

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

Supply, disposition, prices, and emissions	Reference case							Annual growth 2013-2040 (percent)
	2012	2013	2020	2025	2030	2035	2040	
Net generation by fuel type								
Electric power sector¹								
Power only²								
Coal	1,478	1,550	1,670	1,685	1,674	1,665	1,663	0.3%
Petroleum	18	22	14	15	14	14	15	-1.6%
Natural gas ³	1,000	894	867	954	1,073	1,143	1,198	1.1%
Nuclear power.....	769	789	804	808	808	812	833	0.2%
Pumped storage/other ⁴	2	3	3	3	3	3	3	-0.1%
Renewable sources ⁵	458	483	620	648	679	733	805	1.9%
Distributed generation (natural gas).....	0	0	1	1	1	2	2	--
Total	3,726	3,741	3,978	4,113	4,252	4,372	4,518	0.7%
Combined heat and power⁶								
Coal	22	22	26	26	26	26	26	0.5%
Petroleum	2	2	1	1	1	1	1	-4.0%
Natural gas	132	126	133	133	134	134	133	0.2%
Renewable sources	5	5	6	7	7	7	8	1.7%
Total	164	158	166	167	168	168	167	0.2%
Total net electric power sector generation.....	3,890	3,899	4,144	4,280	4,420	4,540	4,686	0.7%
Less direct use.....	13	13	14	14	14	14	14	0.2%
Net available to the grid	3,877	3,886	4,131	4,267	4,406	4,527	4,672	0.7%
End-use sector⁷								
Coal	13	13	13	13	13	13	13	0.0%
Petroleum	3	3	3	3	3	3	3	-0.4%
Natural gas	95	98	116	134	163	199	235	3.3%
Other gaseous fuels ⁸	11	11	19	19	19	19	19	2.1%
Renewable sources ⁹	39	42	53	60	70	82	97	3.1%
Other ¹⁰	3	3	3	3	3	3	3	0.0%
Total end-use sector net generation	164	171	207	233	271	320	370	2.9%
Less direct use.....	126	132	167	190	225	269	313	3.3%
Total sales to the grid.....	38	39	40	43	46	51	56	1.4%
Total net electricity generation by fuel								
Coal	1,514	1,586	1,709	1,724	1,713	1,704	1,702	0.3%
Petroleum	23	27	18	18	18	18	18	-1.6%
Natural gas	1,228	1,118	1,117	1,223	1,371	1,478	1,569	1.3%
Nuclear power.....	769	789	804	808	808	812	833	0.2%
Renewable sources ^{5,9}	501	530	679	716	756	823	909	2.0%
Other ¹¹	19	20	25	25	25	25	25	0.8%
Total net electricity generation.....	4,055	4,070	4,351	4,513	4,691	4,860	5,056	0.8%
Net generation to the grid	3,916	3,925	4,171	4,309	4,453	4,578	4,729	0.7%
Net imports.....	47	52	33	35	30	26	32	-1.8%
Electricity sales by sector								
Residential.....	1,375	1,391	1,423	1,441	1,488	1,533	1,587	0.5%
Commercial.....	1,327	1,338	1,413	1,461	1,522	1,583	1,659	0.8%
Industrial.....	986	955	1,096	1,166	1,183	1,188	1,206	0.9%
Transportation.....	7	7	9	10	12	15	18	3.4%
Total	3,695	3,691	3,941	4,078	4,205	4,319	4,470	0.7%
Direct use	139	145	180	204	239	283	327	3.1%
Total electricity use	3,834	3,836	4,121	4,282	4,444	4,602	4,797	0.8%

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

Supply, disposition, prices, and emissions	Reference case							Annual growth 2013-2040 (percent)
	2012	2013	2020	2025	2030	2035	2040	
End-use prices								
(2013 cents per kilowatthour)								
Residential.....	12.1	12.2	12.9	13.5	13.6	13.9	14.5	0.6%
Commercial.....	10.2	10.1	10.6	11.1	11.1	11.3	11.8	0.6%
Industrial.....	6.8	6.9	7.3	7.6	7.7	7.9	8.4	0.7%
Transportation.....	9.5	9.7	10.3	11.0	11.2	11.6	12.3	0.9%
All sectors average.....	10.0	10.1	10.5	11.0	11.1	11.3	11.8	0.6%
(nominal cents per kilowatthour)								
Residential.....	11.9	12.2	14.6	16.6	18.3	20.5	23.5	2.5%
Commercial.....	10.1	10.1	12.0	13.6	14.9	16.6	19.1	2.4%
Industrial.....	6.7	6.9	8.2	9.4	10.3	11.7	13.6	2.6%
Transportation.....	9.3	9.7	11.7	13.6	15.0	17.0	19.9	2.7%
All sectors average.....	9.8	10.1	11.9	13.5	14.8	16.6	19.2	2.4%
Prices by service category								
(2013 cents per kilowatthour)								
Generation.....	6.5	6.6	6.6	7.0	7.0	7.1	7.6	0.5%
Transmission.....	0.9	0.9	1.1	1.2	1.2	1.2	1.3	1.2%
Distribution.....	2.5	2.6	2.8	2.9	2.9	3.0	3.0	0.6%
(nominal cents per kilowatthour)								
Generation.....	6.4	6.6	7.5	8.6	9.3	10.5	12.3	2.3%
Transmission.....	0.9	0.9	1.2	1.4	1.6	1.8	2.1	3.0%
Distribution.....	2.5	2.6	3.2	3.6	3.9	4.4	4.9	2.4%
Electric power sector emissions¹								
Sulfur dioxide (million short tons).....	3.43	3.27	1.42	1.44	1.44	1.47	1.53	-2.8%
Nitrogen oxide (million short tons).....	1.68	1.69	1.57	1.57	1.56	1.57	1.57	-0.3%
Mercury (short tons).....	26.69	27.94	6.58	6.53	6.43	6.40	6.41	-5.3%

¹Includes electricity-only and combined heat and power plants that have a regulatory status.

²Includes plants that only produce electricity and that have a regulatory status.

³Includes electricity generation from fuel cells.

⁴Includes non-biogenic municipal waste. The U.S. Energy Information Administration estimates that in 2013 approximately 7 billion kilowatthours of electricity were generated from a municipal waste stream containing petroleum-derived plastics and other non-renewable sources. See U.S. Energy Information Administration, *Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy*, (Washington, DC, May 2007).

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

⁶Includes combined heat and power plants whose primary business is to sell electricity and heat to the public (i.e., those that report North American Industry Classification System code 22 or that have a regulatory status).

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

⁸Includes refinery gas and still gas.

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

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

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

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Note: Totals may not equal sum of components due to independent rounding. Data for 2012 and 2013 are model results and may differ from official EIA data reports.

Sources: 2012 and 2013 electric power sector generation; sales to the grid; net imports; electricity sales; and electricity end-use prices: U.S. Energy Information Administration (EIA), *Monthly Energy Review*, DOE/EIA-0035(2014/11) (Washington, DC, November 2014), and supporting databases. 2012 and 2013 emissions: U.S. Environmental Protection Agency, Clean Air Markets Database. 2012 and 2013 electricity prices by service category: EIA, AEO2015 National Energy Modeling System run REF2015.D021915A. Projections: EIA, AEO2015 National Energy Modeling System run REF2015.D021915A.