.01	1.29	1.60
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum <sup>12</sup>	4.64	4.27	4.40	4.54	4.14	4.38	4.64	4.18	4.56	4.96
Liquid Fuels and Other Petroleum Subtotal	40.06	39.85	40.46	41.12	40.15	42.24	44.43	40.08	43.99	48.01
Natural Gas	20.54	21.68	22.08	22.44	21.10	22.07	22.70	20.00	21.40	22.63
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease and Plant Fuel <sup>6</sup>	1.17	1.20	1.21	1.22	1.22	1.25	1.27	1.23	1.27	1.32
Pipeline Natural Gas	0.59	0.63	0.64	0.65	0.66	0.69	0.71	0.68	0.72	0.76
Natural Gas Subtotal	22.30	23.51	23.93	24.31	22.99	24.01	24.68	21.91	23.39	24.71
Metallurgical Coal	0.60	0.59	0.60	0.61	0.49	0.54	0.58	0.39	0.48	0.57
Other Coal	21.83	22.38	22.41	22.42	23.81	24.96	26.53	26.26	28.82	31.09
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.15	0.34	0.58	0.34	0.55	1.27
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.02	0.04	0.06
Coal Subtotal	22.50	23.00	23.03	23.06	24.48	25.87	27.74	27.00	29.90	32.99
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.92
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.67	1.50	1.49	1.49	2.34	2.31	2.29
Renewable Energy <sup>17</sup>	5.97	6.67	6.76	6.81	7.63	8.01	8.27	7.98	8.66	9.25
Electricity Imports	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.05	0.08	0.07
<b>Total</b>	<b>99.52</b>	<b>102.19</b>	<b>103.34</b>	<b>104.46</b>	<b>105.82</b>	<b>110.85</b>	<b>116.04</b>	<b>108.21</b>	<b>118.01</b>	<b>128.38</b>
<b>Energy Use and Related Statistics</b>										
Delivered Energy Use	72.32	74.10	75.08	76.05	76.28	80.18	84.23	77.43	84.86	92.85
Total Energy Use	99.52	102.19	103.34	104.46	105.82	110.85	116.04	108.21	118.01	128.38
Ethanol Consumed in Motor Gasoline and E85	0.47	1.04	1.05	1.05	1.82	1.82	1.82	2.04	2.01	2.01
Population (millions)	300.13	309.46	310.85	312.64	325.45	337.74	351.32	336.65	365.59	396.34
Gross Domestic Product (billion 2000 dollars)	11319	12110	12453	12797	14743	15984	17239	17429	20219	23002
Carbon Dioxide Emissions (million metric tons)	5890.3	5953.4	6010.6	6068.7	6076.9	6384.1	6720.8	6263.6	6851.0	7452.0

<sup>1</sup>Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

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

<sup>3</sup>Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

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

<sup>5</sup>Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

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

<sup>7</sup>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.

<sup>8</sup>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.

<sup>9</sup>Includes only kerosene type.

<sup>10</sup>Diesel fuel for on- and off- road use.

<sup>11</sup>Includes aviation gasoline and lubricants.

<sup>12</sup>Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

<sup>13</sup>Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes ethanol and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

<sup>14</sup>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.

<sup>15</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

<sup>16</sup>Includes non-biogenic municipal waste not included above.

<sup>17</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic and solar thermal sources. Excludes ethanol, net electricity imports, and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports. Consumption values of 0.00 are values that round to 0.00, because they are less than 0.005.

Sources: 2006 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 population and gross domestic product: Global Insight, *Global Insight Industry and Employment models*, July 2007. 2006 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2006*, DOE/EIA-0573(2006) (Washington, DC, November 2007). Projections: EIA, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

# Economic Growth Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Residential</b>										
Liquefied Petroleum Gases	23.08	25.00	25.21	25.41	23.99	24.23	24.25	25.03	25.43	25.85
Distillate Fuel Oil	17.94	16.74	17.21	17.48	13.96	14.27	14.71	15.20	16.27	17.12
Natural Gas	13.40	11.95	12.15	12.36	11.14	11.39	11.44	12.47	12.91	13.36
Electricity	30.52	30.99	31.37	31.75	29.19	30.20	30.75	29.59	30.63	31.72
<b>Commercial</b>										
Distillate Fuel Oil	14.59	14.78	15.24	15.51	12.88	13.24	13.81	13.96	15.00	16.08
Residual Fuel Oil	8.60	9.95	10.06	10.17	7.73	7.95	8.11	8.52	9.22	9.80
Natural Gas	11.50	10.41	10.59	10.79	9.72	9.91	9.89	11.13	11.43	11.75
Electricity	27.75	27.46	27.89	28.32	24.63	25.64	26.14	25.22	26.17	27.20
<b>Industrial<sup>1</sup></b>										
Liquefied Petroleum Gases	19.71	17.58	17.74	17.93	16.65	16.79	16.71	17.60	17.79	18.16
Distillate Fuel Oil	15.33	15.27	15.72	15.99	14.21	14.62	15.23	15.21	16.26	17.47
Residual Fuel Oil	9.06	10.51	10.86	11.10	7.96	8.29	8.65	8.84	9.62	10.61
Natural Gas <sup>2</sup>	7.66	7.02	7.21	7.41	6.00	6.21	6.20	6.95	7.29	7.65
Metallurgical Coal	3.54	4.06	4.07	4.09	3.38	3.42	3.45	3.54	3.60	3.67
Other Industrial Coal	2.34	2.41	2.42	2.43	2.24	2.28	2.34	2.26	2.33	2.41
Coal to Liquids	--	--	--	--	0.94	1.09	1.27	1.20	1.30	1.39
Electricity	17.97	18.88	19.21	19.56	16.49	17.27	17.59	16.93	17.63	18.24
<b>Transportation</b>										
Liquefied Petroleum Gases <sup>3</sup>	21.72	25.82	26.03	26.24	24.70	24.94	24.95	25.64	26.03	26.44
E85 <sup>4</sup>	24.81	22.26	23.58	23.84	18.66	18.15	19.83	18.85	19.62	21.43
Motor Gasoline <sup>5</sup>	21.19	20.80	21.23	21.47	18.98	19.64	19.96	19.29	20.37	21.58
Jet Fuel <sup>6</sup>	14.83	15.33	15.77	16.03	13.02	13.27	13.54	14.37	15.37	16.36
Distillate Fuel Oil <sup>7</sup>	19.72	19.21	19.68	19.96	17.74	18.26	19.03	18.43	19.59	21.01
Residual Fuel Oil	7.89	10.22	10.53	10.81	8.30	8.69	9.04	9.55	10.39	11.21
Natural Gas <sup>8</sup>	14.28	13.37	13.60	13.83	11.79	12.15	12.32	12.27	12.83	13.45
Electricity	29.73	30.39	30.95	31.46	27.97	29.05	29.40	28.89	29.65	30.46
<b>Electric Power<sup>9</sup></b>										
Distillate Fuel Oil	13.35	13.16	13.62	13.91	10.37	10.69	11.16	11.66	12.71	13.54
Residual Fuel Oil	8.17	9.18	9.45	9.70	7.14	7.50	7.83	8.25	9.04	9.90
Natural Gas	6.87	6.76	6.96	7.17	5.73	5.95	5.93	6.64	6.93	7.27
Steam Coal	1.69	1.83	1.84	1.84	1.69	1.72	1.76	1.72	1.78	1.85
<b>Average Price to All Users<sup>10</sup></b>										
Liquefied Petroleum Gases	20.35	19.13	19.27	19.44	18.53	18.59	18.42	19.77	19.82	20.01
E85 <sup>4</sup>	24.81	22.26	23.58	23.84	18.66	18.15	19.83	18.85	19.62	21.43
Motor Gasoline <sup>5</sup>	21.06	20.79	21.23	21.47	18.98	19.64	19.96	19.29	20.37	21.57
Jet Fuel	14.83	15.33	15.77	16.03	13.02	13.27	13.54	14.37	15.37	16.36
Distillate Fuel Oil	18.56	18.00	18.48	18.77	16.69	17.20	17.92	17.55	18.74	20.15
Residual Fuel Oil	8.21	10.01	10.31	10.57	7.93	8.29	8.62	9.06	9.87	10.71
Natural Gas	9.22	8.55	8.72	8.89	7.80	7.98	7.99	9.03	9.36	9.73
Metallurgical Coal	3.54	4.06	4.07	4.09	3.38	3.42	3.45	3.54	3.60	3.67
Other Coal	1.73	1.87	1.88	1.88	1.72	1.75	1.79	1.74	1.81	1.87
Coal to Liquids	--	--	--	--	0.94	1.09	1.27	1.20	1.30	1.39
Electricity	26.10	26.54	26.90	27.25	24.37	25.23	25.61	25.21	25.93	26.71



## Economic Growth Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Non-Renewable Energy Expenditures by Sector (billion 2006 dollars)</b>										
Residential .....	225.38	237.66	241.71	245.66	230.03	243.22	253.57	250.85	274.70	299.44
Commercial .....	166.54	170.25	174.38	177.99	176.99	189.37	198.43	206.78	227.37	249.73
Industrial .....	205.11	214.18	224.65	235.03	170.98	193.16	213.17	161.83	203.93	249.45
Transportation .....	542.63	542.10	560.74	574.98	488.82	530.80	570.19	502.22	587.86	684.41
Total Non-Renewable Expenditures .....	1139.66	1164.20	1201.48	1233.66	1066.82	1156.54	1235.36	1121.67	1293.86	1483.04
Transportation Renewable Expenditures .....	0.03	0.07	0.06	0.07	19.95	17.64	18.92	28.91	26.35	26.92
<b>Total Expenditures .....</b>	<b>1139.70</b>	<b>1164.27</b>	<b>1201.54</b>	<b>1233.72</b>	<b>1086.77</b>	<b>1174.18</b>	<b>1254.28</b>	<b>1150.58</b>	<b>1320.22</b>	<b>1509.95</b>

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

<sup>2</sup>Excludes use for lease and plant fuel.

<sup>3</sup>Includes Federal and State taxes while excluding county and local taxes.

<sup>4</sup>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.

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

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

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

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

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

<sup>10</sup>Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

-- = Not applicable.

Note: Data for 2006 are model results and may differ slightly from official EIA data reports.

**Sources:** 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 transportation sector natural gas delivered prices are model results. 2006 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2006 through April 2007. 2006 coal prices based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report.

**Projections:** EIA, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

# Economic Growth Case Comparisons

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

Indicators	2006	Projections								
		2010			2020			2030		
		Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth	Low Economic Growth	Reference	High Economic Growth
<b>Real Gross Domestic Product</b> .....	11319	12110	12453	12797	14743	15984	17239	17429	20219	23002
<b>Components of Real Gross Domestic Product</b>										
Real Consumption .....	8044	8670	8845	9021	10568	11362	12169	12323	13999	15679
Real Investment .....	1920	1763	1939	2114	2314	2614	2914	3000	3743	4477
Real Government Spending .....	1981	2055	2087	2118	2118	2258	2398	2167	2471	2772
Real Exports .....	1304	1784	1797	1809	3059	3387	3720	5218	6191	7170
Real Imports .....	1929	2143	2190	2246	3326	3474	3589	5386	5723	6008
<b>Energy Intensity</b> (thousand Btu per 2000 dollar of GDP)										
Delivered Energy .....	6.39	6.12	6.03	5.94	5.15	5.00	4.87	4.41	4.16	4.01
Total Energy .....	8.79	8.44	8.30	8.16	7.16	6.91	6.71	6.17	5.80	5.55
<b>Price Indices</b>										
GDP Chain-Type Price Index (2000=1.000) ..	1.166	1.274	1.260	1.245	1.642	1.520	1.400	2.122	1.871	1.630
Consumer Price Index (1982-4=1)										
All-Urban .....	2.02	2.22	2.20	2.17	2.86	2.64	2.43	3.72	3.29	2.88
Energy Commodities and Services .....	1.97	2.14	2.15	2.15	2.54	2.43	2.29	3.40	3.14	2.88
Wholesale Price Index (1982=1.00)										
All Commodities .....	1.65	1.82	1.80	1.77	2.15	1.96	1.78	2.64	2.26	1.91
Fuel and Power .....	1.67	1.86	1.88	1.89	2.14	2.04	1.92	2.98	2.75	2.51
<b>Interest Rates (percent, nominal)</b>										
Federal Funds Rate .....	4.96	4.96	4.69	4.40	5.42	4.92	4.45	5.46	4.91	4.37
10-Year Treasury Note .....	4.79	5.56	5.24	4.89	5.99	5.44	4.90	6.08	5.46	4.89
AA Utility Bond Rate .....	5.84	6.84	6.65	6.44	7.52	6.98	6.45	7.76	7.13	6.54
<b>Value of Shipments (billion 2000 dollars)</b>										
Total Industrial .....	5821	5788	5997	6202	6447	7113	7768	6533	7997	9450
Non-manufacturing .....	1531	1324	1419	1515	1427	1619	1814	1440	1715	1988
Manufacturing .....	4290	4464	4577	4687	5020	5493	5953	5092	6283	7462
Energy-Intensive .....	1225	1257	1283	1309	1287	1387	1487	1251	1447	1643
Non-Energy Intensive .....	3065	3207	3295	3378	3733	4107	4466	3842	4836	5819
<b>Population and Employment (millions)</b>										
Population with Armed Forces Overseas ....	300.1	309.5	310.9	312.6	325.4	337.7	351.3	336.7	365.6	396.3
Population (aged 16 and over) .....	235.0	243.5	244.9	246.7	257.6	266.0	275.2	270.4	289.3	309.4
Population, over age 65 .....	37.3	40.3	40.4	40.6	54.0	54.9	55.8	69.3	71.6	74.1
Employment, Nonfarm .....	136.1	137.3	142.4	147.6	143.5	154.5	165.7	152.9	168.1	183.2
Employment, Manufacturing .....	14.2	14.0	14.2	14.3	13.3	13.8	14.2	10.1	11.2	12.0
<b>Key Labor Indicators</b>										
Labor Force (millions) .....	151.4	155.1	156.8	158.3	160.3	165.6	171.6	168.5	177.9	187.6
Non-farm Labor Productivity (1992=1.00) ....	1.35	1.44	1.45	1.47	1.68	1.77	1.87	1.92	2.14	2.37
Unemployment Rate (percent) .....	4.63	5.12	5.03	4.93	4.80	4.62	4.41	4.99	4.80	4.68
<b>Key Indicators for Energy Demand</b>										
Real Disposable Personal Income .....	8397	9284	9472	9661	11888	12654	13436	14627	16246	17874
Housing Starts (millions) .....	1.93	1.42	1.68	1.93	1.39	1.78	2.17	1.15	1.70	2.24
Commercial Floorspace (billion square feet) ..	74.8	78.0	78.8	79.4	85.6	89.3	92.6	93.8	100.8	108.0
Unit Sales of Light-Duty Vehicles (millions) ...	16.50	16.05	16.38	17.09	16.36	17.47	18.88	17.16	19.39	21.86

GDP = Gross domestic product.

Btu = British thermal unit.

**Sources:** 2006: Global Insight, Global Insight Industry and Employment models, July 2007. **Projections:** Energy Information Administration, AEO2008 National Energy Modeling System runs LM2008.D031608A, AEO2008.D030208F, and HM2008.D031608A.

# Price Case Comparisons

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

Supply, Disposition, and Prices	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Production</b>										
Crude Oil and Lease Condensate .....	10.80	12.85	12.76	12.64	13.67	13.40	13.57	11.15	12.04	13.71
Natural Gas Plant Liquids .....	2.36	2.27	2.27	2.26	2.32	2.31	2.28	2.09	2.11	2.11
Dry Natural Gas .....	19.04	19.83	19.85	19.81	20.14	20.24	20.26	19.98	20.00	20.36
Coal <sup>1</sup> .....	23.79	23.97	23.97	23.97	23.33	25.20	26.13	25.88	28.63	32.46
Nuclear Power .....	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Hydropower .....	2.89	2.92	2.92	2.92	3.00	3.00	3.01	3.01	3.00	3.01
Biomass <sup>2</sup> .....	2.94	4.08	4.05	4.02	6.48	6.42	6.48	8.28	8.12	7.88
Other Renewable Energy <sup>3</sup> .....	0.88	1.39	1.51	1.51	1.77	2.00	2.10	2.11	2.45	2.45
Other <sup>4</sup> .....	0.50	0.53	0.54	0.55	0.60	0.58	0.57	0.65	0.64	0.63
<b>Total</b> .....	<b>71.41</b>	<b>76.16</b>	<b>76.17</b>	<b>75.99</b>	<b>80.21</b>	<b>82.21</b>	<b>83.66</b>	<b>81.87</b>	<b>86.56</b>	<b>93.27</b>
<b>Imports</b>										
Crude Oil .....	22.08	21.40	21.14	20.42	22.41	21.58	19.62	26.43	24.41	18.93
Liquid Fuels and Other Petroleum <sup>5</sup> .....	7.21	5.48	5.61	6.27	6.72	5.43	4.94	7.46	5.44	4.71
Natural Gas .....	4.29	5.00	4.80	4.63	6.40	4.68	3.52	6.98	4.64	3.17
Other Imports <sup>6</sup> .....	0.98	0.95	0.95	0.96	1.89	1.93	2.00	2.60	2.74	2.92
<b>Total</b> .....	<b>34.57</b>	<b>32.83</b>	<b>32.49</b>	<b>32.27</b>	<b>37.43</b>	<b>33.62</b>	<b>30.08</b>	<b>43.47</b>	<b>37.22</b>	<b>29.73</b>
<b>Exports</b>										
Petroleum <sup>7</sup> .....	2.60	2.87	2.82	2.88	3.03	2.98	3.08	3.07	3.33	3.25
Natural Gas .....	0.73	0.85	0.84	0.84	1.12	1.02	0.91	1.60	1.36	1.08
Coal .....	1.26	1.79	1.79	1.79	0.87	0.87	0.82	0.91	0.88	0.88
<b>Total</b> .....	<b>4.59</b>	<b>5.50</b>	<b>5.45</b>	<b>5.51</b>	<b>5.02</b>	<b>4.87</b>	<b>4.82</b>	<b>5.58</b>	<b>5.56</b>	<b>5.21</b>
<b>Discrepancy<sup>8</sup></b> .....	<b>1.87</b>	<b>-0.08</b>	<b>-0.13</b>	<b>-0.10</b>	<b>0.22</b>	<b>0.12</b>	<b>0.14</b>	<b>0.37</b>	<b>0.21</b>	<b>0.25</b>
<b>Consumption</b>										
Liquid Fuels and Other Petroleum <sup>9</sup> .....	40.06	40.61	40.46	40.19	44.30	42.24	40.20	46.89	43.99	41.48
Natural Gas .....	22.30	24.11	23.93	23.72	25.55	24.01	22.71	25.47	23.39	22.24
Coal .....	22.50	23.03	23.03	23.03	24.18	25.87	26.81	27.38	29.90	32.11
Nuclear Power .....	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Hydropower .....	2.89	2.92	2.92	2.92	3.00	3.00	3.01	3.01	3.00	3.01
Biomass <sup>10</sup> .....	2.50	3.02	3.01	2.99	4.53	4.50	4.49	5.63	5.51	5.36
Other Renewable Energy <sup>3</sup> .....	0.88	1.39	1.51	1.51	1.77	2.00	2.10	2.11	2.45	2.45
Other <sup>11</sup> .....	0.19	0.18	0.18	0.19	0.17	0.17	0.19	0.18	0.20	0.22
<b>Total</b> .....	<b>99.52</b>	<b>103.57</b>	<b>103.34</b>	<b>102.87</b>	<b>112.39</b>	<b>110.85</b>	<b>108.78</b>	<b>119.39</b>	<b>118.01</b>	<b>117.54</b>

# Price Case Comparisons

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

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

<sup>1</sup>Includes waste coal.

<sup>2</sup>Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.

<sup>3</sup>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.

<sup>4</sup>Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.

<sup>5</sup>Includes imports of finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.

<sup>6</sup>Includes coal, coal coke (net), and electricity (net).

<sup>7</sup>Includes crude oil and petroleum products.

<sup>8</sup>Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.

<sup>9</sup>Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.

<sup>10</sup>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.

<sup>11</sup>Includes non-biogenic municipal waste and net electricity imports.

<sup>12</sup>Weighted average price delivered to U.S. refiners.

<sup>13</sup>Represents lower 48 onshore and offshore supplies.

<sup>14</sup>Includes reported prices for both open market and captive mines.

<sup>15</sup>Prices weighted by consumption; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.

Btu = British thermal unit.

-- = Not applicable.

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

Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

## Price Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Energy Consumption</b>										
<b>Residential</b>										
Liquefied Petroleum Gases	0.47	0.48	0.48	0.48	0.52	0.52	0.51	0.56	0.55	0.55
Kerosene	0.07	0.08	0.08	0.08	0.09	0.08	0.08	0.09	0.08	0.07
Distillate Fuel Oil	0.70	0.76	0.75	0.75	0.78	0.73	0.65	0.72	0.65	0.56
Liquid Fuels and Other Petroleum Subtotal	1.25	1.32	1.31	1.31	1.40	1.33	1.24	1.37	1.29	1.18
Natural Gas	4.50	4.97	4.95	4.93	5.41	5.30	5.20	5.44	5.32	5.23
Coal	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Renewable Energy <sup>1</sup>	0.41	0.44	0.44	0.44	0.39	0.40	0.42	0.36	0.38	0.40
Electricity	4.61	4.95	4.95	4.94	5.29	5.25	5.22	5.90	5.88	5.85
<b>Delivered Energy</b>	<b>10.77</b>	<b>11.69</b>	<b>11.66</b>	<b>11.63</b>	<b>12.49</b>	<b>12.30</b>	<b>12.09</b>	<b>13.08</b>	<b>12.88</b>	<b>12.66</b>
Electricity Related Losses	10.04	10.58	10.59	10.58	10.98	11.08	11.12	11.91	12.14	12.10
<b>Total</b>	<b>20.82</b>	<b>22.27</b>	<b>22.25</b>	<b>22.21</b>	<b>23.47</b>	<b>23.39</b>	<b>23.21</b>	<b>24.99</b>	<b>25.01</b>	<b>24.76</b>
<b>Commercial</b>										
Liquefied Petroleum Gases	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Motor Gasoline <sup>2</sup>	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Kerosene	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Distillate Fuel Oil	0.42	0.38	0.38	0.38	0.45	0.41	0.37	0.49	0.41	0.38
Residual Fuel Oil	0.11	0.10	0.10	0.09	0.11	0.10	0.10	0.11	0.10	0.10
Liquid Fuels and Other Petroleum Subtotal	0.68	0.64	0.63	0.63	0.73	0.68	0.63	0.76	0.68	0.64
Natural Gas	2.92	3.06	3.04	3.03	3.56	3.47	3.37	3.87	3.78	3.67
Coal	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Renewable Energy <sup>3</sup>	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Electricity	4.43	4.74	4.73	4.72	5.72	5.67	5.62	6.68	6.62	6.57
<b>Delivered Energy</b>	<b>8.25</b>	<b>8.64</b>	<b>8.62</b>	<b>8.59</b>	<b>10.22</b>	<b>10.03</b>	<b>9.83</b>	<b>11.52</b>	<b>11.30</b>	<b>11.09</b>
Electricity Related Losses	9.66	10.12	10.12	10.12	11.87	11.96	11.99	13.47	13.68	13.59
<b>Total</b>	<b>17.91</b>	<b>18.76</b>	<b>18.74</b>	<b>18.70</b>	<b>22.08</b>	<b>21.98</b>	<b>21.82</b>	<b>24.99</b>	<b>24.98</b>	<b>24.68</b>
<b>Industrial<sup>4</sup></b>										
Liquefied Petroleum Gases	2.09	2.13	2.12	2.12	1.87	1.83	1.78	1.75	1.71	1.71
Motor Gasoline <sup>2</sup>	0.38	0.38	0.38	0.37	0.37	0.37	0.37	0.38	0.38	0.37
Distillate Fuel Oil	1.28	1.29	1.29	1.28	1.26	1.23	1.22	1.29	1.23	1.23
Residual Fuel Oil	0.28	0.28	0.28	0.28	0.30	0.23	0.19	0.37	0.23	0.19
Petrochemical Feedstocks	1.41	1.37	1.36	1.36	1.41	1.39	1.36	1.30	1.29	1.30
Other Petroleum <sup>5</sup>	4.48	4.31	4.25	4.14	4.67	4.22	3.73	4.93	4.41	3.62
Liquid Fuels and Other Petroleum Subtotal	9.92	9.76	9.67	9.57	9.89	9.27	8.65	10.02	9.25	8.42
Natural Gas	6.68	7.15	7.16	7.12	7.00	7.14	7.21	6.73	7.08	7.21
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Lease and Plant Fuel <sup>6</sup>	1.17	1.21	1.21	1.21	1.25	1.25	1.26	1.27	1.27	1.30
Natural Gas Subtotal	7.85	8.36	8.37	8.33	8.25	8.39	8.68	8.00	8.35	8.71
Metallurgical Coal	0.60	0.60	0.60	0.59	0.56	0.54	0.51	0.50	0.48	0.47
Other Industrial Coal	1.26	1.31	1.31	1.30	1.19	1.20	1.19	1.16	1.18	1.18
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.09	0.34	0.45	0.09	0.55	2.69
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal Subtotal	1.92	1.94	1.93	1.92	1.87	2.11	2.19	1.80	2.26	4.39
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.66	1.51	1.49	1.49	2.41	2.31	2.09
Renewable Energy <sup>7</sup>	1.69	1.67	1.66	1.66	1.86	1.83	1.80	2.04	2.02	2.00
Electricity	3.42	3.52	3.50	3.48	3.65	3.59	3.52	3.51	3.52	3.58
<b>Delivered Energy</b>	<b>25.10</b>	<b>25.93</b>	<b>25.82</b>	<b>25.62</b>	<b>27.04</b>	<b>26.70</b>	<b>26.32</b>	<b>27.77</b>	<b>27.70</b>	<b>29.19</b>
Electricity Related Losses	7.45	7.52	7.50	7.45	7.57	7.57	7.51	7.07	7.28	7.40
<b>Total</b>	<b>32.55</b>	<b>33.45</b>	<b>33.32</b>	<b>33.07</b>	<b>34.61</b>	<b>34.27</b>	<b>33.83</b>	<b>34.84</b>	<b>34.98</b>	<b>36.59</b>

# Price Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Transportation</b>										
Liquefied Petroleum Gases	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.02
E85 <sup>8</sup>	0.00	0.00	0.00	0.00	0.95	0.97	0.91	1.17	1.34	1.65
Motor Gasoline <sup>2</sup>	17.20	17.28	17.25	17.14	17.46	16.56	15.36	17.54	15.97	13.83
Jet Fuel <sup>9</sup>	3.16	3.45	3.44	3.43	4.16	4.15	4.14	4.79	4.79	4.79
Distillate Fuel Oil <sup>10</sup>	6.18	6.56	6.54	6.52	7.75	7.63	7.64	9.09	8.98	9.29
Residual Fuel Oil	0.83	0.85	0.85	0.85	0.86	0.86	0.86	0.87	0.87	0.87
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum <sup>11</sup>	0.18	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.18
Liquid Fuels and Other Petroleum Subtotal	27.57	28.34	28.29	28.14	31.36	30.37	29.11	33.65	32.15	30.62
Pipeline Fuel Natural Gas	0.59	0.64	0.64	0.64	0.71	0.69	0.66	0.76	0.72	0.70
Compressed Natural Gas	0.02	0.04	0.04	0.04	0.07	0.07	0.07	0.08	0.08	0.09
Electricity	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
<b>Delivered Energy</b>	<b>28.20</b>	<b>29.04</b>	<b>28.98</b>	<b>28.84</b>	<b>32.17</b>	<b>31.15</b>	<b>29.87</b>	<b>34.51</b>	<b>32.98</b>	<b>31.44</b>
Electricity Related Losses	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06
<b>Total</b>	<b>28.25</b>	<b>29.09</b>	<b>29.03</b>	<b>28.89</b>	<b>32.23</b>	<b>31.21</b>	<b>29.92</b>	<b>34.57</b>	<b>33.04</b>	<b>31.50</b>
<b>Delivered Energy Consumption for All Sectors</b>										
Liquefied Petroleum Gases	2.65	2.72	2.70	2.71	2.50	2.45	2.40	2.41	2.37	2.37
E85 <sup>8</sup>	0.00	0.00	0.00	0.00	0.95	0.97	0.91	1.17	1.34	1.65
Motor Gasoline <sup>2</sup>	17.62	17.71	17.68	17.56	17.88	16.99	15.78	17.97	16.40	14.25
Jet Fuel <sup>9</sup>	3.16	3.45	3.44	3.43	4.16	4.15	4.14	4.79	4.79	4.79
Kerosene	0.11	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13	0.11
Distillate Fuel Oil	8.59	8.99	8.97	8.93	10.25	10.00	9.89	11.59	11.28	11.46
Residual Fuel Oil	1.23	1.23	1.23	1.23	1.27	1.19	1.15	1.35	1.20	1.16
Petrochemical Feedstocks	1.41	1.37	1.36	1.36	1.41	1.39	1.36	1.30	1.29	1.30
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum <sup>12</sup>	4.64	4.47	4.40	4.29	4.83	4.38	3.88	5.09	4.56	3.77
Liquid Fuels and Other Petroleum Subtotal	39.41	40.06	39.90	39.64	43.38	41.65	39.63	45.80	43.37	40.87
Natural Gas	14.12	15.21	15.19	15.11	16.04	15.98	15.85	16.11	16.27	16.19
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Lease and Plant Fuel <sup>6</sup>	1.17	1.21	1.21	1.21	1.25	1.25	1.26	1.27	1.27	1.30
Pipeline Natural Gas	0.59	0.64	0.64	0.64	0.71	0.69	0.66	0.76	0.72	0.70
Natural Gas Subtotal	15.88	17.06	17.04	16.96	18.00	17.93	17.97	18.14	18.26	18.39
Metallurgical Coal	0.60	0.60	0.60	0.59	0.56	0.54	0.51	0.50	0.48	0.47
Other Coal	1.35	1.40	1.40	1.40	1.28	1.29	1.28	1.25	1.27	1.27
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.09	0.34	0.45	0.09	0.55	2.69
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal Subtotal	2.02	2.03	2.03	2.02	1.96	2.21	2.28	1.89	2.35	4.48
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.66	1.51	1.49	1.49	2.41	2.31	2.09
Renewable Energy <sup>13</sup>	2.23	2.24	2.23	2.23	2.38	2.37	2.35	2.53	2.52	2.53
Electricity	12.49	13.23	13.20	13.16	14.68	14.54	14.38	16.12	16.05	16.03
<b>Delivered Energy</b>	<b>72.32</b>	<b>75.30</b>	<b>75.08</b>	<b>74.67</b>	<b>81.92</b>	<b>80.18</b>	<b>78.10</b>	<b>86.88</b>	<b>84.86</b>	<b>84.38</b>
Electricity Related Losses	27.19	28.27	28.26	28.20	30.47	30.67	30.68	32.51	33.16	33.15
<b>Total</b>	<b>99.52</b>	<b>103.57</b>	<b>103.34</b>	<b>102.87</b>	<b>112.39</b>	<b>110.85</b>	<b>108.78</b>	<b>119.39</b>	<b>118.01</b>	<b>117.54</b>
<b>Electric Power<sup>14</sup></b>										
Distillate Fuel Oil	0.18	0.18	0.18	0.18	0.20	0.20	0.20	0.22	0.23	0.22
Residual Fuel Oil	0.46	0.38	0.38	0.38	0.72	0.39	0.37	0.87	0.40	0.39
Liquid Fuels and Other Petroleum Subtotal	0.64	0.56	0.56	0.56	0.92	0.59	0.57	1.09	0.63	0.61
Natural Gas	6.42	7.05	6.89	6.76	7.55	6.09	4.74	7.34	5.13	3.85
Steam Coal	20.48	21.00	21.01	21.01	22.21	23.67	24.54	25.50	27.55	27.63
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Renewable Energy <sup>15</sup>	3.74	4.41	4.53	4.53	5.40	5.64	5.76	5.80	6.13	6.21
Electricity Imports	0.06	0.05	0.05	0.06	0.04	0.04	0.07	0.05	0.08	0.09
<b>Total<sup>16</sup></b>	<b>39.68</b>	<b>41.50</b>	<b>41.46</b>	<b>41.36</b>	<b>45.16</b>	<b>45.21</b>	<b>45.06</b>	<b>48.63</b>	<b>49.21</b>	<b>49.18</b>

## Price Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Total Energy Consumption</b>										
Liquefied Petroleum Gases	2.65	2.72	2.70	2.71	2.50	2.45	2.40	2.41	2.37	2.37
E85 <sup>8</sup>	0.00	0.00	0.00	0.00	0.95	0.97	0.91	1.17	1.34	1.65
Motor Gasoline <sup>2</sup>	17.62	17.71	17.68	17.56	17.88	16.99	15.78	17.97	16.40	14.25
Jet Fuel <sup>9</sup>	3.16	3.45	3.44	3.43	4.16	4.15	4.14	4.79	4.79	4.79
Kerosene	0.11	0.12	0.12	0.12	0.13	0.13	0.12	0.13	0.13	0.11
Distillate Fuel Oil	8.77	9.17	9.15	9.11	10.45	10.20	10.09	11.81	11.51	11.68
Residual Fuel Oil	1.69	1.61	1.60	1.61	1.99	1.58	1.52	2.22	1.60	1.55
Petrochemical Feedstocks	1.41	1.37	1.36	1.36	1.41	1.39	1.36	1.30	1.29	1.30
Liquid Hydrogen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Petroleum <sup>12</sup>	4.64	4.47	4.40	4.29	4.83	4.38	3.88	5.09	4.56	3.77
Liquid Fuels and Other Petroleum Subtotal	40.06	40.61	40.46	40.19	44.30	42.24	40.20	46.89	43.99	41.48
Natural Gas	20.54	22.26	22.08	21.88	23.59	22.07	20.58	23.45	21.40	20.04
Natural-Gas-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20
Lease and Plant Fuel <sup>6</sup>	1.17	1.21	1.21	1.21	1.25	1.25	1.26	1.27	1.27	1.30
Pipeline Natural Gas	0.59	0.64	0.64	0.64	0.71	0.69	0.66	0.76	0.72	0.70
Natural Gas Subtotal	22.30	24.11	23.93	23.72	25.55	24.01	22.71	25.47	23.39	22.24
Metallurgical Coal	0.60	0.60	0.60	0.59	0.56	0.54	0.51	0.50	0.48	0.47
Other Coal	21.83	22.40	22.41	22.41	23.49	24.96	25.82	26.75	28.82	28.90
Coal-to-Liquids Heat and Power	0.00	0.00	0.00	0.00	0.09	0.34	0.45	0.09	0.55	2.69
Net Coal Coke Imports	0.06	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Coal Subtotal	22.50	23.03	23.03	23.03	24.18	25.87	26.81	27.38	29.90	32.11
Nuclear Power	8.21	8.31	8.31	8.31	8.90	9.05	9.26	8.72	9.57	10.66
Biofuels Heat and Coproducts	0.30	0.68	0.67	0.66	1.51	1.49	1.49	2.41	2.31	2.09
Renewable Energy <sup>17</sup>	5.97	6.65	6.76	6.76	7.79	8.01	8.11	8.34	8.66	8.74
Electricity Imports	0.06	0.05	0.05	0.06	0.04	0.04	0.07	0.05	0.08	0.09
<b>Total</b>	<b>99.52</b>	<b>103.57</b>	<b>103.34</b>	<b>102.87</b>	<b>112.39</b>	<b>110.85</b>	<b>108.78</b>	<b>119.39</b>	<b>118.01</b>	<b>117.54</b>
<b>Energy Use and Related Statistics</b>										
Delivered Energy Use	72.32	75.30	75.08	74.67	81.92	80.18	78.10	86.88	84.86	84.38
Total Energy Use	99.52	103.57	103.34	102.87	112.39	110.85	108.78	119.39	118.01	117.54
Ethanol Consumed in Motor Gasoline and E85	0.47	1.05	1.05	1.03	1.82	1.82	1.68	1.97	2.01	2.07
Population (millions)	300.13	310.85	310.85	310.85	337.74	337.74	337.74	365.59	365.59	365.59
Gross Domestic Product (billion 2000 dollars)	11319	12465	12453	12426	16030	15984	15944	20228	20219	20258
Carbon Dioxide Emissions (million metric tons)	5890.3	6030.9	6010.6	5983.0	6450.0	6384.1	6258.9	6941.2	6851.0	6799.2

<sup>1</sup>Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

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

<sup>3</sup>Excludes ethanol. Includes commercial sector consumption of wood and wood waste, landfill gas, municipal waste, and other biomass for combined heat and power. See Table A5 and/or Table A17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

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

<sup>5</sup>Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

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

<sup>7</sup>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.

<sup>8</sup>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.

<sup>9</sup>Includes only kerosene type.

<sup>10</sup>Diesel fuel for on- and off- road use.

<sup>11</sup>Includes aviation gasoline and lubricants.

<sup>12</sup>Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

<sup>13</sup>Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes ethanol and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

<sup>14</sup>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.

<sup>15</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

<sup>16</sup>Includes non-biogenic municipal waste not included above.

<sup>17</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal waste, other biomass, wind, photovoltaic and solar thermal sources. Excludes ethanol, net electricity imports, and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports. Consumption values of 0.00 are values that round to 0.00, because they are less than 0.005.

Sources: 2006 consumption based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 population and gross domestic product: Global Insight, Global Insight Industry and Employment models, July 2007. 2006 carbon dioxide emissions: EIA, *Emissions of Greenhouse Gases in the United States 2006*, DOE/EIA-0573(2006) (Washington, DC, November 2007). Projections: EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

# Price Case Comparisons

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

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



## Price Case Comparisons

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

Sector and Source	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Non-Renewable Energy Expenditures by Sector (billion 2006 dollars)</b>										
Residential .....	225.38	238.17	241.71	246.28	232.30	243.22	256.49	262.54	274.70	287.88
Commercial .....	166.54	171.75	174.38	177.84	179.61	189.37	201.22	215.50	227.37	240.45
Industrial .....	205.11	218.32	224.65	230.83	171.15	193.16	221.31	177.82	203.93	235.22
Transportation .....	542.63	540.60	560.74	608.98	426.17	530.80	712.89	462.11	587.86	797.19
Total Non-Renewable Expenditures .....	1139.66	1168.84	1201.48	1263.94	1009.23	1156.54	1391.91	1117.96	1293.86	1560.74
Transportation Renewable Expenditures .....	0.03	0.07	0.06	0.07	14.43	17.64	24.80	17.78	26.35	47.45
<b>Total Expenditures .....</b>	<b>1139.70</b>	<b>1168.91</b>	<b>1201.54</b>	<b>1264.00</b>	<b>1023.66</b>	<b>1174.18</b>	<b>1416.71</b>	<b>1135.74</b>	<b>1320.22</b>	<b>1608.20</b>

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

<sup>2</sup>Excludes use for lease and plant fuel.

<sup>3</sup>Includes Federal and State taxes while excluding county and local taxes.

<sup>4</sup>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.

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

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

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

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

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

<sup>10</sup>Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

-- = Not applicable.

Note: Data for 2006 are model results and may differ slightly from official EIA data reports.

**Sources:** 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on prices in the Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 industrial natural gas delivered prices are estimated based on: EIA, *Manufacturing Energy Consumption Survey 1994* and industrial and wellhead prices from the *Natural Gas Annual 2005*, DOE/EIA-0131(2005) (Washington, DC, November 2006) and the *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 transportation sector natural gas delivered prices are model results. 2006 electric power sector natural gas prices: EIA, *Electric Power Monthly*, DOE/EIA-0226, May 2006 through April 2007. 2006 coal prices based on: EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007) and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. 2006 electricity prices: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 E85 prices derived from monthly prices in the Clean Cities Alternative Fuel Price Report.

**Projections:** EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

## Price Case Comparisons

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

Supply and Disposition	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Crude Oil</b>										
Domestic Crude Production <sup>1</sup> .....	5.10	5.97	5.93	5.87	6.35	6.23	6.31	5.18	5.59	6.37
Alaska .....	0.74	0.69	0.69	0.68	0.77	0.70	0.65	0.32	0.30	0.41
Lower 48 States .....	4.36	5.29	5.24	5.19	5.59	5.53	5.66	4.86	5.30	5.96
Net Imports .....	10.09	9.72	9.60	9.27	10.12	9.75	8.87	11.93	11.03	8.54
Gross Imports .....	10.12	9.75	9.63	9.30	10.15	9.79	8.90	11.95	11.06	8.57
Exports .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Other Crude Supply <sup>2</sup> .....	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Crude Supply .....</b>	<b>15.24</b>	<b>15.69</b>	<b>15.53</b>	<b>15.15</b>	<b>16.47</b>	<b>15.98</b>	<b>15.17</b>	<b>17.11</b>	<b>16.63</b>	<b>14.91</b>
<b>Other Supply</b>										
Natural Gas Plant Liquids .....	1.74	1.69	1.68	1.68	1.72	1.72	1.69	1.56	1.57	1.56
Net Product Imports .....	2.31	1.63	1.72	2.07	2.00	1.37	1.15	2.41	1.26	0.88
Gross Refined Product Imports <sup>3</sup> .....	2.17	1.48	1.61	1.72	1.74	1.41	1.22	2.11	1.56	1.16
Unfinished Oil Imports .....	0.69	0.70	0.67	0.58	0.79	0.64	0.57	0.87	0.70	0.54
Blending Component Imports .....	0.68	0.77	0.74	1.09	0.85	0.67	0.78	0.81	0.52	0.68
Exports .....	1.22	1.31	1.30	1.32	1.38	1.36	1.41	1.38	1.52	1.50
Refinery Processing Gain <sup>4</sup> .....	0.99	1.06	1.05	0.96	0.99	1.00	0.86	0.99	0.99	0.68
Other Inputs .....	0.45	1.03	1.04	1.02	1.87	1.97	2.11	2.20	2.41	3.53
Ethanol .....	0.36	0.81	0.81	0.80	1.41	1.41	1.30	1.53	1.56	1.61
Domestic Production .....	0.32	0.76	0.74	0.73	1.19	1.17	1.10	1.44	1.44	1.35
Net Imports .....	0.05	0.06	0.07	0.06	0.22	0.24	0.20	0.09	0.12	0.26
Biodiesel .....	0.02	0.04	0.04	0.04	0.07	0.07	0.08	0.07	0.08	0.10
Domestic Production .....	0.02	0.04	0.04	0.04	0.07	0.07	0.08	0.07	0.08	0.10
Net Imports .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquids from Gas .....	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.13
Liquids from Coal .....	0.00	0.00	0.00	0.00	0.04	0.15	0.20	0.04	0.24	1.18
Liquids from Biomass .....	0.00	0.00	0.00	0.00	0.14	0.14	0.20	0.33	0.29	0.28
Other <sup>5</sup> .....	0.07	0.18	0.18	0.19	0.21	0.21	0.20	0.24	0.24	0.23
<b>Total Primary Supply<sup>6</sup> .....</b>	<b>20.74</b>	<b>21.10</b>	<b>21.02</b>	<b>20.87</b>	<b>23.06</b>	<b>22.04</b>	<b>20.99</b>	<b>24.26</b>	<b>22.86</b>	<b>21.57</b>
<b>Liquid Fuels Consumption</b>										
<b>by Fuel</b>										
Liquefied Petroleum Gases .....	2.05	2.06	2.05	2.06	1.90	1.86	1.82	1.83	1.80	1.80
E85 <sup>7</sup> .....	0.00	0.00	0.00	0.00	0.65	0.67	0.63	0.80	0.92	1.13
Motor Gasoline <sup>8</sup> .....	9.25	9.60	9.59	9.54	9.73	9.24	8.60	9.77	8.91	7.75
Jet Fuel <sup>9</sup> .....	1.63	1.67	1.66	1.66	2.01	2.01	2.00	2.31	2.31	2.31
Distillate Fuel Oil <sup>10</sup> .....	4.17	4.41	4.40	4.38	5.03	4.91	4.85	5.68	5.53	5.61
Diesel .....	3.21	3.73	3.72	3.71	4.31	4.23	4.22	4.96	4.87	5.01
Residual Fuel Oil .....	0.69	0.70	0.70	0.70	0.87	0.69	0.66	0.97	0.70	0.67
Other <sup>11</sup> .....	2.86	2.61	2.58	2.53	2.80	2.58	2.35	2.85	2.62	2.28
<b>by Sector</b>										
Residential and Commercial .....	1.07	1.09	1.08	1.08	1.18	1.13	1.06	1.20	1.12	1.05
Industrial <sup>12</sup> .....	5.15	5.10	5.06	5.01	5.08	4.79	4.50	5.09	4.73	4.37
Transportation .....	14.05	14.63	14.60	14.54	16.31	15.79	15.11	17.46	16.66	15.87
Electric Power <sup>13</sup> .....	0.29	0.25	0.25	0.25	0.41	0.26	0.26	0.48	0.28	0.27
<b>Total .....</b>	<b>20.65</b>	<b>21.06</b>	<b>20.99</b>	<b>20.87</b>	<b>22.99</b>	<b>21.96</b>	<b>20.92</b>	<b>24.22</b>	<b>22.80</b>	<b>21.57</b>
<b>Discrepancy<sup>14</sup> .....</b>	<b>0.09</b>	<b>0.04</b>	<b>0.03</b>	<b>-0.00</b>	<b>0.07</b>	<b>0.08</b>	<b>0.08</b>	<b>0.04</b>	<b>0.06</b>	<b>0.00</b>

## Price Case Comparisons

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

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

<sup>1</sup>Includes lease condensate.

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

<sup>3</sup>Includes other hydrocarbons and alcohols.

<sup>4</sup>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.

<sup>5</sup>Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, and ethers.

<sup>6</sup>Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.

<sup>7</sup>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.

<sup>8</sup>Includes ethanol and ethers blended into gasoline.

<sup>9</sup>Includes only kerosene type.

<sup>10</sup>Includes distillate fuel oil and kerosene from petroleum and biomass feedstocks.

<sup>11</sup>Includes aviation gasoline, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, methanol, liquid hydrogen, and miscellaneous petroleum products.

<sup>12</sup>Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.

<sup>13</sup>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.

<sup>14</sup>Balancing item. Includes unaccounted for supply, losses, and gains.

<sup>15</sup>End-of-year operable capacity.

<sup>16</sup>Rate is calculated by dividing the gross annual input to atmospheric crude oil distillation units by their operable refining capacity in barrels per calendar day.

-- = Not applicable.

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

Sources: 2006 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 data: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Projections: EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

# Price Case Comparisons

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

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

<sup>1</sup>Weighted average price delivered to U.S. refiners.

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

<sup>3</sup>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.

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

<sup>5</sup>Includes only kerosene type.

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

<sup>7</sup>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.

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

Note: Data for 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2006 imported low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2006 imported crude oil price: EIA, *Petroleum Marketing Annual 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 prices for motor gasoline, distillate fuel oil, and jet fuel are based on: EIA, *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 residential, commercial, industrial, and transportation sector petroleum product prices are derived from: EIA, Form EIA-782A, "Refiners/Gas Plant Operators' Monthly Petroleum Product Sales Report." 2006 electric power prices based on: Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants." 2006 ethanol prices derived from weekly spot prices in the Oxy Fuel News. 2006 wholesale ethanol prices derived from Bloomberg U.S. average rack price. Projections: EIA, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.

## Price Case Comparisons

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

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

# Price Case Comparisons

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

Supply and Disposition	2006	Projections								
		2010			2020			2030		
		Low Price	Reference	High Price	Low Price	Reference	High Price	Low Price	Reference	High Price
<b>Consumption<sup>8</sup></b>										
OECD										
United States (50 states) . . . . .	20.65	21.06	20.99	20.87	22.51	21.47	20.45	23.62	22.11	20.73
United States Territories . . . . .	0.38	0.46	0.43	0.39	0.62	0.51	0.48	0.70	0.59	0.54
Canada . . . . .	2.27	2.43	2.32	2.23	2.82	2.36	2.04	2.87	2.40	2.01
Mexico . . . . .	2.06	2.29	2.19	2.10	3.09	2.61	2.24	3.53	2.95	2.48
OECD Europe <sup>3</sup> . . . . .	15.42	16.22	15.47	14.85	18.69	15.71	13.59	18.99	15.86	13.27
Japan . . . . .	5.16	5.41	5.18	4.98	6.18	5.22	4.54	6.26	5.26	4.44
South Korea . . . . .	2.18	2.36	2.25	2.16	3.07	2.57	2.23	3.37	2.81	2.36
Australia and New Zealand . . . . .	1.03	1.12	1.07	1.03	1.41	1.19	1.03	1.54	1.28	1.08
<b>Total OECD . . . . .</b>	<b>49.16</b>	<b>51.36</b>	<b>49.90</b>	<b>48.61</b>	<b>58.38</b>	<b>51.64</b>	<b>46.60</b>	<b>60.88</b>	<b>53.28</b>	<b>46.89</b>
Non-OECD										
Russia . . . . .	2.79	3.00	2.89	2.80	3.65	3.13	2.77	3.90	3.32	2.84
Other Non-OECD Eurasia <sup>5</sup> . . . . .	2.09	2.37	2.26	2.17	3.11	2.64	2.29	3.50	2.96	2.50
China . . . . .	7.26	9.86	9.44	9.08	14.21	11.96	10.39	18.73	15.69	13.20
India . . . . .	2.49	2.81	2.68	2.57	4.30	3.62	3.14	5.23	4.37	3.67
Other Non-OECD Asia . . . . .	6.14	6.97	6.67	6.40	9.86	8.35	7.20	11.74	9.86	8.29
Middle East <sup>7</sup> . . . . .	6.15	7.30	7.13	7.05	9.65	8.46	7.61	11.36	9.84	8.61
Africa . . . . .	2.99	3.53	3.36	3.20	5.20	4.35	3.71	5.94	4.93	4.09
Brazil . . . . .	2.34	2.69	2.57	2.47	3.75	3.15	2.72	4.42	3.68	3.08
Other Central and South America . . . . .	3.26	3.68	3.51	3.41	5.37	4.51	3.90	6.48	5.37	4.53
<b>Total Non-OECD . . . . .</b>	<b>35.51</b>	<b>42.20</b>	<b>40.51</b>	<b>39.16</b>	<b>59.09</b>	<b>50.16</b>	<b>43.73</b>	<b>71.30</b>	<b>60.02</b>	<b>50.81</b>
<b>Total Consumption . . . . .</b>	<b>84.66</b>	<b>93.55</b>	<b>90.40</b>	<b>87.76</b>	<b>117.48</b>	<b>101.80</b>	<b>90.34</b>	<b>132.18</b>	<b>113.30</b>	<b>97.70</b>
OPEC Production <sup>10</sup> . . . . .	34.90	39.67	36.40	34.59	47.42	40.87	36.12	59.00	46.16	36.75
Non-OPEC Production <sup>10</sup> . . . . .	49.76	53.88	54.00	53.17	70.05	60.94	54.22	73.19	67.15	60.96
Net Eurasia Exports . . . . .	9.63	11.25	11.37	11.44	18.28	13.98	10.70	19.92	15.43	10.46
OPEC Market Share . . . . .	41.2	42.4	40.3	39.4	40.4	40.1	40.0	44.6	40.7	37.6

<sup>1</sup>Weighted average price delivered to U.S. refiners.

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

<sup>3</sup>OPEC = Organization of Petroleum Exporting Countries - Algeria, Angola, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, the United Arab Emirates, and Venezuela. Does not include Ecuador, which was admitted to OPEC as a full member on November 17, 2007.

<sup>4</sup>OECD Europe = Organization for Economic Cooperation and Development - Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

<sup>5</sup>Eurasia consists of Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

<sup>6</sup>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.

<sup>7</sup>Non-OPEC Middle East includes Turkey.

<sup>8</sup>Includes liquids produced from energy crops, natural gas, coal, oil sands, and shale. Includes both OPEC and non-OPEC producers in the regional breakdown.

<sup>9</sup>Includes both OPEC and non-OPEC consumers in the regional breakdown.

<sup>10</sup>Includes both conventional and nonconventional liquids production.

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

Sources: 2006 low sulfur light crude oil price: Energy Information Administration (EIA), Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." 2006 imported crude oil price: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). **2006 quantities and projections:** Energy Information Administration, AEO2008 National Energy Modeling System runs LP2008.D031608A, AEO2008.D030208F, and HP2008.D031808A.



Appendix D

# Results from Side Cases

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

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

<sup>1</sup>Includes wood used for residential heating. See Table A4 and/or Table A17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

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

<sup>3</sup>Includes commercial sector consumption of wood and wood waste, landfill gas, biogenic municipal waste, and other biomass for combined heat and power.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports. Side cases were run without the fully integrated modeling system, so not all feedbacks are captured. The reference case ratio of electricity losses to electricity use was used to compute electricity losses for the technology cases.

Source: Energy Information Administration, AEO2008 National Energy Modeling System, runs BLDFRZN.D030408A, AEO2008.D030208F, BLDHIGH.D030408A, and BLDBEST.D030408A.



## Results from Side Cases

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

# Results from Side Cases

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

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

<sup>1</sup>Fuel consumption includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>2</sup>Includes lubricants and miscellaneous petroleum products.

<sup>3</sup>Represents natural gas used in the field gathering and processing plant machinery.

<sup>4</sup>Includes net coal coke imports.

<sup>5</sup>Includes consumption of energy from hydroelectric, wood and wood waste, biogenic municipal waste, and other biomass.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports. Side cases were run without the fully integrated modeling system, so not all potential feedbacks were captured. The reference case ratio of electricity losses to electricity use was used to compute electricity losses for the technology cases.

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs INDFRZN.D030608A, AEO2008.D030208F, and INDHIGH.D032208A.

## Results from Side Cases

**Table D3. Key Results for Transportation Sector Technology Cases**

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

<sup>1</sup>Commercial trucks 8,500 to 10,000 pounds.

<sup>2</sup>Environmental Protection Agency rated miles per gallon.

<sup>3</sup>Combined car and light truck "on-the-road" estimate.

<sup>4</sup>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.

<sup>5</sup>Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.

<sup>6</sup>Includes only kerosene type.

<sup>7</sup>Diesel fuel for on- and off- road use.

<sup>8</sup>Includes aviation gasoline and lubricants.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports. Side cases were run without the fully integrated modeling system, so not all potential feedbacks were captured. The reference case ratio of electricity losses to electricity use was used to compute electricity losses for the technology cases.

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and TRNHIGH.D031408A.

# Results from Side Cases

**Table D4. Key Results for Integrated Technology Cases**

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

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

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

<sup>3</sup>Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol and biodiesel. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen.

<sup>4</sup>Includes grid-connected electricity from conventional hydroelectric; wood and wood waste; landfill gas; municipal waste; other biomass; wind; photovoltaic and solar thermal sources; and non-electric energy from renewable sources, such as active and passive solar systems, and wood; and both the ethanol and gasoline components of E85, but not the ethanol component of blends less than 85 percent. Excludes electricity imports using renewable sources and nonmarketed renewable energy.

<sup>5</sup>Includes non-biogenic municipal waste and net electricity imports.

<sup>6</sup>Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Does not include emissions from the nonbiogenic component of municipal waste because under international guidelines these are accounted for as waste, not energy.

<sup>7</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.

Btu = British thermal unit.

GDP = Gross domestic product.

Note: Includes end-use, fossil electricity, and renewable technology assumptions. Totals may not equal sum of components due to independent rounding. Data for 2006 are model results and may differ slightly from official EIA data reports.

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HTECHCOST.D031408A, AEO2008.D030208F, and LTECHCOST.D032208A.

## Results from Side Cases

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

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

<sup>1</sup>Includes combined heat and power plants and electricity-only plants in commercial and industrial sectors. Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

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

<sup>3</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

Btu = British thermal unit.

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

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HCNUC08.D030308A, AEO2008.D030208F, and LCNUC08.D030308A.

# Results from Side Cases

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

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

<sup>1</sup>Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors. Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for on-site generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

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

<sup>3</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

Btu = British thermal unit.

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

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

**Table D7. Key Results for Renewable Technology Cases**

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

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

<sup>2</sup>Includes hydrothermal resources only (hot water and steam).

<sup>3</sup>Includes biogenic municipal waste, landfill gas, and municipal sewage sludge. Incremental growth is assumed to be for landfill gas facilities.

<sup>4</sup>Includes projections for energy crops after 2010.

<sup>5</sup>Includes combined heat and power plants and electricity-only plants in the commercial and industrial sectors; and small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

<sup>6</sup>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.

<sup>7</sup>Represents own-use industrial hydroelectric power.

<sup>8</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

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

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs HIRENCST08.D030408A, AEO2008.D030208F, and LORENCST08.D030408A.

## Results from Side Cases

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

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

<sup>1</sup>Represents lower 48 onshore and offshore supplies.

<sup>2</sup>Marketed production (wet) minus extraction losses.

<sup>3</sup>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.

<sup>4</sup>Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.

<sup>5</sup>Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>6</sup>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.

<sup>7</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.

<sup>8</sup>Represents natural gas used in field gathering and processing plant machinery.

<sup>9</sup>Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. In addition, 2006 values include net storage injections.

Btu = British thermal unit.

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

Sources: 2006 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs OGLTEC08.D030508A, AEO2008.D030208F, and OGHTEC08.D030508A.



## Results from Side Cases

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

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

<sup>1</sup>Weighted average price delivered to U.S. refiners.

<sup>2</sup>Includes lease condensate.

<sup>3</sup>Includes net imports of finished petroleum products, unfinished oils, other hydrocarbons, alcohols, ethers, and blending components.

<sup>4</sup>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.

<sup>5</sup>Includes ethanol (including imports), alcohols, ethers, petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, biodiesel (including imports), natural gas converted to liquid fuel, coal converted to liquid fuel, and biomass converted to liquid fuel.

<sup>6</sup>Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net product imports.

<sup>7</sup>Includes consumption for combined heat and power, which produces electricity and other useful thermal energy.

<sup>8</sup>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.

<sup>9</sup>Balancing item. Includes unaccounted for supply, losses and gains.

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

**Sources:** 2006 product supplied data based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 data: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). **Projections:** EIA, AEO2008 National Energy Modeling System runs OGLTEC08.D030508A, AEO2008.D030208F, and OGHTEC08.D030508A.

## Results from Side Cases

**Table D10. Natural Gas Supply and Disposition, Liquefied Natural Gas Supply Cases**  
(Trillion Cubic Feet per Year, Unless Otherwise Noted)

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

<sup>1</sup>Marketed production (wet) minus extraction losses.

<sup>2</sup>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.

<sup>3</sup>Includes any natural gas regasified in the Bahamas and transported via pipeline to Florida.

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

<sup>5</sup>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.

<sup>6</sup>Compressed natural gas used as vehicle fuel.

<sup>7</sup>Represents natural gas used in field gathering and processing plant machinery.

<sup>8</sup>Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. In addition, 2006 values include net storage injections.

<sup>9</sup>Represents lower 48 onshore and offshore supplies.

<sup>10</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.

<sup>11</sup>Weighted average prices. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.

LNG = Liquefied natural gas.

Btu = British thermal unit.

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

Sources: 2006 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs LOLNG08.D0305086A, AEO2008.D030208F, and HILNG08.D030508A.

## Results from Side Cases

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

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

<sup>1</sup>Includes lease condensate.

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

<sup>3</sup>Includes other hydrocarbons and alcohols.

<sup>4</sup>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.

<sup>5</sup>Includes net imports.

<sup>6</sup>Includes petroleum product stock withdrawals; domestic sources of blending components, other hydrocarbons, alcohols, and ethers.

<sup>7</sup>Total crude supply plus all components of Other Supply.

<sup>8</sup>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.

<sup>9</sup>Includes ethanol and ethers blended into gasoline.

<sup>10</sup>Includes only kerosene type.

<sup>11</sup>Includes distillate and kerosene.

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

<sup>13</sup>Includes consumption for combined heat and power (CHP), which produces electricity and other useful thermal energy.

<sup>14</sup>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.

<sup>15</sup>Balancing item. Includes unaccounted for supply, losses, and gains.

<sup>16</sup>Weighted average price delivered to U.S. refiners.

ANWR = Arctic National Wildlife Refuge.

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

Sources: 2006 imported crude oil price and petroleum product supplied based on: Energy Information Administration (EIA), *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2006 imported low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 data: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). Projections: EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F and ANWR2008.D031008A.

## Results from Side Cases

**Table D12. Key Results for Coal Cost Cases**  
(Million Short Tons per Year, Unless Otherwise Noted)

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

## Results from Side Cases

**Table D12. Key Results for Coal Cost Cases (Continued)**  
(Million Short Tons per Year, Unless Otherwise Noted)

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

<sup>1</sup>Includes anthracite, bituminous coal, subbituminous coal, and lignite.

<sup>2</sup>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.

<sup>3</sup>Production plus waste coal supplied plus net imports.

<sup>4</sup>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.

<sup>5</sup>Includes all electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>6</sup>Includes reported prices for both open market and captive mines.

<sup>7</sup>Prices weighted by consumption tonnage; weighted average excludes residential and commercial prices, and export free-alongside-ship (f.a.s.) prices.

<sup>8</sup>F.a.s. price at U.S. port of exit.

<sup>9</sup>Cumulative additions after December 31, 2006. Includes all additions of electricity only and combined heat and power plants projected for the electric power, industrial, and commercial sectors.

<sup>10</sup>Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power. Facilities co-firing biomass and coal are classified as coal.

Btu = British thermal unit.

IGCC = Integrated gasification combined cycle.

-- = Not applicable.

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

Sources: 2006 data based on: Energy Information Administration (EIA), *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007); EIA, *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007); Securities and Exchange Commission Form 10K filings (BNSF, Norfolk Southern, and Union Pacific), web site www.sec.gov; CSX Corporation, web site www.csx.com; U.S. Department of Labor, Bureau of Labor Statistics, Average Hourly Earnings of Production Workers: Coal Mining, Series ID : ceu1021210008; and EIA, AEO2008 National Energy Modeling System run AEO2008.D030208F. Projections: EIA, AEO2008 National Energy Modeling System runs LCCST08.D030508A, AEO2008.D030208F, and HCCST08.D030508A.

# Results from Side Cases

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

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

<sup>1</sup>Includes waste coal.

<sup>2</sup>Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood.

<sup>3</sup>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.

<sup>4</sup>Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.

<sup>5</sup>Includes crude oil, finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.

<sup>6</sup>Includes coal, coal coke, and electricity.

<sup>7</sup>Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol, biodiesel, and coal-based synthetic liquids. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen.

<sup>8</sup>Excludes coal converted to coal-based synthetic liquids.

<sup>9</sup>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.

<sup>10</sup>Includes non-biogenic municipal waste and net electricity imports.

<sup>11</sup>Weighted average price delivered to U.S. refiners.

<sup>12</sup>Represents lower 48 onshore and offshore supplies.

<sup>13</sup>Includes reported prices for both open market and captive mines.

Btu = British thermal unit.

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

Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth price: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and LOGASSUP.D030408A, HIGASDEM.D030408A, and HDEMLSUP.D030408A.

## Results from Side Cases

**Table D14. Natural Gas Supply and Disposition, Natural Gas Cases**  
(Trillion Cubic Feet per Year, Unless Otherwise Noted)

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

<sup>1</sup>Marketed production (wet) minus extraction losses.

<sup>2</sup>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.

<sup>3</sup>Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>4</sup>Includes any natural gas used in the process of converting natural gas to liquid fuel that is not actually converted.

<sup>5</sup>Includes any natural gas that is converted into liquid fuel.

<sup>6</sup>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.

<sup>7</sup>Compressed natural gas used as vehicle fuel.

<sup>8</sup>Represents natural gas used in field gathering and processing plant machinery.

<sup>9</sup>Represents lower 48 onshore and offshore supplies.

<sup>10</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes and estimated dispensing costs or charges.

<sup>11</sup>Weighted average prices. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.

Btu = British thermal unit.

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

Sources: 2006 supply values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 consumption based on: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F, and LOGASSUP.D030408A, HIGASDEM.D030408A, and HDEMLSUP.D030408A.

## Results from Side Cases

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

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

<sup>1</sup>Includes combined heat and power plants and electricity-only plants in commercial and industrial sectors. Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

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

<sup>3</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

Btu = British thermal unit.

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

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



## Results from Side Cases

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

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

<sup>1</sup>Includes combined heat and power plants and electricity-only plants in commercial and industrial sectors. Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

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

<sup>3</sup>Includes emissions from geothermal power and nonbiogenic emissions from municipal waste.

Btu = British thermal unit.

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

Source: Energy Information Administration, AEO2008 National Energy Modeling System runs LC2008.D030308A, AEO2008.D030208F, and HC2008.D030308A.

# Results from Side Cases

**Table D17. Oil and Gas Supply, Commodity Cost Cases**

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

<sup>1</sup>Represents lower 48 onshore and offshore supplies.

<sup>2</sup>Includes lease condensate.

<sup>3</sup>Represents lower 48 onshore and offshore supplies.

<sup>4</sup>Marketed production (wet) minus extraction losses.

<sup>5</sup>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.

<sup>6</sup>Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.

<sup>7</sup>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.

<sup>8</sup>Compressed natural gas used as vehicle fuel.

<sup>9</sup>Represents natural gas used in field gathering and processing plant machinery.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports.

Sources: 2006 crude oil lower 48 average wellhead price: Energy Information Administration (EIA), *Petroleum Marketing Annual 2006*, DOE/EIA-0487(2006) (Washington, DC, August 2007). 2006 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: EIA, *Petroleum Supply Annual 2006*, DOE/EIA-0340(2006)/1 (Washington, DC, September 2007). 2006 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). Other 2006 values: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2008 National Energy Modeling System runs LC2008.D030308A, AEO2008.D030208F, and HC2008.D030308A.

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

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

# Results from Side Cases

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

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

<sup>1</sup>Includes crude oil, lease condensate, and natural gas plant liquids.

<sup>2</sup>Includes waste coal.

<sup>3</sup>Includes grid-connected electricity from wood and waste; biomass, such as corn, used for liquid fuels production; and non-electric energy demand from wood. Refer to Table A17 for details.

<sup>4</sup>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.

<sup>5</sup>Includes non-biogenic municipal waste, liquid hydrogen, methanol, and some domestic inputs to refineries.

<sup>6</sup>Includes crude oil, finished petroleum products, unfinished oils, alcohols, ethers, blending components, and renewable fuels such as ethanol.

<sup>7</sup>Includes coal, coal coke, and electricity.

<sup>8</sup>Includes petroleum-derived fuels and non-petroleum derived fuels, such as ethanol, biodiesel, and coal-based synthetic liquids. Petroleum coke, which is a solid, is included. Also included are natural gas plant liquids, crude oil consumed as a fuel, and liquid hydrogen. Refer to Table A17 for detailed renewable liquid fuels consumption.

<sup>9</sup>Excludes coal converted to coal-based synthetic liquids.

<sup>10</sup>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.

<sup>11</sup>Includes non-biogenic municipal waste and net electricity imports.

<sup>12</sup>Weighted average price delivered to U.S. refiners.

<sup>13</sup>Represents lower 48 onshore and offshore supplies.

<sup>14</sup>Includes reported prices for both open market and captive mines.

<sup>15</sup>Includes lease condensate.

<sup>16</sup>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.

<sup>17</sup>Domestic production and net imports of ethanol, biodiesel, and liquids from biomass.

<sup>18</sup>Includes net imports.

<sup>19</sup>Includes petroleum product stock withdrawals, domestic sources of blending components, other hydrocarbons, ethers, and renewable fuels such as biodiesel.

<sup>20</sup>Marketed production (wet) minus extraction losses.

<sup>21</sup>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.

<sup>22</sup>Includes waste coal consumed by the electric power and industrial sectors. Waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in the consumption data.

Btu = British thermal unit.

GDP = Gross domestic product.

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

Sources: 2006 natural gas supply values and natural gas wellhead price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2007/04) (Washington, DC, April 2007). 2006 coal minemouth and delivered coal prices: EIA, *Annual Coal Report 2006*, DOE/EIA-0584(2006) (Washington, DC, November 2007). 2006 petroleum supply values: EIA, #PSA#. 2006 low sulfur light crude oil price: EIA, Form EIA-856, "Monthly Foreign Crude Oil Acquisition Report." Other 2006 coal values: *Quarterly Coal Report, October-December 2006*, DOE/EIA-0121(2006/4Q) (Washington, DC, March 2007). Other 2006 values: EIA, *Annual Energy Review 2006*, DOE/EIA-0384(2006) (Washington, DC, June 2007). Projections: EIA, AEO2008 National Energy Modeling System runs AEO2008.D030208F and AEO2008.D112607A.