

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

Supply, disposition, prices, and emissions	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
<b>Generation by fuel type</b>								
<b>Electric power sector<sup>1</sup></b>								
<b>Power only<sup>2</sup></b>								
Coal .....	1712	1799	1531	1604	1710	1757	1803	0.0%
Petroleum .....	32	32	25	26	26	27	27	-0.6%
Natural gas <sup>3</sup> .....	723	776	903	874	882	983	1074	1.3%
Nuclear power .....	799	807	830	887	917	914	887	0.4%
Pumped storage/other <sup>4</sup> .....	2	2	2	2	2	2	2	-1.2%
Renewable sources <sup>5</sup> .....	384	390	504	544	579	594	630	1.9%
Distributed generation (natural gas) .....	0	0	0	1	2	3	4	--
<b>Total .....</b>	<b>3651</b>	<b>3806</b>	<b>3796</b>	<b>3937</b>	<b>4118</b>	<b>4279</b>	<b>4427</b>	<b>0.6%</b>
<b>Combined heat and power<sup>6</sup></b>								
Coal .....	29	32	30	30	31	31	31	-0.1%
Petroleum .....	4	3	1	1	1	1	1	-5.2%
Natural gas .....	118	122	126	124	124	124	123	0.0%
Renewable sources .....	5	5	4	5	5	5	4	-0.7%
<b>Total .....</b>	<b>159</b>	<b>165</b>	<b>160</b>	<b>160</b>	<b>161</b>	<b>160</b>	<b>159</b>	<b>-0.1%</b>
<b>Total electric power sector generation .....</b>	<b>3810</b>	<b>3971</b>	<b>3956</b>	<b>4097</b>	<b>4279</b>	<b>4439</b>	<b>4586</b>	<b>0.6%</b>
Less direct use .....	14	16	13	13	13	13	13	-0.7%
<b>Net available to the grid .....</b>	<b>3796</b>	<b>3955</b>	<b>3942</b>	<b>4084</b>	<b>4265</b>	<b>4426</b>	<b>4572</b>	<b>0.6%</b>
<b>End-use sector<sup>7</sup></b>								
Coal .....	15	20	20	38	46	54	63	4.7%
Petroleum .....	3	3	2	2	2	2	2	-0.7%
Natural gas .....	80	84	101	113	132	160	198	3.5%
Other gaseous fuels <sup>8</sup> .....	10	11	16	16	15	15	15	1.2%
Renewable sources <sup>9</sup> .....	31	34	55	65	78	103	125	5.4%
Other <sup>10</sup> .....	4	4	3	3	3	3	3	-0.8%
<b>Total end-use sector generation .....</b>	<b>143</b>	<b>155</b>	<b>197</b>	<b>237</b>	<b>277</b>	<b>338</b>	<b>406</b>	<b>3.9%</b>
Less direct use .....	107	112	149	180	208	243	288	3.8%
<b>Total sales to the grid .....</b>	<b>36</b>	<b>43</b>	<b>48</b>	<b>57</b>	<b>69</b>	<b>95</b>	<b>118</b>	<b>4.1%</b>
<b>Total electricity generation by fuel</b>								
Coal .....	1756	1851	1581	1671	1786	1841	1897	0.1%
Petroleum .....	39	37	28	28	29	29	30	-0.8%
Natural gas .....	921	982	1130	1113	1140	1270	1398	1.4%
Nuclear power .....	799	807	830	887	917	914	887	0.4%
Renewable sources <sup>5,9</sup> .....	420	429	562	614	662	702	760	2.3%
Other <sup>11</sup> .....	19	21	21	21	21	21	21	-0.0%
<b>Total electricity generation .....</b>	<b>3953</b>	<b>4126</b>	<b>4152</b>	<b>4334</b>	<b>4556</b>	<b>4777</b>	<b>4992</b>	<b>0.8%</b>
<b>Net generation to the grid .....</b>	<b>3832</b>	<b>3998</b>	<b>3990</b>	<b>4141</b>	<b>4335</b>	<b>4521</b>	<b>4691</b>	<b>0.6%</b>
<b>Net imports .....</b>	<b>34</b>	<b>26</b>	<b>29</b>	<b>26</b>	<b>22</b>	<b>14</b>	<b>12</b>	<b>-2.9%</b>
<b>Electricity sales by sector</b>								
Residential .....	1364	1451	1392	1454	1533	1626	1718	0.7%
Commercial .....	1307	1329	1346	1431	1513	1607	1699	1.0%
Industrial .....	917	962	1008	1013	1032	1009	977	0.1%
Transportation .....	7	7	8	9	12	16	22	4.8%
<b>Total .....</b>	<b>3596</b>	<b>3749</b>	<b>3753</b>	<b>3907</b>	<b>4090</b>	<b>4258</b>	<b>4415</b>	<b>0.7%</b>
Direct use .....	121	128	162	193	221	256	302	3.5%
<b>Total electricity use .....</b>	<b>3717</b>	<b>3877</b>	<b>3915</b>	<b>4100</b>	<b>4311</b>	<b>4514</b>	<b>4716</b>	<b>0.8%</b>

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

Supply, disposition, prices, and emissions	Reference case							Annual growth 2010-2035 (percent)
	2009	2010	2015	2020	2025	2030	2035	
<b>End-use prices</b>								
(2010 cents per kilowatthour)								
Residential .....	11.6	11.5	11.8	11.6	11.6	11.6	11.8	0.1%
Commercial .....	10.3	10.1	9.9	9.8	9.9	9.8	10.1	-0.0%
Industrial .....	6.8	6.7	6.5	6.5	6.7	6.8	7.1	0.2%
Transportation .....	12.2	11.3	10.4	10.1	10.8	11.1	11.5	0.1%
<b>All sectors average</b> .....	<b>9.9</b>	<b>9.8</b>	<b>9.7</b>	<b>9.6</b>	<b>9.7</b>	<b>9.8</b>	<b>10.1</b>	<b>0.1%</b>
(nominal cents per kilowatthour)								
Residential .....	11.5	11.5	12.7	13.6	14.9	16.5	18.7	2.0%
Commercial .....	10.1	10.1	10.7	11.5	12.7	13.9	15.9	1.8%
Industrial .....	6.8	6.7	7.0	7.6	8.6	9.6	11.2	2.1%
Transportation .....	12.0	11.3	11.2	11.9	13.8	15.8	18.3	2.0%
<b>All sectors average</b> .....	<b>9.8</b>	<b>9.8</b>	<b>10.4</b>	<b>11.3</b>	<b>12.5</b>	<b>13.9</b>	<b>16.0</b>	<b>2.0%</b>
<b>Prices by service category</b>								
(2010 cents per kilowatthour)								
Generation .....	6.1	5.9	5.6	5.7	6.0	6.1	6.4	0.3%
Transmission .....	1.0	1.0	1.1	1.1	1.1	1.1	1.1	0.3%
Distribution .....	2.9	2.9	3.0	2.8	2.7	2.6	2.6	-0.5%
(nominal cents per kilowatthour)								
Generation .....	6.0	5.9	6.0	6.7	7.7	8.7	10.2	2.2%
Transmission .....	1.0	1.0	1.2	1.3	1.4	1.6	1.8	2.2%
Distribution .....	2.8	2.9	3.3	3.3	3.4	3.7	4.1	1.4%
<b>Electric power sector emissions<sup>1</sup></b>								
Sulfur dioxide (million short tons) .....	5.72	5.11	1.26	1.31	1.55	1.62	1.71	-4.3%
Nitrogen oxide (million short tons) .....	1.99	2.06	1.79	1.87	1.92	1.94	1.96	-0.2%
Mercury (short tons) .....	36.25	34.70	6.44	6.74	7.24	7.51	7.86	-5.8%

<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 U.S. Energy Information Administration estimates that in 2010 approximately 6 billion kilowatthours of electricity were generated from a municipal waste stream containing petroleum-derived plastics and other non-renewable sources. See U.S. Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).

<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.

<sup>11</sup>Includes pumped storage, non-biogenic municipal waste, refinery gas, still gas, batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, and miscellaneous technologies.

-- = Not applicable.

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

Sources: 2009 and 2010 electric power sector generation; sales to the grid; net imports; electricity sales; and electricity end-use prices: U.S. Energy Information Administration (EIA), *Annual Energy Review 2010*, DOE/EIA-0384(2010) (Washington, DC, October 2011), and supporting databases. 2009 and 2010 emissions: U.S. Environmental Protection Agency, Clean Air Markets Database. 2009 and 2010 electricity prices by service category: EIA, AEO2012 National Energy Modeling System run REF2012.D020112C. Projections: EIA, AEO2012 National Energy Modeling System run REF2012.D020112C.