



Independent Statistics and Analysis

**U.S. Energy Information
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Independent Statistics & Analysis

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EIA Electric Industry Data Collection

Chapter 1

National Summary Data

Table 1.1. Total Electric Power Industry Summary Statistics, 2024 and 2023

Net Generation and Consumption of Fuels for January through December														
		Total (All Sectors)			Electric Power Sector				Commercial		Industrial		Residential	
Fuel	Facility Type	Year 2024	Year 2023	Percentage Change	Electric Utilities		Independent Power Producers		Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
					Year 2024	Year 2023	Year 2024	Year 2023						
Net Generation (Thousand Megawatthours)														
Coal	Utility Scale Facilities	652,156	675,115	-3.4%	508,149	518,330	139,527	152,238	204	220	4,276	4,327	0	0
Petroleum Liquids	Utility Scale Facilities	11,456	11,397	0.5%	8,504	8,254	2,567	2,573	12	76	372	494	0	0
Petroleum Coke	Utility Scale Facilities	3,629	4,836	-25.0%	1,946	3,146	1,377	1,415	4	2	302	273	0	0
Natural Gas	Utility Scale Facilities	1,869,902	1,806,063	3.5%	953,446	895,910	812,528	803,945	7,157	7,744	96,771	98,463	0	0
Other Fossil Gas	Utility Scale Facilities	10,845	11,778	-7.9%	0	0	2,976	3,340	0	0	7,870	8,438	0	0
Nuclear	Utility Scale Facilities	781,865	774,873	0.9%	444,521	441,391	337,345	333,482	0	0	0	0	0	0
Hydroelectric Conventional	Utility Scale Facilities	242,896	245,002	-0.9%	220,163	220,003	21,612	23,862	311	293	810	844	0	0
Renewable Sources Excluding Hydroelectric	Utility Scale Facilities	733,567	650,239	12.8%	123,555	106,543	582,350	516,694	4,441	4,545	23,220	22,456	0	0
... Wind	Utility Scale Facilities	451,904	421,141	7.3%	89,056	80,120	362,616	340,780	133	130	99	112	0	0
... Solar Thermal and Photovoltaic	Utility Scale Facilities	219,834	165,530	32.8%	30,347	22,230	188,376	142,360	566	615	546	326	0	0
... Wood and Wood-Derived Fuels	Utility Scale Facilities	31,564	31,615	-0.2%	2,436	2,549	7,218	7,637	111	107	21,800	21,320	0	0
... Other Biomass	Utility Scale Facilities	14,858	15,585	-4.7%	804	862	9,647	10,332	3,631	3,693	776	698	0	0
... Geothermal	Utility Scale Facilities	15,407	16,367	-5.9%	914	782	14,493	15,586	0	0	0	0	0	0
Hydroelectric Pumped Storage	Utility Scale Facilities	-5,852	-5,990	-2.3%	-4,232	-4,545	-1,619	-1,445	0	0	0	0	0	0
Other Energy Sources	Utility Scale Facilities	8,170	9,957	-17.9%	285	580	1,627	2,823	3,130	3,185	3,127	3,369	0	0
All Energy Sources	Utility Scale Facilities	4,308,634	4,183,270	3.0%	2,256,336	2,189,614	1,900,291	1,838,927	15,258	16,066	136,749	138,664	0	0
Estimated Small Scale Solar Photovoltaic	Small Scale Facilities	83,918	73,406	14.3%	0	0	0	0	21,652	19,751	4,719	4,382	57,547	49,273
Estimated Total Solar Photovoltaic	All Facilities	300,634	236,090	27.3%	30,347	22,230	185,257	139,513	22,218	20,366	5,265	4,708	57,547	49,273
Estimated Total Solar	All Facilities	303,752	238,937	27.1%	30,347	22,230	188,376	142,360	22,218	20,366	5,265	4,708	57,547	49,273
Consumption of Fossil Fuels for Electricity Generation														
Coal (1000 tons)	Utility Scale Facilities	372,931	386,626	-3.5%	284,849	291,034	86,586	94,063	65	69	1,431	1,460	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	20,787	21,335	-2.6%	16,058	16,366	4,137	4,253	179	200	414	517	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	1,662	2,028	-18.0%	960	1,328	596	594	1	1	104	105	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	13,754,749	13,245,495	3.8%	7,282,518	6,821,490	5,831,864	5,766,810	47,993	49,069	592,373	608,127	0	0
Consumption of Fossil Fuels for Useful Thermal Output														
Coal (1000 tons)	Utility Scale Facilities	8,883	9,363	-5.1%	1,485	1,580	338	527	356	331	6,703	6,925	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	2,238	3,133	-28.6%	66	65	612	330	440	363	1,120	2,374	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	608	622	-2.2%	0	8	103	115	5	3	499	495	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	1,246,683	1,210,187	3.0%	48,851	46,531	313,214	306,508	80,431	69,832	804,187	787,767	0	0
Consumption of Fossil Fuels for Electricity Generation and Useful Thermal Output														
Coal (1000 tons)	Utility Scale Facilities	381,814	395,989	-3.6%	286,334	292,615	86,924	94,591	422	400	8,134	8,384	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	23,025	24,468	-5.9%	16,124	16,431	4,748	4,583	619	563	1,534	2,891	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	2,270	2,649	-14.3%	960	1,336	699	709	6	4	604	600	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	15,001,432	14,455,682	3.8%	7,331,369	6,868,021	6,145,078	6,072,868	128,424	118,901	1,396,561	1,395,893	0	0

Sales, Revenue, and Average Price of Electricity to Ultimate Customers for January through December									
Sector	Total U.S. Electric Power Industry								
	Sales of Electricity to Ultimate Customers (million kWh)			Revenue from Sales of Electricity to Ultimate Customers (million dollars)			Average Price of Electricity to Ultimate Customers (cents/kWh)		
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Percentage Change
Residential	1,482,874	1,450,025	2.3%	244,367	231,993	5.3%	16.48	16.00	3.0%
Commercial	1,450,941	1,408,109	3.0%	185,043	177,342	4.3%	12.75	12.59	1.3%
Industrial	1,034,584	1,009,256	2.5%	84,095	81,159	3.6%	8.13	8.04	1.1%
Transportation	6,983	6,864	1.7%	890	877	1.6%	12.75	12.77	-0.2%
All Sectors	3,975,382	3,874,253	2.6%	514,396	491,370	4.7%	12.94	12.68	2.1%

NM = Not meaningful due to large relative standard error.

W = Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Coal generation and consumption includes anthracite, bituminous, subbituminous, lignite, waste coal, refined coal, synthetic coal, and coal-derived synthesis gas.

Petroleum Liquids includes distillate fuel oil, residual fuel oil, jet fuel, kerosene, propane, and waste oil.

Petroleum Coke includes petroleum coke and synthesis gas derived from petroleum coke.

Natural gas includes a small amount of supplemental gaseous fuels that cannot be identified separately.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

Wood and Wood-Derived Fuels include wood, black liquor, and other wood waste.

Other Biomass includes biogenic municipal solid waste, landfill gas, sludge waste, agricultural byproducts, and other biomass.

Other Energy Sources includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Coal stocks include anthracite, bituminous, subbituminous, lignite, refined coal, and synthetic coal; waste coal is excluded.

Sales of electricity to ultimate customers and net generation may not correspond exactly for a particular month for a variety of reasons (e.g., sales data may include imported electricity).

Net generation is presented for the calendar month while sales of electricity to ultimate customers and associated revenue accumulate from bills collected for periods of time that vary depending

Table 1.2. Summary Statistics for the United States, 2014 - 2024

(From Table 2.1.) Number of Ultimate Customers

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2014	128,680,416	17,853,995	839,212	79	N/A	147,373,702
2015	129,811,718	17,985,690	835,536	78	N/A	148,633,022
2016	131,068,760	18,148,353	838,059	86	N/A	150,055,258
2017	132,579,747	18,359,427	840,329	86	N/A	151,779,589
2018	133,893,321	18,605,393	840,321	83	N/A	153,339,118
2019	135,249,616	18,694,240	954,222	83	N/A	154,898,161
2020	136,682,001	18,848,813	992,311	83	N/A	156,523,208
2021	138,308,772	19,102,304	1,022,212	82	N/A	158,433,370
2022	139,854,178	19,257,529	1,049,983	86	N/A	160,161,776
2023	141,282,713	19,381,328	1,078,249	85	N/A	161,742,375
2024	143,144,185	19,480,886	1,115,974	81	N/A	163,741,126

(From Table 2.2.) Sales to Ultimate Customers

(Thousand Megawatthours)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2014	1,407,208	1,352,158	997,576	7,758	N/A	3,764,700
2015	1,404,096	1,360,752	986,508	7,637	N/A	3,758,992
2016	1,411,058	1,367,191	976,715	7,497	N/A	3,762,462
2017	1,378,648	1,352,888	984,298	7,523	N/A	3,723,356
2018	1,469,093	1,381,755	1,000,673	7,665	N/A	3,859,185
2019	1,440,289	1,360,877	1,002,353	7,632	N/A	3,811,150
2020	1,464,605	1,287,440	959,082	6,548	N/A	3,717,674
2021	1,470,487	1,328,439	1,000,613	6,334	N/A	3,805,874
2022	1,509,233	1,390,873	1,020,464	6,599	N/A	3,927,169
2023	1,450,025	1,408,109	1,009,256	6,864	N/A	3,874,253
2024	1,482,874	1,450,941	1,034,584	6,983	N/A	3,975,382

(From Table 2.3.) Revenue From Ultimate Customers

(Million Dollars)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2014	176,178	145,253	70,855	810	N/A	393,096
2015	177,624	144,781	68,166	771	N/A	391,341
2016	177,077	142,643	66,068	722	N/A	386,509
2017	177,661	144,242	67,691	728	N/A	390,322
2018	189,033	147,425	69,218	744	N/A	406,420
2019	187,436	145,280	68,285	737	N/A	401,738
2020	192,663	136,372	63,956	648	N/A	393,639
2021	200,834	149,008	71,835	646	N/A	422,323
2022	226,990	172,600	84,895	765	N/A	485,249
2023	231,993	177,342	81,159	877	N/A	491,370

Table 1.2. Summary Statistics for the United States, 2014 - 2024

2024	244,367	185,043	84,095	890	N/A	514,396
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(From Table 2.4.) Average Price

(Cents per Kilowatthour)

Year	Residential	Commercial	Industrial	Transportation	Other	Total
2014	12.52	10.74	7.10	10.45	N/A	10.44
2015	12.65	10.64	6.91	10.09	N/A	10.41
2016	12.55	10.43	6.76	9.63	N/A	10.27
2017	12.89	10.66	6.88	9.68	N/A	10.48
2018	12.87	10.67	6.92	9.70	N/A	10.53
2019	13.01	10.68	6.81	9.66	N/A	10.54
2020	13.15	10.59	6.67	9.90	N/A	10.59
2021	13.66	11.22	7.18	10.20	N/A	11.10
2022	15.04	12.41	8.32	11.59	N/A	12.36
2023	16.00	12.59	8.04	12.77	N/A	12.68
2024	16.48	12.75	8.13	12.75	N/A	12.94

(From Tables 2.12. - 2.14.) Trade

(Thousand Megawatthours)

Year	Purchases	Sales for Resale	Imports	Exports
2014	4,802,227	4,908,839	66,510	13,298
2015	4,761,523	4,797,395	75,770	9,100
2016	4,723,571	4,746,967	72,716	6,214
2017	4,861,257	4,889,947	65,685	9,371
2018	5,168,874	5,127,276	58,261	13,804
2019	5,371,635	5,172,430	59,052	20,008
2020	5,224,580	5,145,459	61,449	14,135
2021	5,067,170	4,938,756	53,167	13,855
2022	5,130,963	5,105,520	56,970	15,758
2023	4,795,772	4,866,463	38,917	20,013
2024	4,610,886	4,715,342	33,254	19,437

(From Tables 3.1.A. and 3.1.B.) Net Generation (Thousand Megawatthours)

Generation at Utility Scale Facilities									
Year	Coal	Petroleum	Natural Gas	Other Fossil Gas	Nuclear	Hydro Conventional	Hydro Pumped Storage	Geothermal	Wind
2014	1,581,710	30,232	1,126,635	12,022	797,166	259,367	-6,174	15,877	181,655
2015	1,352,398	28,249	1,334,668	13,117	797,178	249,080	-5,091	15,918	190,719
2016	1,239,149	24,205	1,379,271	12,807	805,694	267,812	-6,686	15,826	226,993
2017	1,205,835	21,390	1,297,703	12,469	804,950	300,333	-6,495	15,927	254,303
2018	1,149,487	25,226	1,471,843	13,463	807,084	292,524	-5,905	15,967	272,667
2019	964,957	18,341	1,588,533	12,591	809,409	287,874	-5,261	15,473	295,882
2020	773,393	17,341	1,626,790	11,818	789,879	285,274	-5,321	15,890	337,938
2021	897,999	19,173	1,579,190	11,397	779,645	251,585	-5,112	15,975	378,197
2022	831,512	22,931	1,687,065	11,722	771,537	254,789	-6,028	16,087	434,297
2023	675,115	16,233	1,806,063	11,778	774,873	245,002	-5,990	16,367	421,141

Table 1.2. Summary Statistics for the United States, 2014 - 2024

2024	652,156	15,084	1,869,902	10,845	781,865	242,896	-5,852	15,407	451,904
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Generation at Utility Scale Facilities							Small Scale Generation	Utility and Small Scale Generation	
Year	Solar Photo-voltaic	Solar Thermal	Wood and Wood-Derived Fuels	Other Biomass	Other Energy Sources	Total Utility Scale Generation	Estimated Photo-voltaic	Total Photo-voltaic	Total Solar
2014	15,250	2,441	42,340	21,650	13,393	4,093,564	11,233	26,482	28,924
2015	21,666	3,227	41,929	21,703	13,955	4,078,714	14,139	35,805	39,032
2016	32,670	3,384	40,947	21,813	13,689	4,077,574	18,812	51,483	54,866
2017	50,018	3,269	41,124	21,610	13,008	4,035,443	23,990	74,008	77,277
2018	60,234	3,592	40,936	20,896	12,973	4,180,988	29,539	89,773	93,365
2019	68,719	3,218	38,543	18,964	13,331	4,130,574	34,957	103,676	106,894
2020	86,066	3,133	36,219	18,493	12,855	4,009,767	41,522	127,588	130,721
2021	112,335	2,924	36,463	17,790	12,140	4,109,699	49,164	161,499	164,422
2022	140,793	2,999	35,466	16,383	11,114	4,230,668	61,282	202,075	205,074
2023	162,683	2,847	31,615	15,585	9,957	4,183,270	73,406	236,090	238,937
2024	216,715	3,118	31,564	14,858	8,170	4,308,634	83,918	300,634	303,752

(From Tables 4.2.A. and 4.2.B.) Net Summer Generating Capacity (Megawatts)

Utility Scale Capacity									
Year	Coal	Petroleum	Natural Gas	Other Fossil Gas	Nuclear	Hydro Conventional	Hydro Pumped Storage	Geothermal	Wind
2014	299,094.2	41,135.4	432,150.3	1,914.3	98,569.3	79,677.3	22,485.1	2,514.3	64,231.5
2015	279,719.9	36,830.3	439,425.4	2,500.4	98,672.0	79,664.2	22,575.1	2,541.5	72,573.4
2016	266,619.9	34,382.4	446,823.2	2,456.9	99,564.8	79,912.9	22,778.7	2,516.6	81,286.6
2017	256,547.3	33,306.7	456,011.6	2,375.8	99,628.9	79,794.5	22,810.4	2,483.3	87,597.5
2018	242,785.6	32,218.2	470,236.9	2,543.9	99,432.9	79,871.8	22,830.2	2,444.3	94,417.7
2019	228,657.4	31,400.3	476,567.4	2,499.2	98,119.0	79,773.1	22,778.3	2,555.4	103,571.2
2020	215,554.2	27,569.3	485,807.2	2,275.2	96,500.6	79,924.3	23,016.2	2,571.9	118,378.7
2021	209,825.7	28,204.5	491,870.2	1,888.0	95,546.4	79,909.7	23,007.7	2,596.7	132,753.4
2022	189,316.3	30,775.3	502,396.9	1,728.2	94,658.9	80,067.6	23,043.9	2,648.6	141,402.2
2023	178,441.7	29,440.7	507,535.8	1,866.8	95,712.2	79,985.3	23,147.4	2,695.8	147,444.7
2024	174,177.6	28,649.7	506,371.0	1,678.1	98,391.2	79,896.5	23,156.6	2,695.5	152,097.3

Utility Scale Capacity							Small Scale Capacity	Utility and Small Scale Capacity	
Year	Solar Photo-voltaic	Solar Thermal	Wood and Wood-Derived Fuels	Other Biomass	Other Energy Sources	Total Utility Scale Capacity	Estimated Photo-voltaic	Total Photo-voltaic	Total Solar
2014	8,656.6	1,666.7	8,368.1	5,166.5	2,792.6	1,068,422.2	7,326.6	15,983.2	17,649.9
2015	11,905.4	1,757.9	8,968.9	5,124.5	1,795.6	1,064,054.5	9,778.5	21,683.9	23,441.8
2016	20,192.9	1,757.9	8,936.1	5,088.8	2,015.1	1,074,332.8	12,765.1	32,958.0	34,715.9
2017	25,209.0	1,757.9	8,830.9	5,129.5	2,886.3	1,084,369.6	16,147.8	41,356.8	43,114.7
2018	30,120.5	1,757.9	8,694.6	5,038.6	2,346.7	1,094,739.8	19,547.1	49,667.6	51,425.5

Table 1.2. Summary Statistics for the United States, 2014 - 2024

2014	151,548	36,459	854,560	54,488	8,431,423	2.37	11.60	5.00
2015	195,548	38,396	782,929	48,804	9,842,581	2.22	6.74	3.23
2016	162,009	34,818	650,770	37,637	10,271,180	2.11	5.24	2.87
2017	137,687	32,407	642,364	32,672	9,628,733	2.06	7.10	3.37
2018	102,793	28,674	596,215	37,341	10,894,849	2.06	9.68	3.55
2019	128,102	28,317	560,153	24,556	11,704,743	2.02	9.07	2.88
2020	131,431	27,552	439,636	24,846	11,981,552	1.92	5.98	2.40
2021	91,884	27,513	461,477	27,783	11,578,254	1.98	10.08	5.20
2022	88,861	24,404	469,718	30,792	12,436,074	2.36	16.53	7.21
2023	133,028	26,539	431,375	25,590	13,237,380	2.51	15.98	3.36
2024	127,826	25,204	369,134	19,275	13,741,165	2.47	14.70	2.76

(From Table 9.1.) Emissions

(Thousand Metric Tons)

Year	Carbon Dioxide (CO2)	Sulfur Dioxide (SO2)	Nitrogen Oxides (NOx)
2014	2,168,284	3,454	2,100
2015	2,031,452	2,548	1,824
2016	1,928,401	1,807	1,630
2017	1,849,750	1,599	1,493
2018	1,872,330	1,517	1,474
2019	1,724,873	1,267	1,342
2020	1,553,586	1,023	1,211
2021	1,651,911	1,168	1,253
2022	1,650,367	1,079	1,230
2023	1,531,554	848	1,117
2024	1,537,073	808	1,112

(From Tables 10.1. and 10.2.) Energy Efficiency

Year	Savings		Incremental Costs		Life Cycle Savings		Life Cycle Costs	
	Energy (MWh)	Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)	Energy (MWh)	Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)
2014	26,466,020	6,453	3,410,854	2,209,098	301,956,123	8,040	4,007,452	3,120,898
2015	26,129,489	5,952	3,448,286	2,283,300	296,346,403	7,096	4,255,368	3,710,453
2016	27,500,224	5,658	3,570,950	2,522,854	354,347,692	7,050	4,126,758	3,432,717
2017	29,899,028	6,071	3,664,407	2,297,957	374,826,892	5,951	4,849,803	3,162,995
2018	28,415,037	6,309	3,484,767	2,165,981	359,446,175	6,075	4,177,905	4,179,320
2019	28,562,529	7,135	3,657,477	2,288,028	355,216,512	6,931	4,351,926	3,655,607
2020	28,167,459	6,287	3,152,372	2,112,261	367,829,206	6,003	3,561,148	3,349,318
2021	25,760,657	5,801	3,375,805	2,240,600	300,327,216	5,631	3,678,879	2,466,541
2022	24,384,518	5,445	3,374,379	2,216,696	273,589,534	5,216	4,019,332	2,666,853
2023	24,221,289	5,761	3,850,362	2,538,191	270,451,419	5,655	4,413,487	2,919,623
2024	23,838,965	6,264	4,208,481	2,692,606	281,386,727	6,152	4,744,110	3,040,059

(From Tables 10.3. and 10.4.) Demand Response

	Yearly Energy and Demand Savings	Program Costs
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Table 1.2. Summary Statistics for the United States, 2014 - 2024

Year	Customers	Energy (MWh)	Potential Peak Demand (MW)	Actual Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)
2014	9,265,629	1,436,449	31,191	12,683	1,217,796	447,659
2015	9,094,138	1,251,006	32,875	13,036	1,120,446	381,918
2016	9,839,355	1,336,136	35,924	11,841	1,039,890	379,707
2017	9,440,938	1,310,862	31,508	12,248	1,003,124	370,700
2018	9,752,238	1,426,211	30,895	12,522	1,189,284	360,718
2019	10,932,845	1,462,735	31,020	11,334	1,118,882	343,214
2020	11,665,663	1,509,124	29,470	10,387	987,653	326,872
2021	10,492,584	1,153,791	29,222	12,211	1,188,390	312,091
2022	10,319,774	1,292,980	30,448	13,827	1,149,280	329,053
2023	10,567,254	407,255	30,542	10,752	1,118,770	311,943
2024	10,950,828	409,404	31,491	12,322	1,224,694	362,073

Coal includes anthracite, bituminous, subbituminous and lignite coal. Starting in 2002 waste coal is included in all coal metrics except for year-end stocks. Starting in 2002 Synthetic coal is included in all coal metrics. Starting in 2011 Coal-derived synthesis gas is included in all coal metrics. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum includes Distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology) and waste oil. Prior to 2011 propane was in the Other Fossil Gas category. Beginning in 2004 small quantities of waste oil were excluded from petroleum stocks.

Natural gas includes a small number of generators for which waste heat is the primary energy source. Natural gas also includes a small amount of supplemental gaseous fuels that cannot be identified separately.

Prior to 2011, synthesis gas derived from petroleum coke was in the Other Fossil Gas category. Other Fossil Gas includes blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels.

Conventional hydroelectric power excludes pumped storage facilities.

Wood and wood derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other biomass includes biogenic municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases). The reported summer capacity for other biomass also includes non-biogenic municipal solid waste.

Pumped storage is the capacity to generate electricity from water previously pumped to an elevated reservoir and then released through a conduit to turbine generators located at a lower level. The generation from a hydroelectric pumped storage facility is the net value of production minus the energy used for pumping.

Other energy sources include hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Costs of fuels for 2002 through 2007 include data from the Form EIA-423 for independent power producers, commercial power-producing facilities, and industrial power-producing facilities. Beginning in 2008, data are collected on the Form EIA-923 for utilities, independent power producers, commercial power-producing facilities, and industrial power-producing facilities. Receipts, cost, and quality data are collected from plants above a 50 MW threshold, and imputed for plants between 1 and 50 MW. Therefore, there may be a notable increase in fuel receipts beginning with 2008 data. Receipts of coal include imported coal.

Notes: See Glossary reference for definitions. See Technical Notes Appendix for conversion to different units of measure. Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator. Dual-fired capacity returned to respective fuel categories for current and all historical years. New fuel switchable capacity tables have replaced dual-fired breakouts. Totals may not equal sum of components because of independent rounding. In 2013, EIA revised its approach to estimating imports from Mexico.

Table 1.2. Summary Statistics for the United States, 2014 - 2024

Sources: U.S. Energy Information Administration Form EIA-411, 'Coordinated Bulk Power Supply Program Report;' Form EIA-412, 'Annual Electric Industry Financial Report'. The Form EIA-412 was terminated in 2003; Form EIA-767, 'Steam-Electric Plant Operation and Design Report' was suspended; Form EIA-860, 'Annual Electric Generator Report;' Form EIA-861, 'Annual Electric Power Industry Report;' Form EIA-923, 'Power Plant Operations Report' replaces several form(s) including: Form EIA-906, 'Power Plant Report;' Form EIA-920 'Combined Heat and Power Plant Report;' Form EIA-423, 'Monthly Cost and Quality of Fuels for Electric Plants Report;' and FERC Form 423, 'Monthly Report of Cost and Quality of Fuels for Electric Plants,' and their predecessor forms. Federal Energy Regulatory Commission, FERC Form 1, 'Annual Report of Major Utilities, Licensees and Others;' FERC Form 1-F, 'Annual Report for Nonmajor Public Utilities and Licensees;' Rural Utilities Service (RUS) Form 7, 'Operating Report;' RUS Form 12, 'Operating Report;' Imports and Exports: National Energy Board of Canada; FERC 714, Annual Electric Balancing Authority Area and Planning Report; California Energy Commission; and EIA estimates

Table 1.3. Supply and Disposition of Electricity, 2014 through 2024

(From Chapter 3.) Supply (Thousand Megawatthours)

Year	Generation					Total Imports	Total Supply
	Electric Utilities	IPP (Non-CHP)	IPP (CHP)	Commercial Sector	Industrial Sector		
2014	2,382,500	1,404,256	150,205	12,520	144,083	66,510	4,160,074
2015	2,316,508	1,448,726	155,173	12,595	145,712	75,770	4,154,484
2016	2,305,887	1,459,558	153,532	12,706	145,890	72,716	4,150,290
2017	2,275,539	1,464,503	138,584	13,060	143,758	65,685	4,101,128
2018	2,339,960	1,538,235	142,682	13,312	146,798	58,261	4,239,248
2019	2,268,723	1,559,801	139,824	13,689	148,537	59,052	4,189,626
2020	2,170,316	1,546,400	136,940	13,046	143,064	61,449	4,071,216
2021	2,211,643	1,612,655	132,883	12,768	139,750	53,167	4,162,866
2022	2,229,605	1,714,779	129,503	16,737	140,043	56,970	4,287,638
2023	2,189,614	1,703,467	135,460	16,066	138,664	38,917	4,222,188
2024	2,256,336	1,763,678	136,613	15,258	136,749	33,254	4,341,889

(From Chapter 2.) Disposition (Thousand Megawatthours)

Year	Sales to Ultimate Customers			Direct Use	Total Exports	Losses and Unaccounted For	Total Disposition
	Full-Service Providers	Energy-Only Providers	Facility Direct				
2014	3,184,841	563,441	16,418	138,574	13,298	243,502	4,160,074
2015	3,191,425	554,944	12,624	141,168	9,100	245,224	4,154,484
2016	3,189,541	560,015	12,905	139,837	6,214	241,778	4,150,290
2017	3,149,973	559,727	13,656	140,959	9,371	227,442	4,101,128
2018	3,260,944	584,077	14,164	143,904	13,804	222,355	4,239,248
2019	3,213,129	583,431	14,591	143,270	20,008	215,198	4,189,626
2020	3,144,898	558,832	13,944	138,703	14,135	200,704	4,071,216
2021	3,215,297	575,567	15,011	138,915	13,855	204,222	4,162,866
2022	3,346,987	565,117	15,064	139,726	15,758	204,985	4,287,638
2023	3,294,907	562,573	16,773	136,918	20,013	191,003	4,222,188
2024	3,364,435	593,516	17,430	135,041	19,437	212,029	4,341,889

N/A = Not Available.

Facility Direct Sales to ultimate customers typically represent bilateral electric power sales between industrial and commercial generating facilities.

Direct Use represents commercial and industrial facility use of onsite net electricity generation; electricity sales or transfers to adjacent or co-located facilities; and barter transactions. Losses and Unaccounted For includes: (1) reporting by utilities and power marketers that represent losses incurred in transmission and distribution, as well as volumes unaccounted for in their own energy balance; and (2) discrepancies among the differing categories upon balancing the table.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report" and predecessor form(s) including U.S. Energy Information Administration, Form EIA-906, "Power Plant Report;" and Form EIA-920, "Combined Heat and Power Plant Report;" Form EIA-861, "Annual Electric Power Industry Report;" and predecessor forms. Imports and Exports: Mexico data - DOE, Fossil Fuels, Office of Fuels Programs, Form OE-781R, "Annual Report of International Electrical Export/Import Data;" Canada data - National Energy Board of Canada (metered energy firm and interruptible).

Chapter 2

Electricity Sales

Table 2.1. Number of Ultimate Customers Served by Sector, by Provider, 2014 through 2024

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2014	128,680,416	17,853,995	839,212	79	147,373,702
2015	129,811,718	17,985,690	835,536	78	148,633,022
2016	131,068,760	18,148,353	838,059	86	150,055,258
2017	132,579,747	18,359,427	840,329	86	151,779,589
2018	133,893,321	18,605,393	840,321	83	153,339,118
2019	135,249,616	18,694,240	954,222	83	154,898,161
2020	136,682,001	18,848,813	992,311	83	156,523,208
2021	138,308,772	19,102,304	1,022,212	82	158,433,370
2022	139,854,178	19,257,529	1,049,983	86	160,161,776
2023	141,282,713	19,381,328	1,078,249	85	161,742,375
2024	143,144,185	19,480,886	1,115,974	81	163,741,126
Full-Service Providers					
2014	117,230,661	15,942,158	789,803	50	133,962,672
2015	119,477,949	16,108,931	787,466	48	136,374,394
2016	120,875,548	16,197,174	788,641	53	137,861,416
2017	121,964,414	16,329,808	789,732	52	139,084,006
2018	122,767,933	16,415,207	794,548	49	139,977,737
2019	122,422,722	16,367,082	904,443	50	139,694,297
2020	123,575,349	16,466,429	940,350	52	140,982,180
2021	125,145,266	16,631,306	971,419	51	142,748,042
2022	126,936,159	16,800,418	1,001,592	53	144,738,222
2023	127,697,761	16,885,126	1,027,326	53	145,610,266
2024	128,358,886	16,854,267	1,046,810	50	146,260,013
Energy-Only Providers					
2014	11,449,755	1,911,837	49,409	29	13,411,030
2015	10,333,769	1,876,759	48,070	30	12,258,628
2016	10,193,212	1,951,179	49,418	33	12,193,842
2017	10,615,333	2,029,619	50,597	34	12,695,583
2018	11,125,388	2,190,186	45,773	34	13,361,381
2019	12,826,894	2,327,158	49,779	33	15,203,864
2020	13,106,652	2,382,384	51,961	31	15,541,028
2021	13,163,506	2,470,998	50,793	31	15,685,328
2022	12,918,019	2,457,111	48,391	33	15,423,554
2023	13,584,952	2,496,202	50,923	32	16,132,109
2024	14,785,299	2,626,619	69,164	31	17,481,113

N/A = Not Available.

Pursuant to applicable Texas statutes establishing competitive electricity markets within the Electric Reliability Council of Texas (ERCOT), all customers served by Retail Energy Providers must be provided bundled energy and delivery services, so they are included under "Full-Service Providers".

Full-Service Providers sell bundled electricity services (e.g., both energy and delivery) to end users. Full-Service Providers may purchase electricity from others (such as Independent Power Producers or other Full-Service Providers) prior to delivery. Direct sales from independent facility generators to end use consumers are reported under Full-Service Providers. Energy-Only Providers sell energy to end use customers; incumbent utility distribution firms provide Delivery-Only Services for these customers.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report." and Form EIA-861S, "Annual Electric Power Industry Report (Short Form)."

Table 2.2. Sales and Direct Use of Electricity to Ultimate Customers by Sector, by Provider, 2014 through 2024 (Megawatthours)

Year	Residential	Commercial	Industrial	Transportation	Total	Direct Use	Total End Use
Total Electric Industry							
2014	1,407,208,311	1,352,158,263	997,576,138	7,757,555	3,764,700,267	138,573,884	3,903,274,151
2015	1,404,096,499	1,360,751,527	986,507,732	7,636,632	3,758,992,390	141,167,519	3,900,159,909
2016	1,411,058,153	1,367,191,386	976,715,181	7,496,910	3,762,461,630	139,836,699	3,902,298,329
2017	1,378,647,742	1,352,887,694	984,297,945	7,522,593	3,723,355,974	140,959,389	3,864,315,363
2018	1,469,093,059	1,381,754,845	1,000,672,553	7,664,804	3,859,185,261	143,903,731	4,003,088,992
2019	1,440,288,909	1,360,876,555	1,002,352,849	7,632,150	3,811,150,463	143,270,338	3,954,420,801
2020	1,464,605,046	1,287,439,583	959,082,028	6,547,824	3,717,674,481	138,702,540	3,856,377,021
2021	1,470,486,882	1,328,439,498	1,000,613,490	6,334,383	3,805,874,253	138,915,068	3,944,789,321
2022	1,509,233,162	1,390,872,813	1,020,463,986	6,599,108	3,927,169,069	139,725,701	4,066,894,770
2023	1,450,025,184	1,408,108,755	1,009,255,634	6,863,789	3,874,253,362	136,918,155	4,011,171,517
2024	1,482,873,586	1,450,941,216	1,034,584,190	6,982,840	3,975,381,832	135,040,521	4,110,422,353
Full-Service Providers							
2014	1,301,458,851	1,083,806,639	814,206,541	1,787,408	3,201,259,439	N/A	3,201,259,439
2015	1,307,918,081	1,089,268,864	805,111,979	1,749,450	3,204,048,374	N/A	3,204,048,374
2016	1,316,113,416	1,091,957,177	792,712,354	1,663,475	3,202,446,422	N/A	3,202,446,422
2017	1,285,787,376	1,078,679,288	797,505,332	1,656,960	3,163,628,956	N/A	3,163,628,956
2018	1,368,032,531	1,096,773,561	808,613,290	1,688,442	3,275,107,824	N/A	3,275,107,824
2019	1,335,937,347	1,078,046,650	811,871,096	1,864,134	3,227,719,227	N/A	3,227,719,227
2020	1,355,779,174	1,023,022,155	778,352,070	1,688,885	3,158,842,284	N/A	3,158,842,284
2021	1,364,227,749	1,051,202,406	813,202,989	1,674,150	3,230,307,294	N/A	3,230,307,294
2022	1,410,779,678	1,110,251,412	839,329,783	1,690,901	3,362,051,774	N/A	3,362,051,774
2023	1,354,990,246	1,128,111,069	826,674,586	1,904,230	3,311,680,131	N/A	3,311,680,131
2024	1,375,013,511	1,160,639,617	844,599,508	1,612,799	3,381,865,435	N/A	3,381,865,435
Energy-Only Providers							
2014	105,749,460	268,351,624	183,369,597	5,970,147	563,440,828	N/A	563,440,828
2015	96,178,418	271,482,663	181,395,753	5,887,182	554,944,016	N/A	554,944,016
2016	94,944,737	275,234,209	184,002,827	5,833,435	560,015,208	N/A	560,015,208
2017	92,860,366	274,208,406	186,792,613	5,865,633	559,727,018	N/A	559,727,018
2018	101,060,528	284,981,284	192,059,263	5,976,362	584,077,437	N/A	584,077,437
2019	104,351,562	282,829,905	190,481,753	5,768,016	583,431,236	N/A	583,431,236
2020	108,825,872	264,417,428	180,729,958	4,858,939	558,832,197	N/A	558,832,197
2021	106,259,133	277,237,092	187,410,501	4,660,233	575,566,959	N/A	575,566,959
2022	98,453,484	280,621,401	181,134,203	4,908,207	565,117,295	N/A	565,117,295
2023	95,034,938	279,997,686	182,581,048	4,959,559	562,573,231	N/A	562,573,231
2024	107,860,075	290,301,599	189,984,682	5,370,041	593,516,397	N/A	593,516,397

N/A = Not Available.

Starting in 2023- Many of the changes in the industrial and commercial sector retail sales are the result of improved reporting practices for data center and cryptocurrency mining operations.

Direct Use represents commercial and industrial facility use of onsite net electricity generation; and electricity sales or transfers to adjacent or co-located facilities for which revenue information is not available.

Pursuant to applicable Texas statutes establishing competitive electricity markets within the Electric Reliability Council of Texas (ERCOT), all customers served by Retail Energy Providers must be provided bundled energy and delivery services, so they are included under "Full-Service Providers".

Full-Service Providers sell bundled electricity services (e.g., both energy and delivery) to end users. Full-Service Providers may purchase electricity from others (such as Independent Power Producers or other Full-Service Providers) prior to delivery. Direct sales from independent facility generators to end use consumers are reported under Full-Service Providers. Energy-Only Providers sell energy to end use customers; incumbent utility distribution firms provide Delivery-Only Services for these customers.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report.", Form EIA-861S, "Annual Electric Power Industry Report (Short Form)" and Form EIA-923, "Power Plant Operations Report"

Table 2.3. Revenue from Sales of Electricity to Ultimate Customers by Sector, by Provider, 2014 through 2024 (Million Dollars)

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2014	176,178	145,253	70,855	810	393,096
2015	177,624	144,781	68,166	771	391,341
2016	177,077	142,643	66,068	722	386,509
2017	177,661	144,242	67,691	728	390,322
2018	189,033	147,425	69,218	744	406,420
2019	187,436	145,280	68,285	737	401,738
2020	192,663	136,372	63,956	648	393,639
2021	200,834	149,008	71,835	646	422,323
2022	226,990	172,600	84,895	765	485,249
2023	231,993	177,342	81,159	877	491,370
2024	244,367	185,043	84,095	890	514,396
Full-Service Providers					
2014	160,637	113,880	57,140	187	331,845
2015	162,857	113,225	54,787	170	331,038
2016	162,395	111,218	52,958	164	326,735
2017	162,762	112,576	54,412	171	329,921
2018	172,556	114,007	55,058	176	341,797
2019	169,867	112,036	54,782	190	336,876
2020	173,742	105,065	51,346	178	330,331
2021	181,387	113,630	57,714	183	352,913
2022	206,032	131,400	68,249	220	405,902
2023	208,850	134,213	64,748	262	408,072
2024	217,175	138,072	65,408	205	420,861
Competitive Service Providers					
2014	15,541	31,373	13,715	623	61,251
2015	14,767	31,557	13,379	601	60,303
2016	14,682	31,425	13,110	557	59,774
2017	14,899	31,666	13,279	557	60,402
2018	16,477	33,418	14,161	567	64,623
2019	17,569	33,244	13,502	547	64,863
2020	18,921	31,307	12,610	470	63,309
2021	19,447	35,379	14,121	463	69,410
2022	20,957	41,199	16,645	545	79,347
2023	23,143	43,130	16,411	615	83,298
2024	27,192	46,971	18,687	685	93,535
Energy-Only Providers					
2014	9,079	19,948	10,813	436	40,277
2015	8,428	19,657	10,298	407	38,791
2016	7,947	18,850	9,896	360	37,053
2017	7,666	18,368	9,829	363	36,227
2018	8,438	19,279	10,424	378	38,518
2019	8,718	18,436	9,738	360	37,253
2020	9,017	16,485	8,829	305	34,636
2021	8,750	18,223	10,024	295	37,292
2022	10,100	22,791	12,458	360	45,709
2023	11,640	24,381	11,966	413	48,401
2024	12,769	25,386	12,797	447	51,400
Delivery-Only Providers					
2014	6,462	11,425	2,901	187	20,975
2015	6,339	11,900	3,081	193	21,512
2016	6,735	12,575	3,213	197	22,720
2017	7,232	13,298	3,450	194	24,174
2018	8,039	14,139	3,737	190	26,105
2019	8,850	14,809	3,764	187	27,610
2020	9,904	14,823	3,781	165	28,672
2021	10,697	17,155	4,097	168	32,118
2022	10,857	18,408	4,187	185	33,638
2023	11,503	18,749	4,445	201	34,898
2024	14,423	21,584	5,890	238	42,135

N/A = Not Available.

Pursuant to applicable Texas statutes establishing competitive electricity markets within the Electric Reliability Council of Texas (ERCOT), all customers served by Retail Energy Providers must be provided bundled energy and delivery services, so they are included under "Full-Service Providers".

Full-Service Providers sell bundled electricity services (e.g., both energy and delivery) to end users. Full-Service Providers may purchase electricity from others (such as Independent Power Producers or other Full-Service Providers) prior to delivery.

Direct sales from independent facility generators to end use consumers are reported under Full-Service Providers. Energy-Only Providers sell energy to end use customers; incumbent utility distribution firms provide Delivery-Only Services for these customers. Data reported under Competitive Service Providers represent the sum of Energy-Only and Delivery-Only Services."

Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report." Form EIA-861S, "Annual Electric Power Industry Report (Short Form)."

Table 2.4. Average Price of Electricity to Ultimate Customers

by End-Use Sectors 2014 through 2024 (Cents per kilowatthour)

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2014	12.52	10.74	7.10	10.45	10.44
2015	12.65	10.64	6.91	10.09	10.41
2016	12.55	10.43	6.76	9.63	10.27
2017	12.89	10.66	6.88	9.68	10.48
2018	12.87	10.67	6.92	9.70	10.53
2019	13.01	10.68	6.81	9.66	10.54
2020	13.15	10.59	6.67	9.90	10.59
2021	13.66	11.22	7.18	10.20	11.10
2022	15.04	12.41	8.32	11.59	12.36
2023	16.00	12.59	8.04	12.77	12.68
2024	16.48	12.75	8.13	12.75	12.94
Full-Service Providers					
2014	12.34	10.51	7.02	10.49	10.37
2015	12.45	10.39	6.80	9.71	10.33
2016	12.34	10.19	6.68	9.87	10.20
2017	12.66	10.44	6.82	10.32	10.43
2018	12.61	10.39	6.81	10.44	10.44
2019	12.72	10.39	6.75	10.20	10.44
2020	12.81	10.27	6.60	10.53	10.46
2021	13.30	10.81	7.10	10.92	10.93
2022	14.60	11.84	8.13	13.02	12.07
2023	15.41	11.90	7.83	13.75	12.32
2024	15.79	11.90	7.74	12.72	12.44
Competitive Service Providers					
2014	14.70	11.69	7.48	10.44	10.87
2015	15.35	11.62	7.38	10.20	10.87
2016	15.46	11.42	7.12	9.56	10.67
2017	16.04	11.55	7.11	9.50	10.79
2018	16.30	11.73	7.37	9.49	11.06
2019	16.84	11.75	7.09	9.49	11.12
2020	17.39	11.84	6.98	9.68	11.33
2021	18.30	12.76	7.53	9.94	12.06
2022	21.29	14.68	9.19	11.10	14.04
2023	24.35	15.40	8.99	12.39	14.81
2024	25.21	16.18	9.84	12.76	15.76
Energy-Only Providers					
2014	8.59	7.43	5.90	7.31	7.15
2015	8.76	7.24	5.68	6.92	6.99
2016	8.37	6.85	5.38	6.17	6.62
2017	8.26	6.70	5.26	6.19	6.47
2018	8.35	6.77	5.43	6.32	6.59
2019	8.35	6.52	5.11	6.25	6.39
2020	8.29	6.23	4.89	6.29	6.20
2021	8.23	6.57	5.35	6.33	6.48
2022	10.26	8.12	6.88	7.33	8.09
2023	12.25	8.71	6.55	8.33	8.60
2024	11.84	8.74	6.74	8.33	8.66
Delivery-Only Providers					
2014	6.11	4.26	1.58	3.12	3.72
2015	6.59	4.38	1.70	3.28	3.88
2016	7.09	4.57	1.75	3.38	4.06
2017	7.79	4.85	1.85	3.31	4.32
2018	7.95	4.96	1.95	3.17	4.47
2019	8.48	5.24	1.98	3.24	4.73
2020	9.10	5.61	2.09	3.40	5.13
2021	10.07	6.19	2.19	3.61	5.58
2022	11.03	6.56	2.31	3.77	5.95
2023	12.10	6.70	2.43	4.06	6.20
2024	13.37	7.44	3.10	4.43	7.10

N/A = Not Available.

Pursuant to applicable Texas statutes establishing competitive electricity markets within the Electric Reliability Council of Texas (ERCOT), all customers served by Retail Energy Providers must be provided bundled energy and delivery services, so they are included under "Full-Service Providers".

Full-Service Providers sell bundled electricity services (e.g., both energy and delivery) to end users. Full-Service Providers may purchase electricity from others (such as Independent Power Producers or other Full-Service Providers) prior to delivery.

Direct sales from independent facility generators to end use consumers are reported under Full-Service Providers. Energy-Only Providers sell energy to end use customers; incumbent utility distribution firms provide Delivery-Only Services for these customers. Data reported under Competitive Service Providers represent the sum of Energy-Only and Delivery-Only Services."

Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report." Form EIA-861S, "Annual Electric Power Industry Report (Short Form)."

**Table 2.5. Sales of Electricity to Ultimate Customers:
Total by End-Use Sector, 2014 - December 2024 (Thousand Megawatthours)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	1,407,208	1,352,158	997,576	7,758	3,764,700
2015	1,404,096	1,360,752	986,508	7,637	3,758,992
2016	1,411,058	1,367,191	976,715	7,497	3,762,462
2017	1,378,648	1,352,888	984,298	7,523	3,723,356
2018	1,469,093	1,381,755	1,000,673	7,665	3,859,185
2019	1,440,289	1,360,877	1,002,353	7,632	3,811,150
2020	1,464,605	1,287,440	959,082	6,548	3,717,674
2021	1,470,487	1,328,439	1,000,613	6,334	3,805,874
2022	1,509,233	1,390,873	1,020,464	6,599	3,927,169
2023	1,450,025	1,408,109	1,009,256	6,864	3,874,253
2024	1,482,874	1,450,941	1,034,584	6,983	3,975,382
Year 2022					
January	140,504	113,605	83,982	565	338,656
February	125,342	103,063	76,893	566	305,863
March	111,439	108,603	83,679	579	304,300
April	97,432	104,566	82,422	513	284,933
May	110,071	113,007	86,090	529	309,697
June	136,310	121,567	88,716	513	347,106
July	164,277	133,952	90,420	566	389,214
August	160,271	135,676	93,143	536	389,626
September	129,241	124,195	86,550	558	340,544
October	99,792	111,851	85,017	535	297,196
November	103,152	106,858	81,701	546	292,258
December	131,402	113,929	81,852	593	327,776
Year 2023					
January	131,638	112,790	80,408	579	325,415
February	112,105	103,830	76,449	561	292,946
March	110,417	112,643	82,817	577	306,454
April	96,196	104,091	80,011	513	280,811
May	100,231	113,243	84,704	529	298,706
June	121,320	120,707	86,193	579	328,798
July	159,715	136,394	90,526	621	387,256
August	161,460	138,390	92,009	578	392,436
September	132,807	126,546	86,472	652	346,476
October	103,314	118,208	85,978	565	308,065
November	101,907	109,756	82,036	549	294,248
December	118,917	111,512	81,652	561	312,642
Year 2024					
January	142,354	118,234	82,517	612	343,717
February	115,477	108,967	78,277	538	303,258
March	102,203	111,382	83,100	593	297,278
April	94,674	108,972	82,078	532	286,257
May	107,605	117,864	87,901	592	313,961
June	138,920	127,949	88,446	566	355,882
July	164,833	139,551	92,848	641	397,873
August	159,098	140,632	93,848	621	394,199
September	127,340	127,248	87,920	563	343,071
October	106,083	120,899	88,354	566	315,902
November	98,782	112,091	84,369	554	295,796
December	125,504	117,152	84,927	605	328,188

Starting in 2023- Many of the changes in the industrial and commercial sector retail sales are the result of improved reporting practices for data center and cryptocurrency mining operations.

See Technical notes for additional information on the Commercial, Industrial, and Transportation sectors. NA = Not available. See Glossary for definitions.

Geographic coverage is the 50 States and the District of Columbia. Values include energy service provider (power marketer) data.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-826. Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule. Changes from year to year in consumer counts, sales and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications. Sales and net generation may not correspond exactly for a particular month for a variety of reasons (i.e., sales data may include purchases of electricity from nonutilities or imported electricity). Net generation is for the calendar month while sales and associated revenue accumulate from bills collected for periods of time (28 to 35 days) that vary dependent upon customer class and consumption occurring in and outside the calendar month.

Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report.

Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report;

Form EIA-861, Annual Electric Power Industry Report; and Form EIA-861S, Annual Electric Power Industry Report (Short Form).

**Table 2.6. Revenue from Sales of Electricity to Ultimate Customers:
Total by End-Use Sector, 2014 - December 2024 (Million Dollars)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	176,178	145,253	70,855	810	393,096
2015	177,624	144,781	68,166	771	391,341
2016	177,077	142,643	66,068	722	386,509
2017	177,661	144,242	67,691	728	390,322
2018	189,033	147,425	69,218	744	406,420
2019	187,436	145,280	68,285	737	401,738
2020	192,663	136,372	63,956	648	393,639
2021	200,834	149,008	71,835	646	422,323
2022	226,990	172,600	84,895	765	485,249
2023	231,993	177,342	81,159	877	491,370
2024	244,367	185,043	84,095	890	514,396
Year 2022					
January	19,163	12,794	6,037	60	38,053
February	17,247	12,019	5,601	62	34,929
March	16,062	12,647	6,164	63	34,936
April	14,194	12,355	6,343	58	32,950
May	16,394	13,561	7,099	57	37,112
June	20,850	15,506	7,854	62	44,272
July	25,155	17,435	8,422	70	51,082
August	25,354	18,199	8,739	69	52,361
September	20,930	16,492	7,841	70	45,333
October	15,961	14,418	7,184	63	37,627
November	16,041	13,179	6,654	63	35,937
December	19,637	13,996	6,955	68	40,656
Year 2023					
January	20,371	14,228	6,578	73	41,249
February	17,910	13,013	6,125	74	37,123
March	17,716	13,923	6,460	71	38,171
April	15,492	12,572	6,009	62	34,136
May	16,176	13,769	6,472	66	36,483
June	19,515	15,248	6,987	72	41,821
July	25,336	17,603	7,563	79	50,582
August	25,693	18,102	8,185	77	52,057
September	21,602	16,538	7,291	94	45,525
October	17,022	15,047	6,883	71	39,024
November	16,501	13,646	6,394	69	36,610
December	18,659	13,653	6,210	69	38,591
Year 2024					
January	21,942	14,785	6,663	77	43,467
February	18,595	13,658	6,078	71	38,401
March	17,036	13,888	6,382	71	37,377
April	15,966	13,457	6,397	66	35,886
May	17,649	14,521	6,921	73	39,164
June	22,757	16,498	7,434	72	46,761
July	27,389	18,654	8,110	84	54,237
August	26,417	18,508	8,135	83	53,143
September	21,424	16,832	7,428	74	45,758
October	18,127	15,583	7,162	70	40,943
November	16,644	13,844	6,623	69	37,180
December	20,422	14,813	6,763	81	42,079

See Technical notes for additional information on the Commercial, Industrial, and Transportation sectors. NA = Not available. See Glossary for definitions. Geographic coverage is the 50 States and the District of Columbia. Values include energy service provider (power marketer) data. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-826. Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule. Changes from year to year in consumer counts, sales and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications. Sales and net generation may not correspond exactly for a particular month for a variety of reasons (i.e., sales data may include purchases of electricity from nonutilities or imported electricity). Net generation is for the calendar month while sales and associated revenue accumulate from bills collected for periods of time (28 to 35 days) that vary dependent upon customer class and consumption occurring in and outside the calendar month. Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report; Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report; Form EIA-861, Annual Electric Power Industry Report; and Form EIA-861S, Annual Electric Power Industry Report (Short Form).

**Table 2.7. Average Price of Electricity to Ultimate Customers:
Total by End-Use Sector, 2014 - December 2024 (Cents per Kilowatthour)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	12.52	10.74	7.10	10.45	10.44
2015	12.65	10.64	6.91	10.09	10.41
2016	12.55	10.43	6.76	9.63	10.27
2017	12.89	10.66	6.88	9.68	10.48
2018	12.87	10.67	6.92	9.70	10.53
2019	13.01	10.68	6.81	9.66	10.54
2020	13.15	10.59	6.67	9.90	10.59
2021	13.66	11.22	7.18	10.20	11.10
2022	15.04	12.41	8.32	11.59	12.36
2023	16.00	12.59	8.04	12.77	12.68
2024	16.48	12.75	8.13	12.75	12.94
Year 2022					
January	13.64	11.26	7.19	10.54	11.24
February	13.76	11.66	7.28	10.95	11.42
March	14.41	11.65	7.37	10.87	11.48
April	14.57	11.82	7.70	11.26	11.56
May	14.89	12.00	8.25	10.79	11.98
June	15.30	12.75	8.85	12.10	12.75
July	15.31	13.02	9.31	12.39	13.12
August	15.82	13.41	9.38	12.90	13.44
September	16.19	13.28	9.06	12.57	13.31
October	15.99	12.89	8.45	11.81	12.66
November	15.55	12.33	8.14	11.56	12.30
December	14.94	12.28	8.50	11.48	12.40
Year 2023					
January	15.47	12.61	8.18	12.54	12.68
February	15.98	12.53	8.01	13.14	12.67
March	16.04	12.36	7.80	12.28	12.46
April	16.10	12.08	7.51	12.05	12.16
May	16.14	12.16	7.64	12.43	12.21
June	16.09	12.63	8.11	12.41	12.72
July	15.86	12.91	8.36	12.77	13.06
August	15.91	13.08	8.90	13.26	13.27
September	16.27	13.07	8.43	14.45	13.14
October	16.48	12.73	8.01	12.65	12.67
November	16.19	12.43	7.79	12.60	12.44
December	15.69	12.24	7.61	12.34	12.34
Year 2024					
January	15.41	12.50	8.07	12.66	12.65
February	16.10	12.53	7.76	13.12	12.66
March	16.67	12.47	7.68	11.95	12.57
April	16.86	12.35	7.79	12.46	12.54
May	16.40	12.32	7.87	12.29	12.47
June	16.38	12.89	8.41	12.68	13.14
July	16.62	13.37	8.73	13.18	13.63
August	16.60	13.16	8.67	13.30	13.48
September	16.82	13.23	8.45	13.09	13.34
October	17.09	12.89	8.11	12.43	12.96
November	16.85	12.35	7.85	12.37	12.57
December	16.27	12.64	7.96	13.38	12.82

See Technical notes for additional information on the Commercial, Industrial, and Transportation sectors. NA = Not available. See Glossary for definitions. Geographic coverage is the 50 States and the District of Columbia. Values include energy service provider (power marketer) data. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-826. Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule. Changes from year to year in consumer counts, sales and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications. Sales and net generation may not correspond exactly for a particular month for a variety of reasons (i.e., sales data may include purchases of electricity from nonutilities or imported electricity). Net generation is for the calendar month while sales and associated revenue accumulate from bills collected for periods of time (28 to 35 days) that vary dependent upon customer class and consumption occurring in and outside the calendar month. Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report; Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report; Form EIA-861, Annual Electric Power Industry Report; and Form EIA-861S, Annual Electric Power Industry Report (Short Form).

Table 2.8. Sales of Electricity to Ultimate Customers by End-Use Sector, by State, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	48,025	46,664	48,994	49,271	14,376	14,909	504	484	111,899	111,329
Connecticut	12,942	12,553	11,663	11,374	2,556	2,579	191	179	27,351	26,685
Maine	4,901	4,919	4,118	4,017	2,322	2,400	0	0	11,342	11,336
Massachusetts	19,993	19,366	23,489	24,276	5,645	6,091	291	279	49,419	50,012
New Hampshire	4,847	4,655	4,105	4,051	1,961	1,926	0	0	10,914	10,631
Rhode Island	3,111	2,995	3,666	3,651	615	629	22	26	7,414	7,301
Vermont	2,230	2,176	1,952	1,904	1,277	1,284	0	0	5,459	5,364
Middle Atlantic	134,823	130,856	146,688	143,307	70,987	71,544	3,678	3,523	356,175	349,230
New Jersey	29,693	28,415	37,087	36,083	6,351	6,224	401	375	73,531	71,097
New York	50,857	50,113	71,053	71,422	15,805	15,174	2,782	2,713	140,498	139,422
Pennsylvania	54,273	52,328	38,548	35,802	48,831	50,147	495	434	142,147	138,711
East North Central	185,595	179,525	180,205	174,691	187,138	184,688	498	463	553,436	539,367
Illinois	44,851	43,320	45,240	45,576	42,694	41,267	442	415	133,227	130,578
Indiana	33,049	31,739	23,664	23,016	42,489	41,229	18	11	99,220	95,995
Michigan	33,505	32,534	37,191	36,534	28,290	28,515	5	5	98,991	97,589
Ohio	52,174	49,714	50,814	46,351	50,688	50,546	32	30	153,707	146,641
Wisconsin	22,017	22,219	23,296	23,213	22,977	23,131	1	1	68,291	68,564
West North Central	106,070	107,369	109,950	107,264	101,064	99,248	41	42	317,125	313,923
Iowa	14,469	14,582	12,815	12,601	27,647	27,217	0	0	54,930	54,400
Kansas	13,840	13,815	15,791	15,727	11,628	11,509	0	0	41,258	41,052
Minnesota	22,063	23,023	22,468	22,614	20,016	20,561	15	18	64,562	66,216
Missouri	35,227	34,965	29,570	29,174	12,954	12,813	25	24	77,776	76,976
Nebraska	10,391	10,671	12,885	11,261	11,915	11,640	0	0	35,191	33,571
North Dakota	4,911	5,067	11,309	10,855	13,550	12,280	0	0	29,770	28,202
South Dakota	5,170	5,246	5,111	5,033	3,356	3,227	0	0	13,637	13,506
South Atlantic	385,618	370,594	355,825	341,272	134,841	136,603	1,252	1,177	877,536	849,646
Delaware	5,175	4,932	4,282	4,149	1,917	2,001	0	0	11,374	11,082
District of Columbia	2,446	2,372	7,193	7,030	187	176	316	301	10,143	9,880
Florida	138,371	135,805	99,197	97,255	17,457	17,809	70	71	255,095	250,940
Georgia	62,063	58,412	55,173	51,405	32,617	32,068	152	144	150,004	142,029
Maryland	27,327	26,108	27,773	27,062	3,502	3,456	416	408	59,019	57,033
North Carolina	61,745	58,738	49,524	48,197	25,623	26,144	12	13	136,905	133,091
South Carolina	32,545	30,898	26,306	25,194	25,110	25,110	0	0	83,961	81,202
Virginia	45,273	43,096	78,711	73,807	13,776	15,176	286	240	138,045	132,319
West Virginia	10,675	10,234	7,665	7,174	14,651	14,663	0	0	32,991	32,071
East South Central	121,405	115,857	93,344	90,842	98,826	96,872	0	0	313,576	303,571
Alabama	32,899	31,410	22,862	22,213	31,762	31,257	0	0	87,523	84,880
Kentucky	26,086	24,553	20,314	19,303	28,006	27,367	0	0	74,406	71,223
Mississippi	18,593	18,544	14,172	14,231	15,919	15,647	0	0	48,685	48,422
Tennessee	43,828	41,351	35,996	35,094	23,139	22,601	0	0	102,962	99,046
West South Central	238,936	242,549	225,086	224,347	258,724	238,748	22	179	722,768	705,823
Arkansas	18,581	18,374	11,789	11,694	19,526	18,581	0	0	49,896	48,649
Louisiana	30,975	31,747	23,652	23,743	40,720	39,874	10	10	95,357	95,374
Oklahoma	24,328	23,818	25,412	23,117	22,343	22,044	0	0	72,084	68,979
Texas	165,052	168,611	164,233	165,792	176,135	158,249	12	169	505,431	492,820
Mountain	113,434	109,662	112,625	105,323	86,373	84,248	157	162	312,489	299,394
Arizona	40,435	38,992	36,100	32,620	14,297	14,297	10	10	90,843	85,919
Colorado	20,694	19,999	21,172	20,698	14,892	14,779	86	90	56,843	55,566
Idaho	9,832	9,793	6,964	6,842	9,574	9,039	0	0	26,370	25,674
Montana	5,700	5,756	5,034	5,063	4,832	4,686	0	0	15,567	15,505
Nevada	14,631	13,509	14,259	12,367	11,766	12,367	8	7	40,665	38,249
New Mexico	7,348	7,336	9,593	9,349	13,356	11,662	0	0	30,296	28,347
Utah	11,825	11,328	14,129	13,338	8,681	8,623	53	54	34,688	33,344
Wyoming	2,968	2,948	5,275	5,046	8,974	8,796	0	0	17,217	16,790
Pacific Contiguous	144,245	142,206	172,890	166,389	77,414	77,589	831	834	395,379	387,018
California	85,851	82,821	115,126	112,936	44,026	42,999	715	725	245,717	239,480
Oregon	19,768	20,445	24,662	23,084	15,228	14,434	22	23	59,681	57,985
Washington	38,627	38,940	33,102	30,370	18,159	20,156	94	86	89,982	89,553
Pacific Noncontiguous	4,722	4,744	5,434	5,402	4,843	4,806	0	0	14,999	14,952
Alaska	2,071	2,051	2,604	2,603	1,372	1,371	0	0	6,047	6,025
Hawaii	2,652	2,693	2,830	2,799	3,470	3,435	0	0	8,952	8,927
U.S. Total	1,482,874	1,450,025	1,450,941	1,408,109	1,034,584	1,009,256	6,983	6,864	3,975,382	3,874,253

Starting in 2023 - Many of the changes in the industrial and commercial sector retail sales are the result of improved reporting practices for data center and cryptocurrency mining operations.

See Technical notes for additional information on the Commercial, Industrial, and Transportation sectors.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Notes: - See Glossary for definitions. - Values are final.

See Technical Notes for a discussion of the sample design for the Form EIA-826.

Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule.

Changes from year to year in consumer counts, sales and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications.

Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report.

Table 2.9. Revenue from Sales of Electricity to Ultimate Customers by End-Use Sector, by State, 2024 and 2023 (Million Dollars)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	13,293	13,407	10,070	9,570	2,341	2,357	66	63	25,769	25,396
Connecticut	3,720	3,751	2,474	2,273	438	405	34	39	6,665	6,468
Maine	1,190	1,349	750	718	289	295	0	0	2,230	2,362
Massachusetts	5,868	5,734	4,908	4,763	1,027	1,089	27	20	11,830	11,607
New Hampshire	1,135	1,310	796	827	318	304	0	0	2,249	2,441
Rhode Island	891	809	773	645	121	119	5	5	1,790	1,579
Vermont	488	453	369	343	148	145	0	0	1,005	940
Middle Atlantic	27,810	25,650	23,020	21,951	6,049	5,656	503	516	57,381	53,774
New Jersey	5,744	5,031	5,431	5,052	758	727	45	46	11,977	10,856
New York	12,424	11,148	13,337	12,866	1,450	1,042	409	426	27,621	25,482
Pennsylvania	9,642	9,472	4,252	4,033	3,841	3,886	49	44	17,784	17,436
East North Central	30,587	29,072	21,860	20,855	15,124	14,670	40	33	67,612	64,630
Illinois	7,118	6,804	5,345	5,124	3,768	3,385	34	29	16,265	15,342
Indiana	4,880	4,741	2,944	2,889	3,461	3,399	2	1	11,287	11,031
Michigan	6,466	6,130	5,210	4,895	2,336	2,326	1	1	14,013	13,351
Ohio	8,340	7,647	5,418	4,984	3,597	3,554	2	2	17,358	16,187
Wisconsin	3,783	3,750	2,943	2,963	1,962	2,007	0	0	8,689	8,719
West North Central	14,283	13,979	11,274	11,065	7,804	7,715	4	5	33,365	32,764
Iowa	1,939	1,940	1,310	1,302	1,881	1,880	0	0	5,130	5,122
Kansas	1,958	1,849	1,767	1,707	899	879	0	0	4,624	4,435
Minnesota	3,409	3,392	2,729	2,801	1,831	1,893	2	2	7,971	8,088
Missouri	4,548	4,398	3,034	2,958	1,020	1,012	3	2	8,605	8,370
Nebraska	1,198	1,195	1,081	986	913	888	0	0	3,193	3,070
North Dakota	565	558	813	801	982	905	0	0	2,360	2,263
South Dakota	665	647	539	511	278	259	0	0	1,482	1,416
South Atlantic	55,984	53,552	38,032	36,933	10,461	10,358	125	120	104,582	100,963
Delaware	857	776	522	491	163	157	0	0	1,542	1,424
District of Columbia	433	390	1,228	1,191	20	19	31	30	1,712	1,630
Florida	19,561	20,652	10,903	11,621	1,484	1,673	8	8	31,955	33,953
Georgia	8,740	7,997	5,995	5,498	2,352	2,206	12	11	17,099	15,711
Maryland	4,880	4,333	3,601	3,456	350	344	48	46	8,879	8,179
North Carolina	8,727	7,593	5,230	4,662	1,990	1,868	1	1	15,948	14,125
South Carolina	4,632	4,228	2,798	2,618	1,718	1,677	0	0	9,148	8,523
Virginia	6,524	6,146	6,865	6,604	1,239	1,353	26	25	14,655	14,128
West Virginia	1,609	1,438	891	791	1,144	1,061	0	0	3,644	3,291
East South Central	16,264	15,194	11,538	11,020	6,645	6,511	0	0	34,447	32,725
Alabama	4,993	4,594	3,118	2,924	2,304	2,221	0	0	10,415	9,739
Kentucky	3,335	3,106	2,335	2,196	1,820	1,793	0	0	7,490	7,096
Mississippi	2,490	2,453	1,746	1,760	1,085	1,089	0	0	5,321	5,302
Tennessee	5,445	5,041	4,338	4,140	1,437	1,408	0	0	11,220	10,589
West South Central	33,551	33,184	19,994	20,478	15,664	15,441	2	14	69,211	69,116
Arkansas	2,289	2,251	1,207	1,209	1,291	1,276	0	0	4,786	4,736
Louisiana	3,633	3,666	2,473	2,481	2,286	2,345	1	1	8,394	8,494
Oklahoma	2,977	2,877	2,268	2,158	1,305	1,380	0	0	6,550	6,415
Texas	24,652	24,389	14,046	14,629	10,782	10,441	1	12	49,481	49,471
Mountain	16,021	15,003	12,411	11,525	6,654	6,604	17	20	35,102	33,152
Arizona	6,028	5,466	4,415	3,845	1,130	1,159	1	1	11,573	10,471
Colorado	3,087	2,859	2,480	2,409	1,284	1,256	8	12	6,859	6,537
Idaho	1,133	1,083	639	601	737	648	0	0	2,508	2,331
Montana	722	722	597	613	367	366	0	0	1,686	1,700
Nevada	2,194	2,252	1,453	1,473	1,016	1,281	1	1	4,664	5,006
New Mexico	1,043	1,016	1,011	999	725	671	0	0	2,780	2,685
Utah	1,444	1,269	1,326	1,135	682	603	6	7	3,459	3,012
Wyoming	370	338	489	451	714	621	0	0	1,573	1,409
Pacific Contiguous	34,945	31,320	35,201	32,310	11,904	10,379	134	106	82,184	74,114
California	27,444	24,440	29,400	27,007	9,478	8,014	120	94	66,442	59,555
Oregon	2,906	2,603	2,494	2,291	1,226	1,085	3	3	6,629	5,982
Washington	4,596	4,277	3,307	3,012	1,200	1,279	11	9	9,114	8,577
Pacific Noncontiguous	1,651	1,632	1,642	1,635	1,449	1,468	0	0	4,742	4,735
Alaska	514	490	562	543	265	256	0	0	1,341	1,290
Hawaii	1,137	1,142	1,081	1,092	1,184	1,212	0	0	3,402	3,446
U.S. Total	244,367	231,993	185,043	177,342	84,095	81,159	890	877	514,396	491,370

See Technical notes for additional information on the Commercial, Industrial, and Transportation sectors.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Notes: - See Glossary for definitions. - Values are final.

See Technical Notes for a discussion of the sample design for the Form EIA-826.

Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule.

Changes from year to year in consumer counts, sales and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications.

Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report.

Table 2.10. Average Price of Electricity to Ultimate Customers by End-Use Sector, by State, 2024 and 2023 (Cents per Kilowatthour)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	27.68	28.73	20.55	19.42	16.28	15.81	12.99	13.01	23.03	22.81
Connecticut	28.75	29.88	21.21	19.99	17.12	15.69	17.77	21.55	24.37	24.24
Maine	24.29	27.42	18.22	17.88	12.46	12.30	--	--	19.66	20.84
Massachusetts	29.35	29.61	20.90	19.62	18.19	17.88	9.22	7.15	23.94	23.21
New Hampshire	23.40	28.15	19.40	20.40	16.21	15.76	--	--	20.60	22.96
Rhode Island	28.65	27.02	21.09	17.68	19.70	18.98	21.53	17.29	24.15	21.62
Vermont	21.90	20.82	18.89	18.00	11.58	11.27	--	--	18.41	17.53
Middle Atlantic	20.63	19.60	15.69	15.32	8.52	7.91	13.67	14.65	16.11	15.40
New Jersey	19.34	17.70	14.64	14.00	11.93	11.68	11.11	12.22	16.29	15.27
New York	24.43	22.24	18.77	18.01	9.17	6.87	14.70	15.70	19.66	18.28
Pennsylvania	17.77	18.10	11.03	11.26	7.87	7.75	9.96	10.21	12.51	12.57
East North Central	16.48	16.19	12.13	11.94	8.08	7.94	7.99	7.08	12.22	11.98
Illinois	15.87	15.71	11.81	11.24	8.83	8.20	7.76	6.90	12.21	11.75
Indiana	14.77	14.94	12.44	12.55	8.15	8.24	12.31	12.73	11.38	11.49
Michigan	19.30	18.84	14.01	13.40	8.26	8.16	14.09	13.67	14.16	13.68
Ohio	15.99	15.38	10.66	10.75	7.10	7.03	7.32	5.91	11.29	11.04
Wisconsin	17.18	16.88	12.63	12.76	8.54	8.68	18.36	17.21	12.72	12.72
West North Central	13.47	13.02	10.25	10.32	7.72	7.77	10.98	10.89	10.52	10.44
Iowa	13.40	13.31	10.22	10.33	6.80	6.91	--	--	9.34	9.42
Kansas	14.15	13.38	11.19	10.85	7.73	7.64	--	--	11.21	10.80
Minnesota	15.45	14.73	12.15	12.39	9.15	9.20	12.71	12.35	12.35	12.21
Missouri	12.91	12.58	10.26	10.14	7.87	7.90	9.94	9.77	11.06	10.87
Nebraska	11.53	11.20	8.39	8.76	7.66	7.63	--	--	9.07	9.14
North Dakota	11.51	11.01	7.19	7.38	7.25	7.37	--	--	7.93	8.03
South Dakota	12.86	12.32	10.55	10.16	8.28	8.01	--	--	10.87	10.49
South Atlantic	14.51	14.45	10.69	10.82	7.76	7.58	10.02	10.23	11.92	11.88
Delaware	16.57	15.73	12.20	11.83	8.49	7.85	--	--	13.56	12.85
District of Columbia	17.71	16.45	17.07	16.94	10.80	10.85	9.66	9.94	16.88	16.50
Florida	14.14	15.21	10.99	11.95	8.50	9.39	10.87	11.33	12.53	13.53
Georgia	14.08	13.69	10.87	10.70	7.21	6.88	7.64	7.29	11.40	11.06
Maryland	17.86	16.60	12.96	12.77	10.01	9.94	11.55	11.23	15.04	14.34
North Carolina	14.13	12.93	10.56	9.67	7.77	7.15	10.28	8.86	11.65	10.61
South Carolina	14.23	13.68	10.64	10.39	6.84	6.68	--	--	10.90	10.50
Virginia	14.41	14.26	8.72	8.95	8.99	8.92	9.25	10.42	10.62	10.68
West Virginia	15.07	14.05	11.62	11.03	7.81	7.24	--	--	11.05	10.26
East South Central	13.40	13.11	12.36	12.13	6.72	6.72	--	--	10.99	10.78
Alabama	15.18	14.63	13.64	13.16	7.25	7.10	--	--	11.90	11.47
Kentucky	12.79	12.65	11.50	11.38	6.50	6.55	--	--	10.07	9.96
Mississippi	13.39	13.23	12.32	12.37	6.81	6.96	--	--	10.93	10.95
Tennessee	12.42	12.19	12.05	11.80	6.21	6.23	--	--	10.90	10.69
West South Central	14.04	13.68	8.88	9.13	6.05	6.47	7.76	7.53	9.58	9.79
Arkansas	12.32	12.25	10.24	10.34	6.61	6.87	13.23	14.93	9.59	9.73
Louisiana	11.73	11.55	10.46	10.45	5.61	5.88	11.54	11.00	8.80	8.91
Oklahoma	12.24	12.08	8.92	9.34	5.84	6.26	--	--	9.09	9.30
Texas	14.94	14.46	8.55	8.82	6.12	6.60	4.35	7.30	9.79	10.04
Mountain	14.12	13.68	11.03	10.94	7.70	7.84	10.61	12.69	11.23	11.07
Arizona	14.91	14.02	12.23	11.79	7.90	8.11	10.95	10.01	12.74	12.19
Colorado	14.92	14.30	11.71	11.64	8.62	8.50	9.66	13.23	12.07	11.76
Idaho	11.52	11.05	9.17	8.78	7.69	7.17	--	--	9.51	9.08
Montana	12.66	12.54	11.87	12.11	7.59	7.80	--	--	10.83	10.97
Nevada	15.00	16.67	10.19	11.91	8.64	10.36	10.66	12.75	11.47	13.09
New Mexico	14.20	13.85	10.54	10.68	5.43	5.75	--	--	9.18	9.47
Utah	12.22	11.20	9.39	8.51	7.86	6.99	12.07	12.28	9.97	9.03
Wyoming	12.47	11.46	9.27	8.94	7.96	7.06	--	--	9.14	8.39
Pacific Contiguous	24.23	22.02	20.36	19.42	15.38	13.38	16.10	12.67	20.79	19.15
California	31.97	29.51	25.54	23.91	21.53	18.64	16.79	13.01	27.04	24.87
Oregon	14.70	12.73	10.11	9.92	8.05	7.52	12.54	11.41	11.11	10.32
Washington	11.90	10.98	9.99	9.92	6.61	6.35	11.64	10.17	10.13	9.58
Pacific Noncontiguous	34.95	34.40	30.22	30.28	29.93	30.55	--	--	31.62	31.67
Alaska	24.82	23.90	21.57	20.87	19.31	18.70	--	--	22.17	21.41
Hawaii	42.86	42.39	38.18	39.03	34.13	35.28	--	--	38.00	38.60
U.S. Total	16.48	16.00	12.75	12.59	8.13	8.04	12.75	12.77	12.94	12.68

See Technical notes for additional information on the Commercial, Industrial, and Transportation sectors.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Notes: - See Glossary for definitions. - Values are final.

See Technical Notes for a discussion of the sample design for the Form EIA-826.

Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule.

Changes from year to year in consumer counts, sales and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications.

Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report.

Table 2.11. Number of Ultimate Customers by Sector by State, 2023 and 2024

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	6,653,781	6,579,669	945,130	943,130	21,150	21,474			7,620,067	7,544,279
Connecticut	1,552,746	1,541,895	156,818	156,310	3,864	3,936	3	3	1,713,431	1,702,144
Maine	742,549	731,969	111,084	108,745	1,925	2,040	--	--	855,558	842,754
Massachusetts	2,924,535	2,886,203	438,014	443,991	10,353	10,510	2	2	3,372,904	3,340,706
New Hampshire	652,608	647,007	112,277	111,302	3,116	3,125	--	--	768,001	761,434
Rhode Island	457,383	450,190	62,629	60,297	1,649	1,606	1	1	521,662	512,094
Vermont	323,960	322,405	64,308	62,485	243	257	--	--	388,511	385,147
Middle Atlantic	16,690,432	16,603,564	2,444,687	2,455,311	40,817	33,989	18	21	19,175,954	19,092,885
New Jersey	3,735,638	3,702,963	540,221	539,427	11,251	11,246	7	8	4,287,117	4,253,644
New York	7,420,214	7,384,444	1,163,769	1,180,841	16,605	7,178	6	8	8,600,594	8,572,471
Pennsylvania	5,534,580	5,516,157	740,697	735,043	12,961	15,565	5	5	6,288,243	6,266,770
East North Central	20,951,042	20,833,849	2,574,768	2,547,590	54,769	55,099	10	11	23,580,589	23,436,549
Illinois	5,392,477	5,394,659	638,510	626,171	5,686	5,541	3	4	6,036,676	6,026,375
Indiana	3,056,216	3,018,496	374,858	371,773	19,345	19,291	1	1	3,450,420	3,409,561
Michigan	4,516,367	4,496,300	564,574	559,552	5,762	5,589	2	2	5,086,705	5,061,443
Ohio	5,142,108	5,110,814	627,393	624,926	18,237	19,087	2	2	5,787,740	5,754,829
Wisconsin	2,843,874	2,813,580	369,433	365,168	5,739	5,591	2	2	3,219,048	3,184,341
West North Central	10,017,809	9,915,499	1,526,285	1,517,734	132,146	131,428	3	3	11,676,243	11,564,664
Iowa	1,448,818	1,436,037	251,716	250,532	9,477	9,451	--	--	1,710,011	1,696,020
Kansas	1,317,095	1,306,777	245,169	245,544	23,963	24,106	--	--	1,586,227	1,576,427
Minnesota	2,581,180	2,551,574	308,460	308,285	9,410	9,351	1	1	2,899,051	2,869,211
Missouri	2,933,914	2,906,438	403,957	399,085	9,443	9,831	2	2	3,347,316	3,315,356
Nebraska	905,415	893,123	161,501	160,540	64,672	63,824	--	--	1,131,588	1,117,487
North Dakota	397,839	395,002	77,191	76,700	10,864	10,628	--	--	485,894	482,330
South Dakota	433,548	426,548	78,291	77,048	4,317	4,237	--	--	516,156	507,833
South Atlantic	30,673,496	30,090,394	4,040,023	4,000,173	88,735	88,038	13	13	34,802,267	34,178,618
Delaware	473,508	468,358	60,653	59,839	876	876	--	--	535,330	529,073
District of Columbia	318,780	312,982	27,521	27,387	1	1	3	3	346,305	340,373
Florida	10,443,373	10,222,476	1,309,027	1,292,988	26,610	26,085	2	2	11,779,012	11,541,551
Georgia	4,815,501	4,703,796	619,171	609,978	24,336	24,366	1	1	5,459,009	5,338,141
Maryland	2,451,753	2,432,423	261,469	260,822	9,286	9,226	5	5	2,722,513	2,702,476
North Carolina	5,067,762	4,951,380	751,027	746,025	8,930	9,082	1	1	5,827,720	5,706,488
South Carolina	2,581,882	2,518,272	413,387	410,802	3,604	3,634	--	--	2,998,873	2,932,708
Virginia	3,654,481	3,615,939	445,756	441,468	3,794	3,673	1	1	4,104,032	4,061,081
West Virginia	866,456	864,768	152,012	150,864	11,005	11,095	--	--	1,029,473	1,026,727
East South Central	8,981,949	8,853,035	1,507,151	1,484,981	25,513	24,411	--	--	10,514,613	10,362,427
Alabama	2,398,172	2,353,274	389,925	384,122	7,246	7,239	--	--	2,795,343	2,744,635
Kentucky	2,077,215	2,057,705	327,448	323,183	4,846	5,136	--	--	2,409,509	2,386,024
Mississippi	1,340,459	1,335,278	246,813	246,032	12,415	11,023	--	--	1,599,687	1,592,333
Tennessee	3,166,103	3,106,778	542,965	531,644	1,006	1,013	--	--	3,710,074	3,639,435
West South Central	18,051,370	17,711,160	2,363,886	2,400,621	451,075	419,810	6	6	20,866,337	20,531,597
Arkansas	1,476,944	1,459,802	207,035	205,526	36,772	36,612	2	2	1,720,753	1,701,942
Louisiana	2,147,745	2,137,199	301,288	300,640	18,203	18,790	1	1	2,467,237	2,456,630
Oklahoma	1,878,818	1,857,151	298,476	304,896	20,002	19,874	--	--	2,197,296	2,181,921
Texas	12,547,863	12,257,008	1,557,087	1,589,559	376,098	344,534	3	3	14,481,051	14,191,104
Mountain	10,925,227	10,725,657	1,532,262	1,502,127	100,429	100,935	5	6	12,557,923	12,328,725
Arizona	3,134,733	3,068,552	348,423	344,059	7,555	7,614	2	2	3,490,713	3,420,227
Colorado	2,557,732	2,517,452	405,693	397,348	14,750	15,358	1	2	2,978,176	2,930,160
Idaho	868,141	845,896	123,982	121,675	29,658	29,322	--	--	1,021,781	996,893
Montana	557,432	549,248	123,483	116,235	11,624	12,019	--	--	692,539	677,502
Nevada	1,311,755	1,288,498	177,740	174,042	4,786	4,784	1	1	1,494,282	1,467,325
New Mexico	936,098	928,216	148,104	147,632	9,256	9,339	--	--	1,093,458	1,085,187
Utah	1,272,861	1,244,066	145,854	142,545	10,805	10,719	1	1	1,429,521	1,397,331
Wyoming	286,475	283,729	58,983	58,591	11,995	11,780	--	--	357,453	354,100
Pacific Contiguous	19,454,170	19,227,491	2,430,030	2,412,748	199,328	201,091	20	19	22,083,548	21,841,349
California	14,217,180	14,063,972	1,777,305	1,766,915	146,327	148,000	13	12	16,140,825	15,978,899
Oregon	1,868,012	1,843,683	247,412	244,410	26,616	26,545	2	2	2,142,042	2,114,640
Washington	3,368,978	3,319,836	405,313	401,423	26,385	26,546	5	5	3,800,681	3,747,810
Pacific Noncontiguous	744,909	742,395	116,664	116,913	2,012	1,974	--	--	863,585	861,282
Alaska	298,397	296,192	57,009	56,796	1,191	1,161	--	--	356,597	354,149
Hawaii	446,512	446,203	59,655	60,117	821	813	--	--	506,988	507,133
U.S. Total	143,144,185	141,282,713	19,480,886	19,381,328	1,115,974	1,078,249	81	85	163,741,126	161,742,375

Table 2.12. Electric Power Industry - Electricity Purchases, 2014 through 2024 (Thousand Megawatthours)

Year	Electric Utilities	Energy-Only Providers	Independent Power Producers	Combined Heat and Power	U.S. Total
2014	2,145,378	2,559,875	17,000	79,975	4,802,227
2015	2,101,788	2,506,185	54,046	99,505	4,761,523
2016	2,089,540	2,438,204	8,520	187,307	4,723,571
2017	2,102,971	2,552,146	9,372	196,768	4,861,257
2018	2,187,615	2,713,174	8,730	259,354	5,168,874
2019	2,231,042	2,778,349	9,391	352,854	5,371,635
2020	2,146,608	2,792,233	9,458	276,281	5,224,580
2021	2,258,989	2,541,686	5,950	260,545	5,067,170
2022	2,407,972	2,436,300	11,634	275,057	5,130,963
2023	2,247,163	2,329,456	19,670	199,483	4,795,772
2024	2,302,830	2,118,199	21,095	168,762	4,610,886

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report" and Form EIA-923, "Power Plant Operations Report"

Table 2.13. Electric Power Industry - Electricity Sales for Resale, 2014 through 2024 (Thousand Megawatthours)

Year	Electric Utilities	Energy-Only Providers	Independent Power Producers	Combined Heat and Power	U.S. Total
2014	1,485,964	2,081,235	1,301,724	39,916	4,908,839
2015	1,393,396	2,033,705	1,331,181	39,113	4,797,395
2016	1,391,873	1,947,036	1,372,928	35,131	4,746,967
2017	1,396,838	2,066,455	1,389,083	37,571	4,889,947
2018	1,431,952	2,193,414	1,463,236	38,674	5,127,276
2019	1,402,200	2,259,028	1,466,561	44,641	5,172,430
2020	1,364,031	2,284,266	1,457,591	39,572	5,145,459
2021	1,481,890	2,020,031	1,402,064	34,772	4,938,756
2022	1,526,810	1,909,697	1,626,033	42,980	5,105,520
2023	1,394,671	1,785,875	1,638,113	47,804	4,866,463
2024	1,433,061	1,534,145	1,708,929	39,207	4,715,342

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report" and Form EIA-923, "Power Plant Operations Report"

Table 2.14. Electric Power Industry - U.S. Electricity Imports from and Electricity Exports to Canada and Mexico, 2014-2024 (Megawatthours)

Year	Canada		Mexico		U.S. Total	
	Imports from	Exports to	Imports from	Exports to	Imports	Exports
2014	59,369,660	12,860,889	7,140,624	437,364	66,510,284	13,298,253
2015	68,462,277	8,707,873	7,308,192	392,016	75,770,469	9,099,889
2016	65,173,818	2,682,381	7,542,445	3,531,636	72,716,263	6,214,017
2017	59,909,320	3,312,798	5,775,597	6,058,005	65,684,917	9,370,803
2018	51,494,627	7,290,070	6,765,975	6,514,422	58,260,602	13,804,492
2019	52,309,254	13,532,067	6,743,207	6,475,965	59,052,461	20,008,032
2020	57,001,240	9,855,106	4,447,623	4,279,573	61,448,863	14,134,679
2021	48,140,438	10,067,396	5,026,570	3,788,022	53,167,008	13,855,418
2022	52,187,403	10,651,209	4,782,900	5,107,113	56,970,303	15,758,322
2023	33,225,087	18,384,320	5,692,121	1,628,726	38,917,208	20,013,046
2024	27,201,095	17,343,144	6,053,393	2,093,903	33,254,488	19,437,047

Notes: As of November 2017, the data for 2016 and going forward will be published using data from the Form EIA-111, "Quarterly Electricity Imports and Exports Report." During 2013-2015, EIA revised its approach to estimating imports from Mexico.

Sources: 2016-2024, U.S. Energy Information Administration, Form EIA-111, "Quarterly Electricity Imports and Exports Report"; 2006-2015 data, National Energy Board of Canada; FERC 714, Annual Electric Balancing Authority Area and Planning Report; California Energy Commission; and EIA estimates.

Chapter 3

Net Generation

Table 3.1.A. Net Generation by Energy Source: Total (All Sectors), 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities											Total Generation at Utility Scale Facilities	Small Scale Generation		Net Generation From Utility and Small Scale Facilities				
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other		Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar				
Annual Totals																			
2014	1,581,710	18,276	11,955	1,126,636	12,022	797,166	259,367	17,691	261,522	-6,174	13,393	4,093,564	11,233	26,482	28,524				
2015	1,352,398	17,372	10,877	1,334,668	13,117	797,178	249,080	24,893	270,268	-5,091	13,955	4,078,714	14,139	35,805	39,032				
2016	1,239,149	13,008	11,197	1,379,271	12,807	805,694	267,812	36,054	305,579	-6,686	13,689	4,077,574	18,812	51,483	54,866				
2017	1,205,835	12,414	8,976	1,297,703	12,469	804,950	300,333	53,287	332,963	-6,495	13,008	4,035,443	23,990	74,008	77,277				
2018	1,149,487	16,245	8,981	1,471,843	13,463	807,084	292,524	63,825	350,467	-5,905	12,973	4,180,988	29,539	89,773	93,365				
2019	964,957	11,522	6,819	1,588,533	12,591	809,409	287,874	71,937	368,862	-5,261	13,331	4,130,574	34,957	103,676	106,894				
2020	773,393	9,662	7,679	1,626,790	11,818	789,879	285,274	89,199	408,539	-5,321	12,855	4,009,767	41,522	127,588	130,721				
2021	897,999	11,663	7,511	1,579,190	11,397	779,645	251,585	115,258	448,424	-5,112	12,140	4,109,699	49,164	161,499	164,422				
2022	831,512	15,805	7,126	1,687,065	11,722	771,537	254,789	143,792	502,234	-6,028	11,114	4,230,668	61,282	202,075	205,074				
2023	675,115	11,397	4,836	1,806,063	11,778	774,873	245,002	165,530	484,708	-5,990	9,957	4,183,270	73,406	236,090	238,937				
2024	652,156	11,456	3,629	1,869,902	10,845	781,865	242,896	219,834	513,733	-5,852	8,170	4,308,634	83,918	300,634	303,752				
Year 2022																			
January	87,588	3,105	564	134,948	1,005	70,577	24,198	7,822	43,424	-493	1,029	373,766	3,376	11,968	11,968				
February	70,966	1,114	621	114,945	886	61,852	21,321	9,027	43,090	-412	900	324,311	3,717	12,585	12,744				
March	61,019	959	500	112,477	963	63,154	24,436	11,694	48,677	-318	979	324,530	5,121	16,560	16,815				
April	55,329	749	528	105,506	921	55,290	20,066	13,402	51,528	-265	941	303,994	5,671	18,751	19,073				
May	62,532	834	596	127,091	1,036	63,382	23,359	15,120	47,729	-467	971	342,184	6,236	20,985	21,366				
June	73,463	897	683	155,517	987	65,715	25,988	16,052	39,461	-589	959	379,134	6,229	21,910	22,281				
July	86,415	1,045	488	189,042	1,083	68,857	24,567	15,765	35,499	-768	982	422,975	6,438	21,915	22,203				
August	85,215	1,001	576	188,860	1,008	68,897	21,133	14,502	30,657	-640	924	412,133	6,194	20,418	20,697				
September	64,998	942	648	156,948	987	63,733	17,026	13,286	32,840	-598	845	351,655	5,544	18,545	18,830				
October	54,228	952	610	133,492	968	58,945	14,367	11,942	38,036	-434	844	313,949	5,022	16,674	16,964				
November	56,377	911	568	127,523	911	62,041	17,898	8,403	46,779	-495	864	321,780	4,035	12,289	12,438				
December	73,381	3,296	744	140,716	978	69,094	20,430	6,777	44,514	-548	876	360,257	3,698	10,377	10,475				
Year 2023																			
January	61,357	983	421	138,503	945	70,870	22,754	7,806	44,043	-620	889	347,950	3,989	11,711	11,795				
February	46,374	1,233	395	125,036	891	60,807	19,961	9,435	46,467	-456	778	310,922	4,387	13,713	13,822				
March	50,096	924	314	133,699	1,028	62,820	21,331	12,213	49,007	-519	790	331,704	6,005	18,064	18,218				
April	40,233	868	301	120,012	866	56,662	19,820	15,062	47,626	-290	744	301,903	6,742	21,509	21,803				
May	43,804	880	330	137,394	1,011	61,155	27,651	17,281	37,570	-459	857	327,474	7,543	24,525	24,824				
June	57,772	878	389	161,981	974	64,819	21,572	17,834	32,728	-551	838	359,234	7,405	24,874	25,239				
July	78,903	964	651	199,522	1,046	69,888	21,978	18,894	33,394	-656	872	425,455	7,720	26,234	26,614				
August	78,112	958	651	199,221	1,088	69,744	21,293	17,744	33,882	-653	865	422,905	7,504	24,938	25,248				
September	59,959	894	592	166,311	983	65,560	16,916	15,583	33,470	-553	775	360,490	6,604	21,894	22,187				
October	50,933	990	293	140,825	924	61,436	15,673	14,121	41,060	-372	837	326,718	6,076	19,910	20,196				
November	51,209	906	179	135,531	959	62,258	17,026	10,446	41,774	-347	844	320,785	4,938	15,218	15,384				
December	56,365	920	318	148,029	1,062	68,854	19,028	9,113	43,688	-514	869	347,732	4,494	13,500	13,606				
Year 2024																			
January	75,618	1,469	360	161,667	1,074	69,080	21,554	9,583	40,334	-414	799	381,122	4,726	14,230	14,309				
February	44,137	740	217	131,845	931	64,584	20,795	12,540	46,108	-404	720	322,214	5,342	17,763	17,882				
March	38,505	784	207	131,137	882	63,346	23,363	16,019	50,354	-349	689	324,938	7,113	22,911	23,132				
April	37,246	866	278	121,532	913	57,542	20,916	19,241	51,940	-338	644	310,780	7,832	26,741	27,073				
May	45,812	850	304	143,993	889	64,973	24,477	22,371	44,360	-284	738	348,485	8,539	30,496	30,910				
June	61,339	890	389	169,156	941	68,192	22,397	24,459	43,755	-579	694	391,632	8,553	32,598	33,012				
July	71,565	997	451	205,959	949	69,851	21,384	24,484	33,593	-639	723	429,317	8,778	32,901	33,262				
August	68,760	993	432	202,915	911	69,760	20,491	24,328	34,653	-798	682	423,127	8,412	32,387	32,741				
September	54,559	839	236	169,671	836	62,660	15,911	20,538	34,165	-637	619	359,397	7,511	27,714	28,049				
October	46,890	929	232	146,711	801	58,773	15,352	19,828	44,334	-439	570	333,980	6,736	26,331	26,564				
November	44,924	875	220	137,687	800	61,904	16,723	13,841	45,214	-490	652	322,351	5,393	19,098	19,234				
December	62,800	1,224	304	147,630	919	71,200	19,533	12,601	44,923	-481	638	361,292	4,984	17,465	17,585				

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.

Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report;

Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.1.B. Net Generation from Renewable Sources: Total (All Sectors), 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Total Renewable Generation at Utility Scale Facilities	Small Scale Generation		Generation From Utility and Small Scale Facilities		
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Estimated Solar Photovoltaic		Estimated Total Solar Photovoltaic	Estimated Total Solar			
Annual Totals																
2014	181,655	15,250	2,441	42,340	11,220	7,228	3,202	15,877	259,367	538,579	11,233	26,482	28,924			
2015	190,719	21,666	3,227	41,929	11,291	7,211	3,201	15,918	249,080	544,241	14,139	35,805	39,032			
2016	226,993	32,670	3,384	40,947	11,218	7,265	3,331	15,826	267,812	609,445	18,812	51,483	54,866			
2017	254,303	50,018	3,269	41,124	11,543	6,951	3,115	15,927	300,333	686,583	23,990	74,008	77,277			
2018	272,667	60,234	3,592	40,936	11,036	7,136	2,724	15,967	292,524	706,816	29,539	89,773	93,965			
2019	295,882	68,719	3,218	38,543	10,468	6,093	2,402	15,473	287,874	728,673	34,957	103,676	106,894			
2020	337,938	86,066	3,133	36,219	10,212	6,080	2,201	15,890	285,274	783,012	41,522	127,588	130,721			
2021	378,197	112,335	2,924	36,463	9,421	6,101	2,267	15,975	251,585	815,267	49,164	161,499	164,422			
2022	434,297	140,793	2,999	35,466	8,535	5,776	2,073	16,087	254,789	900,814	61,282	202,075	205,074			
2023	421,141	162,683	2,847	31,615	7,935	5,568	2,082	16,367	245,002	895,241	73,406	236,090	238,937			
2024	451,904	216,715	3,118	31,564	7,341	5,402	2,115	15,407	242,896	976,463	83,918	300,634	303,752			
Year 2022																
January	37,416	7,889	133	3,106	748	492	192	1,470	24,198	75,443	3,376	11,065	11,198			
February	37,645	8,868	159	2,897	701	432	173	1,243	21,321	73,438	3,717	12,585	12,744			
March	43,031	11,439	255	2,934	773	465	188	1,296	24,436	84,808	5,121	16,560	16,815			
April	46,167	13,080	321	2,736	699	482	161	1,282	20,066	84,995	5,671	18,751	19,073			
May	42,124	14,749	371	2,907	722	492	157	1,327	23,359	86,208	6,236	20,985	21,356			
June	33,768	15,681	372	3,045	710	498	166	1,276	25,988	81,501	6,229	21,910	22,281			
July	29,475	15,477	288	3,276	723	510	173	1,341	24,567	75,831	6,438	21,915	22,203			
August	24,716	14,223	279	3,206	707	498	174	1,354	21,133	66,293	6,194	20,418	20,697			
September	27,331	13,001	285	2,864	686	470	159	1,329	17,026	63,152	5,544	18,545	18,830			
October	32,745	11,652	289	2,624	714	473	182	1,298	14,367	64,345	5,022	16,674	16,964			
November	41,199	8,254	149	2,865	678	473	167	1,397	17,898	73,079	4,035	12,289	12,438			
December	38,680	6,679	99	3,005	674	493	181	1,482	20,430	71,721	3,698	10,377	10,475			
Year 2023																
January	38,358	7,722	84	2,920	694	483	168	1,420	22,754	74,603	3,989	11,711	11,795			
February	41,424	9,326	109	2,533	614	420	174	1,302	19,961	75,863	4,387	13,713	13,822			
March	43,594	12,059	154	2,704	670	446	162	1,442	21,331	82,552	6,005	18,064	18,218			
April	42,746	14,767	295	2,336	623	409	157	1,356	19,820	82,507	6,742	21,509	21,803			
May	32,227	16,981	300	2,654	692	475	176	1,345	27,651	82,502	7,543	24,525	24,824			
June	27,547	17,469	365	2,579	666	483	159	1,293	21,572	72,134	7,405	24,874	25,239			
July	28,005	18,514	380	2,758	674	497	165	1,296	21,978	74,266	7,720	26,234	26,614			
August	28,394	17,435	309	2,884	680	482	174	1,267	21,293	72,919	7,504	24,938	25,248			
September	28,353	15,290	293	2,573	629	441	160	1,315	16,916	65,968	6,604	21,894	22,187			
October	36,020	13,834	287	2,317	649	463	191	1,420	15,673	70,853	6,076	19,910	20,196			
November	36,445	10,280	166	2,584	651	471	183	1,440	17,026	69,246	4,938	15,218	15,384			
December	38,038	9,006	106	2,774	693	498	213	1,473	19,028	71,829	4,494	13,500	13,606			
Year 2024																
January	34,791	9,504	79	2,849	642	467	186	1,399	21,554	71,471	4,726	14,230	14,309			
February	40,982	12,421	119	2,621	605	421	176	1,303	20,795	79,444	5,342	17,763	17,882			
March	45,102	15,798	221	2,651	638	422	181	1,359	23,363	89,736	7,113	22,911	23,132			
April	47,088	18,909	332	2,423	583	408	158	1,290	20,916	92,097	7,832	26,741	27,073			
May	39,256	21,957	414	2,575	638	469	176	1,246	24,477	91,209	8,539	30,496	30,910			
June	38,661	24,045	414	2,681	593	450	168	1,202	22,397	90,610	8,553	32,598	33,012			
July	28,304	24,122	361	2,806	624	475	166	1,218	21,384	79,460	8,776	32,901	33,262			
August	29,290	23,974	354	2,839	641	480	175	1,227	20,491	79,472	8,412	32,387	32,741			
September	29,178	20,203	335	2,563	604	447	170	1,201	15,911	70,614	7,511	27,714	28,049			
October	39,592	19,595	233	2,240	608	448	187	1,261	15,352	79,514	6,736	26,331	26,564			
November	40,133	13,705	136	2,550	577	456	180	1,317	16,723	75,779	5,393	19,098	19,234			
December	39,527	12,481	120	2,765	588	457	192	1,393	19,533	77,057	4,984	17,465	17,585			

Wood and Wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Waste Biomass includes sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. N/A=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

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Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.2.A. Net Generation by Energy Source: Electric Utilities, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Other	Total	
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage			
Annual Totals													
2014	1,173,073	10,696	9,147	501,440	112	419,871	238,185	1,218	33,278	-5,144	622	2,382,500	
2015	996,385	10,386	8,278	619,003	199	416,680	229,640	1,494	35,992	-4,105	558	2,316,508	
2016	922,399	9,969	8,981	655,744	154	424,400	247,787	1,995	40,668	-5,629	421	2,305,887	
2017	893,839	8,587	6,711	625,094	149	424,485	275,677	3,348	42,763	-5,448	553	2,275,539	
2018	863,505	10,108	6,817	722,916	151	424,251	267,336	4,916	44,194	-4,785	561	2,339,960	
2019	722,885	8,313	5,112	787,745	154	430,672	262,364	6,785	48,403	-4,261	551	2,268,723	
2020	582,374	7,182	5,663	815,414	45	428,953	264,650	9,945	59,797	-4,326	618	2,170,318	
2021	674,804	8,791	5,728	777,067	12	430,683	228,689	13,911	75,338	-3,876	508	2,211,643	
2022	621,853	9,356	5,383	832,421	0	427,933	232,963	17,692	86,233	-4,752	534	2,229,605	
2023	518,330	8,254	3,146	895,910	0	441,391	220,003	22,230	84,313	-4,545	580	2,189,614	
2024	508,149	8,504	1,946	953,446	0	444,521	220,163	30,347	93,209	-4,232	285	2,256,336	
Year 2022													
January	63,823	1,254	388	66,875	0	39,295	22,395	1,066	8,258	-420	58	202,990	
February	50,911	629	453	55,560	0	34,300	19,408	1,188	7,998	-301	51	170,198	
March	43,015	691	324	54,831	0	34,385	21,943	1,533	8,561	-214	55	165,124	
April	40,123	548	361	51,428	0	30,252	17,583	1,714	8,652	-164	43	150,540	
May	47,965	639	503	62,462	0	35,037	21,195	1,850	7,488	-375	53	176,816	
June	56,910	652	545	79,183	0	36,908	24,296	1,836	6,114	-460	40	206,024	
July	66,531	676	388	95,306	0	38,888	23,132	1,811	5,104	-623	40	231,355	
August	64,386	681	421	93,582	0	39,921	19,778	1,717	4,893	-495	36	223,900	
September	49,704	680	460	75,975	0	35,914	15,593	1,489	5,846	-493	33	185,222	
October	41,060	676	440	64,375	0	32,085	12,963	1,460	6,736	-370	46	159,472	
November	41,209	673	446	63,004	0	33,612	16,315	1,046	8,593	-398	40	164,537	
December	56,116	1,575	636	69,839	0	38,335	18,352	982	7,992	-437	39	193,428	
Year 2023													
January	47,822	749	285	69,060	0	40,507	19,961	1,198	7,368	-498	50	186,483	
February	34,662	721	257	61,273	0	34,281	17,914	1,480	8,665	-359	44	158,939	
March	37,670	678	166	66,443	0	36,091	18,841	1,928	8,423	-389	47	169,897	
April	29,082	634	176	59,851	0	33,574	17,367	1,992	9,198	-191	41	151,724	
May	32,611	657	166	70,281	0	34,559	25,345	2,322	6,601	-336	44	172,249	
June	46,228	687	257	81,588	0	37,005	19,980	2,288	4,812	-420	52	192,477	
July	62,726	678	484	99,498	0	39,977	19,811	2,325	4,726	-519	51	229,758	
August	61,744	733	491	100,846	0	40,065	19,175	2,301	5,570	-499	59	230,484	
September	46,714	653	441	81,426	0	37,575	15,262	1,965	5,788	-415	47	189,456	
October	38,830	695	176	68,791	0	34,541	14,167	1,873	7,410	-294	47	166,235	
November	37,358	669	100	63,741	0	34,719	15,453	1,403	8,015	-245	47	161,261	
December	42,884	699	167	73,111	0	38,497	16,728	1,154	7,737	-379	53	180,651	
Year 2024													
January	58,491	1,028	200	80,561	0	39,090	19,005	1,291	7,117	-287	32	206,527	
February	34,812	590	91	66,015	0	36,010	18,487	1,993	8,381	-268	27	166,728	
March	31,039	609	40	66,011	0	35,567	20,610	2,413	9,619	-213	20	166,104	
April	28,360	643	137	61,043	0	32,153	18,197	3,022	10,124	-231	15	153,463	
May	35,639	649	153	74,969	0	36,822	22,074	3,303	7,979	-144	27	181,372	
June	48,750	652	252	87,902	0	38,907	20,702	3,216	7,676	-439	25	207,643	
July	56,197	699	285	107,213	0	40,388	19,685	3,164	5,187	-472	24	232,380	
August	53,679	770	277	105,880	0	39,992	18,685	3,084	5,824	-638	24	227,576	
September	42,774	665	142	87,049	0	35,308	14,867	2,536	6,359	-501	22	189,221	
October	35,531	728	137	74,370	0	33,821	14,374	2,554	8,548	-328	25	169,761	
November	34,323	675	85	69,701	0	35,228	15,766	1,901	8,027	-351	24	165,377	
December	48,654	796	147	72,734	0	40,244	17,712	1,870	8,368	-359	21	190,186	

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.

Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

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Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report;

Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Table 3.2.B. Net Generation from Renewable Sources: Electric Utilities, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Total Renewable Generation at Utility Scale Facilities	Small Scale Generation		Generation From Utility and Small Scale Facilities		
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Estimated Solar Photovoltaic		Estimated Total Solar Photovoltaic	Estimated Total Solar			
Annual Totals																
2014	27,671	1,094	124	3,050	1,068	191	182	1,116	238,185	272,681	0	1,094	1,218			
2015	30,412	1,388	106	3,018	1,061	195	218	1,089	229,640	267,125	0	1,388	1,494			
2016	35,070	1,920	75	3,038	1,040	201	237	1,080	247,787	290,448	0	1,920	1,995			
2017	37,068	3,326	22	3,226	1,103	184	161	1,022	275,677	321,788	0	3,326	3,348			
2018	38,466	4,865	51	3,364	1,004	203	138	1,009	267,336	316,436	0	4,865	4,916			
2019	43,636	6,757	28	2,784	964	122	126	771	262,364	317,552	0	6,757	6,785			
2020	55,554	9,915	30	2,077	1,006	126	120	915	264,650	334,392	0	9,915	9,945			
2021	70,338	13,883	29	2,796	973	108	116	1,007	228,689	317,938	0	13,883	13,911			
2022	80,962	17,664	28	3,263	813	111	58	1,026	232,953	336,878	0	17,664	17,692			
2023	80,120	22,230	0	2,549	653	115	94	782	220,003	326,546	0	22,230	22,230			
2024	89,056	30,347	0	2,436	597	113	93	914	220,163	343,718	0	30,347	30,347			
Year 2022																
January	7,790	1,057	9	281	76	9	6	96	22,395	31,718	0	1,057	1,066			
February	7,537	1,187	1	292	71	9	3	96	19,408	28,594	0	1,187	1,188			
March	8,171	1,531	2	224	77	6	4	79	21,943	32,037	0	1,531	1,533			
April	8,302	1,711	3	182	69	9	3	87	17,583	27,948	0	1,711	1,714			
May	7,057	1,845	4	254	70	12	6	89	21,195	30,532	0	1,845	1,850			
June	5,665	1,834	2	281	67	10	5	84	24,296	32,247	0	1,834	1,836			
July	4,587	1,809	2	347	68	11	6	87	23,132	30,046	0	1,809	1,811			
August	4,364	1,715	2	360	65	11	4	88	19,778	26,388	0	1,715	1,717			
September	5,420	1,488	2	263	64	8	6	86	15,593	22,929	0	1,488	1,489			
October	6,352	1,459	1	222	65	10	5	82	12,963	21,159	0	1,459	1,460			
November	8,206	1,046	0	231	62	9	6	79	16,315	25,953	0	1,046	1,046			
December	7,511	982	0	326	59	8	5	83	18,352	27,326	0	982	982			
Year 2023																
January	6,934	1,198	0	279	58	9	9	79	19,961	28,527	0	1,198	1,198			
February	8,273	1,480	0	245	50	6	8	82	17,914	28,060	0	1,480	1,480			
March	8,122	1,928	0	169	58	8	6	60	18,841	29,193	0	1,928	1,928			
April	8,930	1,992	0	121	53	8	9	76	17,367	28,557	0	1,992	1,992			
May	6,291	2,322	0	180	58	9	7	56	25,345	34,267	0	2,322	2,322			
June	4,459	2,288	0	245	56	11	5	36	19,980	27,079	0	2,288	2,288			
July	4,279	2,325	0	293	55	10	7	82	19,811	26,862	0	2,325	2,325			
August	5,121	2,301	0	293	54	11	6	83	19,175	27,046	0	2,301	2,301			
September	5,447	1,965	0	215	49	10	8	59	15,262	23,016	0	1,965	1,965			
October	7,143	1,873	0	133	52	11	12	59	14,167	23,450	0	1,873	1,873			
November	7,721	1,403	0	166	53	10	7	58	15,453	24,871	0	1,403	1,403			
December	7,399	1,154	0	211	56	11	10	50	16,728	25,619	0	1,154	1,154			
Year 2024																
January	6,694	1,291	0	298	49	8	5	62	19,005	27,413	0	1,291	1,291			
February	8,036	1,993	0	224	50	7	5	59	18,487	28,861	0	1,993	1,993			
March	9,356	2,413	0	134	51	5	8	65	20,810	32,642	0	2,413	2,413			
April	9,793	3,022	0	199	46	4	6	76	18,197	31,343	0	3,022	3,022			
May	7,648	3,303	0	176	50	12	8	83	22,074	33,356	0	3,303	3,303			
June	7,271	3,216	0	257	48	12	10	78	20,702	31,594	0	3,216	3,216			
July	4,785	3,164	0	253	51	11	11	77	19,885	28,036	0	3,164	3,164			
August	5,401	3,084	0	270	54	11	12	77	18,685	27,592	0	3,084	3,084			
September	6,072	2,536	0	145	51	11	7	73	14,867	23,763	0	2,536	2,536			
October	8,304	2,554	0	93	50	11	8	83	14,374	25,476	0	2,554	2,554			
November	7,739	1,901	0	131	49	11	6	90	15,766	25,693	0	1,901	1,901			
December	7,957	1,870	0	255	48	10	7	91	17,712	27,950	0	1,870	1,870			

Wood and Wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Waste Biomass includes sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. N/A=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

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Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report; Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.3.A. Net Generation by Energy Source: Independent Power Producers, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Other	Total	
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage			
Annual Totals													
2014	395,701	6,789	1,410	531,758	3,246	377,295	19,861	10,086	196,723	-1,030	6,622	1,554,462	
2015	342,608	6,240	1,601	619,839	3,517	380,498	17,996	22,962	202,858	-987	6,765	1,603,898	
2016	307,263	3,360	1,401	624,600	3,758	381,294	16,539	33,502	233,553	-1,057	6,876	1,613,090	
2017	304,198	3,281	1,480	572,919	3,978	380,465	23,034	49,376	258,962	-1,047	6,439	1,603,086	
2018	278,868	5,487	1,516	645,616	3,925	382,933	23,812	58,337	275,154	-1,119	6,677	1,680,917	
2019	235,847	2,669	1,125	692,113	3,883	378,738	24,288	64,480	290,343	-1,000	7,138	1,699,625	
2020	185,328	1,984	1,504	706,885	3,129	360,925	19,408	78,567	319,633	-995	6,971	1,683,340	
2021	217,636	2,378	1,413	699,547	3,292	348,961	21,702	100,612	344,784	-1,235	6,449	1,745,538	
2022	204,243	5,734	1,354	750,266	3,451	343,604	20,673	125,155	387,590	-1,276	3,487	1,844,282	
2023	152,238	2,573	1,415	803,945	3,340	333,482	23,862	142,360	374,335	-1,445	2,823	1,838,927	
2024	139,527	2,567	1,377	812,528	2,976	337,345	21,612	188,376	393,974	-1,619	1,627	1,900,291	
Year 2022													
January	23,291	1,778	144	58,734	292	31,282	1,702	6,707	32,672	-73	337	156,865	
February	19,627	438	131	51,382	251	27,552	1,808	7,781	32,824	-111	276	141,960	
March	17,526	222	145	49,110	270	28,768	2,358	10,085	37,718	-103	307	146,406	
April	14,792	154	137	46,169	291	25,037	2,360	11,598	40,541	-101	296	141,274	
May	14,096	149	58	56,228	365	28,345	2,054	13,172	37,838	-82	289	152,501	
June	16,076	192	108	67,698	281	28,807	1,601	14,109	30,941	-129	309	159,993	
July	19,305	311	71	84,262	342	29,969	1,357	13,851	27,894	-146	312	177,519	
August	20,347	295	124	85,697	277	29,976	1,271	12,685	23,314	-145	298	174,141	
September	14,860	210	140	72,435	306	27,919	1,354	11,709	24,739	-105	275	153,744	
October	12,745	228	136	60,642	276	28,860	1,338	10,406	29,126	-64	255	141,947	
November	14,768	190	84	55,774	236	28,430	1,504	7,299	35,838	-97	252	144,278	
December	16,810	1,566	76	62,134	264	30,759	1,966	5,753	34,153	-111	284	153,654	
Year 2023													
January	13,093	166	123	60,766	285	30,363	2,679	6,565	34,358	-122	280	148,554	
February	11,333	444	112	55,594	238	26,526	1,935	7,898	35,759	-97	223	139,965	
March	12,063	191	117	58,519	280	26,730	2,356	10,209	38,364	-130	227	148,927	
April	10,796	191	107	52,576	202	23,088	2,336	12,968	36,407	-99	217	138,789	
May	10,816	186	143	58,727	308	26,596	2,196	14,853	28,754	-123	270	142,728	
June	11,172	149	114	71,301	273	27,814	1,505	15,445	25,822	-132	252	153,716	
July	15,778	243	140	90,386	305	29,910	2,075	16,463	26,509	-137	240	181,912	
August	15,990	183	138	88,699	333	29,679	2,037	15,347	26,048	-154	239	178,539	
September	12,872	200	132	75,669	289	27,985	1,589	13,534	25,576	-137	195	157,903	
October	11,746	255	98	63,236	249	26,895	1,443	12,176	31,570	-78	214	147,803	
November	13,493	193	59	62,888	262	27,538	1,507	8,985	31,544	-102	228	146,593	
December	13,087	173	130	65,586	316	30,357	2,205	7,916	33,623	-135	238	153,496	
Year 2024													
January	16,710	399	133	71,562	292	29,990	2,431	8,246	30,935	-127	217	160,788	
February	8,956	112	98	57,404	244	27,983	2,191	10,482	35,573	-135	197	143,102	
March	7,068	144	138	56,708	227	27,389	2,633	13,514	38,488	-135	177	146,350	
April	8,579	187	117	52,269	256	25,389	2,599	16,111	39,662	-107	143	145,205	
May	9,925	174	128	60,666	210	28,151	2,286	18,942	34,139	-140	165	154,645	
June	12,231	203	112	72,845	291	29,285	1,613	21,114	33,890	-140	115	171,560	
July	14,966	267	135	89,542	265	29,453	1,627	21,195	26,131	-167	127	183,541	
August	14,696	194	131	87,422	224	29,768	1,731	21,125	26,541	-160	114	181,787	
September	11,422	148	75	73,993	264	27,353	988	17,902	25,655	-136	102	157,765	
October	11,001	173	72	64,449	246	24,952	896	17,185	33,735	-111	69	152,666	
November	10,232	170	112	59,828	217	26,676	885	11,879	34,944	-138	107	144,913	
December	13,742	396	127	65,840	238	30,956	1,733	10,681	34,281	-123	96	157,968	

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.
 Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.
 Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.
 Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.
 See the Technical Notes for fuel conversion factors.
 Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.
 Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.
 Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.
 See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.
 Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.
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 Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.
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Table 3.3.B. Net Generation from Renewable Sources: Independent Power Producers, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Total Renewable Generation at Utility Scale Facilities	Small Scale Generation		Generation From Utility and Small Scale Facilities		
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Estimated Solar Photovoltaic		Estimated Total Solar Photovoltaic	Estimated Total Solar			
Annual Totals																
2014	153,825	13,769	2,317	11,977	9,062	5,838	1,261	14,761	19,861	232,670	0	13,769	16,086			
2015	160,135	19,841	3,121	11,545	9,202	5,806	1,342	14,829	17,996	243,816	0	19,841	22,962			
2016	191,720	30,194	3,308	10,382	9,255	5,965	1,466	14,746	18,539	285,594	0	30,194	33,502			
2017	217,006	46,128	3,248	10,416	9,505	5,652	1,479	14,905	23,034	331,372	0	46,128	49,376			
2018	233,931	54,796	3,540	10,021	9,162	5,891	1,226	14,924	23,812	357,303	0	54,796	58,337			
2019	251,968	61,290	3,190	9,237	8,739	5,096	1,043	14,260	24,288	379,111	0	61,290	64,480			
2020	281,599	75,464	3,103	9,135	8,417	5,117	839	14,526	19,409	417,609	0	75,464	78,567			
2021	307,579	97,717	2,895	9,101	7,717	5,019	900	14,466	21,702	467,098	0	97,717	100,612			
2022	353,032	122,184	2,971	8,739	7,077	2,904	776	15,061	20,673	533,418	0	122,184	125,155			
2023	340,780	139,513	2,847	7,637	6,646	2,858	828	15,596	23,862	540,557	0	139,513	142,360			
2024	362,616	165,257	3,118	7,218	6,161	2,734	752	14,493	21,612	603,962	0	165,257	188,376			
Year 2022																
January	29,596	6,583	124	760	613	259	70	1,374	1,702	41,080	0	6,583	6,707			
February	30,076	7,624	157	727	578	217	69	1,157	1,808	42,413	0	7,624	7,781			
March	34,827	9,832	253	740	639	237	67	1,208	2,358	50,161	0	9,832	10,085			
April	37,831	11,279	319	643	586	232	53	1,195	2,360	54,499	0	11,279	11,598			
May	35,040	12,805	367	675	601	237	47	1,238	2,054	53,064	0	12,805	13,172			
June	28,081	13,740	369	755	590	251	71	1,192	1,601	46,650	0	13,740	14,109			
July	24,872	13,565	286	823	600	260	74	1,255	1,357	43,092	0	13,565	13,851			
August	20,341	12,409	277	797	585	254	71	1,266	1,272	37,271	0	12,409	12,685			
September	21,896	11,426	283	730	567	241	63	1,243	1,354	37,803	0	11,426	11,709			
October	26,369	10,117	289	648	593	232	69	1,216	1,338	40,870	0	10,117	10,406			
November	32,961	7,150	149	709	565	231	54	1,318	1,504	44,641	0	7,150	7,299			
December	31,142	5,654	99	732	560	254	66	1,399	1,966	41,872	0	5,654	5,753			
Year 2023																
January	31,400	6,481	84	715	581	254	66	1,341	2,879	43,601	0	6,481	6,565			
February	33,123	7,790	109	600	513	227	76	1,219	1,935	45,592	0	7,790	7,898			
March	35,432	10,056	154	691	557	242	59	1,382	2,356	50,929	0	10,056	10,209			
April	33,788	12,673	295	554	517	210	59	1,279	2,336	51,712	0	12,673	12,968			
May	25,915	14,554	300	660	582	246	62	1,289	2,196	45,803	0	14,554	14,853			
June	23,074	15,080	365	630	557	243	61	1,257	1,505	42,772	0	15,080	15,445			
July	23,717	16,083	380	696	565	252	66	1,214	2,075	45,047	0	16,083	16,463			
August	23,260	15,038	309	715	570	246	73	1,184	2,037	43,433	0	15,038	15,347			
September	22,895	13,241	293	604	528	221	72	1,255	1,589	40,699	0	13,241	13,534			
October	28,858	11,889	287	501	549	231	71	1,361	1,443	45,189	0	11,889	12,176			
November	28,701	8,818	166	613	546	235	67	1,382	1,507	42,036	0	8,818	8,985			
December	30,617	7,810	106	657	580	251	96	1,422	2,205	43,744	0	7,810	7,916			
Year 2024																
January	28,077	8,167	79	681	541	233	67	1,337	2,431	41,613	0	8,167	8,246			
February	32,931	10,362	119	616	506	213	63	1,244	2,191	48,245	0	10,362	10,482			
March	35,727	13,293	221	662	535	218	52	1,295	2,833	54,635	0	13,293	13,514			
April	37,272	15,779	332	448	491	203	43	1,204	2,599	58,372	0	15,779	16,111			
May	31,588	18,528	414	566	540	230	52	1,163	2,286	55,367	0	18,528	18,942			
June	31,372	20,700	414	604	502	223	64	1,124	1,613	56,617	0	20,700	21,114			
July	23,506	20,834	361	658	525	244	58	1,141	1,627	48,953	0	20,834	21,195			
August	23,875	20,771	354	666	538	242	70	1,151	1,731	49,397	0	20,771	21,125			
September	23,091	17,567	335	632	506	228	69	1,128	988	44,545	0	17,567	17,902			
October	31,270	16,952	233	479	508	225	75	1,178	896	51,816	0	16,952	17,185			
November	32,367	11,743	136	569	479	238	63	1,227	885	47,708	0	11,743	11,879			
December	31,540	10,561	120	636	491	236	75	1,302	1,733	46,695	0	10,561	10,681			

Wood and Wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Waste Biomass includes sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. N/A=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

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Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.4.A. Net Generation by Energy Source: Commercial Sector, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities											Small Scale Generation		Net Generation From Utility and Small Scale Facilities	
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other	Total Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals															
2014	595	247	9	7,227	0	0	38	371	2,862	0	1,171	12,520	5,146	5,516	5,516
2015	509	183	8	7,471	0	0	35	416	2,803	0	1,170	12,595	5,689	6,106	6,106
2016	383	77	6	7,730	0	0	217	529	2,697	0	1,068	12,706	6,158	6,687	6,687
2017	329	103	8	8,042	0	0	240	521	2,729	0	1,068	13,060	7,685	8,206	8,206
2018	303	132	7	8,419	0	0	227	525	2,688	0	1,010	13,312	9,798	10,324	10,324
2019	268	116	5	8,610	0	0	188	587	2,840	0	1,076	13,689	11,002	11,588	11,588
2020	240	97	2	8,110	0	0	214	586	2,761	0	1,035	13,046	12,859	13,445	13,445
2021	280	94	4	7,346	0	0	258	598	2,978	0	1,209	12,768	15,124	15,722	15,722
2022	287	101	10	7,830	0	0	263	669	4,185	0	3,391	16,737	17,724	18,393	18,393
2023	220	76	2	7,744	0	0	293	615	3,930	0	3,185	16,066	19,751	20,366	20,366
2024	204	12	4	7,157	0	0	311	566	3,875	0	3,130	15,258	21,652	22,218	22,218
Year 2022															
January	29	23	1	655	0	0	24	358	358	0	276	1,403	1,012	1,048	1,048
February	19	6	1	563	0	0	21	42	324	0	254	1,232	1,116	1,158	1,158
March	18	5	1	606	0	0	24	56	346	0	271	1,328	1,521	1,576	1,576
April	13	6	1	559	0	0	21	66	349	0	295	1,308	1,662	1,728	1,728
May	10	6	1	611	0	0	26	71	358	0	298	1,381	1,816	1,887	1,887
June	27	8	1	672	0	0	27	74	354	0	291	1,455	1,819	1,893	1,893
July	26	7	1	807	0	0	26	72	359	0	294	1,592	1,894	1,966	1,966
August	29	8	0	822	0	0	22	69	360	0	286	1,595	1,801	1,871	1,871
September	30	5	0	696	0	0	18	61	335	0	272	1,417	1,608	1,668	1,668
October	28	5	0	571	0	0	15	52	345	0	284	1,300	1,383	1,435	1,435
November	28	6	1	601	0	0	18	40	350	0	286	1,330	1,086	1,126	1,126
December	30	18	1	668	0	0	20	29	347	0	284	1,397	1,007	1,037	1,037
Year 2023															
January	28	9	1	624	0	0	29	28	327	0	270	1,316	1,119	1,147	1,147
February	26	19	0	587	0	0	26	38	290	0	230	1,215	1,234	1,272	1,272
March	20	7	0	611	0	0	30	51	305	0	240	1,264	1,680	1,731	1,731
April	21	4	0	564	0	0	30	67	295	0	234	1,214	1,855	1,923	1,923
May	17	5	0	594	0	0	26	71	333	0	271	1,317	2,023	2,095	2,095
June	9	4	0	660	0	0	19	66	343	0	281	1,381	2,011	2,077	2,077
July	12	5	0	784	0	0	24	70	346	0	289	1,529	2,087	2,156	2,156
August	12	4	0	746	0	0	24	62	346	0	277	1,471	2,010	2,072	2,072
September	15	4	0	706	0	0	18	53	317	0	257	1,370	1,796	1,849	1,849
October	18	5	0	627	0	0	23	46	332	0	271	1,323	1,558	1,604	1,604
November	18	5	0	609	0	0	22	37	340	0	277	1,308	1,225	1,262	1,262
December	23	6	1	633	0	0	23	25	358	0	288	1,358	1,153	1,178	1,178
Year 2024															
January	34	0	1	620	0	0	30	23	346	0	278	1,330	1,218	1,241	1,241
February	23	-1	0	567	0	0	28	34	305	0	247	1,204	1,386	1,420	1,420
March	19	2	0	565	0	0	31	48	313	0	243	1,221	1,821	1,869	1,869
April	15	3	0	533	0	0	30	56	305	0	245	1,187	2,007	2,063	2,063
May	7	0	1	525	0	0	32	64	338	0	278	1,245	2,216	2,280	2,280
June	10	6	1	613	0	0	23	67	323	0	264	1,308	2,213	2,280	2,280
July	14	-1	0	728	0	0	24	63	335	0	270	1,435	2,297	2,360	2,360
August	15	0	0	699	0	0	23	61	330	0	280	1,409	2,204	2,265	2,265
September	16	-1	0	602	0	0	20	48	316	0	255	1,257	1,969	2,018	2,018
October	14	-2	0	563	0	0	21	46	315	0	258	1,215	1,709	1,755	1,755
November	17	2	0	563	0	0	23	31	321	0	254	1,210	1,336	1,367	1,367
December	19	1	1	580	0	0	25	25	328	0	259	1,238	1,276	1,300	1,300

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.

Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

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Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

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Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.4.B. Net Generation from Renewable Sources: Commercial Sector, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2014	107	371	0	74	905	1,202	575	0	38	3,271	5,146	5,516	5,516
2015	118	416	0	48	847	1,199	592	0	35	3,255	5,689	6,106	6,106
2016	131	529	0	69	753	1,093	649	0	217	3,443	6,158	6,687	6,687
2017	144	521	0	70	753	1,114	648	0	240	3,490	7,685	8,206	8,206
2018	174	525	0	77	703	1,038	664	33	227	3,441	9,798	10,324	10,324
2019	179	587	0	90	626	869	634	442	188	3,615	11,002	11,588	11,588
2020	166	586	0	91	657	832	565	449	214	3,561	12,859	13,445	13,445
2021	166	598	0	153	612	973	571	502	258	3,834	15,124	15,722	15,722
2022	173	669	0	175	517	2,761	560	0	263	5,118	17,724	18,393	18,393
2023	130	615	0	107	509	2,595	589	0	293	4,838	19,751	20,366	20,366
2024	133	566	0	111	459	2,554	617	0	311	4,752	21,652	22,218	22,218
Year 2022													
January	18	36	0	15	48	225	52	0	24	418	1,012	1,048	1,048
February	17	42	0	14	42	206	43	0	21	388	1,116	1,158	1,158
March	19	56	0	10	46	221	50	0	24	426	1,521	1,576	1,576
April	19	66	0	11	35	240	44	0	21	435	1,662	1,728	1,728
May	16	71	0	17	40	243	43	0	26	455	1,816	1,887	1,887
June	13	74	0	20	42	237	43	0	27	456	1,819	1,893	1,893
July	9	72	0	18	45	240	47	0	26	457	1,894	1,966	1,966
August	7	69	0	27	46	233	47	0	22	451	1,801	1,871	1,871
September	10	61	0	12	45	221	47	0	18	414	1,608	1,668	1,668
October	13	52	0	6	45	231	50	0	15	412	1,383	1,435	1,435
November	18	40	0	11	41	233	47	0	18	408	1,086	1,126	1,126
December	15	29	0	12	43	231	46	0	20	396	1,007	1,037	1,037
Year 2023													
January	13	28	0	11	44	220	39	0	29	384	1,119	1,147	1,147
February	15	38	0	7	40	187	41	0	26	353	1,234	1,272	1,272
March	16	51	0	7	42	196	44	0	30	386	1,680	1,731	1,731
April	16	67	0	5	42	191	41	0	30	392	1,855	1,923	1,923
May	13	71	0	3	41	221	55	0	26	430	2,023	2,095	2,095
June	7	66	0	11	42	229	54	0	19	428	2,011	2,077	2,077
July	4	70	0	10	44	236	52	0	24	439	2,087	2,156	2,156
August	6	62	0	14	46	225	54	0	24	432	2,010	2,072	2,072
September	7	53	0	12	43	209	45	0	18	388	1,796	1,849	1,849
October	9	46	0	8	39	221	55	0	23	402	1,558	1,604	1,604
November	11	37	0	9	42	226	52	0	22	398	1,225	1,262	1,262
December	12	25	0	11	44	235	55	0	23	406	1,153	1,178	1,178
Year 2024													
January	10	23	0	16	41	226	53	0	30	398	1,218	1,241	1,241
February	10	34	0	6	38	201	50	0	28	367	1,386	1,420	1,420
March	14	48	0	4	40	199	56	0	31	392	1,821	1,869	1,869
April	16	56	0	0	36	200	52	0	30	392	2,007	2,063	2,063
May	13	64	0	5	39	227	55	0	32	434	2,216	2,280	2,280
June	12	67	0	10	35	215	52	0	23	413	2,213	2,280	2,280
July	8	63	0	18	38	220	51	0	24	423	2,297	2,360	2,360
August	8	61	0	10	39	228	45	0	23	415	2,204	2,265	2,265
September	9	48	0	14	37	208	47	0	20	384	1,969	2,018	2,018
October	9	46	0	6	38	211	51	0	21	382	1,709	1,755	1,755
November	11	31	0	12	39	207	52	0	23	374	1,336	1,367	1,367
December	13	25	0	10	40	212	54	0	25	378	1,276	1,300	1,300

Wood and Wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Waste Biomass includes sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NI=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

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Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.5.A. Net Generation by Energy Source: Industrial Sector, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities											Small Scale Generation	Net Generation From Utility and Small Scale Facilities		
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other	Total Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals															
2014	12,341	544	1,389	86,209	8,664	0	1,282	16	28,659	0	4,978	144,083	1,139	1,156	1,156
2015	10,896	563	990	83,355	9,401	0	1,410	21	28,614	0	5,462	145,712	1,451	1,472	1,472
2016	9,103	503	909	91,197	8,895	0	1,269	27	28,663	0	5,324	145,890	2,060	2,087	2,087
2017	7,669	463	776	91,647	8,343	0	1,382	42	28,508	0	4,928	143,758	2,364	2,406	2,406
2018	7,011	517	640	94,892	9,377	0	1,149	47	28,440	0	4,725	146,798	2,636	2,683	2,683
2019	5,957	424	576	100,065	8,554	0	1,033	85	27,276	0	4,567	148,537	3,041	3,127	3,127
2020	5,451	398	510	96,381	8,644	0	1,001	101	26,348	0	4,231	143,064	3,484	3,586	3,586
2021	5,278	400	367	95,240	8,093	0	936	137	25,324	0	3,975	139,750	3,858	3,994	3,994
2022	5,128	614	379	96,548	8,271	0	899	276	24,226	0	3,702	140,043	4,048	4,324	4,324
2023	4,327	494	273	98,463	8,438	0	844	326	22,130	0	3,369	138,664	4,382	4,708	4,708
2024	4,276	372	302	96,771	7,870	0	810	546	22,675	0	3,127	136,749	4,719	5,265	5,265
Year 2022															
January	445	51	31	8,683	713	0	77	13	2,137	0	359	12,508	230	243	243
February	409	NM	36	7,440	635	0	83	15	1,944	0	319	10,921	244	259	259
March	459	41	30	7,931	683	0	111	21	2,051	0	347	11,673	348	369	369
April	402	42	28	7,350	630	0	102	24	1,986	0	308	10,871	377	401	401
May	461	40	35	7,790	671	0	84	28	2,045	0	332	11,485	413	441	441
June	450	45	29	7,964	706	0	63	32	2,053	0	319	11,661	413	446	446
July	453	48	28	8,667	741	0	53	31	2,152	0	336	12,510	426	458	458
August	453	38	31	8,759	731	0	61	30	2,091	0	303	12,498	411	441	441
September	404	47	29	7,842	680	0	60	26	1,919	0	265	11,272	368	395	395
October	396	43	33	7,903	692	0	51	24	1,828	0	260	11,230	333	357	357
November	372	43	38	8,144	675	0	62	18	1,998	0	287	11,835	256	273	273
December	425	137	31	8,075	714	0	92	13	2,023	0	270	11,779	229	242	242
Year 2023															
January	414	59	32	8,052	660	0	85	16	1,989	0	290	11,597	244	260	260
February	354	50	25	7,582	654	0	86	18	1,753	0	281	10,803	259	277	277
March	343	48	31	8,127	748	0	104	24	1,916	0	276	11,616	370	395	395
April	334	39	17	7,021	665	0	87	34	1,725	0	252	10,176	408	442	442
May	359	32	20	7,791	703	0	84	35	1,882	0	273	11,180	447	481	481
June	362	38	18	8,433	701	0	69	35	1,751	0	253	11,660	446	481	481
July	387	38	27	8,854	741	0	69	37	1,813	0	292	12,255	461	497	497
August	366	38	23	8,930	755	0	57	34	1,918	0	290	12,410	444	478	478
September	358	36	19	8,511	694	0	46	30	1,789	0	276	11,760	400	429	429
October	340	36	20	8,171	675	0	40	26	1,747	0	304	11,358	363	389	389
November	340	38	21	8,293	697	0	45	21	1,875	0	293	11,622	286	307	307
December	370	41	20	8,699	746	0	72	17	1,971	0	290	12,226	254	271	271
Year 2024															
January	383	42	27	8,925	782	0	88	23	1,936	0	273	12,477	268	290	290
February	346	39	28	7,860	687	0	89	32	1,849	0	250	11,181	296	329	329
March	380	29	30	7,853	655	0	89	43	1,935	0	249	11,263	406	449	449
April	293	32	24	7,687	657	0	89	52	1,849	0	242	10,925	440	492	492
May	341	27	22	7,834	680	0	85	62	1,904	0	268	11,224	478	540	540
June	348	29	23	7,795	649	0	58	62	1,866	0	291	11,122	476	539	539
July	388	30	32	8,475	684	0	48	61	1,939	0	302	11,960	490	551	551
August	371	28	23	8,914	687	0	51	59	1,958	0	264	12,354	473	532	532
September	346	27	19	8,027	572	0	36	52	1,835	0	240	11,154	433	485	485
October	344	30	22	7,330	555	0	62	44	1,736	0	217	10,338	390	433	433
November	352	28	23	7,595	583	0	51	31	1,922	0	267	10,852	303	334	334
December	385	32	29	8,476	681	0	63	25	1,946	0	283	11,900	267	282	282

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind.

Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report;

Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.5.B. Net Generation from Renewable Sources: Industrial Sector, 2014 - 2024
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2014	53	16	0	27,239	185	-2	1,185	0	1,282	29,957	1,139	1,156	1,156
2015	53	21	0	27,318	182	12	1,049	0	1,410	30,045	1,451	1,472	1,472
2016	71	27	0	27,458	170	6	959	0	1,269	29,960	2,060	2,087	2,087
2017	84	42	0	27,412	183	1	827	0	1,382	29,932	2,364	2,406	2,406
2018	97	47	0	27,475	168	4	697	0	1,149	29,636	2,636	2,683	2,683
2019	100	85	0	26,433	139	5	598	0	1,033	28,395	3,041	3,127	3,127
2020	617	101	0	24,916	133	5	676	0	1,001	27,450	3,484	3,586	3,586
2021	112	137	0	24,413	119	1	680	0	936	26,397	3,858	3,994	3,994
2022	130	276	0	23,289	128	0	678	0	899	25,401	4,048	4,324	4,324
2023	112	326	0	21,320	127	0	571	0	844	23,300	4,382	4,708	4,708
2024	99	546	0	21,800	123	0	652	0	810	24,031	4,719	5,265	5,265
Year 2022													
January	12	13	0	2,049	10	0	65	0	77	2,226	230	243	243
February	14	15	0	1,864	10	0	57	0	83	2,042	244	259	259
March	15	21	0	1,960	11	0	66	0	111	2,183	348	369	369
April	14	24	0	1,901	10	0	62	0	102	2,112	377	401	401
May	12	28	0	1,961	10	0	62	0	84	2,157	413	441	441
June	8	32	0	1,988	11	0	46	0	63	2,148	413	446	446
July	7	31	0	2,088	11	0	46	0	53	2,236	426	458	458
August	5	30	0	2,022	11	0	52	0	61	2,182	411	441	441
September	6	26	0	1,860	11	0	42	0	60	2,006	368	395	395
October	11	24	0	1,748	11	0	58	0	51	1,904	333	357	357
November	14	18	0	1,914	10	0	59	0	62	2,077	256	273	273
December	12	13	0	1,936	12	0	64	0	92	2,127	229	242	242
Year 2023													
January	11	16	0	1,914	10	0	54	0	85	2,091	244	260	260
February	13	18	0	1,680	11	0	48	0	86	1,858	259	277	277
March	13	24	0	1,838	13	0	52	0	104	2,044	370	395	395
April	11	34	0	1,655	11	0	48	0	87	1,846	408	442	442
May	9	35	0	1,811	10	0	52	0	84	2,001	447	481	481
June	7	35	0	1,693	11	0	40	0	69	1,855	446	481	481
July	5	37	0	1,758	10	0	40	0	69	1,918	461	497	497
August	6	34	0	1,862	10	0	40	0	57	2,009	444	478	478
September	5	30	0	1,741	9	0	34	0	46	1,865	400	429	429
October	10	26	0	1,675	9	0	53	0	40	1,813	363	389	389
November	12	21	0	1,796	10	0	57	0	45	1,941	286	307	307
December	10	17	0	1,896	12	0	52	0	72	2,060	254	271	271
Year 2024													
January	9	23	0	1,854	11	0	61	0	88	2,047	268	290	290
February	5	32	0	1,774	12	0	59	0	89	1,971	296	329	329
March	6	43	0	1,852	12	0	65	0	89	2,067	406	449	449
April	7	52	0	1,775	10	0	57	0	89	1,990	440	492	492
May	7	62	0	1,828	8	0	61	0	85	2,052	478	540	540
June	7	62	0	1,809	9	0	41	0	58	1,986	476	539	539
July	5	61	0	1,878	11	0	45	0	48	2,048	490	551	551
August	5	59	0	1,894	11	0	48	0	51	2,068	473	532	532
September	6	52	0	1,772	10	0	47	0	36	1,923	433	485	485
October	8	44	0	1,662	12	0	54	0	62	1,841	390	433	433
November	17	31	0	1,837	9	0	59	0	51	2,004	303	334	334
December	17	25	0	1,863	9	0	56	0	63	2,034	267	292	292

Wood and Wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Waste Biomass includes sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NI=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report; Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, Form EIA-423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

**Table 3.6. Net Generation by Energy Source: Residential Sector, 2014 - 2024
(Thousand Megawatthours)**

Period	Small Scale Generation
	Estimated Small Scale Solar Photovoltaic Generation
Annual Totals	
2014	4,947
2015	6,999
2016	10,595
2017	13,942
2018	17,105
2019	20,914
2020	25,179
2021	30,182
2022	39,510
2023	49,273
2024	57,547
Year 2022	
January	2,135
February	2,357
March	3,252
April	3,632
May	4,007
June	3,997
July	4,118
August	3,982
September	3,569
October	3,306
November	2,693
December	2,462
Year 2023	
January	2,625
February	2,894
March	3,954
April	4,478
May	5,073
June	4,948
July	5,173
August	5,049
September	4,409
October	4,155
November	3,428
December	3,087
Year 2024	
January	3,240
February	3,659
March	4,885
April	5,385
May	5,845
June	5,863
July	5,991
August	5,735
September	5,108
October	4,638
November	3,754
December	3,442

See Glossary for definitions. Values are final.

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Sources:

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 3.7. Utility Scale Facility Net Generation by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	109,310	102,611	6.5%	1,591	1,658	103,672	96,713	2,060	2,129	1,987	2,110
Connecticut	44,761	40,666	10.1%	134	135	43,782	39,582	189	294	656	655
Maine	14,655	12,512	17.1%	3	5	13,599	11,361	41	47	1,013	1,099
Massachusetts	20,915	19,696	6.2%	547	529	18,493	17,323	1,727	1,673	148	172
New Hampshire	16,942	16,825	0.7%	7	17	16,852	16,719	60	62	23	27
Rhode Island	9,777	10,431	-6.3%	0	0	9,589	10,223	41	50	147	157
Vermont	2,259	2,480	-8.9%	900	973	1,356	1,504	2	2	0	0
Middle Atlantic	430,689	424,194	1.5%	36,583	35,522	385,352	379,475	3,521	3,834	5,233	5,362
New Jersey	60,175	64,229	-6.3%	264	282	58,144	62,260	1,138	1,107	630	580
New York	129,015	124,040	4.0%	36,207	35,157	90,153	85,934	1,798	2,145	857	804
Pennsylvania	241,499	235,925	2.4%	112	84	237,055	231,282	585	581	3,746	3,978
East North Central	614,249	584,213	5.1%	222,905	210,067	379,644	361,790	1,752	1,794	9,948	10,562
Illinois	185,013	177,738	4.1%	4,245	4,104	178,405	170,954	401	435	1,963	2,244
Indiana	97,013	90,047	7.7%	59,952	54,096	32,195	30,705	230	238	4,636	5,007
Michigan	124,200	120,657	2.9%	90,700	88,209	31,495	30,476	721	717	1,284	1,255
Ohio	142,747	133,223	7.1%	15,750	13,608	125,959	118,678	293	273	744	664
Wisconsin	65,276	62,549	4.4%	52,258	50,050	11,589	10,976	108	130	1,321	1,392
West North Central	354,289	351,225	0.9%	254,885	258,247	94,121	88,242	613	590	4,670	4,145
Iowa	70,464	69,837	0.9%	55,445	55,970	12,638	11,744	133	128	2,248	1,994
Kansas	57,696	58,457	-1.3%	30,081	33,224	27,227	24,863	13	13	375	357
Minnesota	58,595	57,277	2.3%	40,859	40,376	16,037	15,431	256	247	1,443	1,222
Missouri	66,876	66,703	0.3%	60,065	59,453	6,578	7,025	192	182	40	43
Nebraska	37,229	39,446	-5.6%	24,876	27,292	12,006	11,830	20	19	327	304
North Dakota	42,557	42,069	1.2%	32,738	32,582	9,648	9,321	0	0	171	166
South Dakota	20,872	17,436	19.7%	10,821	9,350	9,987	8,028	NM	NM	65	58
South Atlantic	835,080	800,717	4.3%	689,706	659,687	126,929	122,815	2,572	2,774	15,873	15,441
Delaware	4,799	4,772	0.6%	73	25	3,561	3,479	5	7	1,161	1,262
District of Columbia	187	172	8.9%	1	3	30	21	156	147	0	0
Florida	266,119	259,798	2.4%	249,531	243,421	12,096	11,636	994	1,097	3,499	3,644
Georgia	139,805	129,222	8.2%	115,578	105,782	19,369	19,110	3	2	4,856	4,327
Maryland	35,425	36,001	-1.6%	2,974	4,431	32,074	31,164	322	346	56	59
North Carolina	134,965	126,553	6.6%	112,771	104,306	20,621	20,481	263	263	1,311	1,504
South Carolina	100,485	100,853	-0.4%	94,347	95,650	4,515	3,717	3	2	1,621	1,485
Virginia	102,699	91,059	12.8%	76,211	68,967	23,450	19,136	828	910	2,210	2,047
West Virginia	50,595	52,287	-3.2%	38,220	37,103	11,214	14,070	0	0	1,161	1,114
East South Central	363,376	353,377	2.8%	314,219	301,637	39,474	42,486	206	201	9,476	9,053
Alabama	142,921	139,435	2.5%	104,915	97,501	32,981	37,210	0	0	5,025	4,725
Kentucky	66,951	63,217	5.9%	65,646	62,094	793	587	2	1	510	535
Mississippi	77,337	72,933	6.0%	71,679	68,027	3,806	3,004	0	0	1,852	1,902
Tennessee	76,167	77,791	-2.1%	71,980	74,015	1,893	1,685	205	200	2,089	1,892
West South Central	821,737	797,511	3.0%	260,977	246,870	488,572	475,533	703	833	71,666	74,274
Arkansas	61,542	63,196	-2.6%	54,386	57,015	6,096	5,219	50	55	1,010	906
Louisiana	99,623	97,785	1.9%	64,884	60,863	6,997	7,028	58	92	27,683	29,802
Oklahoma	94,069	89,236	5.4%	46,638	43,593	46,589	44,864	-6	-18	849	796
Texas	566,503	547,295	3.5%	94,889	85,398	428,890	418,422	601	704	42,123	42,771
Mountain	382,802	372,230	2.8%	258,581	258,965	120,408	109,550	620	614	3,193	3,101
Arizona	116,027	111,839	3.7%	86,749	86,637	29,091	25,017	153	151	34	34
Colorado	58,798	57,542	2.2%	37,598	39,336	20,931	17,962	22	24	248	220
Idaho	20,035	17,842	12.3%	13,475	11,701	5,954	5,527	77	70	529	544
Montana	26,873	26,896	-0.1%	11,663	10,516	15,183	16,354	0	0	26	26
Nevada	45,528	42,164	8.0%	26,478	25,302	18,460	16,249	110	111	481	502
New Mexico	39,697	39,269	1.1%	20,683	20,503	18,836	18,592	110	107	69	67
Utah	35,134	33,497	4.9%	27,900	27,811	6,735	5,332	150	150	349	203
Wyoming	40,709	43,181	-5.7%	34,035	37,159	5,217	4,517	0	0	1,457	1,505
Pacific Contiguous	381,250	381,281	0.0%	205,473	205,332	158,927	159,101	2,469	2,579	14,382	14,269
California	214,191	216,629	-1.1%	75,922	77,633	124,107	124,804	2,372	2,504	11,791	11,688
Oregon	64,661	61,692	4.8%	41,616	40,869	22,209	20,119	80	67	756	637
Washington	102,398	102,961	-0.5%	87,935	86,831	12,611	14,177	17	9	1,835	1,944
Pacific Noncontiguous	15,851	15,912	-0.4%	11,598	11,628	3,193	3,220	740	718	320	346
Alaska	6,691	6,718	-0.4%	6,020	6,023	182	194	395	384	93	117
Hawaii	9,161	9,194	-0.4%	5,577	5,606	3,011	3,027	345	334	228	228
U.S. Total	4,308,634	4,183,270	3.0%	2,256,336	2,189,614	1,900,291	1,838,927	15,258	16,066	136,749	138,664

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells. NM = Not meaningful due to large relative standard error or excessive percentage change. Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923. Negative generation denotes that electric power consumed for plant use exceeds gross generation. Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding. Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.8. Utility Scale Facility Net Generation from Coal by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	254	203	24.8%	0	0	254	203	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	29	43	-32.0%	0	0	29	43	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	224	160	40.2%	0	0	224	160	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	13,042	12,835	1.6%	0	0	12,954	12,745	0	0	88	90
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	13,042	12,835	1.6%	0	0	12,954	12,745	0	0	88	90
East North Central	144,073	144,159	-0.1%	89,438	87,049	53,890	56,070	21	41	723	999
Illinois	26,965	27,150	-0.7%	1,174	1,273	25,124	24,977	10	16	657	884
Indiana	40,526	40,932	-1.0%	37,156	36,822	3,359	4,085	11	25	0	0
Michigan	25,738	23,555	9.3%	25,569	23,349	166	205	0	0	3	0
Ohio	30,080	31,436	-4.3%	4,839	4,632	25,241	26,804	0	0	0	0
Wisconsin	20,763	21,087	-1.5%	20,700	20,972	0	0	0	0	64	114
West North Central	118,904	127,850	-7.0%	116,882	125,969	0	0	13	14	2,009	1,866
Iowa	14,464	16,414	-11.9%	13,030	15,121	0	0	2	7	1,432	1,286
Kansas	13,079	16,291	-19.7%	13,079	16,291	0	0	0	0	0	0
Minnesota	11,430	12,794	-10.7%	11,279	12,641	0	0	6	5	145	148
Missouri	38,832	40,347	-3.8%	38,826	40,345	0	0	6	2	0	0
Nebraska	16,352	17,916	-8.7%	16,050	17,618	0	0	0	0	302	298
North Dakota	23,183	22,525	2.9%	23,054	22,390	0	0	0	0	129	135
South Dakota	1,563	1,563	0.0%	1,563	1,563	0	0	0	0	0	0
South Atlantic	107,283	105,731	1.5%	98,187	94,578	8,778	10,830	21	11	297	312
Delaware	144	-6	NM	0	0	144	-6	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	7,846	11,691	-32.9%	7,827	11,665	0	0	0	0	19	27
Georgia	17,837	16,769	6.4%	17,716	16,664	0	0	0	0	121	105
Maryland	2,466	1,709	44.3%	0	0	2,466	1,709	0	0	0	0
North Carolina	17,079	14,205	20.2%	17,025	14,126	0	0	21	11	33	68
South Carolina	16,842	15,150	11.2%	16,829	15,066	0	62	0	0	13	22
Virginia	1,972	1,415	39.4%	1,860	1,325	0	0	0	0	113	90
West Virginia	43,098	44,798	-3.8%	36,929	35,732	6,169	9,065	0	0	0	0
East South Central	86,534	82,459	4.9%	84,194	79,522	1,868	2,538	0	0	473	399
Alabama	20,936	19,182	9.1%	20,936	19,182	0	0	0	0	0	0
Kentucky	44,829	43,447	3.2%	44,829	43,447	0	0	0	0	0	0
Mississippi	3,334	4,037	-17.4%	1,466	1,499	1,868	2,538	0	0	0	0
Tennessee	17,435	15,793	10.4%	16,962	15,394	0	0	0	0	473	399
West South Central	91,041	98,491	-7.6%	43,970	46,458	46,989	51,981	0	0	83	52
Arkansas	15,660	16,844	-7.0%	12,515	13,440	3,113	3,371	0	0	32	33
Louisiana	3,700	4,834	-23.5%	2,920	3,483	780	1,350	0	0	0	0
Oklahoma	6,135	5,199	18.0%	6,085	5,180	0	0	0	0	50	19
Texas	65,545	71,615	-8.5%	22,450	24,355	43,095	47,260	0	0	0	0
Mountain	87,181	98,285	-11.3%	74,997	84,321	11,849	13,588	0	0	335	376
Arizona	9,815	12,069	-18.7%	9,815	12,069	0	0	0	0	0	0
Colorado	16,478	18,788	-12.3%	16,478	18,788	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	9,785	11,553	-15.3%	0	0	9,781	11,548	0	0	5	5
Nevada	2,323	2,060	12.8%	1,160	975	1,163	1,084	0	0	0	0
New Mexico	8,432	7,372	14.4%	8,432	7,372	0	0	0	0	0	0
Utah	15,967	15,600	2.3%	15,617	15,286	349	314	0	0	0	0
Wyoming	24,382	30,844	-21.0%	23,495	29,831	556	642	0	0	331	371
Pacific Contiguous	3,092	4,371	-29.3%	0	0	2,825	4,138	0	0	268	233
California	246	209	17.6%	0	0	0	0	0	0	246	209
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	2,847	4,163	-31.6%	0	0	2,825	4,138	0	0	22	24
Pacific Noncontiguous	752	731	3.0%	483	434	121	143	148	154	0	0
Alaska	752	731	3.0%	483	434	121	143	148	154	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	652,156	675,115	-3.4%	508,149	518,330	139,527	152,238	204	220	4,276	4,327

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 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.9. Utility Scale Facility Net Generation from Petroleum Liquids by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	314	390	-19.5%	43	34	292	316	-35	22	14	18
Connecticut	20	124	-84.3%	4	5	75	115	-62	1	2	3
Maine	60	67	-11.0%	0	0	47	53	0	0	12	14
Massachusetts	177	97	81.3%	36	27	127	63	15	7	-1	1
New Hampshire	47	68	-31.4%	0	0	36	56	11	12	0	0
Rhode Island	8	31	-72.7%	0	0	7	29	NM	NM	0	0
Vermont	3	3	18.1%	3	3	0	0	0	0	0	0
Middle Atlantic	430	504	-14.6%	155	126	249	339	13	22	14	18
New Jersey	31	42	-26.7%	0	0	30	40	1	1	0	0
New York	313	413	-24.3%	152	125	145	259	9	15	7	13
Pennsylvania	87	49	77.6%	3	1	74	39	3	5	7	4
East North Central	433	383	13.3%	294	248	127	122	2	1	11	11
Illinois	21	26	-21.1%	6	6	15	20	0	0	0	0
Indiana	120	97	24.1%	119	90	0	6	1	0	0	1
Michigan	87	97	-10.0%	84	92	0	0	NM	0	3	5
Ohio	141	114	23.1%	25	14	112	96	0	1	NM	4
Wisconsin	64	48	33.8%	60	47	0	0	0	0	5	2
West North Central	417	418	-0.3%	409	411	2	2	3	2	3	3
Iowa	43	62	-30.4%	41	60	2	2	1	NM	0	0
Kansas	97	59	65.0%	97	59	0	0	0	0	0	0
Minnesota	21	54	-60.7%	16	50	0	1	2	1	3	3
Missouri	148	132	12.0%	147	132	0	0	0	0	0	0
Nebraska	48	35	36.2%	48	35	0	0	0	0	0	0
North Dakota	44	53	-17.9%	43	53	0	0	0	0	0	0
South Dakota	16	23	-30.8%	16	23	0	0	NM	NM	0	0
South Atlantic	1,135	942	20.5%	688	607	345	137	14	17	88	181
Delaware	18	-2	NM	0	1	18	-3	0	0	0	0
District of Columbia	0	0	-35.1%	0	0	0	0	0	0	0	0
Florida	168	220	-23.8%	158	204	5	10	0	0	5	6
Georgia	145	182	-20.5%	49	29	32	5	1	1	63	147
Maryland	212	64	229.3%	-2	-2	213	66	NM	0	0	NM
North Carolina	157	84	87.1%	127	62	21	6	3	1	6	15
South Carolina	106	96	9.8%	95	86	2	3	0	0	8	7
Virginia	205	135	52.1%	136	66	54	49	9	14	5	6
West Virginia	125	163	-23.4%	125	161	0	2	0	0	0	0
East South Central	200	195	2.8%	187	181	NM	0	0	0	13	14
Alabama	12	25	-49.3%	3	13	NM	0	0	0	9	11
Kentucky	58	61	-5.1%	58	61	0	0	0	0	0	0
Mississippi	9	7	21.3%	5	5	0	0	0	0	4	2
Tennessee	121	102	18.7%	121	102	0	0	0	0	0	1
West South Central	263	250	5.2%	147	105	109	141	0	0	6	4
Arkansas	55	45	22.5%	48	34	7	10	0	0	0	0
Louisiana	10	9	4.7%	10	9	0	0	0	0	0	0
Oklahoma	27	20	36.6%	24	18	0	0	0	0	3	2
Texas	171	176	-2.7%	66	43	102	131	0	0	4	3
Mountain	177	172	3.0%	158	157	19	14	0	0	0	0
Arizona	30	32	-5.2%	30	32	0	0	0	0	0	0
Colorado	42	48	-12.2%	39	47	3	0	0	0	0	0
Idaho	0	0	-63.5%	0	0	0	0	0	0	0	0
Montana	19	10	96.5%	6	0	13	10	0	0	0	0
Nevada	6	8	-27.9%	4	6	1	2	0	0	0	0
New Mexico	1	1	-46.7%	1	1	0	0	0	0	0	0
Utah	33	29	14.1%	32	27	1	2	0	0	0	0
Wyoming	46	44	4.8%	46	44	0	0	0	0	0	0
Pacific Contiguous	113	99	14.2%	80	47	13	11	9	5	11	35
California	57	75	-24.6%	33	32	6	6	8	5	10	32
Oregon	13	0	NM	13	0	0	0	0	0	0	0
Washington	43	24	82.6%	34	15	7	5	0	0	2	3
Pacific Noncontiguous	7,973	8,045	-0.9%	6,344	6,338	1,412	1,491	6	6	212	209
Alaska	919	885	3.8%	866	835	0	0	2	2	51	48
Hawaii	7,054	7,159	-1.5%	5,477	5,503	1,412	1,491	4	5	161	161
U.S. Total	11,456	11,397	0.5%	8,504	8,254	2,567	2,573	12	76	372	494

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 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.10. Utility Scale Facility Net Generation from Petroleum Coke by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	0	0	--	0	0	0	0	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0	0	0	0	0
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	0	--	0	0	0	0	0	0	0	0
East North Central	2,411	2,235	7.9%	1,263	1,141	1,001	934	0	0	147	160
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	1,406	1,257	11.9%	1,260	1,098	0	0	0	0	146	159
Ohio	1,002	935	7.1%	0	0	1,001	934	0	0	1	1
Wisconsin	3	43	-92.8%	3	43	0	0	0	0	0	0
West North Central	5	2	129.7%	0	0	0	0	4	2	1	0
Iowa	5	2	129.7%	0	0	0	0	4	2	1	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	743	1,036	-28.3%	646	982	0	0	0	0	96	54
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	646	982	-34.2%	646	982	0	0	0	0	0	0
Georgia	96	54	78.2%	0	0	0	0	0	0	96	54
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	0	0	--	0	0	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	0	0	-100.0%	0	0	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	-100.0%	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	0	0	--	0	0	0	0	0	0	0	0
West South Central	95	1,082	-91.2%	37	1,023	0	0	0	0	58	59
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	37	1,023	-96.4%	37	1,023	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	58	59	-1.3%	0	0	0	0	0	0	58	59
Mountain	375	481	-22.0%	0	0	375	481	0	0	0	0
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	375	481	-22.0%	0	0	375	481	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	0	0	--	0	0	0	0	0	0	0	0
California	0	0	--	0	0	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	3,629	4,836	-25.0%	1,946	3,146	1,377	1,415	4	2	302	273

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 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.11. Utility Scale Facility Net Generation from Natural Gas by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	61,851	57,482	7.6%	273	176	59,384	55,017	1,079	1,056	1,115	1,233
Connecticut	26,036	24,952	4.3%	96	91	25,041	23,925	245	289	654	648
Maine	6,399	3,975	61.0%	0	0	6,222	3,710	31	31	146	234
Massachusetts	16,203	14,774	9.7%	176	84	15,126	13,843	757	680	145	167
New Hampshire	4,421	4,226	4.6%	0	0	4,385	4,186	13	13	23	27
Rhode Island	8,791	9,554	-8.0%	0	0	8,611	9,354	33	43	147	157
Vermont	1	1	-15.5%	1	0	0	0	1	1	0	0
Middle Atlantic	235,907	230,740	2.2%	13,124	11,855	218,219	213,752	715	1,159	3,848	3,973
New Jersey	29,649	33,056	-10.3%	137	156	28,852	32,244	252	236	408	420
New York	62,346	58,428	6.7%	12,962	11,682	48,442	45,417	316	757	626	573
Pennsylvania	143,913	139,256	3.3%	26	18	140,925	136,092	148	167	2,814	2,980
East North Central	237,114	221,688	7.0%	90,219	81,915	140,722	133,424	1,539	1,563	4,633	4,785
Illinois	30,137	28,445	6.0%	2,934	2,667	25,932	24,515	384	417	888	846
Indiana	39,860	34,849	14.4%	20,021	15,593	17,588	16,841	209	205	2,042	2,210
Michigan	55,734	54,068	3.1%	31,349	30,333	23,227	22,550	623	623	535	562
Ohio	85,137	78,705	8.2%	10,584	8,659	73,975	69,518	274	258	304	269
Wisconsin	26,246	25,621	2.4%	25,331	24,664	0	0	50	60	865	898
West North Central	46,155	44,054	4.8%	36,833	34,798	7,276	7,448	362	356	1,683	1,451
Iowa	9,765	10,241	-4.7%	8,911	9,494	0	0	118	111	736	637
Kansas	5,318	4,369	21.7%	4,960	4,027	0	0	0	0	358	342
Minnesota	15,889	13,824	14.9%	10,338	8,770	4,983	4,574	99	103	468	376
Missouri	9,100	9,260	-1.7%	6,631	6,205	2,293	2,874	139	140	37	40
Nebraska	1,381	1,411	-2.1%	1,349	1,403	0	0	7	2	25	6
North Dakota	2,442	2,833	-13.8%	2,428	2,826	0	0	0	0	14	8
South Dakota	2,261	2,116	6.9%	2,216	2,074	0	0	0	0	45	42
South Atlantic	422,751	406,806	3.9%	355,485	341,918	61,581	59,136	682	666	5,004	5,086
Delaware	4,206	4,383	-4.0%	66	17	3,221	3,289	0	0	919	1,077
District of Columbia	100	89	11.6%	0	0	0	0	100	89	0	0
Florida	204,507	197,191	3.7%	193,943	186,966	9,087	8,709	119	105	1,358	1,411
Georgia	56,937	60,044	-5.2%	47,168	48,880	8,870	10,397	0	0	899	768
Maryland	13,910	15,336	-9.3%	2,968	4,425	10,577	10,530	309	322	56	59
North Carolina	55,503	51,788	7.2%	47,078	43,156	8,170	8,336	128	135	127	160
South Carolina	22,809	23,691	-3.7%	21,485	23,115	1,192	429	0	0	131	148
Virginia	60,998	50,605	20.5%	42,271	34,878	17,861	14,884	25	15	840	827
West Virginia	3,782	3,680	2.8%	506	483	2,604	2,562	0	0	673	635
East South Central	158,375	147,135	7.6%	122,093	107,051	32,309	36,456	201	196	3,772	3,432
Alabama	64,599	61,848	4.4%	31,054	24,273	31,766	35,992	0	0	1,779	1,584
Kentucky	17,267	15,090	14.4%	16,518	14,426	535	457	0	0	214	206
Mississippi	60,026	55,168	8.8%	59,444	54,592	NM	7	0	0	574	568
Tennessee	16,483	15,030	9.7%	15,077	13,760	0	0	201	196	1,206	1,074
West South Central	440,925	428,273	3.0%	171,601	158,955	203,800	201,551	656	797	64,868	66,970
Arkansas	24,725	26,487	-6.7%	23,409	25,055	1,081	1,220	33	37	201	175
Louisiana	75,263	74,414	1.1%	47,037	43,877	4,084	4,635	58	92	24,085	25,811
Oklahoma	47,742	45,213	5.6%	32,057	30,195	15,206	14,500	0	-1	479	520
Texas	293,193	282,159	3.9%	69,997	59,829	183,428	181,197	565	669	40,103	40,464
Mountain	134,011	129,519	3.5%	106,822	101,455	24,934	25,928	443	430	1,813	1,707
Arizona	55,090	52,818	4.3%	38,128	36,354	16,825	16,332	137	131	0	0
Colorado	17,927	17,220	4.1%	15,170	14,844	2,582	2,207	5	2	170	167
Idaho	6,285	5,686	10.5%	4,709	3,700	1,373	1,810	40	39	164	137
Montana	995	1,002	-0.6%	808	885	187	116	0	0	1	1
Nevada	24,999	24,599	1.6%	23,380	22,869	1,087	1,176	62	65	471	489
New Mexico	11,648	14,231	-18.2%	8,705	9,881	2,764	4,177	110	105	69	67
Utah	11,640	11,834	-1.6%	11,209	11,490	116	111	89	86	227	148
Wyoming	5,426	2,129	154.8%	4,713	1,431	1	1	0	0	712	698
Pacific Contiguous	129,679	137,183	-5.5%	53,905	54,673	64,303	71,232	1,479	1,521	9,992	9,757
California	86,656	94,390	-8.2%	27,900	28,299	48,343	55,779	1,425	1,484	8,987	8,829
Oregon	24,926	23,385	6.6%	13,284	13,228	11,462	10,011	47	36	133	111
Washington	18,097	19,408	-6.8%	12,721	13,147	4,497	5,442	7	1	872	817
Pacific Noncontiguous	3,134	3,182	-1.5%	3,092	3,113	0	0	0	0	42	69
Alaska	3,134	3,182	-1.5%	3,092	3,113	0	0	0	0	42	69
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	1,869,902	1,806,063	3.5%	953,446	895,910	812,528	803,945	7,157	7,744	96,771	98,463

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.
 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.12. Utility Scale Facility Net Generation from Other Fossil Gas by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	0	0	--	0	0	0	0	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	710	739	-3.9%	0	0	24	30	0	0	686	709
New Jersey	168	161	4.0%	0	0	24	29	0	0	144	132
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	542	578	-6.1%	0	0	0	0	0	0	542	577
East North Central	4,093	4,684	-12.6%	0	0	1,581	2,032	0	0	2,512	2,652
Illinois	177	248	-28.6%	0	0	0	0	0	0	177	248
Indiana	2,114	2,272	-7.0%	0	0	0	0	0	0	2,114	2,272
Michigan	946	1,377	-31.3%	0	0	946	1,377	0	0	0	0
Ohio	856	787	8.7%	0	0	635	655	0	0	221	132
Wisconsin	0	0	--	0	0	0	0	0	0	0	0
West North Central	28	23	17.9%	0	0	0	0	0	0	28	23
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	28	23	17.9%	0	0	0	0	0	0	28	23
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	261	204	27.9%	0	0	0	0	0	0	261	204
Delaware	221	172	28.5%	0	0	0	0	0	0	221	172
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	34.6%	0	0	0	0	0	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	0	0	--	0	0	0	0	0	0	0	0
West Virginia	40	32	24.9%	0	0	0	0	0	0	40	32
East South Central	12	11	6.0%	0	0	0	0	0	0	12	11
Alabama	0	0	-84.2%	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	12	11	6.3%	0	0	0	0	0	0	12	11
West South Central	3,980	4,132	-3.7%	0	0	1,365	1,269	0	0	2,614	2,863
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,448	1,804	-19.8%	0	0	0	0	0	0	1,448	1,804
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	2,532	2,327	8.8%	0	0	1,365	1,269	0	0	1,166	1,059
Mountain	331	365	-9.3%	0	0	5	10	0	0	325	355
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	5	10	-42.9%	0	0	5	10	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	1	3	-51.5%	0	0	0	0	0	0	1	3
Wyoming	324	352	-8.0%	0	0	0	0	0	0	324	352
Pacific Contiguous	1,431	1,620	-11.7%	0	0	0	0	0	0	1,431	1,620
California	1,209	1,382	-12.5%	0	0	0	0	0	0	1,209	1,382
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	223	238	-6.6%	0	0	0	0	0	0	223	238
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	10,845	11,778	-7.9%	0	0	2,976	3,340	0	0	7,870	8,438

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 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.13. Utility Scale Facility Net Generation from Nuclear Energy by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	26,547	23,204	14.4%	0	0	26,547	23,204	0	0	0	0
Connecticut	16,870	13,669	23.4%	0	0	16,870	13,669	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	9,677	9,535	1.5%	0	0	9,677	9,535	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	130,155	131,165	-0.8%	0	0	130,155	131,165	0	0	0	0
New Jersey	27,677	28,335	-2.3%	0	0	27,677	28,335	0	0	0	0
New York	27,073	27,525	-1.6%	0	0	27,073	27,525	0	0	0	0
Pennsylvania	75,404	75,305	0.1%	0	0	75,404	75,305	0	0	0	0
East North Central	153,586	151,445	1.4%	26,281	27,996	127,306	123,449	0	0	0	0
Illinois	99,212	97,559	1.7%	0	0	99,212	97,559	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	26,281	27,996	-6.1%	26,281	27,996	0	0	0	0	0	0
Ohio	17,947	16,207	10.7%	0	0	17,947	16,207	0	0	0	0
Wisconsin	10,147	9,683	4.8%	0	0	10,147	9,683	0	0	0	0
West North Central	37,670	38,331	-1.7%	37,670	38,331	0	0	0	0	0	0
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	9,204	10,302	-10.7%	9,204	10,302	0	0	0	0	0	0
Minnesota	11,845	11,924	-0.7%	11,845	11,924	0	0	0	0	0	0
Missouri	10,526	9,180	14.7%	10,526	9,180	0	0	0	0	0	0
Nebraska	6,096	6,926	-12.0%	6,096	6,926	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	217,819	209,922	3.8%	203,095	194,938	14,724	14,984	0	0	0	0
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	29,054	29,940	-3.0%	29,054	29,940	0	0	0	0	0	0
Georgia	47,976	37,377	28.4%	47,976	37,377	0	0	0	0	0	0
Maryland	14,724	14,984	-1.7%	0	0	14,724	14,984	0	0	0	0
North Carolina	43,349	42,336	2.4%	43,349	42,336	0	0	0	0	0	0
South Carolina	53,770	55,622	-3.3%	53,770	55,622	0	0	0	0	0	0
Virginia	28,945	29,663	-2.4%	28,945	29,663	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	87,327	95,266	-8.3%	87,327	95,266	0	0	0	0	0	0
Alabama	44,487	45,579	-2.4%	44,487	45,579	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	10,653	11,750	-9.3%	10,653	11,750	0	0	0	0	0	0
Tennessee	32,186	37,937	-15.2%	32,186	37,937	0	0	0	0	0	0
West South Central	68,027	67,864	0.2%	29,414	27,184	38,613	40,680	0	0	0	0
Arkansas	14,763	14,972	-1.4%	14,763	14,972	0	0	0	0	0	0
Louisiana	14,652	12,211	20.0%	14,652	12,211	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	38,613	40,680	-5.1%	0	0	38,613	40,680	0	0	0	0
Mountain	32,388	31,523	2.7%	32,388	31,523	0	0	0	0	0	0
Arizona	32,388	31,523	2.7%	32,388	31,523	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	28,346	26,153	8.4%	28,346	26,153	0	0	0	0	0	0
California	18,379	17,718	3.7%	18,379	17,718	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	9,967	8,435	18.2%	9,967	8,435	0	0	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	781,865	774,873	0.9%	444,521	441,391	337,345	333,482	0	0	0	0

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 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.14. Utility Scale Facility Net Generation from Hydroelectric (Conventional) Power by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	6,799	8,601	-20.9%	685	874	6,064	7,625	3	5	47	97
Connecticut	369	465	-20.7%	31	39	337	426	0	0	0	0
Maine	2,952	3,832	-25.6%	3	5	2,802	3,730	0	0	47	97
Massachusetts	881	1,165	-24.4%	226	304	652	857	3	5	0	0
New Hampshire	1,411	1,592	-11.3%	7	17	1,405	1,575	0	0	0	0
Rhode Island	3	8	-63.8%	0	0	3	8	0	0	0	0
Vermont	1,284	1,539	-16.6%	418	510	866	1,029	0	0	0	0
Middle Atlantic	30,670	31,229	-1.8%	23,589	23,566	7,011	7,607	3	5	66	61
New Jersey	4	12	-69.5%	0	0	4	12	0	0	0	0
New York	27,945	28,434	-1.7%	23,505	23,490	4,371	4,878	3	5	66	61
Pennsylvania	2,721	2,783	-2.2%	84	66	2,637	2,718	0	0	0	0
East North Central	4,244	4,384	-3.2%	3,744	3,868	380	405	7	6	113	105
Illinois	75	92	-18.6%	42	64	33	29	0	0	0	0
Indiana	375	464	-19.1%	368	458	0	0	7	6	0	0
Michigan	1,255	1,395	-10.0%	1,180	1,328	67	57	0	0	8	10
Ohio	468	507	-7.8%	293	292	175	215	0	0	0	0
Wisconsin	2,072	1,926	7.6%	1,860	1,726	106	104	0	0	106	96
West North Central	10,783	10,055	7.2%	10,483	9,799	236	198	0	0	63	58
Iowa	1,030	948	8.7%	1,025	944	5	4	0	0	0	0
Kansas	20	13	49.1%	0	0	20	13	0	0	0	0
Minnesota	868	750	15.6%	594	513	211	180	0	0	63	58
Missouri	1,020	785	30.0%	1,020	785	0	0	0	0	0	0
Nebraska	1,183	1,143	3.5%	1,183	1,143	0	0	0	0	0	0
North Dakota	2,061	2,119	-2.8%	2,061	2,119	0	0	0	0	0	0
South Dakota	4,601	4,296	7.1%	4,601	4,296	0	0	0	0	0	0
South Atlantic	14,822	14,291	3.7%	11,376	10,784	2,978	3,040	13	11	455	456
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	177	224	-20.9%	177	224	0	0	0	0	0	0
Georgia	2,941	2,872	2.4%	2,929	2,857	5	6	0	0	7	9
Maryland	1,848	1,849	0.0%	0	0	1,848	1,849	0	0	0	0
North Carolina	4,829	4,225	14.3%	4,138	3,552	681	664	10	9	0	0
South Carolina	2,412	2,199	9.7%	2,358	2,140	51	57	2	2	0	0
Virginia	1,253	1,391	-9.9%	1,143	1,284	110	107	0	0	0	0
West Virginia	1,361	1,530	-11.0%	631	727	283	357	0	0	448	446
East South Central	21,382	20,426	4.7%	20,660	19,746	723	680	0	0	0	0
Alabama	8,357	8,430	-0.9%	8,357	8,430	0	0	0	0	0	0
Kentucky	4,114	3,955	4.0%	4,099	3,943	14	11	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	8,911	8,042	10.8%	8,203	7,373	708	669	0	0	0	0
West South Central	6,378	6,178	3.2%	5,396	5,371	982	807	0	0	0	0
Arkansas	3,134	3,229	-2.9%	3,074	3,172	60	56	0	0	0	0
Louisiana	885	708	25.1%	0	0	885	708	0	0	0	0
Oklahoma	1,582	1,483	6.6%	1,582	1,483	0	0	0	0	0	0
Texas	777	758	2.5%	741	715	36	43	0	0	0	0
Mountain	28,879	27,817	3.8%	27,551	26,520	1,263	1,234	65	64	0	0
Arizona	5,314	5,937	-10.5%	5,314	5,937	0	0	0	0	0	0
Colorado	1,660	1,597	4.0%	1,423	1,376	223	207	14	14	0	0
Idaho	9,150	8,378	9.2%	8,322	7,566	828	812	0	0	0	0
Montana	9,220	8,792	4.9%	9,103	8,672	118	120	0	0	0	0
Nevada	1,606	1,319	21.8%	1,532	1,246	74	73	0	0	0	0
New Mexico	153	108	42.1%	153	108	0	0	0	0	0	0
Utah	759	769	-1.3%	697	707	11	12	51	50	0	0
Wyoming	1,017	917	10.8%	1,007	908	10	9	0	0	0	0
Pacific Contiguous	117,123	120,156	-2.5%	115,161	117,897	1,944	2,246	18	13	0	0
California	29,454	32,381	-9.0%	27,966	30,525	1,470	1,843	18	13	0	0
Oregon	26,933	26,329	2.3%	26,673	26,110	259	219	0	0	0	0
Washington	60,736	61,446	-1.2%	60,521	61,262	215	184	0	0	0	0
Pacific Noncontiguous	1,816	1,867	-2.7%	1,518	1,589	30	20	201	190	66	67
Alaska	1,715	1,773	-3.3%	1,514	1,584	0	0	201	190	0	0
Hawaii	100	93	7.7%	4	5	30	20	0	0	66	67
U.S. Total	242,896	245,002	-0.9%	220,163	220,003	21,612	23,862	311	293	810	844

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells. NH = Not meaningful due to large relative standard error or excessive percentage change.

Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Negative generation denotes that electric power consumed for plant use exceeds gross generation.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.15. Utility Scale Facility Net Generation from Renewable Sources Excluding Hydroelectric by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	12,351	11,419	8.2%	588	572	10,577	9,692	513	528	673	627
Connecticut	1,038	1,022	1.6%	2	0	1,030	1,012	6	5	0	5
Maine	5,035	4,320	16.6%	0	0	4,361	3,694	4	7	669	618
Massachusetts	3,221	3,111	3.5%	110	115	2,648	2,520	459	472	4	4
New Hampshire	1,113	1,194	-6.8%	0	0	1,076	1,157	36	37	0	0
Rhode Island	975	839	16.2%	0	0	969	834	6	6	0	0
Vermont	970	934	3.8%	476	457	492	476	2	1	0	0
Middle Atlantic	18,865	16,047	17.6%	127	358	16,919	13,903	1,360	1,298	459	489
New Jersey	2,272	2,233	1.7%	127	126	1,670	1,637	471	465	5	6
New York	10,752	8,663	24.1%	0	232	9,922	7,649	671	625	159	157
Pennsylvania	5,841	5,151	13.4%	0	0	5,327	4,616	219	208	295	326
East North Central	68,488	55,069	24.4%	12,624	8,565	54,606	45,278	129	131	1,129	1,095
Illinois	28,192	23,961	17.7%	88	95	28,095	23,863	6	3	2	NM
Indiana	13,587	10,953	24.0%	2,290	1,134	11,248	9,774	2	2	47	43
Michigan	13,635	11,584	17.7%	5,953	4,822	7,049	6,201	44	42	589	519
Ohio	7,115	4,526	57.2%	11	12	6,877	4,250	19	14	208	249
Wisconsin	5,958	4,046	47.3%	4,282	2,503	1,336	1,190	58	70	283	283
West North Central	139,829	130,196	7.4%	52,301	48,823	86,458	80,452	191	180	879	741
Iowa	45,158	42,170	7.1%	32,439	30,352	12,631	11,738	9	8	80	71
Kansas	29,972	27,420	9.3%	2,741	2,546	27,207	24,850	13	13	12	11
Minnesota	18,232	17,628	3.4%	6,665	6,354	10,695	10,534	109	102	764	638
Missouri	7,103	7,049	0.8%	2,767	2,855	4,284	4,150	48	40	3	3
Nebraska	12,169	12,015	1.3%	150	167	12,006	11,830	13	18	0	0
North Dakota	14,763	14,477	2.0%	5,114	5,155	9,648	9,321	0	0	0	0
South Dakota	12,432	9,439	31.7%	2,426	1,395	9,987	8,028	0	0	20	17
South Atlantic	69,604	60,851	14.4%	22,811	18,491	37,373	33,468	944	1,056	8,475	7,835
Delaware	210	226	-6.9%	7	7	178	199	5	7	21	13
District of Columbia	88	83	6.0%	1	3	30	21	56	58	0	0
Florida	21,815	17,183	25.8%	17,752	13,478	2,185	1,994	403	457	1,274	1,254
Georgia	14,551	12,501	16.4%	503	640	10,465	8,707	2	2	3,581	3,153
Maryland	1,927	1,746	10.4%	7	8	1,907	1,715	13	24	0	0
North Carolina	13,828	13,680	1.1%	1,058	1,075	11,750	11,475	100	106	920	1,024
South Carolina	4,753	4,504	5.5%	59	74	3,264	3,161	0	0	1,429	1,268
Virginia	10,436	8,830	18.2%	3,393	3,206	5,427	4,098	365	402	1,251	1,123
West Virginia	2,196	2,099	4.7%	30	0	2,166	2,099	0	0	0	0
East South Central	10,100	8,347	21.0%	319	334	4,578	2,811	5	5	5,196	5,197
Alabama	4,522	4,371	3.5%	77	25	1,215	1,217	0	0	3,230	3,129
Kentucky	671	573	17.0%	129	124	244	119	2	1	296	329
Mississippi	3,319	1,972	68.3%	111	182	1,934	459	0	0	1,274	1,332
Tennessee	1,589	1,430	11.1%	2	3	1,185	1,016	4	3	398	407
West South Central	210,660	190,432	10.6%	9,977	7,481	197,057	179,194	50	46	3,576	3,711
Arkansas	3,121	1,511	106.6%	501	241	1,834	561	17	19	769	690
Louisiana	3,176	2,280	39.3%	28	40	1,248	335	0	0	1,900	1,904
Oklahoma	38,610	37,356	3.4%	6,911	6,743	31,384	30,365	-3	-7	317	256
Texas	165,753	149,285	11.0%	2,536	457	162,591	147,932	35	35	590	861
Mountain	99,112	83,476	18.7%	16,555	14,764	82,045	68,184	116	121	397	408
Arizona	13,546	9,365	44.6%	1,038	593	12,458	8,718	16	20	34	34
Colorado	22,629	19,840	14.1%	4,433	4,256	18,159	15,568	6	8	30	8
Idaho	4,531	3,706	22.3%	445	435	3,753	2,906	37	31	295	335
Montana	6,216	4,825	28.8%	1,747	959	4,449	3,846	0	0	21	20
Nevada	16,712	14,192	17.8%	418	177	16,236	13,955	47	47	10	12
New Mexico	19,474	17,576	10.8%	3,393	3,142	16,080	14,433	0	1	0	0
Utah	6,581	5,163	27.5%	306	255	6,259	4,894	9	14	7	0
Wyoming	9,425	8,810	7.0%	4,774	4,945	4,651	3,865	0	0	0	0
Pacific Contiguous	102,537	92,484	10.9%	8,087	6,996	91,081	82,145	934	991	2,434	2,352
California	79,350	71,348	11.2%	1,751	1,490	75,614	67,939	891	953	1,095	966
Oregon	12,776	11,955	6.9%	1,646	1,532	10,474	9,866	33	31	623	526
Washington	10,410	9,181	13.4%	4,691	3,974	4,993	4,340	10	7	716	860
Pacific Noncontiguous	2,020	1,918	5.3%	166	158	1,855	1,569	199	190	0	0
Alaska	174	150	15.8%	70	61	61	50	43	39	0	0
Hawaii	1,846	1,767	4.4%	96	97	1,594	1,519	156	151	0	0
U.S. Total	733,567	650,239	12.8%	123,555	106,543	582,350	516,694	4,441	4,545	23,220	22,456

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells. NM = Not meaningful due to large relative standard error or excessive percentage change.

Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Negative generation denotes that electric power consumed for plant use exceeds gross generation.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.16. Utility Scale Facility Net Generation from Hydroelectric (Pumped Storage) Power by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	-479	-375	27.7%	0	0	-479	-375	0	0	0	0
Connecticut	5	5	-0.2%	0	0	5	5	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	-483	-379	27.4%	0	0	-483	-379	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	-1,550	-1,442	7.5%	-410	-372	-1,141	-1,070	0	0	0	0
New Jersey	-232	-165	40.3%	0	0	-232	-165	0	0	0	0
New York	-410	-372	10.1%	-410	-372	0	0	0	0	0	0
Pennsylvania	-909	-905	0.4%	0	0	-909	-905	0	0	0	0
East North Central	-976	-810	20.5%	-976	-810	0	0	0	0	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	-976	-810	20.5%	-976	-810	0	0	0	0	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	0	0	--	0	0	0	0	0	0	0	0
West North Central	147	-49	-400.6%	147	-49	0	0	0	0	0	0
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	147	-49	-400.6%	147	-49	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	-2,544	-2,573	-1.1%	-2,544	-2,573	0	0	0	0	0	0
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	--	0	0	0	0	0	0	0	0
Georgia	-760	-664	14.5%	-760	-664	0	0	0	0	0	0
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	-251	-454	-44.8%	-251	-454	0	0	0	0	0	0
Virginia	-1,533	-1,455	5.3%	-1,533	-1,455	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	-571	-554	3.1%	-571	-554	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	-571	-554	3.1%	-571	-554	0	0	0	0	0	0
West South Central	29	47	-38.9%	29	47	0	0	0	0	0	0
Arkansas	77	101	-23.9%	77	101	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	-48	-53	-10.4%	-48	-53	0	0	0	0	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	136	161	-15.9%	136	161	0	0	0	0	0	0
Arizona	69	136	-49.6%	69	136	0	0	0	0	0	0
Colorado	67	25	167.6%	67	25	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	-44	-396	-88.9%	-44	-396	0	0	0	0	0	0
California	-46	-393	-88.4%	-46	-393	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	2	-3	-156.3%	2	-3	0	0	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	-5,852	-5,990	-2.3%	-4,232	-4,545	-1,619	-1,445	0	0	0	0

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

NM = Not meaningful due to large relative standard error or excessive percentage change.

Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Negative generation denotes that electric power consumed for plant use exceeds gross generation.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.17. Utility Scale Facility Net Generation from Other Energy Sources by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	1,671	1,686	-0.9%	2	2	1,031	1,031	500	518	139	136
Connecticut	424	429	-1.2%	0	0	424	429	0	0	0	0
Maine	280	276	1.7%	0	0	136	131	5	9	139	136
Massachusetts	917	928	-1.2%	-1	-1	423	420	494	509	0	0
New Hampshire	50	51	-2.9%	0	0	50	51	0	0	0	0
Rhode Island	0	0	8.0%	0	0	0	0	0	0	0	0
Vermont	1	3	-63.7%	2	3	-1	0	0	0	0	0
Middle Atlantic	2,462	2,377	3.6%	-2	0	962	1,005	1,429	1,350	73	22
New Jersey	607	554	9.5%	0	0	120	127	414	405	73	22
New York	997	949	5.0%	-2	0	200	206	799	743	0	0
Pennsylvania	858	874	-1.8%	0	0	643	672	216	202	0	0
East North Central	782	977	-20.0%	19	95	30	76	54	51	679	755
Illinois	233	256	-8.8%	0	0	-5	-9	0	0	239	265
Indiana	432	482	-10.4%	-2	0	0	0	0	0	434	482
Michigan	94	138	-32.3%	0	0	40	87	54	51	0	0
Ohio	1	6	-77.8%	-1	0	-5	-2	0	0	6	8
Wisconsin	22	95	-76.9%	22	95	0	0	0	0	0	0
West North Central	353	344	2.4%	159	163	148	143	40	36	5	3
Iowa	-1	0	NM	-1	0	0	0	0	0	0	0
Kansas	5	3	60.0%	0	0	0	0	0	0	5	3
Minnesota	311	303	2.4%	122	125	148	143	40	36	0	0
Missouri	0	0	-	0	0	0	0	0	0	0	0
Nebraska	0	0	92.6%	0	0	0	0	0	0	0	0
North Dakota	38	38	-1.1%	38	38	0	0	0	0	0	0
South Dakota	0	0	-	0	0	0	0	0	0	0	0
South Atlantic	3,206	3,508	-8.6%	-38	-39	1,149	1,221	900	1,014	1,196	1,313
Delaware	0	0	-	0	0	0	0	0	0	0	0
District of Columbia	0	0	-	0	0	0	0	0	0	0	0
Florida	2,106	2,366	-11.0%	-26	-38	818	923	471	535	843	946
Georgia	83	86	-3.8%	-2	0	-4	-5	0	0	89	91
Maryland	338	312	8.2%	0	0	338	312	0	0	0	0
North Carolina	220	235	-6.7%	-5	-1	0	0	0	0	225	237
South Carolina	45	44	2.2%	0	0	7	5	0	0	39	40
Virginia	422	477	-11.6%	-4	0	-2	-2	428	478	0	0
West Virginia	-8	-14	-45.3%	0	0	-8	-14	0	0	0	0
East South Central	16	92	-82.8%	12	91	-4	0	0	0	8	0
Alabama	7	0	NM	0	0	0	0	0	0	7	0
Kentucky	12	91	-87.1%	12	91	0	0	0	0	0	0
Mississippi	-4	0	-	0	0	-4	0	0	0	0	0
Tennessee	0	0	-1.0%	0	0	0	0	0	0	0	0
West South Central	340	762	-55.4%	226	245	-343	-89	-4	-10	461	615
Arkansas	7	6	11.3%	0	0	0	0	-1	-1	8	7
Louisiana	452	501	-9.8%	201	219	0	0	0	0	251	282
Oklahoma	21	18	11.6%	26	28	-2	0	-3	-9	0	0
Texas	-140	236	-159.5%	-1	-1	-341	-89	0	0	202	326
Mountain	211	432	-51.1%	-26	66	-82	112	-3	0	322	254
Arizona	-224	-40	466.6%	-33	-6	-191	-33	0	0	0	0
Colorado	-4	25	-116.5%	-12	0	-37	-20	-3	0	48	45
Idaho	69	72	-4.8%	-1	0	0	0	0	0	70	72
Montana	256	224	14.4%	0	0	256	224	0	0	0	0
Nevada	-118	-13	805.1%	-17	28	-101	-41	0	0	0	0
New Mexico	-10	-19	-48.6%	-2	-1	-8	-18	0	0	0	0
Utah	153	98	55.2%	39	46	0	0	0	0	114	53
Wyoming	90	84	6.8%	0	0	0	0	0	0	90	84
Pacific Contiguous	-1,027	-390	163.5%	-62	-38	-1,240	-671	29	49	245	271
California	-1,113	-482	130.7%	-61	-39	-1,326	-763	29	49	245	271
Oregon	13	23	-42.6%	0	1	14	24	0	0	0	0
Washington	72	69	4.4%	0	1	73	69	0	0	0	0
Pacific Noncontiguous	156	170	-8.1%	-5	-4	-25	-4	186	178	0	0
Alaska	-5	-4	6.0%	-5	-4	0	0	0	0	0	0
Hawaii	161	174	-7.7%	0	0	-25	-4	186	178	0	0
U.S. Total	8,170	9,957	-17.9%	285	580	1,627	2,823	3,130	3,185	3,127	3,369

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.
 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.18. Utility Scale Facility Net Generation from Wind by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	3,604	3,450	4.5%	204	202	3,377	3,223	23	25	0	0
Connecticut	10	10	5.7%	0	0	10	10	0	0	0	0
Maine	2,446	2,339	4.6%	0	0	2,446	2,339	0	0	0	0
Massachusetts	169	182	-6.9%	32	37	119	125	17	19	0	0
New Hampshire	445	411	8.1%	0	0	445	411	0	0	0	0
Rhode Island	178	169	5.5%	0	0	172	163	6	6	0	0
Vermont	355	340	4.6%	171	165	184	175	0	0	0	0
Middle Atlantic	9,307	8,076	15.2%	0	232	9,303	7,840	3	3	2	1
New Jersey	19	18	5.2%	0	0	19	18	0	0	0	0
New York	6,031	4,800	25.7%	0	232	6,027	4,563	3	3	2	1
Pennsylvania	3,257	3,258	-0.1%	0	0	3,257	3,258	0	0	0	0
East North Central	49,877	43,502	14.7%	7,474	5,903	42,310	37,483	28	24	66	92
Illinois	24,910	21,808	14.2%	6	10	24,900	21,797	4	1	0	0
Indiana	10,312	8,844	16.6%	228	0	10,084	8,844	0	0	0	0
Michigan	9,839	8,292	18.6%	5,873	4,742	3,966	3,551	0	0	0	0
Ohio	2,822	2,819	0.1%	4	5	2,755	2,726	2	3	61	86
Wisconsin	1,994	1,738	14.7%	1,362	1,147	605	564	22	20	5	7
West North Central	134,372	125,583	7.0%	51,351	48,134	82,970	77,404	39	34	12	11
Iowa	44,277	41,439	6.8%	31,993	30,030	12,282	11,407	2	2	0	0
Kansas	29,795	27,273	9.2%	2,682	2,530	27,088	24,718	13	13	12	11
Minnesota	14,781	14,398	2.7%	6,397	6,160	8,360	8,220	24	19	0	0
Missouri	6,790	6,775	0.2%	2,676	2,777	4,114	3,998	0	0	0	0
Nebraska	11,891	11,845	0.4%	62	87	11,829	11,758	0	0	0	0
North Dakota	14,763	14,477	2.0%	5,114	5,155	9,648	9,321	0	0	0	0
South Dakota	12,074	9,376	28.8%	2,426	1,395	9,648	7,981	0	0	0	0
South Atlantic	3,144	3,151	-0.2%	50	47	3,091	3,100	3	4	0	0
Delaware	3	4	-36.8%	0	0	0	0	3	4	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	--	0	0	0	0	0	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	558	482	15.9%	0	0	558	482	0	0	0	0
North Carolina	530	529	0.2%	0	0	530	529	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	50	47	7.0%	50	47	0	0	0	0	0	0
West Virginia	2,003	2,089	-4.1%	0	0	2,003	2,089	0	0	0	0
East South Central	360	16	NM	0	0	360	16	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	347	0	--	0	0	347	0	0	0	0	0
Tennessee	13	16	-18.7%	0	0	13	16	0	0	0	0
West South Central	162,244	156,867	3.4%	9,151	6,861	153,061	149,975	33	32	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	37,967	37,012	2.6%	6,820	6,669	31,147	30,344	0	0	0	0
Texas	124,278	119,855	3.7%	2,331	193	121,914	119,631	33	32	0	0
Mountain	54,179	49,227	10.1%	14,029	12,980	40,147	36,243	0	1	3	2
Arizona	2,540	1,733	46.6%	0	0	2,540	1,733	0	0	0	0
Colorado	17,602	16,091	9.4%	4,415	4,243	13,184	11,846	0	0	3	2
Idaho	3,016	2,320	30.0%	167	149	2,849	2,170	0	0	0	0
Montana	5,815	4,557	27.6%	1,729	951	4,086	3,606	0	0	0	0
Nevada	319	291	9.6%	0	0	319	291	0	0	0	0
New Mexico	15,136	14,914	1.5%	2,943	2,691	12,193	12,222	0	1	0	0
Utah	748	683	9.5%	0	0	748	683	0	0	0	0
Wyoming	9,002	8,637	4.2%	4,774	4,945	4,227	3,691	0	0	0	0
Pacific Contiguous	34,031	30,522	11.5%	6,727	5,699	27,281	24,812	6	7	16	5
California	15,648	14,019	11.6%	755	579	14,871	13,428	6	7	16	5
Oregon	9,519	8,954	6.3%	1,580	1,462	7,939	7,491	0	0	0	0
Washington	8,863	7,550	17.4%	4,392	3,657	4,472	3,892	0	0	0	0
Pacific Noncontiguous	787	746	5.5%	70	61	717	684	0	0	0	0
Alaska	123	111	10.8%	70	61	53	50	0	0	0	0
Hawaii	663	634	4.6%	0	0	663	634	0	0	0	0
U.S. Total	451,904	421,141	7.3%	89,056	80,120	362,616	340,780	133	130	99	112

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.
 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.19. Utility Scale Facility Net Generation from Biomass by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	4,379	4,392	-0.3%	246	236	2,989	3,049	475	489	669	618
Connecticut	551	591	-6.7%	0	0	551	591	0	0	0	0
Maine	1,644	1,458	12.7%	0	0	970	833	4	7	669	618
Massachusetts	925	914	1.2%	0	0	493	471	432	443	0	0
New Hampshire	664	779	-14.7%	0	0	628	742	36	37	0	0
Rhode Island	197	247	-20.4%	0	0	197	247	0	0	0	0
Vermont	398	403	-1.4%	246	236	150	166	2	1	0	0
Middle Atlantic	3,739	3,830	-2.4%	0	0	2,088	2,215	1,214	1,149	436	465
New Jersey	657	671	-2.1%	0	0	312	335	345	335	0	0
New York	1,593	1,627	-2.1%	0	0	786	869	658	612	149	146
Pennsylvania	1,489	1,532	-2.8%	0	0	990	1,011	212	201	288	319
East North Central	3,721	3,873	-3.9%	631	640	1,949	2,137	84	96	1,057	1,000
Illinois	224	242	-7.4%	75	83	149	159	0	0	0	0
Indiana	183	254	-28.0%	94	154	42	57	0	0	47	43
Michigan	1,937	2,023	-4.2%	0	0	1,304	1,462	44	42	589	519
Ohio	292	324	-9.9%	0	0	137	154	8	8	147	162
Wisconsin	1,085	1,030	5.3%	461	403	317	305	32	46	275	276
West North Central	1,645	1,616	1.8%	239	249	479	490	152	147	775	729
Iowa	217	209	3.8%	28	31	103	101	7	6	80	71
Kansas	56	66	-15.3%	0	0	56	66	0	0	0	0
Minnesota	1,165	1,135	2.6%	118	129	289	285	85	83	673	638
Missouri	106	99	6.7%	23	17	31	39	48	40	3	3
Nebraska	82	90	-9.1%	69	72	0	0	13	18	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	20	17	19.2%	0	0	0	0	0	0	20	17
South Atlantic	15,438	15,325	0.7%	1,390	1,491	4,771	5,095	815	912	8,462	7,827
Delaware	42	66	-37.1%	0	0	27	53	0	0	15	13
District of Columbia	56	58	-3.6%	0	0	0	0	56	58	0	0
Florida	2,965	3,124	-5.1%	330	366	969	1,056	396	450	1,271	1,251
Georgia	5,366	4,951	8.4%	0	0	1,785	1,798	0	0	3,581	3,153
Maryland	333	322	3.3%	0	0	333	319	0	3	0	0
North Carolina	1,454	1,692	-14.1%	0	0	534	668	0	0	920	1,024
South Carolina	1,827	1,741	4.9%	52	67	351	412	0	0	1,424	1,263
Virginia	3,388	3,361	0.8%	1,009	1,058	764	779	364	401	1,251	1,123
West Virginia	8	9	-16.2%	0	0	8	9	0	0	0	0
East South Central	5,414	5,380	0.6%	86	81	135	107	0	0	5,193	5,192
Alabama	3,267	3,171	3.0%	0	0	37	41	0	0	3,230	3,129
Kentucky	394	418	-5.7%	86	81	12	8	0	0	296	329
Mississippi	1,281	1,339	-4.4%	0	0	7	8	0	0	1,274	1,332
Tennessee	471	452	4.3%	0	0	79	50	0	0	393	402
West South Central	4,018	4,247	-5.4%	190	250	258	305	-3	-7	3,572	3,700
Arkansas	792	713	11.0%	0	0	27	27	0	0	765	687
Louisiana	1,978	1,988	-0.5%	0	0	78	84	0	0	1,900	1,904
Oklahoma	332	265	25.2%	0	0	17	17	-3	-7	317	256
Texas	916	1,280	-28.4%	190	250	136	177	0	0	590	853
Mountain	860	957	-10.1%	38	25	466	536	46	44	310	352
Arizona	184	193	-4.5%	0	0	184	193	0	0	0	0
Colorado	88	134	-34.1%	0	0	88	134	0	0	0	0
Idaho	405	444	-8.7%	20	17	56	64	37	31	292	332
Montana	35	27	27.5%	18	8	0	0	0	0	17	20
Nevada	52	54	-2.8%	0	0	52	54	0	0	0	0
New Mexico	25	13	92.8%	0	0	25	13	0	0	0	0
Utah	70	92	-23.9%	0	0	61	79	9	14	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	6,947	7,253	-4.2%	401	420	3,682	3,911	763	787	2,101	2,135
California	4,750	5,062	-6.2%	48	47	3,220	3,518	720	749	761	749
Oregon	1,087	924	17.6%	60	65	370	303	33	31	623	526
Washington	1,110	1,267	-12.4%	292	309	92	90	10	7	716	860
Pacific Noncontiguous	262	327	-19.9%	19	19	48	124	195	184	0	0
Alaska	43	39	10.5%	0	0	0	0	43	39	0	0
Hawaii	219	288	-24.0%	19	19	48	124	152	145	0	0
U.S. Total	46,422	47,199	-1.6%	3,239	3,411	16,865	17,970	3,742	3,800	22,575	22,018

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 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.20. Utility Scale Facility Net Generation from Geothermal by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	0	0	--	0	0	0	0	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0	0	0	0	0
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	0	--	0	0	0	0	0	0	0	0
East North Central	0	0	--	0	0	0	0	0	0	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	0	0	--	0	0	0	0	0	0	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	0	0	--	0	0	0	0	0	0	0	0
West North Central	0	0	--	0	0	0	0	0	0	0	0
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	0	0	--	0	0	0	0	0	0	0	0
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	--	0	0	0	0	0	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	0	0	--	0	0	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	0	0	--	0	0	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	0	0	--	0	0	0	0	0	0	0	0
West South Central	0	0	--	0	0	0	0	0	0	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	4,455	4,733	-5.9%	272	248	4,182	4,485	0	0	0	0
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	92	89	3.9%	0	0	92	89	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	3,886	4,150	-6.4%	0	0	3,886	4,150	0	0	0	0
New Mexico	26	36	-27.2%	0	0	26	36	0	0	0	0
Utah	451	458	-1.5%	272	248	179	210	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	10,693	11,442	-6.5%	642	534	10,052	10,908	0	0	0	0
California	10,524	11,266	-6.6%	642	534	9,883	10,732	0	0	0	0
Oregon	169	176	-4.0%	0	0	169	176	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	259	193	34.5%	0	0	259	193	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	259	193	34.5%	0	0	259	193	0	0	0	0
U.S. Total	15,407	16,367	-5.9%	914	782	14,493	15,586	0	0	0	0

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 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.21. Net Generation from Solar Photovoltaic by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors												Electric Power Sector				Commercial Sector				Industrial Sector				Residential Sector	
	Estimated Generation From Utility and Small Scale Facilities			Generation at Utility Scale Facilities			Estimated Small Scale Generation			Electric Utilities		Independent Power Producers		Estimated Generation From Utility and Small Scale Facilities		Generation at Utility Scale Facilities		Estimated Small Scale Generation		Estimated Generation From Utility and Small Scale Facilities		Generation at Utility Scale Facilities		Estimated Small Scale Generation		
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	
New England	11,789	10,294	14.5%	4,369	3,577	7,420	6,717	138	134	4,212	3,421	3,833	3,607	16	14	3,818	3,593	189	221	4	9	185	213	3,417	2,911	
Connecticut	1,935	1,659	16.6%	476	421	1,458	1,238	2	0	469	412	433	396	6	5	427	391	61	58	0	5	61	54	970	793	
Maine	1,960	1,152	70.2%	945	523	1,015	629	0	0	945	523	861	520	0	0	861	520	0	0	0	0	0	0	153	109	
Massachusetts	6,185	5,724	8.1%	2,127	2,015	4,058	3,709	77	77	2,036	1,924	2,277	2,078	10	9	2,268	2,069	105	143	4	4	101	138	1,689	1,501	
New Hampshire	365	302	20.6%	4	3	361	299	0	0	4	3	112	105	0	0	112	105	12	12	0	0	12	12	237	182	
Rhode Island	882	1,027	-14.1%	600	423	282	603	0	0	600	423	55	413	0	0	55	413	9	7	0	0	9	7	217	163	
Vermont	462	430	7.4%	217	192	245	239	58	56	158	135	94	95	0	0	94	95	2	2	0	0	2	2	150	142	
Middle Atlantic	14,710	12,304	19.6%	5,819	4,141	8,892	8,163	127	126	5,528	3,948	4,280	3,913	143	146	4,137	3,768	315	324	21	22	295	302	4,460	4,094	
New Jersey	4,922	4,710	6.0%	1,596	1,544	3,395	3,166	127	126	1,338	1,283	1,541	1,466	126	130	1,415	1,336	214	201	5	6	208	195	1,772	1,635	
New York	7,650	6,205	23.3%	3,127	2,236	4,522	3,968	0	0	3,109	2,218	2,477	2,178	10	9	2,467	2,169	31	27	8	9	22	18	2,033	1,781	
Pennsylvania	2,069	1,389	48.9%	1,095	361	974	1,029	0	0	1,081	347	262	269	7	7	255	262	71	96	7	7	64	89	656	678	
East North Central	18,230	10,580	72.3%	14,890	7,694	3,340	2,887	4,520	2,023	10,347	5,658	1,422	1,431	17	11	1,405	1,420	132	97	6	2	126	95	1,810	1,372	
Illinois	4,787	3,447	38.9%	3,057	1,911	1,730	1,536	7	2	3,046	1,907	702	824	2	2	699	822	19	5	2	NM	17	5	1,014	708	
Indiana	3,478	2,203	57.9%	3,091	1,854	387	349	1,968	980	1,722	872	213	193	2	2	211	191	18	14	0	0	18	14	158	144	
Michigan	2,205	1,566	40.8%	1,859	1,269	346	296	80	80	1,760	1,189	130	105	0	0	130	105	6	5	0	0	6	5	210	187	
Ohio	4,510	1,800	150.6%	4,002	1,382	508	418	7	7	3,985	1,370	226	191	9	4	217	187	52	44	0	2	52	43	240	187	
Wisconsin	3,250	1,564	107.7%	2,880	1,277	369	287	2,459	954	414	320	152	118	4	4	148	115	36	27	3	0	33	27	188	145	
West North Central	5,670	4,588	23.6%	3,812	2,997	1,858	1,589	712	440	3,009	2,557	677	558	0	0	676	558	159	58	91	0	68	58	1,114	972	
Iowa	1,142	911	25.3%	663	521	478	390	418	291	246	230	242	200	0	0	242	200	19	15	0	0	19	15	217	175	
Kansas	288	210	37.1%	122	81	166	129	58	16	63	66	50	40	0	0	50	40	3	1	0	0	3	1	113	88	
Minnesota	2,689	2,417	11.2%	2,285	2,094	403	323	149	65	2,045	2,029	113	88	0	0	113	88	115	23	91	0	23	23	267	211	
Missouri	950	867	9.6%	208	174	742	692	68	61	140	113	256	218	0	0	255	218	19	15	0	0	19	15	468	459	
Nabraska	254	129	97.2%	196	79	57	49	19	8	177	72	13	11	0	0	13	11	4	4	0	0	4	4	41	35	
North Dakota	3	2	25.0%	0	0	2	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	1	
South Dakota	346	50	588.4%	338	47	7	4	0	0	338	47	3	1	0	0	3	1	0	0	0	0	0	0	0	5	3
South Atlantic	60,789	50,516	20.3%	51,021	42,375	9,768	8,141	21,371	16,953	29,511	25,273	1,598	1,369	126	140	1,472	1,228	460	443	14	8	446	434	7,849	6,479	
Delaware	369	344	7.2%	166	155	203	189	7	7	151	146	42	38	3	3	39	35	15	13	6	0	9	13	154	141	
District of Columbia	289	231	25.0%	32	25	257	206	1	3	30	21	90	75	0	0	90	75	0	0	0	0	0	0	167	132	
Florida	23,261	17,804	30.6%	18,649	14,059	4,611	3,745	17,422	13,112	1,216	938	351	286	7	7	343	279	76	67	3	3	73	64	4,195	3,401	
Georgia	9,753	8,069	20.9%	9,185	7,550	568	519	503	640	8,880	6,908	95	78	2	2	93	77	260	260	0	0	260	260	215	183	
Maryland	2,515	2,325	8.2%	1,035	943	1,479	1,382	77	8	1,017	914	318	317	13	21	306	296	31	31	0	0	31	31	1,142	1,055	
North Carolina	12,752	12,216	4.4%	11,844	11,459	908	757	1,658	1,075	10,685	10,278	308	287	100	108	209	181	20	17	0	0	20	17	679	559	
South Carolina	3,563	3,351	6.3%	2,926	2,752	637	589	8	8	2,913	2,749	121	113	0	0	121	113	48	46	5	5	43	41	473	435	
Virginia	8,042	6,129	31.2%	6,998	5,421	1,044	708	2,334	2,101	4,662	3,319	259	164	1	1	258	162	7	6	0	0	7	6	780	539	
West Virginia	247	47	421.8%	186	0	61	47	30	0	156	0	14	11	0	0	14	11	3	2	0	0	3	2	45	35	
East South Central	4,632	3,199	44.8%	4,327	2,950	305	248	233	253	4,084	2,688	130	109	5	5	124	104	102	11	5	6	7	5	174	139	
Alabama	1,282	1,223	4.9%	1,255	1,201	27	22	77	25	1,178	1,176	17	14	0	0	17	14	3	3	0	0	3	3	7	5	
Kentucky	438	286	53.1%	277	155	161	131	43	43	232	111	41	34	2	1	40	32	3	2	0	0	3	2	119	96	
Mississippi	1,721	656	162.3%	1,691	633	30	23	111	182	1,580	451	10	9	0	0	10	9	1	1	0	0	1	1	20	13	
Tennessee	1,191	1,034	15.2%	1,104	961	96	72	2	3	1,093	950	62	52	4	3	58	49	5	6	0	0	5	6	28	24	
West South Central	50,430	34,353	46.8%	44,398	29,317	6,032	5,035	636	370	43,738	28,914	749	689	20	22	728	667	99	55	4	11	95	43	5,208	4,325	
Arkansas	2,840	1,194	137.9%	2,329	798	511	397	501	241	1,907	535	188	167	17	10	171	148	84	43	4	3	81	40	259	208	
Louisiana	1,535	592	159.3%	1,199	292	336	300	28	40	1,170	251	26	24	0	0	26	24	0	0	0	0	0	0	310	275	
Oklahoma	540	242	122.9%	311	79	229	164	92	74	220	4	28	28	0	0	28	28	4	3	0	0	4	3	196	132	
Texas	45,515	32,325	40.8%	40,559	28,150	4,956	4,175	15	14	40,541	28,124	506	470	3	4	503	466	10	8	0	8	10	0	4,443	3,709	
Mountain	50,280	37,823	32.9%	38,546	27,614	11,735	10,209	2,216	1,510	36,176	25,974	2,153	1,993	69	75	2,083	1,918	279	215	84	55	194	161	9,457	8,131	
Arizona	15,438	11,535	33.8%	9,992	6,663	5,446	4,871	1,038	593	8,905	6,017	1,210	1,121	16	20	1,194	1,102	50	47	34	34	16	14	4,236	3,756	
Colorado	6,974	5,319	31.1%	4,938	3,615	2,035	1,704	18	13	4,887	3,588	415	381	6	8	409	373	88	40	27	6	61	34	1,966	1,296	
Idaho	1,294	1,092	18.5%	1,018	854	276	238	258	268	757	653	16	14	0	0	16	14	33	31	3	3	30	29	230	195	
Montana	473	316	49.6%	366	240	107	76	0	0	363	240	19	16	0	0	19	16	4	0	0	0	4	0	88	60	
Nevada	14,252	11,209	27.1%	12,210	9,525	2,042	1,685	418	177	11,734	9,288	181	173	47	47	133	127	81	82	10	12	71	69	1,838	1,489	
New Mexico	5,087	3,314	53.5%	4,287	2,613	800	701	451	451	3,836	2,162	156	143	0	0	156	143	1	1	0	0	1	1	643	557	
Utah	6,306	4,835	30.4%	5,311	3,929	995	906	33	7	5,271	3,922	153	140	0	0	153	140	21	13	7	0	14	13	827	753	
Wyoming	456	202	125.3%	423	174	33	29	0	0	423	174	3	3	0	0	3	3	1	1	0	0	1	1	28	25	
Pacific Contiguous	81,797	70,376	16.2%	48,821	41,365	32,977	29,011	318	342	48,021	40,613	6,853	6,191	165	197	6,688	5,993	3,617	3,279	317	212	3,300	3,067	22,989	19,951	
California	78,107	67,077	16.4%	46,382	39,100	31,724	27,977	306	330	45,995	38,360	6,617	5,988	165	197	6,452	5,791	3,591	3,257							

Table 3.22. Utility Scale Facility Net Generation from Solar Thermal by State, by Sector, 2024 and 2023 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023						
New England	0	0	--	0	0	0	0	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0	0	0	0	0
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	0	--	0	0	0	0	0	0	0	0
East North Central	0	0	--	0	0	0	0	0	0	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	0	0	--	0	0	0	0	0	0	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	0	0	--	0	0	0	0	0	0	0	0
West North Central	0	0	--	0	0	0	0	0	0	0	0
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	0	0	--	0	0	0	0	0	0	0	0
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	--	0	0	0	0	0	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	0	0	--	0	0	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	0	0	--	0	0	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	0	0	--	0	0	0	0	0	0	0	0
West South Central	0	0	--	0	0	0	0	0	0	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	1,073	946	13.4%	0	0	1,073	946	0	0	0	0
Arizona	828	775	6.9%	0	0	828	775	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	245	172	42.8%	0	0	245	172	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	2,045	1,901	7.6%	0	0	2,045	1,901	0	0	0	0
California	2,045	1,901	7.6%	0	0	2,045	1,901	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	3,118	2,847	9.5%	0	0	3,118	2,847	0	0	0	0

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.
 Negative generation denotes that electric power consumed for plant use exceeds gross generation.
 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 3.23. Useful Thermal Output by Energy Source: Total Combined Heat and Power (All Sectors), 2014 - 2024 (Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Renewable Sources	Other	Total
Annual Totals								
2014	232,509	11,990	23,457	545,624	104,869	624,086	21,390	1,563,923
2015	211,030	11,796	21,748	591,749	98,910	626,887	19,729	1,581,849
2016	220,162	8,607	20,122	785,413	148,881	698,858	25,342	1,907,384
2017	193,164	7,922	17,322	789,485	151,579	674,248	23,685	1,857,405
2018	182,373	9,878	16,581	813,127	172,677	663,644	23,169	1,881,448
2019	162,108	7,992	14,278	802,153	142,229	643,548	22,429	1,794,736
2020	139,423	6,463	12,359	835,666	135,048	602,034	20,901	1,751,893
2021	149,948	7,603	12,390	818,647	135,509	609,495	19,596	1,753,188
2022	146,782	16,516	11,793	805,556	133,148	587,576	18,475	1,719,846
2023	121,382	12,155	9,979	810,007	143,075	541,688	19,090	1,657,377
2024	114,656	8,211	10,262	835,189	146,260	532,926	18,733	1,666,236
Year 2022								
January	13,842	1,523	941	74,850	11,832	52,132	1,668	156,788
February	12,010	951	988	65,806	10,693	47,280	1,470	139,200
March	12,937	1,371	1,029	68,372	11,541	49,787	1,401	146,438
April	11,623	1,387	928	62,340	10,702	49,043	1,450	137,473
May	11,936	1,243	1,100	63,862	11,755	50,125	1,389	141,411
June	11,579	1,442	921	65,044	10,959	48,845	1,617	140,406
July	12,492	1,439	864	70,619	11,501	50,440	1,734	149,089
August	12,458	934	1,056	70,833	11,502	49,912	1,586	148,279
September	11,532	1,270	883	64,472	10,485	45,872	1,562	136,075
October	11,966	1,319	1,026	63,798	10,902	46,754	1,504	137,270
November	11,637	1,323	1,085	65,580	10,519	48,226	1,605	139,975
December	12,768	2,314	974	69,981	10,757	49,159	1,489	147,443
Year 2023								
January	12,058	1,558	685	70,919	11,903	50,312	1,575	149,009
February	10,343	1,551	465	64,348	10,823	44,130	1,477	133,137
March	10,805	1,196	1,037	69,034	12,139	48,554	1,525	144,290
April	9,472	1,383	913	62,551	11,606	42,243	1,403	129,571
May	9,975	625	975	63,680	11,946	45,258	1,448	133,906
June	9,422	611	839	66,229	11,959	41,360	1,535	131,955
July	10,386	659	817	70,460	12,273	43,700	1,556	139,852
August	9,582	802	884	69,535	12,304	44,606	1,572	139,284
September	9,534	779	871	66,880	12,504	43,397	1,381	135,347
October	9,351	739	848	65,086	12,537	43,637	1,383	133,581
November	9,933	981	809	68,719	11,043	46,833	2,065	140,383
December	10,522	1,271	837	72,566	12,038	47,659	2,169	147,062
Year 2024								
January	11,761	1,164	997	77,746	12,817	46,520	1,718	152,722
February	9,653	584	795	68,086	11,908	44,034	1,577	136,636
March	10,546	566	775	69,222	12,500	45,611	1,614	140,834
April	8,659	814	779	63,287	11,798	44,450	1,695	131,481
May	8,677	604	867	65,800	12,713	43,372	1,279	133,312
June	8,626	626	879	67,413	12,338	42,263	1,435	133,580
July	9,595	757	954	72,773	12,724	43,392	2,045	142,240
August	9,225	523	899	73,417	12,805	43,863	1,560	142,293
September	8,914	412	822	68,490	11,558	44,213	1,270	135,679
October	9,053	564	777	66,940	11,698	41,692	1,367	132,092
November	9,620	550	788	68,215	11,196	45,580	1,458	137,406
December	10,326	1,048	932	73,801	12,205	47,935	1,713	147,960

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen. Prior to 2011, Other Fossil Gas included propane and synthesis gases.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, and solar thermal. Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

Beginning with the collection of Form EIA-923 in January 2008, the methodology for separating the fuel used for electricity generation and useful thermal output from combined heat and power plants changed. The new methodology was retroactively applied to 2004-2007, as well as 2008-2015. Beginning with the 2016 Form EIA-923 data, the methodology for separating the fuel used for electricity generation and useful thermal output from CHP plants was updated. This update will apply to the 2016 data and future data years. See the Technical Notes (Appendix C) for further information.

See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report; Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Table 3.24. Useful Thermal Output by Energy Source: Electric Power Sector Combined Heat and Power, 2014 - 2024
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Renewable Sources	Other	Total
Annual Totals								
2014	15,513	4,931	936	182,148	7,732	17,736	5,666	234,662
2015	16,036	4,894	1,143	178,167	7,161	16,999	5,180	229,580
2016	13,922	695	1,237	227,427	17,400	24,993	8,046	293,719
2017	11,269	627	1,267	192,299	17,798	24,279	7,422	254,961
2018	13,573	1,023	1,023	207,459	18,692	23,375	7,119	272,265
2019	12,759	655	1,019	197,106	19,684	26,057	7,544	264,823
2020	7,412	530	1,300	203,104	17,318	24,815	7,322	261,801
2021	6,793	891	1,180	191,119	16,931	22,963	5,547	245,424
2022	6,936	1,201	996	187,898	17,384	20,406	2,882	237,704
2023	4,653	982	1,208	188,431	17,627	19,046	3,244	235,191
2024	2,488	2,407	1,085	193,640	17,106	16,305	3,150	236,180
Year 2022								
January	674	213	89	17,433	1,426	2,155	278	22,268
February	637	55	109	15,602	1,380	1,874	224	19,881
March	742	104	99	16,051	1,420	1,863	210	20,489
April	611	77	87	13,952	1,648	1,563	235	18,171
May	533	78	85	14,840	1,825	1,323	229	18,913
June	475	83	68	15,765	1,497	1,492	248	19,628
July	488	69	14	17,425	1,467	1,601	285	21,350
August	568	71	85	16,961	1,407	1,603	264	20,959
September	541	81	85	15,310	1,403	1,546	215	19,182
October	539	92	88	14,489	1,350	1,529	229	18,317
November	582	99	89	14,166	1,161	1,865	200	18,162
December	546	179	98	15,903	1,399	1,993	265	20,384
Year 2023								
January	442	109	98	15,783	1,327	1,854	263	19,876
February	480	95	104	15,205	1,157	1,872	241	19,153
March	652	78	110	15,908	1,411	2,499	242	20,901
April	435	84	89	14,339	1,415	1,791	292	18,445
May	374	75	107	14,012	1,588	1,639	290	18,085
June	476	77	98	15,307	1,534	1,428	284	19,204
July	304	70	101	17,143	1,495	1,229	285	20,627
August	266	63	106	17,205	1,715	1,042	278	20,674
September	244	73	109	15,559	1,502	786	214	18,486
October	379	100	90	15,440	1,395	1,670	187	19,261
November	290	71	87	16,148	1,409	1,595	328	19,927
December	313	88	108	16,381	1,679	1,641	340	20,551
Year 2024								
January	290	239	100	17,376	1,477	1,786	349	21,616
February	258	77	87	15,881	1,167	1,532	287	19,289
March	317	79	99	16,072	1,576	1,470	296	19,910
April	193	319	72	13,883	1,435	1,330	260	17,492
May	231	196	79	15,182	1,189	1,144	242	18,264
June	189	138	108	16,097	1,516	1,000	235	19,283
July	166	401	107	17,927	1,386	1,183	249	21,420
August	144	211	125	18,422	1,495	1,194	272	21,863
September	146	77	84	16,736	1,375	1,172	206	19,795
October	162	111	8	15,860	1,596	1,201	213	19,151
November	144	126	85	14,604	1,356	1,568	183	18,067
December	247	432	130	15,601	1,538	1,725	358	20,030

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen. Prior to 2011, Other Fossil Gas included propane and synthesis gases.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, and solar thermal. Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

Beginning with the collection of Form EIA-923 in January 2008, the methodology for separating the fuel used for electricity generation and useful thermal output from combined heat and power plants changed. The new methodology was retroactively applied to 2004-2007, as well as 2008-2015. Beginning with the 2016 Form EIA-923 data, the methodology for separating the fuel used for electricity generation and useful thermal output from CHP plants was updated. This update will apply to the 2016 data and future data years. See the Technical Notes (Appendix C) for further information.

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Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

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Table 3.25. Useful Thermal Output by Energy Source: Commercial Sector Combined Heat and Power, 2014 - 2024
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Renewable Sources	Other	Total
Annual Totals								
2014	11,081	820	327	26,876	0	7,610	5,123	51,837
2015	7,966	823	325	26,498	0	8,228	5,641	49,482
2016	8,313	924	140	57,356	0	11,017	5,381	83,131
2017	7,360	806	234	71,149	0	10,762	5,140	95,450
2018	6,943	1,020	165	58,312	0	10,902	4,918	82,260
2019	6,211	1,346	95	56,356	0	8,307	3,335	75,650
2020	5,446	692	50	55,508	0	6,929	2,863	71,489
2021	5,975	820	88	50,047	0	6,377	2,825	66,132
2022	5,996	1,165	212	52,264	0	9,263	6,333	75,235
2023	4,334	908	50	49,140	0	8,717	6,303	69,453
2024	4,668	1,022	81	57,762	0	8,711	6,342	78,586
Year 2022								
January	682	303	27	5,178	0	834	561	7,584
February	652	81	25	4,604	0	761	485	6,606
March	438	97	27	4,509	0	745	487	6,303
April	298	75	23	4,035	0	663	483	5,576
May	304	75	29	3,921	0	779	542	5,651
June	428	38	26	4,061	0	865	557	5,975
July	487	68	19	4,727	0	848	591	6,738
August	496	60	0	4,787	0	878	591	6,812
September	503	29	5	4,021	0	743	537	5,838
October	499	37	0	3,770	0	665	475	5,447
November	571	48	11	3,980	0	781	560	5,951
December	639	255	21	4,671	0	702	465	6,752
Year 2023								
January	557	133	22	4,468	0	755	493	6,429
February	483	99	5	4,079	0	661	492	5,819
March	439	65	3	4,170	0	748	526	5,952
April	382	26	0	3,616	0	672	502	5,197
May	287	29	0	3,656	0	668	570	5,209
June	263	43	0	3,848	0	739	498	5,390
July	280	40	0	4,419	0	691	543	5,973
August	295	36	0	4,203	0	787	579	5,900
September	296	42	0	4,063	0	770	520	5,691
October	268	40	0	3,941	0	660	430	5,338
November	359	74	0	4,276	0	731	547	5,987
December	425	282	20	4,400	0	836	604	6,567
Year 2024								
January	721	214	21	5,683	0	841	571	8,051
February	531	102	9	4,993	0	724	550	6,909
March	397	115	0	4,790	0	685	540	6,527
April	346	80	0	4,098	0	546	404	5,474
May	225	98	16	3,809	0	710	540	5,398
June	299	188	18	4,525	0	741	541	6,311
July	307	26	0	5,295	0	825	573	7,026
August	327	18	0	5,176	0	671	477	6,669
September	327	18	0	4,627	0	740	507	6,219
October	334	26	0	4,547	0	706	539	6,152
November	406	46	0	4,815	0	734	545	6,545
December	448	91	18	5,405	0	788	556	7,305

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen. Prior to 2011, Other Fossil Gas included propane and synthesis gases.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, and solar thermal. Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Notes: Beginning with 2001 data, non-biogenic municipal solid waste and tire-derived fuels are reclassified as non-renewable energy sources and included in Other. Biogenic municipal solid waste is included in Other Renewable Sources.

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Table 3.26. Useful Thermal Output by Energy Source: Industrial Sector Combined Heat and Power, 2014 - 2024
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Fossil Gas	Renewable Sources	Other	Total
Annual Totals								
2014	199,512	6,120	22,167	334,901	97,137	596,087	10,600	1,266,524
2015	180,501	5,965	20,203	384,369	91,749	598,890	8,899	1,290,576
2016	173,589	6,792	18,692	478,068	131,481	655,831	11,904	1,476,358
2017	151,780	6,289	15,721	503,614	133,781	631,768	11,112	1,454,066
2018	142,671	7,535	15,281	521,936	153,985	622,699	11,118	1,475,224
2019	127,411	5,787	13,012	523,919	122,544	607,138	11,535	1,411,347
2020	114,031	5,078	10,863	548,938	117,730	568,537	10,702	1,375,879
2021	120,335	5,658	10,933	547,717	118,578	578,150	11,208	1,392,579
2022	116,212	13,837	10,375	537,793	115,764	555,335	9,245	1,358,561
2023	100,884	10,076	8,645	545,036	125,448	511,656	9,521	1,311,266
2024	97,987	4,589	9,094	554,896	129,154	505,459	9,238	1,310,416
Year 2022								
January	10,800	927	810	49,490	10,406	48,935	827	122,194
February	9,296	774	779	43,261	9,313	44,432	760	108,616
March	10,346	1,153	891	45,486	10,121	46,936	702	115,636
April	9,433	1,223	816	42,760	9,054	46,595	732	110,614
May	9,975	1,076	975	43,143	9,930	47,876	618	113,592
June	9,260	1,307	817	42,871	9,462	46,320	811	110,848
July	9,778	1,285	822	45,738	10,033	47,805	857	116,319
August	9,761	792	963	46,573	10,095	47,226	730	116,142
September	8,923	1,146	786	42,961	9,082	43,356	807	107,061
October	9,632	1,176	931	43,722	9,552	44,432	798	110,243
November	9,130	1,162	932	45,012	9,359	45,296	844	111,734
December	9,877	1,815	853	46,774	9,358	46,125	758	115,561
Year 2023								
January	9,826	1,296	559	48,140	10,576	47,447	816	118,660
February	8,491	1,334	345	42,775	9,666	41,382	742	104,735
March	8,685	1,041	905	46,609	10,728	45,062	756	113,786
April	7,998	1,260	802	42,614	10,191	39,561	609	103,034
May	8,452	500	868	44,063	10,358	42,904	585	107,730
June	7,826	478	740	44,839	10,425	39,045	752	104,105
July	8,597	534	709	46,224	10,778	41,615	726	109,184
August	7,843	691	771	45,820	10,589	42,588	712	109,013
September	7,959	655	760	45,007	11,002	41,743	646	107,772
October	7,928	581	757	43,791	11,142	41,115	765	106,078
November	8,436	821	721	45,921	9,634	44,267	1,189	110,989
December	8,845	886	708	49,233	10,359	44,926	1,223	116,179
Year 2024								
January	9,548	654	874	52,132	11,340	43,634	797	118,979
February	8,025	394	698	44,847	10,741	41,537	739	106,983
March	9,058	360	676	45,816	10,924	43,193	778	110,804
April	7,395	398	707	43,312	10,363	42,335	1,031	105,541
May	7,549	299	771	44,624	11,524	41,384	497	106,649
June	7,446	285	754	44,418	10,821	40,325	659	104,709
July	8,284	318	847	46,753	11,338	41,162	1,224	109,926
August	7,819	281	774	47,087	11,310	41,808	811	109,891
September	7,705	308	737	44,588	10,184	42,102	557	106,181
October	7,943	412	770	44,427	10,102	39,689	616	103,959
November	8,433	365	702	46,684	9,840	43,082	730	109,836
December	8,783	513	784	50,207	10,666	45,208	800	116,960

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen. Prior to 2011, Other Fossil Gas included propane and synthesis gases.

See the Technical Notes for fuel conversion factors.

Renewable Sources include wood, black liquor, other wood waste, biogenic municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, and solar thermal. Other includes hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

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**Table 3.27 Gross/Net Generation by Energy Storage Technology: Total (All Sectors), 2014 - 2024
(Thousand Megawatthours)**

Period	Generation at Utility Scale Facilities									
	Gross Generation					Net Generation				
	Battery	Compressed Air	Flywheels	Hydroelectric Pumped Storage	Total	Battery	Compressed Air	Flywheels	Hydroelectric Pumped Storage	Total
Annual Totals										
2014	24	9	47	20,054	20,133	-14	-2	-21	-6,174	-6,210
2015	76	8	49	20,111	20,244	-20	-7	-24	-5,091	-5,142
2016	142	17	43	22,443	22,645	-170	-8	-22	-6,686	-6,886
2017	383	12	62	22,752	23,209	-69	-8	-26	-6,495	-6,597
2018	358	6	67	21,503	21,934	-88	-6	-28	-5,905	-6,026
2019	456	6	59	20,772	21,293	-97	-7	-26	-5,281	-5,391
2020	557	6	53	21,073	21,689	-131	-5	-24	-5,321	-5,482
2021	1,507	23	46	20,618	22,194	-264	-6	-23	-5,112	-5,404
2022	3,808	26	49	22,466	26,349	-689	-6	-23	-6,028	-6,746
2023	6,696	2	42	22,132	28,872	-1,281	-4	-20	-5,990	-7,294
2024	14,936	1	22	23,151	38,109	-2,399	-2	-16	-5,852	-8,269
Year 2022										
January	201	1	4	1,626	1,832	-33	0	-2	-493	-528
February	224	0	3	1,375	1,602	-40	0	-2	-412	-453
March	225	0	4	1,566	1,795	-39	0	-2	-318	-359
April	248	1	4	1,216	1,468	-40	0	-2	-285	-307
May	287	2	4	1,874	2,167	-53	-1	-2	-467	-522
June	322	4	4	2,461	2,791	-57	-1	-2	-589	-649
July	345	4	4	2,726	3,081	-66	-1	-2	-788	-838
August	348	5	4	2,812	3,169	-67	-1	-2	-640	-710
September	349	3	4	2,191	2,546	-68	-1	-2	-598	-668
October	423	3	4	1,442	1,872	-78	-1	-2	-434	-515
November	416	1	4	1,524	1,946	-75	0	-2	-495	-572
December	421	2	4	1,653	2,081	-72	-1	-2	-548	-623
Year 2023										
January	474	0	4	1,574	2,051	-76	0	-2	-620	-698
February	403	0	4	1,482	1,889	-98	0	-2	-456	-556
March	484	0	4	1,579	2,067	-118	0	-2	-519	-639
April	497	0	4	1,465	1,965	-85	0	-2	-290	-377
May	477	0	4	1,880	2,360	-82	0	-2	-459	-543
June	510	0	4	2,299	2,813	-94	-1	-2	-551	-647
July	576	0	3	2,707	3,287	-121	-1	-2	-656	-779
August	606	0	3	2,678	3,287	-116	-1	-2	-653	-771
September	599	0	3	2,213	2,815	-123	0	-2	-553	-677
October	703	0	3	1,496	2,202	-123	0	-2	-372	-497
November	687	0	3	1,378	2,068	-118	0	-1	-347	-466
December	680	0	3	1,383	2,066	-128	0	-2	-514	-643
Year 2024										
January	744	0	2	1,642	2,388	-129	0	-1	-414	-545
February	827	0	2	1,557	2,386	-126	0	-1	-404	-532
March	969	0	2	1,276	2,247	-148	0	-1	-349	-498
April	1,078	0	2	1,526	2,606	-158	0	-1	-338	-498
May	1,114	0	2	2,166	3,282	-177	0	-1	-284	-462
June	1,186	0	2	2,605	3,793	-209	0	-2	-579	-789
July	1,370	0	2	2,902	4,275	-224	0	-1	-639	-865
August	1,448	0	2	2,822	4,272	-239	0	-2	-798	-1,039
September	1,371	0	1	2,169	3,541	-228	0	-1	-637	-867
October	1,565	0	2	1,429	2,997	-261	0	-2	-439	-702
November	1,553	0	2	1,443	2,999	-237	0	-1	-490	-728
December	1,710	0	2	1,614	3,325	-261	0	-1	-481	-744

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 Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.
 Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.
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Chapter 4

Generation Capacity

Table 4.1. Count of Electric Power Industry Power Plants, by Sector, by Predominant Energy Sources within Plant, 2014 through 2024

Year	Coal	Petroleum	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Other Renewables	Hydroelectric Pumped Storage	Other Energy Sources
Total (All Sectors)									
2014	491	1,082	1,749	43	62	1,441	2,674	41	94
2015	427	1,082	1,779	45	62	1,440	3,043	41	83
2016	381	1,076	1,801	45	61	1,451	3,624	40	117
2017	359	1,080	1,820	44	61	1,458	4,174	40	148
2018	336	1,087	1,854	46	60	1,458	4,667	40	171
2019	308	1,090	1,899	43	58	1,452	5,244	40	212
2020	284	1,091	1,926	42	56	1,446	5,918	40	267
2021	269	1,104	2,020	37	55	1,449	6,579	40	372
2022	242	1,084	2,073	33	54	1,445	7,084	40	483
2023	227	1,075	2,084	35	54	1,441	7,684	40	617
2024	219	1,065	2,078	34	56	1,433	8,503	39	791
Electric Utilities									
2014	286	780	803	1	32	889	272	35	20
2015	256	782	816	1	32	890	318	35	15
2016	230	771	819	1	31	893	375	35	36
2017	219	765	820	1	31	894	417	35	53
2018	206	751	819	1	31	896	462	35	60
2019	194	743	818	1	31	898	512	35	71
2020	181	743	820	1	31	892	586	35	78
2021	169	739	813	1	31	879	649	34	86
2022	157	726	835	1	31	875	709	34	104
2023	148	721	837	1	31	873	782	34	132
2024	145	717	844	1	31	867	899	33	175
Independent Power Producers, Non-Combined Heat and Power Plants									
2014	87	148	395	1	30	499	2,006	5	18
2015	80	143	397	--	30	497	2,309	5	21
2016	75	142	406	--	30	500	2,826	5	34
2017	71	145	415	--	30	505	3,320	5	43
2018	65	140	450	--	29	514	3,749	5	59
2019	59	141	476	--	27	506	4,251	5	74
2020	56	135	491	--	25	506	4,847	5	119
2021	56	150	521	--	24	521	5,429	6	214
2022	46	139	548	--	23	521	5,833	6	306
2023	43	135	562	--	23	520	6,359	6	409
2024	42	131	551	--	25	519	7,060	6	539
Independent Power Producers, Combined Heat and Power Plants									
2014	30	9	145	2	--	--	54	--	7
2015	27	8	143	3	--	--	58	--	3
2016	24	7	143	3	--	--	57	--	2
2017	22	7	138	3	--	--	56	--	3
2018	19	8	133	3	--	--	56	--	3
2019	14	6	128	3	--	--	56	--	3
2020	12	7	121	3	--	--	56	--	4
2021	11	8	122	3	--	--	52	--	4
2022	8	7	119	3	--	--	54	--	3
2023	8	7	118	3	--	--	52	--	3
2024	7	7	117	3	--	1	49	--	3
Commercial Sector									
2014	17	93	169	--	--	10	178	1	6
2015	12	94	176	--	--	10	186	1	3
2016	9	101	181	--	--	14	195	--	3
2017	9	112	189	--	--	15	203	--	4
2018	7	139	192	--	--	15	220	--	5
2019	6	152	203	--	--	15	242	--	20
2020	4	156	220	--	--	15	240	--	21
2021	4	160	281	--	--	16	255	--	24
2022	3	161	287	--	--	17	277	--	26
2023	3	163	285	--	--	17	278	--	28
2024	3	162	285	--	--	16	270	--	29
Industrial Sector									
2014	71	52	237	39	--	43	164	--	43
2015	52	55	247	41	--	43	172	--	41
2016	43	55	252	41	--	44	171	--	42
2017	38	51	258	40	--	44	178	--	45
2018	39	49	260	42	--	33	180	--	44
2019	35	48	274	39	--	33	183	--	44
2020	31	50	274	38	--	33	189	--	45
2021	29	47	283	33	--	33	194	--	44
2022	28	51	284	29	--	32	211	--	44
2023	25	49	282	31	--	31	213	--	45
2024	22	48	281	30	--	30	225	--	45

Notes: The number of power plants for each energy source is the number of sites for which the respective energy source was reported as the most predominant energy source for at least one of its generators. If all generators for a site have the same energy source reported as the most predominant, that site will be counted once under that energy source. However, if the most predominant energy source is not the same for all generators within a site, the site is counted more than once, based on the number of most predominant energy sources for generators at a site. In general, this table translates the number of generators by energy source into the number of sites represented by the generators for an energy source. Therefore, the count for Total (All Sectors) above is the sum of the counts for each sector by energy source and does not necessarily represent unique sites. In addition, changes to predominant energy sources and status codes from year to year may result in changes to previously-posted data. Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator. In 2011, EIA corrected the NAICS codes of several plants which resulted in a net capacity shift from the electric utility sector to the commercial sector. Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.2.A. Existing Net Summer Capacity by Energy Source and Producer Type, 2014 through 2024 (Megawatts)

Year	Utility Scale Capacity										Small Scale Capacity Estimated Photovoltaic
	Coal	Petroleum	Natural Gas	Other Fossil Gas	Nuclear	Hydroelectric Conventional	Other Renewable Sources	Hydroelectric Pumped Storage	Other Energy Sources	Utility Total	
Total (All Sectors)											
2014	299,094.2	41,135.4	432,150.3	1,914.3	98,569.3	79,677.3	90,603.7	22,485.1	2,792.6	1,068,422.2	7,326.6
2015	279,719.9	36,830.3	439,425.4	2,500.4	98,672.0	79,664.2	102,871.6	22,575.1	1,795.6	1,064,054.5	9,778.5
2016	266,619.9	34,382.4	446,823.2	2,456.9	99,564.8	79,912.9	119,778.9	22,778.7	2,015.1	1,074,332.8	12,765.1
2017	256,547.3	33,306.7	456,011.6	2,375.8	99,628.9	79,794.5	131,008.1	22,810.4	2,886.3	1,084,369.6	16,147.8
2018	242,785.6	32,218.2	470,236.9	2,543.9	99,432.9	79,871.8	142,473.6	22,830.2	2,346.7	1,094,739.8	19,547.1
2019	228,657.4	31,400.3	476,567.4	2,499.2	98,119.0	79,773.1	156,708.2	22,778.3	2,606.4	1,099,109.3	23,213.6
2020	215,554.2	27,569.3	485,807.2	2,275.2	96,500.6	79,924.3	181,954.5	23,016.2	3,079.3	1,115,680.8	27,584.8
2021	209,825.7	28,204.5	491,870.2	1,888.0	95,546.4	79,909.7	209,292.6	23,007.7	6,311.3	1,145,856.1	33,081.0
2022	189,316.3	30,775.3	502,396.9	1,728.2	94,658.9	80,067.6	229,039.1	23,043.9	10,405.6	1,161,431.8	39,828.0
2023	178,441.7	29,440.7	507,535.8	1,866.8	95,712.2	79,985.3	253,964.6	23,147.4	17,450.9	1,187,545.4	47,774.7
2024	174,177.6	28,649.7	506,371.0	1,678.1	98,391.2	79,896.5	289,658.2	23,156.6	28,436.4	1,230,415.2	53,228.1
Electric Utilities											
2014	219,837.9	24,045.0	215,690.8	12.0	52,390.9	73,725.4	10,893.7	19,121.3	914.5	616,631.5	--
2015	202,922.4	22,269.7	223,215.6	12.0	52,457.2	73,713.0	12,654.3	19,211.3	87.5	606,543.0	--
2016	193,122.6	20,285.5	229,677.1	12.0	53,274.1	73,879.3	14,236.4	19,398.3	236.1	604,124.4	--
2017	186,623.1	19,999.9	236,557.8	12.0	53,343.6	73,739.5	15,281.3	19,430.0	519.3	605,506.5	--
2018	179,047.8	18,642.6	241,477.0	12.0	53,725.6	73,818.2	18,155.9	19,449.8	341.8	604,670.7	--
2019	171,088.7	18,219.8	247,018.9	12.0	53,880.6	73,719.7	20,745.8	19,428.9	418.3	604,532.7	--
2020	163,886.7	14,723.5	252,902.3	12.0	54,002.7	73,855.3	27,910.6	19,668.8	438.3	607,398.2	--
2021	157,681.0	15,660.6	257,969.4	12.0	53,917.1	73,316.9	33,028.9	19,235.3	958.5	611,779.7	--
2022	146,127.6	16,411.3	266,709.4	12.0	53,862.9	73,482.6	35,629.0	19,279.1	1,298.5	612,812.4	--
2023	139,158.0	15,291.5	270,951.7	12.0	54,917.4	73,467.1	41,569.6	19,377.1	1,917.6	616,662.0	--
2024	135,786.0	14,931.4	273,739.3	12.0	55,949.3	73,378.7	48,099.6	19,385.6	2,861.5	624,143.3	--
Independent Power Producers, Non-Combined Heat and Power Plants											
2014	71,994.6	15,724.4	172,224.5	47.0	46,178.4	5,651.2	72,144.4	3,358.4	238.7	387,561.6	--
2015	70,217.8	13,102.9	172,519.2	--	46,214.8	5,650.5	82,014.6	3,358.4	354.3	393,432.5	--
2016	67,667.7	12,587.4	173,456.8	--	46,290.7	5,676.9	97,408.4	3,380.4	487.5	406,954.8	--
2017	64,419.3	11,777.0	176,029.0	--	46,285.3	5,697.9	107,618.0	3,380.4	989.3	416,196.2	--
2018	58,716.2	11,733.2	186,542.1	--	45,707.3	5,770.0	116,197.3	3,380.4	670.1	428,716.6	--
2019	53,646.5	11,514.8	187,715.6	--	44,238.4	5,764.3	127,964.3	3,349.4	760.7	434,954.0	--
2020	48,069.4	11,007.6	190,621.4	--	42,497.9	5,780.6	145,809.5	3,349.4	1,204.4	448,340.2	--
2021	48,742.4	10,672.5	190,877.6	--	41,629.3	6,293.8	168,330.4	3,772.4	3,891.7	474,210.1	--
2022	40,460.6	12,386.6	192,400.0	--	40,796.0	6,288.7	185,017.6	3,764.8	7,811.0	488,925.3	--
2023	36,615.5	12,249.2	193,777.0	--	40,794.8	6,224.0	204,050.1	3,770.3	14,192.5	511,673.4	--
2024	36,051.2	11,795.8	190,783.5	--	42,441.9	6,228.4	233,407.1	3,771.0	24,234.5	548,713.3	--
Independent Power Producers, Combined Heat and Power Plants											
2014	4,073.0	308.2	27,676.7	83.0	--	--	885.9	--	335.8	33,362.6	--
2015	3,843.6	307.2	27,284.1	350.0	--	--	970.5	--	126.0	32,881.4	--
2016	3,552.4	301.2	27,222.4	350.0	--	--	1,068.3	--	19.0	32,513.3	--
2017	3,338.0	301.2	26,922.1	350.0	--	--	969.8	--	21.0	31,902.1	--
2018	2,922.0	458.0	25,658.1	350.0	--	--	884.2	--	21.0	30,293.3	--
2019	2,074.1	298.8	24,782.0	350.0	--	--	944.9	--	112.0	28,561.8	--
2020	1,994.2	450.8	24,635.8	350.0	--	--	952.0	--	113.0	28,495.8	--
2021	1,902.6	452.2	24,611.8	350.0	--	--	888.1	--	113.0	28,317.7	--
2022	1,283.9	449.9	24,506.3	350.0	--	--	856.8	--	17.0	27,462.9	--
2023	1,245.0	451.1	24,172.2	350.0	--	--	770.0	--	31.0	27,019.3	--
2024	939.2	451.1	23,371.7	322.0	--	7.2	750.6	--	31.0	25,872.8	--
Commercial Sector											
2014	290.1	463.5	1,832.6	--	--	21.4	1,066.8	5.4	15.6	3,695.4	3,279.7
2015	226.6	466.1	1,932.5	--	--	21.4	1,126.5	5.4	6.7	3,785.2	3,706.7
2016	202.4	511.0	1,982.6	--	--	74.5	1,132.0	--	6.7	3,909.2	4,022.8
2017	202.4	596.5	2,018.7	--	--	74.9	1,162.0	--	11.6	4,066.1	5,155.8
2018	144.2	823.6	2,157.6	--	--	74.7	1,241.5	--	13.0	4,454.6	6,271.4
2019	123.2	856.7	2,247.5	--	--	74.9	1,218.6	--	49.1	4,570.0	7,167.9
2020	77.6	875.1	2,345.0	--	--	74.2	1,217.9	--	51.8	4,641.6	8,376.1
2021	77.6	912.5	2,272.7	--	--	84.8	1,373.0	--	51.1	4,771.7	9,752.0
2022	47.9	958.1	2,378.2	--	--	87.5	1,925.2	--	53.1	5,450.0	11,212.3
2023	47.9	960.5	2,347.4	--	--	87.5	1,927.1	--	55.1	5,425.5	12,605.1
2024	47.9	985.8	2,408.3	--	--	81.3	1,848.0	--	55.6	5,427.0	14,014.0
Industrial Sector											
2014	2,898.6	594.3	14,725.7	1,772.3	--	279.3	5,612.9	--	1,288.0	27,171.1	700.6
2015	2,509.5	684.4	14,474.0	2,138.4	--	279.3	6,105.7	--	1,221.1	27,412.4	880.3
2016	2,074.8	697.3	14,485.3	2,094.9	--	282.2	5,933.8	--	1,265.8	26,834.1	1,215.3
2017	1,964.5	632.1	14,484.0	2,013.8	--	282.2	5,977.0	--	1,345.1	26,698.7	1,365.1
2018	1,955.4	560.8	14,402.1	2,181.9	--	208.9	5,994.7	--	1,300.8	26,604.6	1,554.4
2019	1,724.9	510.2	14,803.4	2,137.2	--	214.2	5,834.6	--	1,266.3	26,490.8	1,796.6
2020	1,526.3	512.3	15,302.7	1,913.2	--	214.2	6,064.5	--	1,271.8	26,805.0	2,045.3
2021	1,422.1	506.7	16,138.7	1,526.0	--	214.2	5,672.2	--	1,297.0	26,776.9	2,212.7
2022	1,396.3	569.4	16,404.0	1,366.2	--	208.8	5,610.5	--	1,226.0	26,781.2	2,321.7
2023	1,375.3	488.4	16,287.5	1,504.8	--	206.7	5,647.8	--	1,254.7	26,765.2	2,558.3
2024	1,353.3	485.6	16,068.4	1,344.1	--	200.9	5,552.9	--	1,253.8	26,258.9	2,712.2
Residential Sector											
2014	--	--	--	--	--	--	--	--	--	--	3,346.3
2015	--	--	--	--	--	--	--	--	--	--	5,191.5
2016	--	--	--	--	--	--	--	--	--	--	7,527.0
2017	--	--	--	--	--	--	--	--	--	--	9,626.8
2018	--	--	--	--	--	--	--	--	--	--	11,720.4
2019	--	--	--	--	--	--	--	--	--	--	14,249.0
2020	--	--	--	--	--	--	--	--	--	--	17,163.3
2021	--	--	--	--	--	--	--	--	--	--	21,116.2
2022	--	--	--	--	--	--	--	--	--	--	26,294.0
2023	--	--	--	--	--	--	--	--	--	--	32,611.3
2024	--	--	--	--	--	--	--	--	--	--	36,501.8

Notes: Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; coal syrefuel and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011, coal-derived synthesis gas was included in Other Fossil Gas. Petroleum includes distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology), waste oil, and beginning in 2011, synthetic gas and propane. Prior to 2011, synthetic gas and propane were included in Other Fossil Gas. Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen. Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities. Other Renewable Sources include wood, black liquor, other wood waste, municipal solid waste, landfill gas, sludge waste, agriculture byproducts, other biomass, geothermal, solar thermal, photovoltaic energy, and wind. Other Energy Sources include hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources. In 2011, EIA corrected the NAICS codes of several plants which resulted in a net capacity shift from the electric utility sector to the commercial sector. Source: U.S. Energy Information Administration, Form EIA-860, Annual Electric Generator Report. Estimated small scale solar photovoltaic generation and capacity are based on data from Form EIA-826, Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 4.2.B. Existing Net Summer Capacity of Other Renewable Sources by Producer Type, 2014 through 2024 (Megawatts) (Page 1)

Utility Scale Capacity								Utility and Small Scale Capacity			
Year	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Geothermal	Other Biomass	Total Utility (Other Renewable Sources)	Estimated Small Scale Photovoltaic	Total Solar Photovoltaic	Total Solar	
Total (All Sectors)											
2014	64,231.5	8,656.6	1,666.7	8,368.1	2,514.3	5,166.5	90,603.7	7,326.6	15,983.2	17,649.9	
2015	72,573.4	11,905.4	1,757.9	8,968.9	2,541.5	5,124.5	102,871.6	9,778.5	21,683.9	23,441.8	
2016	81,286.6	20,192.9	1,757.9	8,936.1	2,516.6	5,088.8	119,778.9	12,765.1	32,958.0	34,715.9	
2017	87,597.5	25,209.0	1,757.9	8,830.9	2,483.3	5,129.5	131,008.1	16,147.8	41,356.8	43,114.7	
2018	94,417.7	30,120.5	1,757.9	8,694.6	2,444.3	5,038.6	142,473.6	19,547.1	49,667.6	51,425.5	
2019	103,571.2	35,710.2	1,758.1	8,374.5	2,555.4	4,738.8	156,708.2	23,213.6	58,923.8	60,681.9	
2020	118,378.7	46,306.2	1,747.9	8,326.5	2,571.9	4,623.3	181,954.5	27,584.8	73,891.0	75,638.9	
2021	132,753.4	60,070.1	1,480.0	7,923.2	2,596.7	4,469.2	209,292.6	33,081.0	93,151.1	94,631.1	
2022	141,402.2	71,381.5	1,480.0	7,804.5	2,648.6	4,322.3	229,039.1	39,828.0	111,209.5	112,689.5	
2023	147,444.7	90,517.8	1,480.0	7,693.1	2,695.8	4,133.2	253,964.6	47,774.7	138,292.5	139,772.5	
2024	152,097.3	122,061.8	1,392.0	7,414.8	2,695.5	3,996.9	289,658.2	53,228.1	175,289.9	176,681.9	
Electric Utilities											
2014	9,022.6	568.5	--	654.8	164.1	483.7	10,893.7	--	568.5	568.5	
2015	10,580.9	842.9	--	623.8	165.9	440.8	12,654.3	--	842.9	842.9	
2016	11,552.6	1,388.4	--	708.8	167.9	418.7	14,236.4	--	1,388.4	1,388.4	
2017	12,150.8	1,724.5	--	811.3	161.9	432.8	15,281.3	--	1,724.5	1,724.5	
2018	14,031.7	2,683.5	--	807.0	148.8	484.9	18,155.9	--	2,683.5	2,683.5	
2019	15,715.0	3,851.4	--	696.2	146.5	336.7	20,745.8	--	3,851.4	3,851.4	
2020	20,788.5	5,965.4	--	670.8	149.5	336.4	27,910.6	--	5,965.4	5,965.4	
2021	23,991.7	7,979.1	--	627.7	149.5	280.9	33,028.9	--	7,979.1	7,979.1	
2022	24,445.7	10,141.2	--	628.6	149.5	264.0	35,629.0	--	10,141.2	10,141.2	
2023	26,855.3	13,691.6	--	628.6	158.5	235.6	41,569.6	--	13,691.6	13,691.6	
2024	27,574.3	19,502.8	--	612.6	158.5	251.5	48,099.6	--	19,502.8	19,502.8	
Independent Power Producers, Non-Combined Heat and Power Plants											
2014	55,133.0	7,857.0	1,666.7	1,816.6	2,308.8	3,362.3	72,144.4	--	7,857.0	9,523.7	
2015	61,905.4	10,768.2	1,757.9	1,873.3	2,375.6	3,334.2	82,014.6	--	10,768.2	12,526.1	
2016	69,645.4	18,483.3	1,757.9	1,789.6	2,348.7	3,383.5	97,408.4	--	18,483.3	20,241.2	
2017	75,346.6	23,127.0	1,757.9	1,649.1	2,321.4	3,416.0	107,618.0	--	23,127.0	24,884.9	
2018	80,267.6	27,055.8	1,757.9	1,576.2	2,246.1	3,293.7	116,197.3	--	27,055.8	28,813.7	
2019	87,737.8	31,416.4	1,758.1	1,475.7	2,359.5	3,216.8	127,964.3	--	31,416.4	33,174.5	
2020	97,242.6	39,868.8	1,747.9	1,463.3	2,373.0	3,113.9	145,809.5	--	39,868.8	41,616.7	
2021	108,637.2	51,546.2	1,480.0	1,339.8	2,373.0	2,954.2	168,330.4	--	51,546.2	53,026.2	
2022	116,829.6	60,617.7	1,480.0	1,318.3	2,499.1	2,272.9	185,017.6	--	60,617.7	62,097.7	
2023	120,466.5	76,128.3	1,480.0	1,320.0	2,537.3	2,118.0	204,050.1	--	76,128.3	77,608.3	
2024	124,376.6	101,819.0	1,392.0	1,198.8	2,537.0	2,083.6	233,407.1	--	101,819.0	103,211.0	

Notes: Wood and wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Biomass includes municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

* = Value is less than half of the smallest unit of measure.

Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Estimated small scale solar photovoltaic generation capacity are based on data from Form EIA-826, Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 4.2.B. Existing Net Summer Capacity of Other Renewable Sources by Producer Type, 2014 through 2024 (Megawatts) (Page 2)

Utility Scale Capacity								Utility and Small Scale Capacity			
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Year	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Geothermal	Other Biomass	Total Utility (Other Renewable Sources)	Estimated Small Scale Photovoltaic	Total Solar Photovoltaic	Total Solar
Independent Power Producers, Combined Heat and Power Plants										
2014	--	--	--	465.5	41.4	379.0	885.9	--	--	--
2015	--	--	--	568.2	--	402.3	970.5	--	--	--
2016	--	1.0	--	667.2	--	400.1	1,068.3	--	1.0	1.0
2017	--	2.5	--	582.0	--	385.3	969.8	--	2.5	2.5
2018	--	3.3	--	492.7	--	388.2	884.2	--	3.3	3.3
2019	--	3.3	--	554.7	--	386.9	944.9	--	3.3	3.3
2020	--	3.9	--	563.2	--	384.9	952.0	--	3.9	3.9
2021	--	3.9	--	467.2	--	417.0	888.1	--	3.9	3.9
2022	--	4.1	--	467.2	--	385.5	856.8	--	4.1	4.1
2023	--	3.9	--	382.2	--	383.9	770.0	--	3.9	3.9
2024	--	3.9	--	396.1	--	350.6	750.6	--	3.9	3.9
Commercial Sector										
2014	51.6	223.4	--	65.4	--	726.4	1,066.8	3,279.7	3,503.1	3,503.1
2015	55.3	282.1	--	65.3	--	723.8	1,126.5	3,706.7	3,988.8	3,988.8
2016	56.8	300.8	--	67.1	--	707.3	1,132.0	4,022.8	4,323.6	4,323.6
2017	60.8	311.6	--	63.1	--	726.5	1,162.0	5,155.8	5,467.4	5,467.4
2018	73.4	330.6	--	63.1	49.4	725.0	1,241.5	6,271.4	6,602.0	6,602.0
2019	73.4	381.1	--	63.1	49.4	651.6	1,218.6	7,167.9	7,549.0	7,549.0
2020	67.6	385.1	--	63.3	49.4	652.5	1,217.9	8,376.1	8,761.2	8,761.2
2021	67.8	412.9	--	137.3	74.2	680.8	1,373.0	9,752.0	10,164.9	10,164.9
2022	70.2	444.3	--	137.3	--	1,273.4	1,925.2	11,212.3	11,656.6	11,656.6
2023	69.2	448.6	--	137.3	--	1,272.0	1,927.1	12,605.1	13,053.7	13,053.7
2024	69.2	435.8	--	136.0	--	1,207.0	1,848.0	14,014.0	14,449.9	14,449.9
Industrial Sector										
2014	24.3	7.7	--	5,365.8	--	215.1	5,612.9	700.6	708.3	708.3
2015	31.8	12.2	--	5,838.3	--	223.4	6,105.7	880.3	892.5	892.5
2016	31.8	19.4	--	5,703.4	--	179.2	5,933.8	1,215.3	1,234.7	1,234.7
2017	39.3	43.4	--	5,725.4	--	168.9	5,977.0	1,365.1	1,408.5	1,408.5
2018	45.0	47.3	--	5,755.6	--	146.8	5,994.7	1,555.4	1,602.7	1,602.7
2019	45.0	58.0	--	5,584.8	--	146.8	5,834.6	1,796.6	1,854.6	1,854.6
2020	280.0	83.0	--	5,565.9	--	135.6	6,064.5	2,045.3	2,128.3	2,128.3
2021	56.7	128.0	--	5,351.2	--	136.3	5,672.2	2,212.7	2,340.7	2,340.7
2022	56.7	174.2	--	5,253.1	--	126.5	5,610.5	2,321.7	2,495.9	2,495.9
2023	53.7	245.4	--	5,225.0	--	123.7	5,647.8	2,558.3	2,803.7	2,803.7
2024	77.2	300.2	--	5,071.3	--	104.2	5,552.9	2,712.2	3,012.4	3,012.4
Residential Sector										
2014	--	--	--	--	--	--	--	3,346.3	3,346.3	3,346.3
2015	--	--	--	--	--	--	--	5,191.5	5,191.5	5,191.5
2016	--	--	--	--	--	--	--	7,527.0	7,527.0	7,527.0
2017	--	--	--	--	--	--	--	9,626.8	9,626.8	9,626.8
2018	--	--	--	--	--	--	--	11,720.4	11,720.4	11,720.4
2019	--	--	--	--	--	--	--	14,249.0	14,249.0	14,249.0
2020	--	--	--	--	--	--	--	17,163.3	17,163.3	17,163.3
2021	--	--	--	--	--	--	--	21,116.2	21,116.2	21,116.2
2022	--	--	--	--	--	--	--	26,294.0	26,294.0	26,294.0
2023	--	--	--	--	--	--	--	32,611.3	32,611.3	32,611.3
2024	--	--	--	--	--	--	--	36,501.8	36,501.8	36,501.8

Notes: Wood and wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Biomass includes municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

* = Value is less than half of the smallest unit of measure.

Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Estimated small scale solar photovoltaic generation capacity are based on data from Form EIA-826, Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 4.3. Existing Capacity by Energy Source, 2024 (Megawatts)

Energy Source	Facility Type	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	Utility Scale	462	188,951.9	174,177.6	175,340.0
Petroleum	Utility Scale	3,884	33,324.0	28,649.7	31,934.5
Natural Gas	Utility Scale	6,693	571,226.5	506,371.0	542,188.3
Other Fossil Gas	Utility Scale	70	1,871.1	1,678.1	1,692.4
Nuclear	Utility Scale	96	103,581.2	98,391.2	100,774.4
Hydroelectric Conventional	Utility Scale	3,978	79,982.5	79,896.5	79,346.3
Wind	Utility Scale	1,563	153,489.1	152,097.3	152,188.0
Solar Photovoltaic	Utility Scale	7,141	122,907.1	122,061.8	121,433.9
Solar Thermal	Utility Scale	12	1,405.0	1,392.0	1,288.5
Wood and Wood-Derived Fuels	Utility Scale	288	8,369.9	7,414.8	7,529.9
Geothermal	Utility Scale	163	4,002.1	2,695.5	3,162.2
Other Biomass	Utility Scale	1,493	4,549.8	3,996.9	4,050.5
Hydroelectric Pumped Storage	Utility Scale	150	22,224.1	23,156.6	23,180.5
Other Energy Sources	Utility Scale	861	28,856.2	28,436.4	28,474.6
Total	Utility Scale	26,854	1,324,740.5	1,230,415.2	1,272,583.9
Small Scale Photovoltaic	Small Scale	--	--	53,228.1	--
Estimated Total Photovoltaic	Utility and Small Scale	--	--	175,289.9	--
Estimated Total Solar	Utility and Small Scale	--	--	176,681.9	--

Notes: Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; coal synfuel and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011, coal-derived synthesis gas was included in Other Fossil Gas.

Petroleum includes distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology), waste oil, and beginning in 2011, synthetic gas and propane. Prior to 2011, synthetic gas and propane were included in Other Fossil Gas.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen. Prior to 2011, waste heat was included in Natural Gas.

Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.

Wood and wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Biomass include municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.

Other Energy Sources include hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.

In 2011, EIA corrected the NAICS codes of several plants which resulted in a net capacity shift from the electric utility sector to the commercial sector.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Estimated small scale solar photovoltaic capacity is based on data from Form EIA-826, Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 4.4. Existing Capacity by Producer Type, 2024 (Megawatts)

Producer Type	Facility Type	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Electric Power Sector					
Electric Utilities	Utility Scale	9,814	678,231.8	624,143.3	647,698.3
Independent Power Producers, Non-Combined Heat and Power Plants	Utility Scale	13,224	581,128.7	548,713.3	563,474.0
Independent Power Producers, Combined Heat and Power Plants	Utility Scale	438	29,222.8	25,872.8	27,868.1
Total	Utility Scale	23,476	1,288,583.3	1,198,729.3	1,239,040.4
Commercial and Industrial Sectors					
Commercial Sector	Utility Scale	1,888	5,911.4	5,427.0	5,524.1
Industrial Sector	Utility Scale	1,490	30,245.8	26,258.9	28,019.3
Total	Utility Scale	3,378	36,157.2	31,685.9	33,543.4
All Sectors					
Total	Utility Scale	26,854	1,324,740.5	1,230,415.2	1,272,583.9
Small Scale					
Estimated Solar Photovoltaic	Small Scale	--	--	53,228.1	--

Notes:

See Glossary reference for definitions.

Totals may not equal sum of components because of independent rounding.

In the case of some wind, solar and wave energy sites, the capacity for multiple generators is reported in a single generator record and is presented as a single generator in the generator count. Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Estimated small scale solar photovoltaic capacity is based on data from Form EIA-826, Form EIA-861M, Form EIA-861 and from estimation methods described in the technical notes.

Table 4.5. Planned Utility-Scale Generating Capacity Changes, by Energy Source, 2025-2029 (Page 1)

Energy Source	Generator Additions		Generator Retirements		Net Capacity Additions	
	Number of Generators	Net Summer Capacity	Number of Generators	Net Summer Capacity	Number of Generators	Net Summer Capacity
Year 2025						
U.S. Total	953	64,330.8	107	8,745.8	846	55,585.0
Coal	--	--	15	6,163.1	-15	-6,163.1
Petroleum	9	29.1	37	763.2	-28	-734.1
Natural Gas	94	4,725.8	26	1,635.7	68	3,090.1
Other Fossil Gas	--	--	3	62.2	-3	-62.2
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	10	14.4	1	0.5	9	13.9
Wind	39	7,445.1	2	6.6	37	7,438.5
Solar Thermal and Photovoltaic	580	32,689.2	3	1.8	577	32,687.4
Wood and Wood-Derived Fuels	1	3.0	2	90.0	-1	-87.0
Geothermal	--	--	--	--	--	--
Other Biomass	7	10.4	15	14.7	-8	-4.3
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	213	19,413.8	3	8.0	210	19,405.8
Year 2026						
U.S. Total	623	72,360.7	81	7,884.4	542	64,476.4
Coal	--	--	8	3,449.9	-8	-3,449.9
Petroleum	3	22.8	3	19.7	--	3.1
Natural Gas	55	5,960.3	41	4,386.9	14	1,573.4
Other Fossil Gas	--	--	1	0.8	-1	-0.8
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	5	11.8	--	--	5	11.8
Wind	35	10,369.1	9	1.5	26	10,367.6
Solar Thermal and Photovoltaic	345	36,389.3	6	9.6	339	36,379.7
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	6	47.5	--	--	6	47.5
Other Biomass	7	59.2	12	11.0	-5	48.2
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	167	19,500.7	1	5.0	166	19,495.7
Year 2027						
U.S. Total	460	73,389.7	69	11,321.9	391	62,067.8
Coal	--	--	19	6,751.0	-19	-6,751.0
Petroleum	5	17.0	4	8.0	1	9.0
Natural Gas	45	5,676.6	20	4,418.8	25	1,257.8
Other Fossil Gas	--	--	--	--	--	--
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	21	63.2	11	18.6	10	44.6
Wind	25	7,552.5	1	80.0	24	7,472.5
Solar Thermal and Photovoltaic	240	40,110.7	4	3.8	236	40,106.9
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	3	56.7	--	--	3	56.7
Other Biomass	12	106.4	9	40.7	3	65.7
Hydroelectric Pumped Storage	3	600.0	--	--	3	600.0
Other Energy Sources	106	19,206.6	1	1.0	105	19,205.6

Notes: These data reflect plans as of December 31, 2024

Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, coal synfuel, refined coal, and coal-derived synthesis gas.

Petroleum includes distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology), waste oil, synthetic gas, and propane.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.

Wood and wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Biomass include municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.

Other Energy Sources include hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.

In the case of wind, solar and wave energy sites, the capacity for multiple generators is reported in a single generator record and is presented as a single generator in the generator count.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.5. Planned Generating Capacity Changes, by Energy Source, 2025-2029 (Page 2)

Energy Source	Generator Additions		Generator Retirements		Net Capacity Additions	
	Number of Generators	Net Summer Capacity	Number of Generators	Net Summer Capacity	Number of Generators	Net Summer Capacity
Year 2028						
U.S. Total	270	48,509.1	50	12,789.5	220	35,719.6
Coal	--	--	17	11,420.0	-17	-11,420.0
Petroleum	3	10.9	7	38.4	-4	-27.5
Natural Gas	66	12,259.2	15	1,232.9	51	11,026.3
Other Fossil Gas	--	--	--	--	--	--
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	33	134.8	2	3.4	31	131.4
Wind	8	2,380.1	2	87.0	6	2,293.1
Solar Thermal and Photovoltaic	92	18,958.6	7	7.8	85	18,950.8
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	1	1.8	--	--	1	1.8
Other Biomass	--	--	--	--	--	--
Hydroelectric Pumped Storage	8	2,000.0	--	--	8	2,000.0
Other Energy Sources	59	12,763.7	--	--	59	12,763.7
Year 2029						
U.S. Total	68	17,029.5	18	5,752.9	50	11,276.6
Coal	--	--	7	3,327.9	-7	-3,327.9
Petroleum	--	--	3	704.0	-3	-704.0
Natural Gas	17	5,590.8	7	1,682.0	10	3,908.8
Other Fossil Gas	--	--	--	--	--	--
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	7	6.3	--	--	7	6.3
Wind	10	3,170.2	--	--	10	3,170.2
Solar Thermal and Photovoltaic	22	5,514.2	--	--	22	5,514.2
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	--	--	--	--	--	--
Other Biomass	--	--	1	39.0	-1	-39.0
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	12	2,748.0	--	--	12	2,748.0
Years 2025-2029						
U.S. Total	2,374	275,619.8	325	46,494.5	2,049	229,125.3
Coal	--	--	66	31,111.9	-66	-31,111.9
Petroleum	20	79.8	54	1,533.3	-34	-1,453.5
Natural Gas	277	34,212.8	109	13,356.3	168	20,856.5
Other Fossil Gas	--	--	4	63.0	-4	-63.0
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	76	230.5	14	22.5	62	208.0
Wind	117	30,917.0	14	175.1	103	30,741.9
Solar Thermal and Photovoltaic	1,279	133,662.0	20	23.0	1,259	133,639.0
Wood and Wood-Derived Fuels	1	3.0	2	90.0	-1	-87.0
Geothermal	10	106.0	--	--	10	106.0

Other Biomass	26	176.0	37	105.4	-11	70.6
Hydroelectric Pumped Storage	11	2,600.0	--	--	11	2,600.0
Other Energy Sources	557	73,632.8	5	14.0	552	73,618.8

Notes: These data reflect plans as of December 31, 2024

Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, coal syngas, refined coal, and coal-derived synthesis gas.

Petroleum includes distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology), waste oil, synthetic gas, and propane.

Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.

Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.

Wood and wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.

Other Biomass include municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).

Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.

Other Energy Sources include hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.

Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.

In the case of wind, solar and wave energy sites, the capacity for multiple generators is reported in a single generator record and is presented as a single generator in the generator count.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.6. Utility-Scale Capacity Additions, Retirements and Changes by Energy Source, 2024 (Count, Megawatts)

Energy Source	Generator Additions				Generator Retirements			
	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	--	--	--	--	12	4,460.0	3,958.6	4,021.7
Petroleum	22	33.1	32.3	32.3	64	299.6	233.8	264.5
Natural Gas	99	2,535.5	2,113.1	2,256.4	73	5,246.3	4,269.2	4,682.1
Other Fossil Gas	--	--	--	--	--	--	--	--
Nuclear	1	1,114.0	1,114.0	1,114.0	--	--	--	--
Hydroelectric Conventional	1	1.0	1.0	1.0	20	148.6	156.2	156.2
Wind	31	5,155.9	5,154.3	5,154.3	5	34.4	34.6	34.6
Solar Thermal and Photovoltaic	693	31,102.3	30,915.9	30,867.0	3	4.5	4.5	4.5
Wood and Wood-Derived Fuels	1	40.0	40.0	40.0	5	201.3	165.6	173.2
Geothermal	2	29.2	20.0	29.2	2	20.6	14.1	15.1
Other Biomass	5	8.0	7.9	7.9	97	180.0	117.6	115.6
Hydroelectric Pumped Storage	--	--	--	--	2	42.0	42.0	42.0
Other Energy Sources	188	11,157.3	11,055.4	11,055.2	8	39.5	31.2	32.7
Total	1,043	51,176.3	50,454.0	50,557.4	291	10,676.8	9,027.4	9,542.2

Energy Source	Other Changes to Existing Capacity		
	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	-512.7	-759.9	-722.8
Petroleum	-4,542.8	-4,431.6	-4,237.0
Natural Gas	59.7	-509.8	40.7
Other Fossil Gas	-160.2	-188.7	-179.1
Nuclear	1,792.6	1,565.0	1,597.2
Hydroelectric Conventional	63.9	-24.5	24.9
Wind	226.0	-542.7	-474.7
Solar Thermal and Photovoltaic	338.4	390.5	996.8
Wood and Wood-Derived Fuels	-146.8	-152.7	-148.6
Geothermal	-16.0	-6.2	-6.9
Other Biomass	19.0	-31.5	-30.9
Hydroelectric Pumped Storage	96.0	51.2	35.8
Other Energy Sources	-34.0	-71.2	-71.2
Total	-2,816.9	-4,712.1	-3,175.8

Notes: Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal, coal synfuel, refined coal, and coal-derived synthesis gas.
 Petroleum includes distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, petroleum coke (converted to liquid petroleum, see Technical Notes for conversion methodology), waste oil, synthetic gas, and propane.
 Other Fossil Gas includes gaseous propane, blast furnace gas, other manufactured and waste gases derived from fossil fuels other than hydrogen.
 Hydroelectric Conventional capacity includes conventional hydroelectric power excluding pumped storage facilities.
 Wood and wood-derived fuels include wood/wood waste solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids), wood waste liquids (red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids), and black liquor.
 Other Biomass include municipal solid waste, landfill gas, sludge waste, agricultural byproducts, other biomass solids, other biomass liquids, and other biomass gases (including digester gases, methane, and other biomass gases).
 Other Energy Sources include hydrogen, non-biogenic municipal solid waste, batteries, purchased steam, sulfur, tire-derived fuel, and other miscellaneous energy sources.
 Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator.
 In the case of some wind, solar and wave energy sites, the capacity for multiple generators is reported in a single generator record and is presented as a single generator in the generator count.
 Other Changes to Existing Capacity reflect uprates, derates, repowerings, and changes to previously reported generator capacity.
 * = Value is less than half of the smallest unit of measure.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.7.A. Net Summer Capacity of Utility Scale Units by Technology and by State, 2024 and 2023 (Megawatts)

Census Division and State	Renewable Sources		Fossil Fuels		Hydroelectric Pumped Storage		Other Energy Storage		Nuclear		All Other Sources		All Sources	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	7,932.9	7,418.1	21,161.1	22,647.6	1,863.4	1,863.4	407.7	369.9	3,354.2	3,326.9	22.0	22.0	34,741.3	35,647.9
Connecticut	586.1	551.2	7,272.8	7,272.5	29.4	29.4	1.6	1.6	2,104.2	2,081.2	0.0	0.0	9,994.1	9,935.9
Maine	3,073.1	2,724.9	2,428.9	2,442.4	0.0	0.0	62.3	62.3	0.0	0.0	22.0	22.0	5,586.3	5,251.6
Massachusetts	2,072.6	1,981.2	7,292.9	8,766.2	1,834.0	1,834.0	305.9	288.1	0.0	0.0	0.0	0.0	11,505.4	12,849.5
New Hampshire	945.9	946.6	2,260.4	2,260.4	0.0	0.0	14.0	14.0	1,250.0	1,245.7	0.0	0.0	4,470.3	4,466.7
Rhode Island	538.6	505.4	1,780.1	1,780.1	0.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0	2,321.7	2,288.5
Vermont	716.6	708.8	126.0	126.0	0.0	0.0	20.9	20.9	0.0	0.0	0.0	0.0	863.5	855.7
Middle Atlantic	15,678.1	14,452.9	70,655.0	71,613.0	3,317.4	3,312.0	402.4	350.5	16,683.1	15,854.5	11.2	11.2	106,747.2	105,594.1
New Jersey	1,388.3	1,376.1	11,223.8	11,509.1	416.1	415.4	109.7	69.7	3,456.7	3,456.7	11.2	11.2	16,605.8	16,838.2
New York	10,502.0	9,482.0	25,805.4	25,811.9	1,409.8	1,405.1	238.1	226.2	3,330.4	3,304.6	0.0	0.0	41,285.7	40,229.8
Pennsylvania	3,787.8	3,594.8	33,625.8	34,292.0	1,491.5	1,491.5	54.6	54.6	9,896.0	9,093.2	0.0	0.0	48,855.7	48,526.1
East North Central	30,970.7	26,670.1	101,639.1	103,395.4	2,179.8	2,185.6	223.1	173.9	18,997.4	18,206.2	166.0	169.8	154,176.1	149,801.0
Illinois	10,920.5	9,215.5	23,588.8	24,467.0	0.0	0.0	100.3	96.1	11,591.6	11,567.6	78.0	78.0	46,279.2	45,419.2
Indiana	6,249.3	4,849.3	21,418.3	21,605.0	0.0	0.0	81.0	36.0	0.0	0.0	88.0	88.0	27,836.6	26,578.3
Michigan	5,674.1	5,304.5	20,197.7	20,306.7	2,179.8	2,185.6	1.3	1.3	4,086.5	3,318.0	0.0	3.8	32,139.4	31,119.9
Ohio	4,504.5	3,089.8	23,817.4	23,845.1	0.0	0.0	34.8	34.8	2,134.0	2,134.0	0.0	0.0	30,490.7	29,103.7
Wisconsin	3,622.3	3,216.0	12,616.9	13,171.6	0.0	0.0	5.7	5.7	1,185.3	1,186.6	0.0	0.0	17,430.2	17,579.9
West North Central	47,635.7	45,724.5	55,856.5	56,682.2	657.0	657.0	38.0	31.6	4,792.2	4,792.2	12.2	12.2	108,991.6	107,899.7
Iowa	13,771.6	13,295.8	9,444.4	9,401.7	0.0	0.0	10.3	8.9	0.0	0.0	0.0	0.0	23,228.3	22,706.4
Kansas	9,124.5	9,098.8	9,053.9	8,921.1	0.0	0.0	0.0	0.0	1,176.7	1,176.7	0.8	0.8	19,355.9	19,197.4
Minnesota	7,071.7	6,748.7	9,456.8	9,413.8	0.0	0.0	21.0	16.0	1,657.0	1,657.0	6.1	6.1	18,212.6	17,841.6
Missouri	3,425.2	3,038.2	15,145.8	16,286.1	657.0	657.0	1.0	1.0	1,190.0	1,190.0	0.0	0.0	20,419.0	21,172.3
Nebraska	3,946.2	3,854.1	6,148.6	6,153.4	0.0	0.0	4.9	4.9	768.5	768.5	0.0	0.0	10,868.2	10,780.9
North Dakota	5,033.8	4,839.9	4,644.5	4,556.9	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	9,683.6	9,402.1
South Dakota	5,262.7	4,849.0	1,962.5	1,949.2	0.0	0.0	0.8	0.8	0.0	0.0	0.0	0.0	7,226.0	6,799.0
South Atlantic	42,310.5	36,635.5	153,112.6	153,342.1	8,272.5	8,192.5	1,077.1	847.9	27,018.1	25,904.1	366.9	366.9	232,157.7	225,289.0
Delaware	113.1	105.6	3,189.9	3,189.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,303.0	3,295.5
District of Columbia	41.2	31.6	20.6	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.8	52.2
Florida	11,986.3	8,847.4	55,471.0	55,335.9	0.0	0.0	575.7	560.7	3,666.0	3,666.0	312.9	312.9	72,011.9	68,722.9
Georgia	8,054.9	7,175.1	23,358.5	23,457.0	1,897.4	1,897.4	146.2	81.2	6,289.0	5,175.0	0.0	0.0	39,746.0	37,785.7
Maryland	1,514.9	1,429.2	8,448.4	8,742.0	0.0	0.0	9.4	7.7	1,745.2	1,745.2	0.0	0.0	11,717.9	11,924.1
North Carolina	9,603.0	9,197.4	21,304.2	21,318.2	86.0	86.0	138.8	58.3	5,149.6	5,149.6	54.0	54.0	36,336.6	35,863.5
South Carolina	3,403.2	3,317.2	11,578.1	11,526.3	3,036.0	2,956.0	88.0	22.0	6,600.3	6,600.3	0.0	0.0	24,705.6	24,421.8
Virginia	6,270.3	5,332.8	15,984.6	15,993.8	3,253.1	3,253.1	70.5	70.5	3,568.0	3,568.0	0.0	0.0	29,146.5	28,218.2
West Virginia	1,323.6	1,199.2	13,757.3	13,758.4	0.0	0.0	47.5	47.5	0.0	0.0	0.0	0.0	15,128.4	15,005.1
East South Central	11,207.0	9,893.9	61,699.5	62,317.4	1,616.3	1,616.3	52.5	2.5	11,365.7	11,358.4	1.4	1.4	85,942.4	85,189.9
Alabama	4,568.0	4,509.6	20,974.0	21,134.0	0.0	0.0	1.0	1.0	5,452.7	5,452.7	0.0	0.0	30,995.7	31,097.3
Kentucky	1,634.0	1,290.2	16,746.4	17,045.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18,380.4	18,335.7
Mississippi	1,706.6	728.0	12,811.3	12,719.1	0.0	0.0	51.5	1.5	1,390.3	1,383.0	1.4	1.4	15,961.1	14,833.0
Tennessee	3,298.4	3,366.1	11,167.8	11,418.8	1,616.3	1,616.3	0.0	0.0	4,522.7	4,522.7	0.0	0.0	20,605.2	20,923.9
West South Central	84,169.8	72,879.6	139,018.8	140,206.5	271.5	288.0	7,948.2	3,830.6	8,852.5	8,941.9	575.8	578.1	240,836.6	226,724.7
Arkansas	3,274.7	2,309.9	10,752.9	10,875.0	30.0	30.0	28.2	22.0	1,821.0	1,825.0	0.0	0.0	15,906.8	15,061.9
Louisiana	1,664.7	958.6	20,633.7	21,508.7	0.0	0.0	0.0	0.0	2,051.5	2,136.9	356.8	359.1	24,706.7	24,963.3
Oklahoma	13,830.3	13,209.5	17,824.8	18,212.3	241.5	258.0	10.0	10.0	0.0	0.0	0.0	0.0	31,906.6	31,689.8
Texas	65,400.1	56,401.6	89,807.4	89,610.5	0.0	0.0	7,910.0	3,798.6	4,980.0	4,980.0	219.0	219.0	168,316.5	155,009.7
Mountain	47,329.9	41,576.5	58,669.1	58,237.6	794.8	806.7	4,306.1	1,955.8	3,937.0	3,937.0	121.6	124.6	115,158.5	106,638.2
Arizona	9,033.8	7,251.8	17,568.4	17,548.5	216.3	216.3	2,121.0	931.0	3,937.0	3,937.0	0.0	0.0	32,876.5	29,884.6
Colorado	8,425.3	8,228.5	10,460.4	10,472.4	578.5	590.4	346.3	241.0	0.0	0.0	6.1	9.1	19,816.6	19,541.4
Idaho	4,381.3	4,095.5	1,111.5	1,242.3	0.0	0.0	40.0	0.0	0.0	0.0	14.8	14.8	5,547.6	5,352.6
Montana	4,908.9	4,589.9	2,233.6	2,068.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	40.0	7,182.5	6,697.9
Nevada	7,080.9	5,903.3	8,529.0	8,082.3	0.0	0.0	1,108.8	543.8	0.0	0.0	6.5	6.5	16,725.2	14,535.9
New Mexico	6,416.6	5,635.4	4,781.1	4,849.1	0.0	0.0	689.0	239.0	0.0	0.0	0.7	0.7	11,887.4	10,724.2
Utah	2,930.1	2,367.0	7,305.9	7,301.6	0.0	0.0	1.0	1.0	0.0	0.0	40.2	40.2	10,277.2	9,709.8
Wyoming	4,153.0	3,505.1	6,679.2	6,673.4	0.0	0.0	0.0	0.0	0.0	0.0	13.3	13.3	10,845.5	10,191.8
Pacific Contiguous	80,841.0	78,304.1	44,887.8	44,686.6	4,183.9	4,225.9	12,045.3	8,025.6	3,391.0	3,391.0	91.2	94.4	145,440.2	138,727.6
California	41,814.0	39,289.0	37,040.8	36,855.0	3,869.9	3,911.9	11,717.3	7,984.6	2,240.0	2,240.0	91.2	94.4	96,773.2	90,374.9
Oregon	13,600.7	13,664.8	3,769.0	3,769.0	0.0	0.0	322.0	35.0	0.0	0.0	0.0	0.0	17,691.7	17,468.8
Washington	25,426.3	25,350.3	4,078.0	4,062.6	314.0	314.0	6.0	6.0	1,151.0	1,151.0	0.0	0.0	30,975.3	30,883.9
Pacific Noncontiguous	1,478.0	1,404.6	4,177.0	4,156.4	0.0	0.0	566.6	453.6	0.0	0.0	1.1	28.4	6,222.7	6,043.0
Alaska	550.0	549.9	2,168.6	2,176.5	0.0	0.0	133.7	93.7	0.0	0.0	1.1	0.9	2,853.4	2,821.0
Hawaii	928.0	854.7	2,008.4	1,979.9	0.0	0.0	432.9	359.9	0.0	0.0	0.0	27.5	3,369.3	3,222.0
U.S. Total	369,553.6	333,959.8	710,876.5	717,284.8	23,156.6	23,147.4	27,067.0	16,041.9	98,391.2	95,712.2	1,369.4	1,409.0	1,230,414.3	1,187,555.1

NM = Not meaningful due to large relative standard error.
Values are final.

NOTES:
Capacity from facilities with a total generator nameplate capacity less than 1 MW are excluded from this report. This exclusion may represent a significant portion of capacity for some technologies such as solar photovoltaic generation. Concentrated Solar Power Energy Storage is included in 'Renewable sources'; it is not included in 'Other Energy Storage'

Sources: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report' and Form EIA-860M, 'Monthly Update to the Annual Electric Generator Report.'

Table 4.7.B. Net Summer Capacity Using Primarily Renewable Energy Sources and by State, 2024 and 2023 (Megawatts)

Census Division and State	Summer Capacity at Utility Scale Facilities														Small Scale Capacity		Capacity From Utility and Small Scale Facilities			
	Wind		Solar Photovoltaic		Solar Thermal		Conventional Hydroelectric		Biomass Sources		Geothermal		Total Renewable Sources		Estimated Solar Photovoltaic		Estimated Total Solar Photovoltaic		Estimated Total Solar	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New England	1,575.7	1,575.7	3,158.1	2,641.4	0.0	0.0	1,951.7	1,953.6	1,247.4	1,247.4	0.0	0.0	7,832.9	7,418.1	5,033.3	4,786.9	7,674.7	7,674.7	7,674.7	7,674.7
Connecticut	5.0	5.0	322.3	287.4	0.0	0.0	119.2	119.2	139.6	139.6	0.0	0.0	586.1	551.2	1,132.3	978.6	1,454.6	1,266.0	1,454.6	1,266.0
Maine	1,029.5	1,029.5	829.2	481.0	0.0	0.0	725.8	725.8	488.6	488.6	0.0	0.0	3,073.1	2,724.9	840.4	532.9	1,678.6	1,013.9	1,678.6	1,013.9
Massachusetts	101.8	101.8	1,430.5	1,339.1	0.0	0.0	267.2	267.2	273.1	273.1	0.0	0.0	2,072.6	1,981.2	2,966.5	2,661.3	4,397.0	4,000.4	4,397.0	4,000.4
New Hampshire	211.9	211.9	2.4	2.4	0.0	0.0	505.8	506.5	225.8	225.8	0.0	0.0	945.9	946.6	270.4	232.8	272.8	235.2	272.8	235.2
Rhode Island	77.3	77.3	418.5	385.3	0.0	0.0	2.7	2.7	40.1	40.1	0.0	0.0	538.6	505.4	224.4	453.2	642.9	838.5	642.9	838.5
Vermont	150.2	150.2	155.2	146.2	0.0	0.0	331.0	332.2	80.2	80.2	0.0	0.0	716.6	708.8	185.7	174.4	340.9	320.6	340.9	320.6
Middle Atlantic	4,429.9	4,306.5	4,722.2	3,576.6	0.0	0.0	5,505.2	5,502.6	1,020.8	1,067.2	0.0	0.0	15,678.1	14,452.9	6,867.6	6,104.4	11,589.8	9,681.0	11,589.8	9,681.0
New Jersey	7.6	7.6	1,179.7	1,167.5	0.0	0.0	12.3	12.3	188.7	188.7	0.0	0.0	1,388.3	1,376.1	2,489.6	2,297.4	3,669.3	3,464.9	3,669.3	3,464.9
New York	2,869.7	2,746.3	2,688.6	1,719.6	0.0	0.0	4,863.4	4,860.8	400.3	455.3	0.0	0.0	10,502.0	9,482.0	3,394.0	2,995.2	6,062.6	4,714.8	6,062.6	4,714.8
Pennsylvania	1,535.9	1,552.6	873.9	689.5	0.0	0.0	929.5	929.5	431.8	423.2	0.0	0.0	3,767.8	3,594.8	984.0	811.8	1,857.9	1,501.3	1,857.9	1,501.3
East North Central	17,215.1	16,816.1	11,949.2	6,969.1	0.0	0.0	890.5	880.2	925.9	1,004.7	0.0	0.0	30,970.7	25,670.1	2,596.2	2,185.1	14,545.4	9,154.2	14,545.4	9,154.2
Illinois	7,873.7	7,873.7	2,968.7	1,248.7	0.0	0.0	32.9	32.9	55.2	55.2	0.0	0.0	10,920.5	9,210.5	1,372.4	1,164.1	4,331.1	2,412.8	4,331.1	2,412.8
Indiana	3,639.1	3,439.1	2,490.0	1,288.9	0.0	0.0	71.6	71.6	48.6	49.7	0.0	0.0	6,249.3	4,849.3	270.3	238.1	2,760.3	1,527.0	2,760.3	1,527.0
Michigan	3,774.3	3,575.3	1,158.0	975.0	0.0	0.0	263.5	263.8	478.3	490.4	0.0	0.0	5,674.1	5,304.5	270.0	226.4	1,428.0	1,201.4	1,428.0	1,201.4
Ohio	1,101.8	1,101.8	3,236.5	1,808.3	0.0	0.0	101.9	101.9	64.3	77.8	0.0	0.0	4,504.5	3,089.8	411.9	341.2	3,648.4	2,149.5	3,648.4	2,149.5
Wisconsin	826.2	826.2	2,106.0	1,648.2	0.0	0.0	410.6	410.0	279.5	311.6	0.0	0.0	3,622.3	3,216.0	271.7	215.2	2,377.7	1,863.4	2,377.7	1,863.4
West North Central	40,683.7	40,153.1	3,198.9	1,815.9	0.0	0.0	3,363.7	3,364.6	389.4	390.9	0.0	0.0	47,635.7	45,724.5	1,220.9	1,059.7	4,419.8	2,875.6	4,419.8	2,875.6
Iowa	12,865.5	12,803.8	676.1	262.0	0.0	0.0	209.4	209.4	20.6	20.6	0.0	0.0	13,771.6	13,295.8	332.8	286.4	1,008.9	548.4	1,008.9	548.4
Kansas	9,042.7	9,042.7	65.8	40.1	0.0	0.0	7.0	7.0	9.0	9.0	0.0	0.0	9,124.5	9,098.8	108.6	87.8	174.4	127.9	174.4	127.9
Minnesota	4,901.4	4,928.7	1,641.7	1,291.4	0.0	0.0	212.0	212.0	316.6	316.6	0.0	0.0	7,071.7	6,748.7	296.1	243.2	1,937.8	1,534.6	1,937.8	1,534.6
Missouri	2,392.9	2,374.9	469.8	100.8	0.0	0.0	548.5	548.5	14.0	14.0	0.0	0.0	3,425.2	3,038.2	439.8	403.2	909.6	504.0	909.6	504.0
Nebraska	3,516.9	3,518.3	136.5	40.5	0.0	0.0	278.8	279.7	14.0	15.5	0.0	0.0	3,946.2	3,854.1	36.0	33.0	172.5	73.6	172.5	73.6
North Dakota	4,514.0	4,329.1	9.0	9.0	0.0	0.0	510.0	510.0	9.8	9.8	0.0	0.0	5,033.8	4,839.9	2.2	2.2	2.2	2.2	2.2	2.2
South Dakota	3,450.3	3,164.6	209.0	81.0	0.0	0.0	1,598.0	1,598.0	5.4	5.4	0.0	0.0	5,262.7	4,849.0	5.4	3.8	214.4	84.8	214.4	84.8
South Atlantic	1,456.2	1,267.2	29,987.3	24,432.6	0.0	0.0	7,054.2	7,055.3	3,812.8	3,880.4	0.0	0.0	42,310.5	36,635.5	6,328.6	5,717.6	36,315.9	30,150.2	36,315.9	30,150.2
Delaware	2.0	2.0	96.9	89.4	0.0	0.0	0.0	0.0	14.2	14.2	0.0	0.0	113.1	105.6	143.5	130.1	240.4	219.5	240.4	219.5
District of Columbia	0.0	0.0	29.2	19.6	0.0	0.0	0.0	0.0	12.0	12.0	0.0	0.0	41.2	31.6	176.1	142.2	205.3	161.8	205.3	161.8
Florida	0.0	0.0	10,950.8	7,802.3	0.0	0.0	43.5	43.5	992.0	1,001.6	0.0	0.0	11,986.3	8,847.4	2,819.9	2,582.3	13,770.7	10,384.6	13,770.7	10,384.6
Georgia	0.0	0.0	5,002.8	4,123.0	0.0	0.0	1,985.0	1,985.0	1,067.1	1,067.1	0.0	0.0	8,054.9	7,175.1	342.4	320.2	5,345.2	4,443.2	5,345.2	4,443.2
Maryland	190.0	190.0	671.4	584.4	0.0	0.0	514.9	514.9	138.6	139.9	0.0	0.0	1,514.9	1,429.2	1,132.4	1,038.0	1,803.8	1,622.4	1,803.8	1,622.4
North Carolina	397.0	208.0	6,786.7	6,597.8	0.0	0.0	2,009.4	2,010.5	409.9	381.1	0.0	0.0	9,603.0	9,197.4	579.2	498.1	7,365.9	7,095.9	7,365.9	7,095.9
South Carolina	0.0	0.0	1,646.7	1,567.5	0.0	0.0	1,294.0	1,294.0	462.5	465.7	0.0	0.0	3,403.2	3,317.2	400.2	378.1	2,046.9	1,935.6	2,046.9	1,935.6
Virginia	12.0	12.0	4,678.4	3,658.6	0.0	0.0	866.6	866.6	713.3	795.6	0.0	0.0	6,270.3	5,332.8	690.1	592.8	5,368.5	4,251.4	5,368.5	4,251.4
West Virginia	855.2	855.2	124.4	0.0	0.0	0.0	340.8	340.8	3.2	3.2	0.0	0.0	1,323.6	1,199.2	44.8	35.7	169.2	35.7	169.2	35.7
East South Central	186.6	29.1	2,910.3	1,692.3	0.0	0.0	7,036.6	7,037.8	1,073.5	1,134.5	0.0	0.0	11,207.0	9,895.9	204.4	177.2	3,114.7	1,889.7	3,114.7	1,889.7
Alabama	0.0	0.0	653.5	601.1	0.0	0.0	3,290.6	3,291.8	613.9	616.7	0.0	0.0	4,568.0	4,509.6	17.0	15.8	680.5	616.9	680.5	616.9
Kentucky	0.0	0.0	426.1	82.3	0.0	0.0	1,137.4	1,137.4	70.5	70.5	0.0	0.0	1,634.0	1,290.2	110.4	93.5	536.5	175.8	536.5	175.8
Mississippi	184.5	0.0	1,219.7	425.6	0.0	0.0	0.0	0.0	302.4	302.4	0.0	0.0	1,706.6	728.0	18.4	14.4	1,238.1	440.0	1,238.1	440.0
Tennessee	2.1	29.1	601.0	583.5	0.0	0.0	2,608.6	2,608.6	86.7	144.9	0.0	0.0	3,298.4	3,366.1	58.6	53.5	659.6	637.0	659.6	637.0
West South Central	54,726.1	52,572.3	25,383.8	16,219.1	0.0	0.0	3,002.3	3,013.0	1,057.6	1,075.2	0.0	0.0	84,169.8	72,879.6	3,753.6	3,349.5	29,137.4	19,568.6	29,137.4	19,568.6
Arkansas	0.0	0.0	1,784.5	820.9	0.0	0.0	1,264.5	1,265.2	225.7	233.8	0.0	0.0	3,274.7	2,309.9	333.9	250.5	2,118.4	1,071.4	2,118.4	1,071.4
Louisiana	0.0	0.0	1,052.6	344.5	0.0	0.0	192.0	192.0	420.1	422.1	0.0	0.0	1,664.7	958.6	202.6	185.1	1,255.2	529.6	1,255.2	529.6
Oklahoma	12,748.2	12,245.2	173.5	47.5	0.0	0.0	832.4	840.6	76.2	76.2	0.0	0.0	13,830.3	13,209.5	145.1	110.9	318.6	158.4	318.6	158.4
Texas	41,977.9	40,327.1	22,373.2	15,006.2	0.0	0.0	713.4	715.2	335.6	353.1	0.0	0.0	65,400.1	56,401.6	3,072.0	2,803.0	25,445.2	17,809.2	25,445.2	17,809.2
Mountain	17,729.7	16,796.9	17,591.9	12,812.3	474.2	474.2	10,602.9	10,568.6	179.4	176.2	751.8	748.3	47,329.9	41,576.5	6,500.9	5,850.9	24,092.8	18,663.2	24,092.8	19,137.4
Arizona	1,234.5	855.5	4,755.2	3,350.9	295.6	295.6	2,720.6	2,721.9	27.9	27.9	0.0	0.0	9,033.8	7,251.8	2,896.3	2,679.6	7,651.5	6,030.5	7,651.5	6,030.5
Colorado	5,336.7	5,336.7	2,366.7	2,173.4	0.0	0.0	693.2	699.7	28.7	28.7	0.0	0.0	8,425.3	8,226.5	1,201.2	1,089.0	3,597.9	3,262.4	3,597.9	3,262.4
Idaho	1,128.3	983.3	501.6	402.0	0.0	0.0														

Table 4.7.C. Net Summer Capacity of Utility Scale Units Using Primarily Fossil Fuels and by State, 2024 and 2023 (Megawatts)

Census Division and State	Natural Gas Fired Combined Cycle		Natural Gas Fired Combustion Turbine		Other Natural Gas		Coal		Petroleum Coke		Petroleum Liquids		Other Fossil Gas		Total Fossil Fuels	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	12,524.2	14,115.3	1,456.3	1,388.4	1,089.5	672.5	533.9	533.9	0.0	0.0	5,557.2	5,957.5	0.0	0.0	21,161.1	22,647.6
Connecticut	3,901.0	3,923.0	591.8	584.0	570.5	556.8	0.0	0.0	0.0	0.0	2,209.5	2,208.7	0.0	0.0	7,272.8	7,272.5
Maine	1,272.2	1,285.7	312.0	312.0	0.0	0.0	0.0	0.0	0.0	0.0	844.7	844.7	0.0	0.0	2,428.9	2,442.4
Massachusetts	4,387.3	5,942.9	536.3	456.2	93.4	90.3	0.0	0.0	0.0	0.0	2,275.9	2,276.8	0.0	0.0	7,292.9	8,766.2
New Hampshire	1,228.5	1,228.5	3.8	3.8	400.2	0.0	533.9	533.9	0.0	0.0	94.0	494.2	0.0	0.0	2,260.4	2,260.4
Rhode Island	1,735.2	1,735.2	12.4	12.4	25.4	25.4	0.0	0.0	0.0	0.0	7.1	7.1	0.0	0.0	1,780.1	1,780.1
Vermont	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	126.0	126.0	0.0	0.0	126.0	126.0
Middle Atlantic	37,150.1	37,337.0	6,914.8	7,092.0	15,931.5	15,936.8	5,382.6	6,008.7	11.6	11.6	5,149.5	5,112.0	114.9	114.9	70,555.0	71,613.0
New Jersey	8,222.9	8,374.0	2,604.2	2,734.5	86.9	89.9	0.0	0.0	11.6	11.6	296.1	296.1	29.0	29.0	11,223.8	11,509.1
New York	9,927.1	9,908.2	2,398.1	2,459.2	9,954.9	9,962.7	0.0	0.0	0.0	0.0	3,525.3	3,481.8	0.0	0.0	25,805.4	25,811.9
Pennsylvania	19,001.0	19,054.8	1,912.5	1,898.3	5,909.7	5,904.2	5,382.6	6,008.7	0.0	0.0	1,334.1	1,340.1	85.9	85.9	33,625.8	34,292.0
East North Central	31,065.4	31,442.5	26,165.6	26,550.4	4,643.6	4,503.0	36,512.1	37,336.3	25.1	25.1	2,147.3	2,269.1	854.0	1,043.0	101,639.1	103,395.4
Illinois	5,452.9	5,823.1	10,367.0	10,721.0	373.0	373.0	6,694.5	6,853.5	0.0	0.0	664.9	659.9	36.5	36.5	23,588.8	24,467.0
Indiana	3,892.3	3,899.6	3,343.0	3,365.9	992.2	851.4	12,721.4	12,847.2	0.0	0.0	85.3	95.8	384.1	545.1	21,418.3	21,605.0
Michigan	7,688.9	7,691.6	3,555.0	3,570.0	2,536.5	2,513.5	5,732.3	5,801.9	47.2	47.2	387.8	432.5	250.0	250.0	20,197.7	20,306.7
Ohio	10,552.6	10,554.2	5,721.0	5,721.3	91.4	102.2	6,620.5	6,607.5	145.5	145.5	503.0	503.0	183.4	211.4	23,817.4	23,845.1
Wisconsin	3,478.7	3,474.0	3,179.6	3,172.2	650.5	662.9	4,743.4	5,226.2	58.4	58.4	506.3	577.9	0.0	0.0	12,616.9	13,171.6
West North Central	7,051.7	7,047.3	11,873.7	11,620.1	3,729.5	3,755.9	29,329.7	30,374.7	32.0	32.0	3,831.5	3,843.8	8.4	8.4	55,856.5	56,682.2
Iowa	1,748.7	1,741.9	1,248.9	1,210.6	781.7	751.2	4,832.9	4,860.8	32.0	32.0	800.2	805.2	0.0	0.0	9,444.4	9,401.7
Kansas	247.0	247.0	2,173.6	2,208.4	1,398.2	1,396.3	4,695.0	4,524.7	0.0	0.0	540.1	544.7	0.0	0.0	9,053.9	8,921.1
Minnesota	2,532.9	2,532.9	2,570.4	2,545.0	428.1	421.9	3,135.5	3,141.7	0.0	0.0	789.9	772.3	0.0	0.0	9,456.8	9,413.8
Missouri	1,899.2	1,892.5	3,323.9	3,200.8	333.3	392.8	8,539.2	9,714.2	0.0	0.0	1,060.4	1,085.8	0.0	0.0	15,141.6	16,288.1
Nebraska	338.9	338.0	1,104.8	1,107.6	513.3	518.4	3,817.9	3,825.8	0.0	0.0	373.7	383.6	0.0	0.0	6,148.6	6,153.4
North Dakota	0.0	0.0	542.4	454.0	203.7	203.9	3,831.9	3,832.5	0.0	0.0	58.1	58.1	8.4	8.4	4,644.5	4,556.9
South Dakota	295.0	295.0	909.7	893.7	71.4	71.4	477.3	475.0	0.0	0.0	209.1	214.1	0.0	0.0	1,962.5	1,949.2
South Atlantic	65,888.7	65,781.6	32,491.9	32,264.9	13,248.8	14,129.5	35,415.3	35,006.2	83.8	83.8	5,849.1	5,941.1	135.0	135.0	153,112.6	153,342.1
Delaware	1,496.0	1,496.0	314.0	314.0	723.8	723.8	410.0	410.0	0.0	0.0	111.1	111.1	135.0	135.0	3,189.9	3,189.9
District of Columbia	0.0	0.0	20.6	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	20.6
Florida	35,819.7	35,743.0	8,791.4	8,791.0	5,698.3	5,201.3	3,564.7	3,989.7	0.0	0.0	1,596.9	1,610.9	0.0	0.0	55,471.0	55,335.9
Georgia	8,090.8	8,067.0	7,446.1	7,569.1	850.1	850.1	5,780.0	5,780.0	83.8	83.8	1,107.7	1,107.0	0.0	0.0	23,358.5	23,457.0
Maryland	2,741.1	2,745.8	1,675.4	1,675.6	1,212.6	1,211.3	1,273.0	1,453.0	0.0	0.0	1,546.3	1,656.3	0.0	0.0	8,448.4	8,742.0
North Carolina	5,579.0	5,579.0	6,395.5	6,030.5	3,277.7	4,665.7	5,561.0	4,552.0	0.0	0.0	491.0	491.0	0.0	0.0	21,304.2	21,318.2
South Carolina	3,252.0	3,252.0	2,548.6	2,528.7	780.0	780.0	4,754.0	4,749.0	0.0	0.0	243.5	216.6	0.0	0.0	11,578.1	11,526.3
Virginia	8,910.1	8,898.8	4,212.0	4,245.9	1,590.8	1,591.8	1,530.1	1,530.1	0.0	0.0	741.8	737.2	0.0	0.0	15,981.6	15,993.9
West Virginia	0.0	0.0	1,088.2	1,089.5	115.5	115.5	12,642.5	12,642.4	0.0	0.0	11.0	11.0	0.0	0.0	13,757.3	13,758.4
East South Central	23,835.1	23,800.8	13,685.0	13,682.0	4,136.3	4,012.2	19,506.5	20,288.5	0.0	0.0	532.8	533.9	3.8	0.0	61,699.5	62,317.4
Alabama	11,138.3	11,172.2	3,284.8	3,307.8	1,776.5	1,883.4	4,728.0	4,728.0	0.0	0.0	42.6	42.6	3.8	0.0	20,974.0	21,134.0
Kentucky	1,791.0	1,789.0	5,599.6	5,599.6	714.0	483.0	8,631.0	9,162.0	0.0	0.0	10.8	11.9	0.0	0.0	16,746.4	17,045.5
Mississippi	8,450.7	8,384.5	1,395.3	1,389.3	1,512.3	1,512.3	1,444.0	1,444.0	0.0	0.0	9.0	9.0	0.0	0.0	12,811.3	12,719.1
Tennessee	2,455.1	2,455.1	3,405.3	3,405.3	133.5	133.5	4,703.5	4,954.5	0.0	0.0	470.4	470.4	0.0	0.0	11,167.8	11,418.8
West South Central	64,443.9	64,856.8	17,447.4	16,899.8	28,788.3	29,761.0	26,393.7	26,698.6	856.7	891.4	744.1	754.2	344.7	344.7	139,018.8	140,206.5
Arkansas	4,608.2	4,605.2	702.8	703.3	824.0	472.6	4,734.0	4,734.0	0.0	0.0	9.0	9.0	0.0	0.0	10,752.9	10,875.0
Louisiana	9,404.2	9,688.0	2,845.0	2,834.2	5,252.7	5,872.1	2,121.6	2,069.5	792.9	827.6	49.7	49.7	167.6	167.6	20,633.7	21,508.7
Oklahoma	7,299.7	7,327.6	1,653.2	1,649.2	5,567.8	5,909.1	3,258.9	3,272.5	0.0	0.0	45.2	53.9	0.0	0.0	17,824.8	18,212.3
Texas	43,131.8	43,236.0	12,246.4	11,713.6	17,264.5	17,155.8	16,283.6	16,622.6	63.8	63.8	640.2	641.6	177.1	177.1	89,807.4	89,610.5
Mountain	23,015.7	23,087.2	10,014.1	9,570.6	5,045.7	3,683.1	20,208.9	21,296.9	52.0	52.0	327.9	537.0	4.8	7.8	58,669.1	58,237.6
Arizona	10,138.6	10,181.6	3,129.0	3,061.8	1,278.8	1,097.6	2,936.0	2,939.0	0.0	0.0	86.2	268.5	0.0	0.0	17,568.4	17,548.5
Colorado	3,250.5	3,193.5	2,637.2	2,661.0	636.2	633.4	3,786.0	3,804.0	0.0	0.0	150.5	177.5	0.0	0.0	10,460.4	10,472.4
Idaho	515.5	601.0	573.7	619.2	16.7	16.7	0.0	0.0	0.0	0.0	5.6	5.4	0.0	0.0	1,111.5	1,242.3
Montana	0.0	0.0	315.8	315.8	237.8	72.2	1,626.5	1,626.5	52.0	52.0	0.0	0.0	1.5	1.5	2,233.6	2,068.0
Nevada	5,703.0	5,703.0	1,629.6	1,185.6	450.0	447.3	740.4	740.4	0.0	0.0	6.0	6.0	0.0	0.0	8,529.0	8,082.3
New Mexico	1,484.1	1,484.1	943.3	945.3	767.7	833.7	1,540.0	1,540.0	0.0	0.0	46.0	46.0	0.0	0.0	4,781.1	4,849.1
Utah	1,830.0	1,830.0	534.6	534.6	332.5	328.2	4,581.0	4,581.0	0.0	0.0	27.8	27.8	0.0	0.0	7,305.9	7,301.6
Wyoming	94.0	94.0	250.9	247.3	1,326.2	254.0	4,999.0	6,069.0	0.0	0.0	5.8	5.8	3.3	3.3	6,670.2	6,673.4
Pacific Contiguous	26,458.4	26,426.9	12,349.5	12,312.6	4,669.0	4,568.1	727.0	727.0	0.0	0.0	471.4	439.0	212.5	213.0	44,887.8	44,686.6
California	20,412.6	20,391.1	11,506.3	11,469.4	4,410.2	4,309.3	57.0	57.0	0.0	0.0	442.2	415.2	212.5	213.0	37,040.8	36,855.0
Oregon	3,409.2	3,409.2	124.0	124.0	229.2	0.0	0.0	0.0	0.0	0.0	6.6	6.6	0.0	0.0	3,769.0	3,769.0
Washington	2,636.6	2,626.6	719.2	719.2	29.6	29.6	670.0	670.0	0.0	0.0	22.6	17.2	0.0	0.0	4,076.0	4,062.6
Pacific Noncontiguous	374.6	374.6	708.5	708.5	174.4	174.4	167.9	167.9	0.0	0.0	2,751.8	2,731.0	0.0	0.0	4,177.0	4,156.4
Alaska	374.6	374.6	708.5	708.5	174.4	174.4	167.9	167.9	0.0	0.0	743.2	751.1	0.0	0.0	2,168.6	2,176.5

Table 4.08.A. Capacity Factors for Utility Scale Generators Primarily Using Fossil Fuels

Year/Month	Coal		Natural Gas								Petroleum					
	Combined Cycle		Gas Turbine		Steam Turbine		Internal Combustion		Steam Turbine		Gas Turbine		Internal Combustion			
	Time Adjusted Capacity (MW)	Capacity Factor														
Annual Data																
2014	299,064.7	60.5%	224,183.2	48.6%	124,736.9	8.3%	75,049.1	10.3%	3,026.7	10.8%	18,057.0	13.0%	16,791.5	1.2%	5,011.3	2.1%
2015	286,082.7	54.3%	231,467.5	55.8%	123,444.3	9.8%	80,348.0	11.3%	3,507.8	11.9%	14,965.4	14.0%	16,122.8	1.3%	5,075.2	2.1%
2016	269,477.1	52.8%	236,442.8	55.4%	125,148.4	11.0%	81,225.1	12.3%	3,684.3	11.5%	13,993.7	12.2%	15,114.0	1.3%	5,082.8	2.3%
2017	259,930.2	53.1%	242,839.1	51.2%	125,806.6	9.6%	79,149.4	10.7%	4,225.5	11.6%	13,290.9	13.7%	14,275.3	1.0%	5,153.3	2.1%
2018	246,866.8	53.6%	254,403.3	55.1%	126,763.4	11.9%	76,177.8	12.6%	4,446.6	13.0%	13,300.1	14.2%	14,234.9	1.3%	5,289.7	1.9%
2019	235,089.3	47.5%	266,846.5	57.4%	128,832.5	11.4%	72,797.3	14.1%	4,848.3	15.3%	11,214.7	12.8%	14,009.7	1.0%	5,287.8	2.0%
2020	220,623.2	40.5%	274,300.4	57.1%	129,085.6	11.6%	75,462.3	14.2%	5,123.0	15.1%	8,443.3	13.9%	13,875.8	1.2%	5,300.7	1.8%
2021	212,587.0	49.1%	277,618.5	55.0%	130,103.4	11.7%	74,003.4	12.5%	5,171.8	18.2%	8,385.5	14.2%	13,729.8	1.6%	5,522.7	1.8%
2022	196,396.3	48.4%	286,467.1	56.6%	130,170.6	12.9%	77,518.8	15.6%	5,528.9	18.1%	9,839.0	13.2%	15,005.7	1.6%	5,407.0	1.8%
2023	182,767.5	42.4%	291,134.7	59.7%	130,736.5	12.9%	76,908.1	17.4%	5,802.9	20.1%	8,743.2	10.1%	14,386.8	1.3%	5,418.9	1.8%
2024	176,028.6	42.6%	292,189.2	60.5%	132,099.1	13.9%	75,196.7	19.9%	6,044.6	18.0%	8,122.7	8.9%	14,167.2	1.9%	5,461.8	1.8%
Year 2022																
January	202,043.3	57.4%	284,236.2	55.6%	129,881.8	11.3%	78,088.0	14.8%	5,454.3	16.0%	9,839.0	19.6%	15,279.8	1.4%	5,401.4	2.2%
February	202,013.8	52.2%	284,236.2	52.4%	129,967.8	9.6%	78,088.0	11.7%	5,454.3	14.8%	9,839.0	15.3%	15,279.8	0.9%	5,402.0	1.8%
March	200,821.8	41.0%	284,247.2	46.6%	130,009.3	8.2%	77,514.0	8.5%	5,484.9	13.6%	9,839.0	9.8%	15,245.8	1.0%	5,392.6	1.7%
April	200,376.8	38.5%	284,450.3	44.2%	130,070.8	9.6%	77,514.0	9.6%	5,486.4	13.5%	9,839.0	10.1%	15,119.1	0.9%	5,395.3	1.7%
May	198,851.8	42.1%	283,899.1	49.6%	130,070.8	12.5%	77,514.0	14.6%	5,544.4	14.7%	9,839.0	12.0%	15,119.1	1.4%	5,399.7	1.8%
June	195,863.8	52.5%	286,389.0	61.2%	130,127.6	16.9%	77,510.0	20.2%	5,546.0	18.8%	9,839.0	12.2%	14,947.1	1.8%	5,407.0	1.9%
July	195,881.8	59.6%	287,485.0	70.5%	130,274.1	20.1%	77,510.0	28.1%	5,549.7	23.0%	9,839.0	10.3%	14,947.1	2.5%	5,410.4	1.7%
August	194,856.8	59.2%	288,566.5	72.4%	130,035.1	18.5%	77,379.0	22.4%	5,563.9	25.1%	9,839.0	11.8%	14,947.1	2.2%	5,410.7	1.7%
September	192,425.8	47.3%	288,493.5	63.9%	130,259.8	13.8%	77,374.0	16.3%	5,559.0	21.7%	9,839.0	13.1%	14,858.1	1.7%	5,409.2	1.8%
October	192,425.8	38.7%	288,458.5	53.0%	130,348.7	10.2%	77,374.0	13.3%	5,558.0	17.9%	9,839.0	12.3%	14,817.2	1.4%	5,413.1	1.8%
November	192,271.3	40.9%	288,485.6	52.0%	130,380.6	11.2%	77,379.8	13.7%	5,555.9	17.9%	9,839.0	13.6%	14,789.6	1.0%	5,420.9	1.6%
December	189,316.3	51.4%	288,504.6	56.8%	130,606.5	12.5%	77,026.8	14.1%	5,560.7	19.3%	9,839.0	18.2%	14,735.6	2.8%	5,421.2	2.2%
Year 2023																
January	186,822.6	44.8%	287,456.6	57.4%	130,416.1	9.3%	78,868.8	9.6%	5,738.6	18.7%	8,743.2	9.1%	14,494.8	1.0%	5,428.8	1.9%
February	186,812.0	37.3%	287,688.6	57.1%	130,416.1	9.2%	78,868.8	10.3%	5,742.7	18.0%	8,743.2	11.7%	14,494.8	1.4%	5,426.8	1.8%
March	186,007.1	36.2%	288,941.6	53.6%	130,356.1	10.5%	78,303.3	11.5%	5,744.2	19.5%	8,743.2	8.9%	14,494.8	1.1%	5,422.2	1.8%
April	186,007.1	30.6%	289,463.1	47.9%	130,356.1	11.2%	77,868.3	13.4%	5,746.9	16.2%	8,743.2	8.4%	14,494.8	1.2%	5,422.2	2.0%
May	184,515.1	32.6%	291,190.1	53.0%	130,248.2	12.4%	77,038.3	15.4%	5,745.0	16.0%	8,743.2	7.9%	14,463.5	1.2%	5,413.4	1.8%
June	182,361.9	44.5%	291,270.1	63.7%	130,403.5	15.0%	76,724.3	22.1%	5,752.6	21.4%	8,743.2	10.2%	14,315.1	1.3%	5,399.1	1.8%
July	181,713.0	58.3%	292,441.8	74.0%	130,558.5	19.4%	76,724.3	31.7%	5,752.6	26.0%	8,743.2	14.3%	14,315.1	1.6%	5,414.9	1.6%
August	181,099.7	58.0%	292,441.8	74.1%	131,221.5	19.0%	76,724.3	31.0%	5,884.2	26.7%	8,743.2	13.3%	14,315.1	1.9%	5,416.6	1.6%
September	180,234.7	46.4%	292,441.8	66.2%	131,221.5	13.6%	75,688.3	22.4%	5,878.3	22.0%	8,743.2	14.5%	14,315.1	1.3%	5,425.7	1.5%
October	179,749.7	38.6%	293,100.7	53.8%	131,221.5	12.6%	75,687.9	16.3%	5,879.5	18.9%	8,743.2	8.7%	14,315.1	1.3%	5,429.6	1.7%
November	179,749.7	39.7%	293,100.7	54.8%	131,217.5	11.5%	75,681.6	14.1%	5,880.7	18.8%	8,743.2	6.8%	14,315.1	1.0%	5,414.6	2.1%
December	178,441.7	42.3%	293,802.5	60.0%	131,178.5	10.1%	74,854.6	10.8%	5,885.5	18.6%	8,743.2	7.7%	14,315.1	1.2%	5,413.5	1.8%
Year 2024																
January	177,497.2	56.8%	293,471.8	64.1%	131,958.7	12.9%	75,752.5	15.9%	5,899.4	18.5%	8,122.7	10.8%	14,230.3	2.0%	5,471.1	1.8%
February	177,497.2	36.2%	293,471.8	56.8%	131,811.5	10.0%	75,745.5	10.4%	5,901.6	16.4%	8,122.7	8.2%	14,230.3	1.3%	5,471.3	1.6%
March	177,323.7	29.8%	293,471.8	51.1%	131,662.7	10.6%	75,334.8	13.0%	5,898.6	16.1%	8,122.7	8.0%	14,230.3	1.3%	5,472.2	1.8%
April	176,697.6	29.9%	292,894.3	46.9%	131,662.7	13.1%	75,334.8	15.9%	5,901.7	14.8%	8,122.7	8.0%	14,230.3	1.6%	5,474.9	2.2%
May	176,201.6	35.6%	292,984.3	53.9%	131,655.7	13.4%	75,334.8	20.4%	5,951.9	16.0%	8,122.7	8.5%	14,230.3	1.8%	5,466.3	1.7%
June	176,021.6	49.0%	291,603.0	65.7%	131,565.2	15.1%	75,084.8	26.3%	6,000.8	19.5%	8,122.7	8.6%	14,122.3	2.0%	5,457.1	1.9%
July	176,021.6	55.0%	291,603.0	75.8%	131,960.2	20.9%	75,084.8	32.0%	6,007.2	22.5%	8,122.7	10.2%	14,122.3	3.3%	5,470.8	1.7%
August	176,021.6	53.2%	291,064.9	75.3%	132,555.6	19.2%	75,084.8	32.4%	6,181.5	22.3%	8,122.7	9.5%	14,122.3	2.7%	5,465.5	1.9%
September	175,762.6	43.7%	291,601.2	67.6%	132,555.6	14.7%	75,084.8	21.6%	6,182.0	19.0%	8,122.7	7.8%	14,122.3	1.7%	5,454.9	1.6%
October	174,584.6	37.0%	291,454.9	55.6%	132,524.6	13.1%	74,879.0	19.5%	6,183.8	16.3%	8,122.7	8.2%	14,122.3	1.8%	5,455.3	1.8%
November	174,597.6	35.9%	291,464.9	54.9%	132,706.8	12.3%	74,875.6	16.4%	6,183.8	18.0%	8,122.7	8.3%	14,122.3	1.7%	5,448.1	1.7%
December	174,177.6	48.7%	291,238.9	58.5%	132,741.8	11.0%	74,786.7	14.2%	6,236.6	16.7%	8,122.7	10.5%	14,122.3	1.5%	5,434.3	1.9%

Values are final.

Time adjusted capacity for month rows is the summer capacity of generators in operation for the entire month; units that began operation during the month or that retired during the month are excluded. Time adjusted capacity for year rows is a time weighted average of the month rows.

Capacity factors are a comparison of net generation with available capacity. See the technical note for an explanation of how capacity factors are calculated.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report' and Form EIA-860M, 'Monthly Update to the Annual Electric Generator Report.'

Table 4.08.B. Capacity Factors for Utility Scale Generators Primarily Using Non-Fossil Fuels

Year/Month	Geothermal		Hydroelectric		Nuclear		Other Biomass		Other Fossil Gas		Solar				Wind		Wood	
	Time Adjusted Capacity (MW)	Capacity Factor	Photovoltaic		Thermal		Time Adjusted Capacity (MW)	Capacity Factor	Time Adjusted Capacity (MW)	Capacity Factor								
											Time Adjusted Capacity (MW)	Capacity Factor	Time Adjusted Capacity (MW)	Capacity Factor				
Annual Data																		
2014	2,513.3	72.0%	79,582.8	37.2%	98,569.3	91.7%	5,114.6	62.7%	1,994.0	54.0%	6,555.6	25.6%	1,445.3	18.3%	60,587.8	34.0%	8,319.7	60.0%
2015	2,523.0	71.9%	79,650.8	35.7%	98,614.6	92.3%	5,104.5	62.6%	2,527.7	80.8%	9,521.6	25.5%	1,697.3	21.7%	67,106.2	32.2%	9,024.5	59.3%
2016	2,516.6	71.6%	79,806.0	38.2%	99,364.8	92.3%	5,099.5	62.7%	2,458.8	64.8%	14,161.4	25.0%	1,757.9	22.1%	74,162.7	34.5%	8,979.8	58.3%
2017	2,460.4	73.2%	79,696.8	43.0%	99,619.5	92.3%	5,125.6	61.8%	2,375.8	62.8%	21,940.9	25.6%	1,757.9	21.8%	83,355.6	34.6%	8,807.5	60.2%
2018	2,391.5	76.0%	79,771.9	41.9%	99,605.2	92.5%	5,059.0	61.8%	2,543.9	65.4%	27,143.3	25.1%	1,757.9	23.6%	89,228.5	34.6%	8,760.2	60.6%
2019	2,535.2	69.6%	79,838.0	41.2%	98,836.7	93.4%	4,786.5	62.5%	2,504.1	67.4%	31,840.8	24.3%	1,758.1	21.2%	97,564.8	34.4%	8,485.0	59.0%
2020	2,561.5	69.1%	79,810.4	40.7%	97,238.3	92.4%	4,653.8	62.5%	2,275.2	64.6%	39,458.1	24.2%	1,747.9	20.6%	107,387.7	35.3%	8,327.2	57.8%
2021	2,588.5	69.8%	79,878.4	36.0%	95,802.7	92.8%	4,490.4	63.2%	1,902.5	60.9%	51,219.7	24.4%	1,629.0	20.5%	123,757.1	34.4%	7,959.0	59.9%
2022	2,616.0	69.0%	80,054.5	36.3%	94,969.9	92.7%	4,402.5	60.2%	1,716.0	61.6%	64,501.0	24.4%	1,480.0	23.1%	136,669.4	35.9%	7,817.6	57.9%
2023	2,670.6	69.4%	79,982.5	35.0%	95,065.2	93.0%	4,162.6	60.4%	1,871.6	53.8%	77,130.8	23.2%	1,480.0	22.1%	143,443.5	33.2%	7,830.2	53.5%
2024	2,690.2	64.6%	79,883.9	34.6%	98,022.9	90.8%	4,054.5	59.5%	1,685.1	49.0%	102,319.5	23.2%	1,392.0	25.0%	149,299.0	34.3%	7,476.0	55.8%
Year 2022																		
January	2,592.8	75.1%	80,036.5	40.6%	95,406.4	99.4%	4,460.5	60.7%	1,664.2	64.2%	60,335.2	16.8%	1,480.0	11.3%	132,415.6	37.5%	7,829.0	60.8%
February	2,592.8	70.3%	80,040.6	39.6%	95,406.4	96.5%	4,459.1	60.6%	1,664.2	62.8%	61,350.2	21.2%	1,480.0	15.9%	133,711.4	41.6%	7,829.0	62.6%
March	2,592.8	65.7%	80,050.6	41.0%	95,406.4	89.0%	4,444.5	59.8%	1,664.2	63.4%	61,673.4	24.4%	1,480.0	23.1%	133,969.5	42.7%	7,829.0	57.4%
April	2,592.8	67.1%	80,054.7	34.8%	95,406.4	80.5%	4,437.0	60.0%	1,733.5	56.2%	62,666.8	28.5%	1,480.0	30.1%	135,080.4	46.6%	7,829.0	54.9%
May	2,609.8	67.4%	80,054.7	39.2%	95,427.4	89.3%	4,434.2	59.2%	1,733.5	59.9%	63,122.2	30.9%	1,480.0	33.5%	137,384.2	41.1%	7,811.3	55.4%
June	2,609.8	67.0%	80,057.2	45.1%	94,658.9	96.4%	4,434.2	61.7%	1,733.5	63.8%	63,890.6	33.2%	1,480.0	34.9%	137,594.2	33.9%	7,805.5	59.5%
July	2,609.8	67.1%	80,057.2	41.2%	94,658.9	97.8%	4,374.4	61.7%	1,733.5	63.7%	65,118.6	31.2%	1,480.0	26.2%	137,993.8	28.6%	7,805.5	61.5%
August	2,639.4	67.9%	80,057.2	35.5%	94,658.9	97.8%	4,378.3	60.7%	1,733.5	59.5%	65,707.2	28.4%	1,480.0	25.3%	137,999.4	24.0%	7,817.5	60.3%
September	2,661.3	68.6%	80,058.7	29.5%	94,658.9	93.5%	4,369.7	59.5%	1,733.5	61.6%	66,419.3	26.5%	1,480.0	26.7%	138,005.0	27.3%	7,817.5	56.4%
October	2,620.5	65.3%	80,059.2	24.1%	94,658.9	83.7%	4,366.5	59.2%	1,733.5	59.5%	67,201.8	22.9%	1,480.0	26.4%	138,005.0	31.6%	7,817.5	50.9%
November	2,620.5	72.6%	80,059.2	31.0%	94,658.9	91.0%	4,354.3	59.6%	1,733.5	63.2%	67,739.4	16.5%	1,480.0	14.1%	138,025.0	40.8%	7,817.5	56.7%
December	2,648.6	74.1%	80,067.7	34.3%	94,658.9	98.1%	4,322.3	60.1%	1,728.2	62.3%	68,569.5	12.5%	1,480.0	9.0%	139,628.0	36.8%	7,804.5	58.8%
Year 2023																		
January	2,657.6	71.2%	79,971.6	38.2%	94,598.2	100.7%	4,259.7	60.6%	1,896.8	48.4%	71,639.2	14.2%	1,480.0	7.7%	140,883.2	36.3%	7,933.1	57.5%
February	2,657.6	72.4%	79,989.6	37.1%	94,598.2	95.7%	4,158.1	59.7%	1,896.8	54.3%	72,849.9	18.6%	1,480.0	10.9%	141,532.3	43.1%	7,933.1	56.2%
March	2,623.3	73.2%	79,989.6	35.9%	94,598.2	89.3%	4,158.1	58.3%	1,866.8	54.7%	73,402.2	21.5%	1,480.0	14.0%	142,245.7	40.6%	7,933.1	53.5%
April	2,623.3	70.6%	80,007.4	34.4%	94,598.2	83.2%	4,158.1	55.6%	1,866.8	54.7%	73,948.2	26.8%	1,480.0	27.8%	142,659.5	41.2%	7,933.1	48.6%
May	2,684.3	66.9%	79,978.4	46.5%	94,598.2	86.9%	4,158.1	61.1%	1,866.8	51.1%	74,880.6	29.5%	1,480.0	27.4%	142,976.1	30.0%	7,888.1	51.9%
June	2,684.3	66.5%	79,979.8	37.5%	94,598.2	95.2%	4,158.1	62.4%	1,866.8	54.1%	75,981.9	30.9%	1,480.0	34.6%	143,730.8	26.4%	7,873.5	52.2%
July	2,684.3	64.6%	79,979.8	36.9%	94,598.2	99.1%	4,159.4	61.9%	1,866.8	57.0%	77,601.9	30.9%	1,480.0	35.0%	143,730.8	25.9%	7,788.5	54.0%
August	2,671.8	63.1%	79,979.8	35.8%	95,712.2	97.9%	4,155.4	61.4%	1,866.8	56.4%	78,928.8	28.7%	1,480.0	28.3%	144,230.3	26.2%	7,788.5	56.3%
September	2,671.8	67.4%	79,977.0	29.4%	95,712.2	95.1%	4,155.4	58.1%	1,866.8	52.9%	79,648.0	25.6%	1,480.0	27.7%	144,334.3	27.1%	7,756.3	52.6%
October	2,695.8	70.4%	79,974.9	26.3%	95,712.2	86.3%	4,147.2	59.4%	1,866.8	51.2%	80,606.0	22.0%	1,480.0	26.1%	144,417.5	33.1%	7,756.3	47.4%
November	2,695.8	73.7%	79,979.5	29.6%	95,712.2	90.3%	4,148.8	61.8%	1,866.8	54.0%	82,386.8	16.7%	1,480.0	15.7%	145,235.0	34.6%	7,693.1	54.5%
December	2,695.8	72.9%	79,983.6	32.1%	95,712.2	96.7%	4,133.2	63.8%	1,866.8	56.4%	83,392.8	13.5%	1,480.0	9.9%	145,232.0	34.6%	7,693.1	56.7%
Year 2024																		
January	2,689.6	69.3%	79,886.6	36.3%	97,277.2	95.6%	4,097.7	60.8%	1,706.1	53.7%	91,150.6	13.4%	1,392.0	7.5%	146,957.0	31.6%	7,540.4	60.2%
February	2,689.6	69.0%	79,886.6	37.4%	97,277.2	95.4%	4,099.2	59.2%	1,706.1	50.2%	93,683.5	18.6%	1,392.0	12.4%	147,815.2	39.6%	7,540.4	58.3%
March	2,689.6	67.4%	79,887.1	39.3%	97,277.2	87.5%	4,098.2	56.5%	1,706.1	46.7%	94,296.2	21.8%	1,392.0	21.0%	148,016.7	40.7%	7,540.4	55.6%
April	2,689.6	65.5%	79,887.1	36.4%	97,277.2	81.8%	4,073.4	55.8%	1,678.1	48.2%	97,257.0	26.3%	1,392.0	32.2%	148,176.7	43.7%	7,493.4	52.5%
May	2,675.5	61.9%	79,887.1	41.2%	98,391.2	88.8%	4,056.4	60.8%	1,678.1	49.3%	98,677.7	29.0%	1,392.0	38.8%	149,305.6	35.2%	7,493.4	53.6%
June	2,675.5	61.5%	79,878.6	38.9%	98,391.2	96.3%	4,052.8	59.6%	1,678.1	48.1%	101,220.5	31.6%	1,392.0	40.1%	149,391.1	35.7%	7,493.4	56.4%
July	2,695.5	60.4%	79,878.6	36.0%	98,391.2	95.4%	4,034.3	60.9%	1,678.1	48.5%	103,886.6	30.3%	1,392.0	33.7%	149,419.7	25.2%	7,481.9	57.4%
August	2,695.5	60.8%	79,884.2	34.5%	98,391.2	95.3%	4,034.3	62.1%	1,678.1	49.9%	104,868.2	29.7%	1,392.0	33.1%	150,120.2	26.1%	7,481.9	58.2%
September	2,695.5	61.5%	79,884.2	27.7%	98,391.2	88.5%	4,037.5	59.9%	1,678.1	49.4%	106,071.6	25.4%	1,392.0	32.7%	150,470.4	26.9%	7,481.9	54.5%
October	2,695.5	62.4%	79,874.9	25.8%	98,391.2	80.3%	4,037.5	58.7%	1,678.1	45.7%	108,568.7	23.1%	1,392.0	22.8%	150,623.5	35.3%	7,417.2	47.8%
November	2,695.5	67.3%	79,874.9	29.1%	98,391.2	87.4%	4,037.5	60.4%	1,678.1	48.7%	111,404.8	16.2%	1,392.0	13.8%	150,623.5	36.9%	7,374.8	55.9%
December	2,695.5	68.8%	79,897.0	32.9%	98,391.2	97.3%	3,997.0	60.0%	1,678.1	49.6%	116,407.3	13.8%	1,392.0	11.7%	150,620.0	35.0%	7,374.8	58.7%

Values are final.

Time adjusted capacity for month rows is the summer capacity of generators in operation for the entire month; units that began operation during the month or that retired during the month are excluded. Time adjusted capacity for year rows is a time weighted average of the month rows.

Capacity factors are a comparison of net generation with available capacity. See the technical note for an explanation of how capacity factors are calculated.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report' and Form EIA-860M, 'Monthly Update to the Annual Electric Generator Report.'

Table 4.08.C. Usage Factors for Utility Scale Storage Generators

Year/Month	Battery		Pumped Storage	
	Time Adjusted Capacity (MW)	Usage Factor	Time Adjusted Capacity (MW)	Usage Factor
Annual Data				
2014	155.1	1.7%	22,477.9	10.2%
2015	206.8	3.6%	22,568.9	10.2%
2016	423.0	3.8%	22,752.7	11.2%
2017	632.8	6.8%	22,791.7	11.4%
2018	713.6	5.2%	22,815.4	10.8%
2019	949.8	5.4%	22,754.7	10.4%
2020	1,210.3	5.2%	22,936.6	10.5%
2021	2,627.6	6.1%	23,007.7	10.2%
2022	6,566.1	6.4%	23,033.9	11.1%
2023	11,225.7	6.6%	23,132.1	10.9%
2024	19,945.1	8.3%	23,178.5	11.4%
Year 2022				
January	4,926.4	5.5%	23,013.4	9.5%
February	4,996.7	6.6%	23,013.4	8.9%
March	5,069.2	5.7%	23,013.4	9.1%
April	5,316.2	6.0%	23,013.4	7.3%
May	6,055.5	6.4%	23,043.9	10.9%
June	6,064.5	7.1%	23,043.9	14.8%
July	6,555.2	6.9%	23,043.9	15.8%
August	6,941.6	6.6%	23,043.9	16.4%
September	7,489.9	6.1%	23,043.9	13.2%
October	7,958.4	6.7%	23,043.9	8.4%
November	8,630.7	6.7%	23,043.9	9.2%
December	8,696.4	6.5%	23,043.9	9.6%
Year 2023				
January	9,168.7	6.9%	23,057.8	9.2%
February	9,236.4	6.5%	23,057.8	9.6%
March	9,318.4	7.0%	23,137.8	9.2%
April	9,621.5	7.2%	23,147.4	8.8%
May	9,791.5	6.5%	23,147.4	10.9%
June	9,943.1	6.4%	23,147.4	13.8%
July	10,846.6	6.5%	23,147.4	15.7%
August	12,332.2	6.4%	23,147.4	15.5%
September	12,815.4	6.3%	23,147.4	13.3%
October	13,515.9	7.0%	23,147.4	8.7%
November	13,768.3	6.7%	23,147.4	8.3%
December	14,197.9	6.3%	23,147.4	8.0%
Year 2024				
January	15,989.6	6.2%	23,118.6	9.5%
February	16,276.4	7.3%	23,118.6	9.7%
March	16,312.3	7.9%	23,198.6	7.4%
April	17,352.7	8.4%	23,198.6	9.1%
May	18,040.6	8.0%	23,198.6	12.5%
June	19,187.2	8.1%	23,198.6	15.6%
July	20,434.9	8.8%	23,198.6	16.8%
August	21,174.1	9.0%	23,198.6	16.3%
September	22,411.1	8.3%	23,198.6	13.0%
October	23,219.6	9.0%	23,198.6	8.3%
November	23,981.5	8.8%	23,156.6	8.7%
December	24,826.7	8.6%	23,156.6	9.4%

Values are final.

Time adjusted capacity for month rows is the summer capacity of generators in operation for the entire month; units that began operation during the month or that retired during the month are excluded. Time adjusted capacity for year rows is a time weighted average of the month rows.

Usage factors are a comparison of gross generation with available capacity. See the technical note for an explanation of how usage factors are calculated.

Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report' and Form EIA-860N, 'Monthly Update to the Annual Electric Generator Report.'

Table 4.8 Total Capacity of Non-Net Metered Distributed Generators by Technology Type and Sector, 2014 through 2024

Year	Generators by Technology and Sector					Total
	Residential	Commercial	Industrial	Transportation	Direct Connected	
Photovoltaic						
2014	-	-	-	-	-	692,034
2015	-	-	-	-	-	835,354
2016	80,577	388,911	132,970	-	112,922	715,380
2017	186,910	513,251	177,192	-	120,948	898,299
2018	281,141	584,271	189,874	-	124,793	1,180,080
2019	437,911	688,600	202,959	-	131,351	1,460,821
2020	655,125	872,846	211,173	-	138,251	1,877,495
2021	891,281	1,035,668	244,331	-	144,130	2,315,410
2022	1,334,843	1,106,717	185,959	-	150,015	2,781,534
2023	1,613,746	1,114,113	221,723	-	166,700	3,136,282
2024	2,023,193	1,454,818	233,024	-	167,269	3,478,299
Battery						
2014	-	-	-	-	-	7,227
2015	-	-	-	-	-	24,443
2016	0,070	32,678	8,714	-	1,240	42,702
2017	3,916	42,884	12,271	-	1,444	60,515
2018	8,826	79,642	19,814	-	2,276	100,558
2019	14,308	113,788	45,519	-	15,020	198,635
2020	28,048	136,448	16,976	-	17,242	198,617
2021	108,876	166,043	16,733	-	23,712	314,364
2022	171,343	221,150	16,984	-	20,535	429,622
2023	229,419	242,722	16,999	-	3,110	492,150
2024	343,041	287,814	16,780	-	3,330	630,970
Battery Energy (MWh)						
2014	-	-	-	-	-	-
2015	-	-	-	-	-	-
2016	-	-	-	-	-	-
2017	-	-	-	-	-	-
2018	-	-	-	-	-	-
2019	-	-	-	-	-	-
2020	-	-	-	-	-	-
2021	-	-	-	-	-	-
2022	-	-	-	-	-	-
2023	607,049	563,267	0,986	-	22,134	1,193,436
2024	423,151	628,692	2,098	-	4,019	1,057,960
Wind						
2014	-	-	-	-	-	33,727
2015	-	-	-	-	-	26,666
2016	2,616	15,742	1,366	-	8,828	28,552
2017	2,632	16,453	1,644	-	8,988	29,717
2018	2,279	13,527	1,441	-	8,977	26,224
2019	2,437	15,797	1,452	-	9,918	29,614
2020	3,104	13,947	1,849	-	9,929	29,829
2021	2,961	15,108	1,153	-	9,971	27,862
2022	1,894	13,303	1,171	-	9,872	26,340
2023	1,961	15,547	0,771	-	9,572	27,751
2024	2,451	15,109	1,909	-	10,450	29,860
Hydroelectric						
2014	-	-	-	-	-	103,233
2015	-	-	-	-	-	121,234
2016	6,140	39,930	8,933	-	101,146	156,149
2017	6,315	30,203	8,933	-	103,601	149,052
2018	5,422	30,049	5,903	-	113,950	155,324
2019	7,482	37,818	5,903	-	113,910	164,713
2020	2,822	39,339	2,730	-	104,253	149,144
2021	2,529	43,226	6,983	-	102,913	154,720
2022	2,529	45,892	4,993	-	99,542	152,896
2023	2,529	44,498	4,493	-	104,164	149,684
2024	2,524	44,234	2,430	-	97,973	147,151
Fuel Cell						
2014	-	-	-	-	-	-
2015	-	-	-	-	-	-
2016	0,161	6,229	3,700	-	0,225	10,315
2017	0,162	7,863	6,130	-	0,620	14,775
2018	0,150	12,730	3,369	-	0,620	17,870
2019	0,150	19,843	3,901	-	0,620	24,514
2020	1,133	18,698	4,168	-	0,620	24,619
2021	0,133	20,609	5,364	-	0,620	26,726
2022	0,134	23,207	5,310	-	0,620	29,271
2023	0,134	23,303	5,310	-	0,620	29,467
2024	0,117	26,600	3,285	-	0,645	30,647
Internal Combustion						
2014	-	-	-	-	-	813,841
2015	-	-	-	-	-	797,594
2016	46,974	679,238	223,937	-	69,217	1,019,467
2017	66,786	651,863	306,350	-	81,158	1,306,057
2018	69,428	609,278	338,970	-	81,158	1,408,834
2019	76,934	655,455	283,507	0,275	111,981	1,428,152
2020	66,474	662,213	299,854	-	61,832	1,300,373
2021	70,081	605,179	345,146	-	78,941	1,400,347
2022	65,208	644,905	295,944	-	77,522	1,424,244
2023	78,968	1,640,781	321,968	-	79,449	1,820,966
2024	78,272	1,695,664	300,771	-	69,399	1,834,108
Gas Turbine						
2014	-	-	-	-	-	81,303
2015	-	-	-	-	-	69,300
2016	0,230	62,127	24,410	-	2,728	89,500
2017	11,792	56,187	29,099	-	3,893	98,969
2018	0,070	75,151	24,568	-	3,488	103,277
2019	0,077	76,696	22,128	-	4,488	103,389
2020	0,071	84,904	21,658	-	4,488	109,299
2021	0,197	102,084	22,333	-	1,253	125,867
2022	0,213	109,087	21,998	-	1,253	132,551
2023	0,213	86,431	37,178	-	1,253	125,075
2024	0,588	95,359	19,287	-	1,013	111,197
Steam Turbine						
2014	-	-	-	-	-	12,903
2015	-	-	-	-	-	10,531
2016	-	2,990	0,504	-	0,431	3,955
2017	1,250	1,900	1,294	-	0,431	4,875
2018	-	4,630	0,930	-	2,581	7,740
2019	-	8,139	0,930	-	2,581	11,599
2020	-	7,444	0,930	-	2,581	10,984
2021	-	7,589	0,930	-	2,581	10,700
2022	-	9,259	0,919	-	2,581	11,859
2023	-	7,779	0,919	-	2,581	10,379
2024	-	7,779	0,874	-	2,581	11,034
Geothermal						
2014	-	-	-	-	-	100,993
2015	-	-	-	-	-	88,423
2016	0,780	34,080	40,389	-	6,000	81,249
2017	1,139	33,090	12,729	-	4,950	51,918
2018	0,629	38,452	16,309	-	3,310	58,600
2019	0,644	37,338	14,864	-	3,579	56,385
2020	0,117	38,842	16,249	-	2,970	58,187
2021	0,841	48,000	15,964	-	2,019	66,474
2022	0,961	48,004	16,984	-	2,019	68,008
2023	1,233	47,196	7,194	-	1,160	56,732
2024	1,582	37,898	9,789	-	1,119	50,388
Total						
2014	-	-	-	-	-	1,850,453
2015	-	-	-	-	-	1,994,594
2016	137,624	1,381,961	413,848	-	302,793	2,116,226
2017	300,445	1,653,887	500,243	-	305,054	2,759,629
2018	374,968	1,783,292	588,737	-	387,899	3,084,796
2019	629,763	1,953,751	630,100	0,275	384,462	3,418,292
2020	744,304	2,084,924	575,111	-	360,820	3,765,160
2021	1,165,938	2,341,954	627,816	-	366,793	4,502,507
2022	1,607,681	2,521,115	680,978	-	363,660	5,053,434
2023	1,938,103	2,632,812	614,696	-	362,662	5,548,274
2024	2,451,708	2,692,217	589,949	-	333,770	6,026,650
Total Number of Generators						
2014	-	-	-	-	-	203,000
2015	-	-	-	-	-	215,500
2016	-	-	-	-	-	195,750
2017	-	-	-	-	-	216,880
2018	-	-	-	-	-	231,220
2019	-	-	-	-	-	251,962
2020	-	-	-	-	-	279,730
2021	-	-	-	-	-	323,080
2022	-	-	-	-	-	389,192
2023	-	-	-	-	-	433,096
2024	-	-	-	-	-	481,190

Starting in 2023, capacity and energy capacity is now collected for batteries. Prior to 2023, the battery historical data was listed as storage.

Starting in 2016, PV Capacity has been converted to AC.

Starting in 2016, Capacity is now collected by technology and sector.

Starting in 2013, the residential sector is now included and all net metering units are excluded. Distributed generators are generators which are connected to the grid. They may be installed at or near a customer's site or at other locations. They may be owned by either the customers of the distribution utility or by the utility. Other includes generators for which technology is not specified.

Totals may not equal sum of components because of independent rounding.

Source: U.S. Energy Information Administration, Form EA-861, "Annual Electric Power Industry Report."

Table 4.10. Net Metering Customers and Capacity by Technology Type, by End Use Sector, 2014 through 2024

Year	Capacity (MW)					Customers				
	Residential	Commercial	Industrial	Transportation	Total	Residential	Commercial	Industrial	Transportation	Total
Photovoltaic										
2014	3,452.987	2,933.122	710.719	--	7,096.828	642,276	43,335	3,131	--	688,742
2015	5,357.358	3,455.124	884.664	--	9,697.146	958,850	51,501	3,624	--	1,013,975
2016	7,487.643	3,975.813	1,078.607	--	12,542.064	1,321,277	60,456	4,391	--	1,386,124
2017	9,486.987	5,119.870	1,197.785	--	15,804.641	1,626,283	69,538	5,267	--	1,701,088
2018	11,356.711	6,173.324	1,378.863	--	18,908.896	1,911,892	78,912	5,844	--	1,996,648
2019	13,863.288	7,181.594	1,613.248	--	22,658.129	2,283,702	86,552	6,499	--	2,376,753
2020	16,432.611	8,223.285	1,853.604	--	26,509.501	2,661,029	95,037	7,330	--	2,763,396
2021	19,929.222	9,462.694	2,036.963	--	31,428.877	3,157,429	104,645	8,108	--	3,270,182
2022	24,668.240	11,091.920	2,194.394	--	37,954.553	3,788,427	112,054	8,670	--	3,909,151
2023	30,490.572	12,303.454	2,409.643	--	45,203.667	4,549,601	123,679	9,977	--	4,683,257
2024	34,226.260	13,801.814	2,566.347	--	50,594.412	5,077,543	138,495	10,586	--	5,226,624
Battery										
2016	4.489	7.575	11.698	--	23.762	793	79	31	--	903
2017	13.276	15.356	12.328	--	40.960	2,316	137	34	--	2,487
2018	65.199	40.141	24.526	--	129.866	10,633	303	61	--	10,997
2019	153.282	48.397	40.441	--	242.120	24,007	427	93	--	24,527
2020	309.866	67.428	56.081	--	433.375	45,042	552	126	--	45,720
2021	631.087	88.178	61.909	--	781.174	86,124	807	150	--	87,081
2022	922.394	129.782	65.323	--	1,117.499	128,360	1,011	168	--	129,539
2023	1,346.459	370.969	88.261	--	1,805.689	191,493	1,580	205	--	193,278
2024	2,271.932	456.687	93.705	--	2,822.320	299,998	2,012	213	--	302,223
Virtual PV										
2016	42.653	267.434	3.168	--	313.255	13,898	1,828	11	--	15,737
2017	53.120	416.987	7.136	--	477.244	14,948	2,907	19	--	17,874
2018	68.951	523.977	8.069	--	600.997	19,116	4,996	33	--	24,145
2019	77.492	624.588	10.684	--	712.763	20,753	5,908	40	--	26,701
2020	108.466	818.499	11.845	--	938.810	23,411	6,517	46	--	29,974
2021	156.792	1,081.457	12.242	--	1,250.492	28,880	11,215	49	--	40,144
2022	160.309	1,493.413	15.880	--	1,669.604	29,401	24,761	54	--	54,216
2023	286.277	2,346.135	19.165	--	2,651.579	59,901	55,194	63	--	115,158
2024	327.357	3,850.457	27.579	--	4,205.396	91,705	90,628	65	--	182,398
Wind										
2014	37.918	101.622	25.426	--	164.966	5,379	1,351	94	--	6,824
2015	34.893	103.086	29.137	--	167.116	5,387	1,434	109	--	6,930
2016	37.030	108.726	41.454	--	187.210	5,759	1,470	113	--	7,342
2017	35.005	119.651	49.507	--	204.163	5,258	1,429	111	--	6,798
2018	33.625	133.856	52.386	--	219.867	5,368	1,452	110	--	6,930
2019	33.668	148.594	52.580	--	234.842	5,218	1,438	107	--	6,763
2020	29.858	151.950	76.209	--	258.017	4,825	1,378	105	--	6,308
2021	28.103	152.021	76.253	--	256.377	4,711	1,350	106	--	6,167
2022	27.616	146.647	82.158	--	256.421	4,648	1,303	97	--	6,048
2023	27.566	146.114	72.127	--	245.807	4,696	1,296	102	--	6,094
2024	26.593	164.626	72.222	--	263.441	4,476	1,298	98	--	5,872
Other										
2014	7.633	102.797	98.277	--	208.707	857	397	201	--	1,455
2015	7.873	116.382	116.780	--	241.035	821	445	249	--	1,515
2016	7.952	155.889	149.608	--	313.449	862	592	325	--	1,779
2017	9.064	208.639	199.398	--	417.101	915	693	330	--	1,938
2018	6.351	258.601	241.416	--	506.368	692	826	347	--	1,865
2019	23.364	254.281	263.966	--	541.611	2,226	842	381	--	3,449
2020	12.983	281.848	282.195	--	577.026	850	814	385	--	2,049
2021	9.338	337.186	298.198	--	644.722	962	937	403	--	2,302
2022	12.129	364.602	317.492	--	694.223	1,256	972	402	--	2,630
2023	22.263	418.597	383.953	--	824.813	2,961	969	610	--	4,540
2024	22.610	426.952	295.952	--	745.514	2,301	955	403	--	3,659
All Technologies										
2014	3,498.538	3,137.541	834.422	--	7,470.501	648,512	45,083	3,426	--	697,021
2015	5,400.124	3,674.592	1,030.581	--	10,105.297	965,058	53,380	3,982	--	1,022,420
2016	7,715.715	4,576.384	1,289.946	--	13,582.045	1,341,796	64,346	4,840	--	1,410,982
2017	9,584.177	5,865.147	1,453.826	--	16,903.148	1,647,404	74,567	5,727	--	1,727,698
2018	11,465.638	7,089.758	1,680.734	--	20,236.128	1,937,068	86,186	6,334	--	2,029,588
2019	13,997.811	8,209.056	1,940.478	--	24,147.345	2,311,899	94,740	7,027	--	2,413,666
2020	16,583.921	9,475.582	2,223.853	--	28,283.355	2,690,115	103,746	7,866	--	2,801,727
2021	20,123.453	11,033.357	2,423.656	--	33,580.468	3,191,982	118,147	8,666	--	3,318,795
2022	24,868.296	13,096.584	2,609.924	--	40,574.800	3,823,732	139,090	9,223	--	3,972,045
2023	30,826.677	15,214.297	2,884.888	--	48,925.862	4,617,159	181,138	10,752	--	4,809,049
2024	34,602.819	18,243.845	2,962.100	--	55,808.760	5,176,025	231,376	11,152	--	5,418,553

Starting in 2023, capacity and customers are now collected for batteries. Prior to 2023, the battery historical data was listed as storage.

N/A = Not Available.

Total customer count for the years 2007, 2009, and 2010 were revised based on requests from respondents.

Capacity and customer count was not collected by technology type before 2010.

Starting in 2013, there is no maximum capacity on installed units.

Starting in 2016, utilities have the option to report photovoltaic in DC or AC. Values have been converted to AC.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

**Table 4.11. Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel, by Producer Type, 2024
(Megawatts, Percent)**

Producer Type	Fuel-Switchable Part of Total				
	Total Net Summer Capacity of All Generators Reporting Natural Gas as the Primary Fuel	Net Summer Capacity of Natural Gas-Fired Generators Reporting the Ability to Switch to Petroleum Liquids	Fuel Switchable Capacity as Percent of Total	Maximum Achievable Net Summer Capacity Using Petroleum Liquids	Fuel Switchable Net Summer Capacity Reported to Have No Factors that Limit the Ability to Switch to Petroleum Liquids
Electric Utilities	273,739.3	82,320.4	30.1%	77,918.4	19,091.0
Independent Power Producers, Non-Combined Heat and Power Plants	190,783.5	42,820.7	22.4%	39,475.6	7,386.8
Independent Power Producers, Combined Heat and Power Plants	23,371.7	3,543.3	15.2%	3,521.4	298.1
Electric Power Sector Subtotal	487,894.4	128,684.4	26.4%	120,915.5	26,775.9
Commercial Sector	2,408.3	965.9	40.1%	924.1	148.1
Industrial Sector	16,068.4	903.9	5.6%	880.9	66.8
All Sectors	506,371.0	130,554.2	25.8%	122,720.4	26,990.7

Notes: Petroleum liquids include distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, waste oil, and propane.
Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.12. Fuel-Switching Capacity of Operable Generators Reporting Petroleum Liquids as the Primary Fuel, by Producer Type, 2024 (Megawatts, Percent)

Producer Type	Total Net Summer Capacity of All Generators Reporting Petroleum Liquids as the Primary Fuel	Fuel-Switchable Part of Total		
		Net Summer Capacity of Petroleum Liquids-Fired Generators Reporting the Ability to Switch to Natural Gas	Fuel Switchable Capacity as Percent of Total	Maximum Achievable Net Summer Capacity Using Natural Gas
Electric Utilities	14,080.1	1,345.3	9.6%	1,330.6
Independent Power Producers, Non-Combined Heat and Power Plants	11,795.8	3,530.0	29.9%	2,406.8
Independent Power Producers, Combined Heat and Power Plants	259.6	--	0.0%	--
Electric Power Sector Subtotal	26,135.5	4,875.3	18.7%	3,737.4
Commercial Sector	985.8	--	0.0%	--
Industrial Sector	241.2	29.0	12.0%	25.0
All Sectors	27,362.5	4,904.3	17.9%	3,762.4

Notes: Petroleum liquids include distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, waste oil, and propane.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.13. Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel, by Type of Prime Mover, 2024 (Megawatts, Percent)

Prime Mover Type	Number of Natural Gas-Fired Generators Reporting the Ability to Switch to Petroleum Liquids	Net Summer Capacity of Natural Gas-Fired Generators Reporting the Ability to Switch to Petroleum Liquids	Fuel Switchable Net Summer Capacity Reported to Have No Factors that Limit the Ability to Switch to Petroleum Liquids
Steam Generator	158	23,611.9	9,356.6
Combined Cycle	364	49,509.6	5,658.1
Internal Combustion	303	1,192.7	344.7
Gas Turbine	806	56,239.9	11,631.4
All Fuel Switchable Prime Movers	1,631	130,554.2	26,990.7

Notes: Petroleum liquids include distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, waste oil, and propane.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 4.14. Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel,

by Year of Initial Commercial Operation, 2024 (Megawatts, Percent)

Year of Initial Commercial Operation	Number of Natural Gas-Fired Generators Reporting the Ability to Switch to Petroleum Liquids	Net Summer Capacity of Natural Gas-Fired Generators Reporting the Ability to Switch to Petroleum Liquids	Fuel Switchable Net Summer Capacity Reported to Have No Factors that Limit the Ability to Switch to Petroleum Liquids
Pre-1970	230	9,461.1	3,497.8
1970-1974	203	11,085.5	4,182.5
1975-1979	84	10,009.2	3,960.4
1980-1984	39	844.6	205.6
1985-1989	72	2,144.4	184.8
1990-1994	175	10,849.3	1,301.6
1995-1999	119	8,765.6	946.0
2000-2004	393	37,351.6	5,639.1
2005-2009	120	15,929.1	1,970.8
2010-2014	99	11,461.6	243.3
2015-2019	68	9,417.9	2,678.1
2020-2024	29	3,234.3	2,180.8
Total	1,631	130,554.2	26,990.7

Notes: Petroleum liquids include distillate fuel oil (all diesel and No. 1, No. 2, and No. 4 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil), jet fuel, kerosene, waste oil, and propane.

Source: U.S. Energy Information Administration, Form EIA-860, "Annual Electric Generator Report."

Chapter 5

Consumption of Fossil Fuels

Table 5.1.A. Coal: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector			
		Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2014	853,634	624,235	224,568	202	4,629
2015	739,594	539,506	195,927	163	3,999
2016	677,371	496,192	178,047	111	3,021
2017	663,911	484,389	176,643	95	2,783
2018	636,213	473,617	159,976	87	2,534
2019	537,620	399,545	135,838	76	2,161
2020	435,351	325,352	108,125	72	1,802
2021	500,367	372,694	125,920	87	1,666
2022	471,576	349,320	120,514	87	1,655
2023	386,626	291,034	94,063	69	1,460
2024	372,931	284,849	86,586	65	1,431
Year 2022					
January	48,671	35,515	13,004	8	145
February	39,951	28,588	11,219	7	137
March	34,396	24,194	10,045	5	151
April	30,904	22,073	8,704	4	124
May	35,210	26,438	8,621	3	148
June	41,748	31,926	9,666	9	147
July	49,433	37,902	11,380	8	143
August	48,356	36,307	11,897	9	142
September	37,302	28,179	8,983	9	130
October	31,458	23,343	7,980	8	126
November	32,398	23,313	8,953	8	122
December	41,750	31,540	10,062	9	139
Year 2023					
January	35,506	27,360	7,998	9	138
February	26,854	19,980	6,749	8	118
March	28,671	21,207	7,345	6	114
April	22,889	16,155	6,616	7	111
May	25,484	18,557	6,799	6	122
June	33,541	26,111	7,308	3	120
July	44,412	34,525	9,752	4	131
August	43,887	34,029	9,730	4	123
September	34,223	26,184	7,913	5	121
October	29,580	21,997	7,460	6	117
November	29,549	21,115	8,310	6	117
December	32,031	23,814	8,083	7	127
Year 2024					
January	42,393	32,434	9,820	10	128
February	25,982	20,147	5,708	7	120
March	22,380	17,494	4,753	6	127
April	21,240	15,721	5,417	5	97
May	26,178	19,956	6,105	2	115
June	34,428	26,875	7,435	3	115
July	40,450	31,245	9,073	5	126
August	39,364	30,096	9,138	5	124
September	31,493	24,019	7,351	5	118
October	27,312	20,283	6,906	5	119
November	26,333	19,691	6,522	5	115
December	35,378	26,887	8,358	6	128

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.1.B. Coal: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	18,107	978	1,821	861	14,448
2015	16,632	1,032	1,980	635	12,985
2016	16,586	2,979	1,336	572	11,700
2017	14,667	2,802	1,158	515	10,192
2018	13,813	2,268	1,356	490	9,700
2019	12,397	2,062	1,161	443	8,731
2020	10,402	1,635	715	401	7,651
2021	11,301	2,153	667	447	8,034
2022	11,356	2,269	731	448	7,908
2023	9,363	1,580	527	331	6,925
2024	8,883	1,485	338	356	6,703
Year 2022					
January	1,071	221	66	48	736
February	930	189	67	49	625
March	985	181	78	32	694
April	898	163	72	22	641
May	904	149	56	24	676
June	892	173	52	33	634
July	954	219	55	36	643
August	963	203	62	37	661
September	905	190	57	38	621
October	933	174	56	38	664
November	904	181	56	43	624
December	1,018	227	55	48	688
Year 2023					
January	922	157	53	43	669
February	787	127	47	37	576
March	839	142	65	33	600
April	710	88	40	29	553
May	744	119	33	22	569
June	731	117	43	20	552
July	811	167	36	21	586
August	771	157	38	22	553
September	753	146	34	22	551
October	734	114	47	22	551
November	760	115	43	28	574
December	802	131	48	33	591
Year 2024					
January	926	167	41	53	665
February	753	131	31	40	552
March	813	129	46	31	607
April	667	114	29	26	498
May	672	107	31	17	518
June	668	112	25	23	507
July	733	130	23	23	558
August	728	144	19	25	540
September	691	115	16	25	534
October	690	99	20	27	545
November	733	104	19	32	578
December	809	134	38	34	603

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.1.C. Coal: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	871,741	625,212	226,389		1,063	19,076
2015	756,226	540,538	197,906		798	16,984
2016	693,958	499,172	179,383		683	14,720
2017	678,578	487,192	177,801		610	12,975
2018	650,027	475,885	161,332		577	12,233
2019	550,017	401,607	136,998		519	10,892
2020	445,753	326,987	108,840		473	9,453
2021	511,669	374,848	126,587		534	9,700
2022	482,931	351,589	121,245		535	9,563
2023	395,989	292,615	94,591		400	8,384
2024	381,814	286,334	86,924		422	8,134
Year 2022						
January	49,742	35,736	13,069		56	881
February	40,880	28,777	11,286		55	762
March	35,381	24,375	10,123		37	845
April	31,802	22,236	8,776		25	765
May	36,114	26,587	8,677		27	824
June	42,640	32,099	9,718		42	781
July	50,387	38,121	11,435		44	787
August	49,318	36,510	11,959		46	803
September	38,207	28,369	9,040		47	751
October	32,391	23,518	8,036		46	791
November	33,301	23,494	9,009		52	746
December	42,768	31,766	10,117		57	828
Year 2023						
January	36,428	27,518	8,051		51	808
February	27,641	20,107	6,796		44	694
March	29,511	21,349	7,409		39	714
April	23,599	16,243	6,656		36	664
May	26,227	18,677	6,832		28	691
June	34,273	26,228	7,351		22	672
July	45,223	34,692	9,788		26	718
August	44,658	34,186	9,768		26	677
September	34,975	26,329	7,948		27	671
October	30,313	22,111	7,507		27	668
November	30,308	21,231	8,353		34	691
December	32,833	23,945	8,131		39	718
Year 2024						
January	43,320	32,601	9,861		63	794
February	26,736	20,278	5,739		47	671
March	23,193	17,623	4,800		37	733
April	21,907	15,835	5,446		31	595
May	26,850	20,063	6,135		19	632
June	35,096	26,987	7,460		26	622
July	41,183	31,375	9,096		28	684
August	40,091	30,240	9,157		31	664
September	32,184	24,134	7,367		31	652
October	28,002	20,382	6,926		31	663
November	27,066	19,795	6,541		37	692
December	36,188	27,021	8,396		41	731

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.1.D. Coal: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			
		Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2014	16,472,004	12,217,628	4,154,134	4,344	95,898
2015	14,167,878	10,456,910	3,624,869	3,443	82,656
2016	12,979,911	9,641,625	3,274,103	2,293	61,889
2017	12,606,527	9,328,961	3,219,833	1,914	55,820
2018	12,037,444	9,041,357	2,944,321	1,736	50,029
2019	10,166,309	7,623,281	2,498,944	1,509	42,575
2020	8,224,162	6,206,153	1,980,662	1,330	36,018
2021	9,482,946	7,124,244	2,323,722	1,577	33,403
2022	8,868,315	6,636,816	2,197,088	1,629	32,781
2023	7,240,596	5,556,006	1,655,101	1,182	28,307
2024	7,013,266	5,455,735	1,528,334	1,116	28,081
Year 2022					
January	932,465	681,662	247,758	162	2,884
February	755,759	541,928	210,989	131	2,711
March	648,077	457,992	186,983	100	3,002
April	586,192	425,501	158,133	68	2,491
May	664,220	508,370	152,870	58	2,922
June	782,819	606,620	173,150	154	2,895
July	929,477	719,031	207,472	145	2,828
August	907,079	685,213	218,881	166	2,820
September	695,932	531,013	162,189	170	2,561
October	575,870	435,090	138,144	153	2,484
November	601,968	442,289	157,075	154	2,450
December	788,457	602,109	183,445	169	2,733
Year 2023					
January	659,607	513,389	143,312	160	2,746
February	500,285	376,970	120,835	140	2,339
March	540,007	405,614	132,031	113	2,249
April	432,462	314,052	116,149	112	2,150
May	474,300	353,561	118,277	92	2,369
June	623,856	499,160	122,404	44	2,248
July	840,127	664,788	172,782	64	2,493
August	829,792	653,077	174,273	66	2,376
September	642,442	498,804	141,204	78	2,357
October	547,246	416,202	128,691	96	2,257
November	549,358	402,536	144,457	95	2,270
December	601,115	457,856	140,685	121	2,454
Year 2024					
January	800,706	618,577	179,448	188	2,494
February	480,064	379,572	98,009	130	2,354
March	417,432	335,607	79,205	104	2,516
April	399,867	303,921	93,958	81	1,907
May	495,782	385,244	108,257	34	2,247
June	658,338	520,787	135,242	56	2,254
July	768,748	602,294	163,872	81	2,501
August	743,448	578,541	162,374	88	2,445
September	586,255	457,869	126,009	89	2,287
October	506,627	384,006	120,233	74	2,314
November	489,182	374,337	112,516	89	2,240
December	666,817	514,980	149,212	103	2,522

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

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Table 5.1.E. Coal: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			
		Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2014	391,550	18,332	37,139	18,805	317,274
2015	356,895	18,640	37,815	13,483	286,956
2016	342,370	51,590	29,330	11,736	249,714
2017	297,521	48,745	24,682	10,284	213,810
2018	278,277	38,513	28,829	9,719	201,217
2019	247,251	33,559	25,686	8,571	179,436
2020	208,052	26,952	15,375	7,424	158,300
2021	224,841	35,397	14,246	8,211	166,986
2022	222,498	37,337	14,441	8,270	162,450
2023	181,221	25,906	10,216	5,839	139,259
2024	171,692	23,799	6,413	6,226	135,255
Year 2022					
January	21,216	3,619	1,375	942	15,279
February	18,306	3,109	1,362	895	12,939
March	19,606	2,963	1,560	592	14,491
April	17,720	2,720	1,303	384	13,314
May	17,823	2,433	1,097	407	13,886
June	17,248	2,787	967	605	12,889
July	18,598	3,623	1,062	684	13,229
August	18,804	3,331	1,213	699	13,561
September	17,542	3,149	1,155	701	12,537
October	18,133	2,905	1,112	687	13,429
November	17,783	2,985	1,157	780	12,861
December	19,719	3,713	1,078	893	14,035
Year 2023					
January	18,141	2,595	951	794	13,800
February	15,528	2,083	937	672	11,836
March	16,361	2,339	1,339	589	12,095
April	13,897	1,475	865	508	11,049
May	14,545	1,969	704	380	11,493
June	13,843	1,860	958	340	10,685
July	15,546	2,795	738	365	11,648
August	14,582	2,623	702	387	10,871
September	14,472	2,360	651	391	11,069
October	14,100	1,848	829	366	11,058
November	14,698	1,853	732	475	11,638
December	15,507	2,106	809	573	12,018
Year 2024					
January	17,751	2,649	751	1,000	13,351
February	14,619	2,113	626	723	11,158
March	15,856	2,021	788	527	12,520
April	12,908	1,866	529	453	10,061
May	12,991	1,715	582	282	10,413
June	12,904	1,798	509	397	10,200
July	14,368	2,098	445	410	11,415
August	14,120	2,403	364	435	10,918
September	13,278	1,894	333	435	10,617
October	13,417	1,554	423	439	11,002
November	14,017	1,606	384	537	11,490
December	15,463	2,082	679	591	12,111

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.1.F. Coal: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	16,863,554	12,235,960	4,191,273		23,149	413,173
2015	14,524,773	10,475,551	3,662,685		16,926	369,612
2016	13,322,281	9,693,215	3,303,433		14,029	311,604
2017	12,904,048	9,377,705	3,244,514		12,198	269,630
2018	12,315,720	9,079,870	2,973,150		11,455	251,245
2019	10,413,560	7,656,840	2,524,630		10,080	222,011
2020	8,432,214	6,233,105	1,996,036		8,754	194,318
2021	9,707,787	7,159,642	2,337,968		9,788	200,389
2022	9,090,813	6,674,153	2,211,529		9,900	195,231
2023	7,421,817	5,581,912	1,665,316		7,022	167,567
2024	7,184,959	5,479,534	1,534,747		7,342	163,336
Year 2022						
January	953,681	685,281	249,133		1,104	18,163
February	774,064	545,038	212,351		1,026	15,650
March	667,683	460,955	188,543		692	17,494
April	603,912	428,220	159,436		452	15,804
May	682,042	510,802	153,967		465	16,808
June	800,067	609,407	174,117		759	15,784
July	948,074	722,654	208,534		830	16,057
August	925,883	688,544	220,093		864	16,381
September	713,474	534,161	163,344		871	15,097
October	594,004	437,995	139,256		839	15,913
November	619,751	445,273	158,232		934	15,311
December	808,176	605,822	184,523		1,063	16,768
Year 2023						
January	677,748	515,984	144,264		954	16,546
February	515,813	379,053	121,772		812	14,176
March	556,368	407,953	133,370		702	14,343
April	446,359	315,527	117,014		620	13,198
May	488,845	355,530	118,981		472	13,862
June	637,699	501,020	123,362		385	12,932
July	855,673	667,583	173,520		429	14,141
August	844,374	655,700	174,975		452	13,247
September	656,915	501,164	141,855		470	13,426
October	561,346	418,049	129,520		462	13,315
November	564,056	404,389	145,189		570	13,908
December	616,622	459,962	141,494		694	14,472
Year 2024						
January	818,457	621,226	180,198		1,189	15,844
February	494,683	381,685	98,634		852	13,512
March	433,288	337,628	79,993		631	15,036
April	412,775	305,787	94,487		533	11,967
May	508,773	386,958	108,839		315	12,660
June	671,243	522,585	135,751		452	12,454
July	783,116	604,392	164,317		490	13,916
August	757,567	580,944	162,738		522	13,363
September	599,533	459,763	126,342		524	12,904
October	520,044	385,560	120,656		513	13,316
November	503,199	375,943	112,900		626	13,730
December	682,280	517,063	149,890		693	14,633

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.2.A. Petroleum Liquids: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Thousand Barrels)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	31,531	19,652	10,689	451	739	
2015	28,925	18,562	9,473	249	641	
2016	22,405	16,137	5,624	108	536	
2017	21,696	15,567	5,461	191	476	
2018	28,614	18,345	9,467	269	534	
2019	20,836	15,677	4,464	251	444	
2020	18,008	13,913	3,447	238	410	
2021	21,633	16,850	4,102	250	432	
2022	28,760	18,375	9,474	254	657	
2023	21,335	16,366	4,253	200	517	
2024	20,787	16,058	4,137	179	414	
Year 2022						
January	5,217	2,325	2,794	44	54	
February	2,067	1,239	768	16	43	
March	1,732	1,304	365	14	48	
April	1,408	1,098	250	17	43	
May	1,588	1,275	252	20	42	
June	1,704	1,286	351	20	46	
July	2,020	1,375	576	21	48	
August	1,896	1,301	537	19	39	
September	1,738	1,341	335	12	49	
October	1,814	1,370	387	14	43	
November	1,700	1,339	304	15	42	
December	5,876	3,121	2,553	42	160	
Year 2023						
January	1,821	1,453	283	24	61	
February	2,432	1,558	791	36	47	
March	1,677	1,305	303	16	53	
April	1,605	1,262	292	11	40	
May	1,689	1,348	290	15	36	
June	1,680	1,370	256	11	43	
July	1,778	1,318	405	13	41	
August	1,789	1,445	289	13	41	
September	1,666	1,277	339	12	38	
October	1,825	1,351	423	13	37	
November	1,671	1,313	304	15	38	
December	1,704	1,366	277	21	41	
Year 2024						
January	2,757	1,991	690	30	47	
February	1,385	1,142	183	14	46	
March	1,419	1,154	214	18	34	
April	1,592	1,229	311	17	35	
May	1,576	1,253	274	18	32	
June	1,614	1,224	334	23	32	
July	1,832	1,324	468	8	33	
August	1,813	1,448	326	9	30	
September	1,485	1,232	217	7	28	
October	1,651	1,364	247	7	33	
November	1,535	1,242	252	10	31	
December	2,128	1,455	620	18	35	

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.2.B. Petroleum Liquids: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Barrels)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	3,099	64	1,170	216	1,650
2015	3,142	62	1,155	282	1,643
2016	2,277	68	245	245	1,719
2017	2,012	72	220	238	1,482
2018	2,614	103	354	350	1,807
2019	2,162	71	226	419	1,446
2020	1,730	59	179	269	1,223
2021	2,072	80	278	330	1,384
2022	4,181	106	403	495	3,177
2023	3,133	65	330	363	2,374
2024	2,238	66	612	440	1,120
Year 2022					
January	425	28	68	114	214
February	239	14	18	30	177
March	336	6	35	33	263
April	335	4	27	26	277
May	310	5	27	34	244
June	345	5	28	18	294
July	360	5	25	38	292
August	243	3	27	30	183
September	302	4	28	10	259
October	317	5	32	14	266
November	310	4	33	16	257
December	659	21	55	131	451
Year 2023					
January	406	6	35	62	303
February	373	9	29	30	305
March	326	4	26	25	271
April	329	5	29	8	288
May	163	7	26	10	120
June	166	5	26	16	120
July	174	5	25	16	129
August	204	5	23	16	161
September	207	3	25	20	158
October	193	6	32	17	137
November	247	5	25	37	181
December	344	5	29	107	203
Year 2024					
January	324	18	59	87	160
February	170	3	23	45	98
March	189	4	26	63	96
April	215	6	75	41	94
May	191	4	51	59	77
June	199	5	38	86	69
July	182	4	93	6	79
August	128	5	52	5	67
September	104	3	24	5	72
October	144	5	34	7	98
November	142	5	37	12	89
December	251	4	101	24	122

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.2.C. Petroleum Liquids: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Barrels)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	34,630	19,716	11,859	667	2,389	
2015	32,067	18,624	10,629	531	2,283	
2016	24,682	16,205	5,869	352	2,255	
2017	23,708	15,640	5,681	429	1,958	
2018	31,228	18,448	9,820	619	2,341	
2019	22,998	15,748	4,690	670	1,890	
2020	19,738	13,972	3,626	507	1,633	
2021	23,705	16,929	4,379	580	1,816	
2022	32,940	18,480	9,877	749	3,835	
2023	24,468	16,431	4,583	563	2,891	
2024	23,025	16,124	4,748	619	1,534	
Year 2022						
January	5,642	2,353	2,863	158	268	
February	2,306	1,253	786	47	220	
March	2,068	1,310	400	47	311	
April	1,742	1,102	277	43	320	
May	1,898	1,280	279	54	285	
June	2,049	1,291	379	38	341	
July	2,380	1,380	601	59	340	
August	2,139	1,305	564	48	222	
September	2,040	1,345	364	23	308	
October	2,131	1,375	419	28	310	
November	2,011	1,344	337	31	299	
December	6,534	3,142	2,608	173	611	
Year 2023						
January	2,227	1,460	318	86	363	
February	2,805	1,566	820	66	352	
March	2,003	1,309	329	41	324	
April	1,934	1,267	321	18	328	
May	1,852	1,355	317	25	155	
June	1,846	1,374	281	27	163	
July	1,952	1,323	430	29	170	
August	1,993	1,450	312	29	202	
September	1,872	1,280	364	32	197	
October	2,018	1,357	456	30	174	
November	1,918	1,319	329	52	219	
December	2,049	1,371	306	127	245	
Year 2024						
January	3,081	2,009	749	117	207	
February	1,555	1,146	206	60	144	
March	1,609	1,158	239	81	130	
April	1,807	1,235	386	58	129	
May	1,767	1,256	325	77	109	
June	1,812	1,230	373	109	101	
July	2,014	1,328	561	14	111	
August	1,941	1,452	378	14	97	
September	1,589	1,235	242	11	100	
October	1,795	1,369	282	14	130	
November	1,677	1,246	289	22	119	
December	2,379	1,459	721	42	157	

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.2.D. Petroleum Liquids: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	188,814	118,226	63,488		2,765	4,335
2015	172,884	111,808	55,979		1,482	3,616
2016	133,457	96,967	32,922		639	2,928
2017	128,649	92,975	31,895		1,125	2,654
2018	169,663	109,734	55,433		1,579	2,916
2019	122,591	93,088	25,678		1,466	2,359
2020	105,735	82,276	19,821		1,396	2,241
2021	126,799	99,374	23,648		1,466	2,312
2022	169,716	108,473	56,212		1,482	3,548
2023	126,106	96,840	25,293		1,162	2,810
2024	123,273	95,103	24,872		1,038	2,259
Year 2022						
January	31,071	13,759	16,747		260	306
February	12,135	7,285	4,511		96	243
March	10,220	7,691	2,173		84	272
April	8,301	6,485	1,483		97	235
May	9,410	7,568	1,498		115	228
June	9,991	7,555	2,064		116	255
July	11,966	8,119	3,456		123	267
August	11,188	7,674	3,192		108	214
September	10,277	7,960	1,981		71	265
October	10,721	8,139	2,258		79	245
November	10,022	7,902	1,795		86	239
December	34,416	18,335	15,055		247	779
Year 2023						
January	10,680	8,575	1,639		143	322
February	14,494	9,267	4,754		208	266
March	9,884	7,698	1,797		90	298
April	9,464	7,453	1,727		61	223
May	9,973	7,977	1,717		89	191
June	9,913	8,120	1,501		64	228
July	10,546	7,801	2,454		76	215
August	10,580	8,554	1,731		75	220
September	9,901	7,598	2,023		71	209
October	10,793	8,015	2,501		77	201
November	9,851	7,754	1,800		88	209
December	10,027	8,029	1,648		121	229
Year 2024						
January	16,257	11,733	4,090		173	261
February	8,181	6,774	1,086		82	239
March	8,383	6,799	1,290		103	191
April	9,362	7,230	1,841		99	192
May	9,391	7,463	1,656		102	170
June	9,560	7,223	2,029		136	172
July	10,864	7,830	2,811		46	177
August	10,805	8,614	1,972		53	166
September	8,872	7,346	1,332		39	155
October	9,842	8,116	1,507		42	177
November	9,107	7,354	1,529		59	166
December	12,648	8,622	3,729		104	193

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

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Table 5.2.E. Petroleum Liquids: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	18,181	395	6,802	1,311	9,672	
2015	18,449	379	6,748	1,755	9,568	
2016	13,164	395	1,391	1,496	9,882	
2017	11,825	405	1,253	1,432	8,736	
2018	15,163	598	1,951	2,082	10,533	
2019	12,383	403	1,319	2,472	8,189	
2020	9,962	317	1,056	1,595	6,994	
2021	11,989	453	1,624	1,964	7,948	
2022	24,130	613	2,452	2,920	18,145	
2023	18,007	370	2,027	2,160	13,450	
2024	12,990	374	3,583	2,602	6,431	
Year 2022						
January	2,487	166	397	665	1,260	
February	1,414	79	108	181	1,045	
March	1,958	34	215	192	1,517	
April	1,916	23	167	155	1,570	
May	1,781	29	169	199	1,384	
June	1,977	27	174	108	1,667	
July	2,072	31	157	225	1,660	
August	1,397	20	168	174	1,035	
September	1,749	25	176	63	1,485	
October	1,843	29	195	84	1,535	
November	1,835	26	198	99	1,512	
December	3,702	125	327	775	2,474	
Year 2023						
January	2,322	37	211	369	1,705	
February	2,154	50	176	185	1,743	
March	1,883	25	162	149	1,547	
April	1,895	26	180	48	1,641	
May	940	40	164	62	675	
June	942	26	159	95	662	
July	987	28	155	93	711	
August	1,159	26	141	94	898	
September	1,181	18	155	118	890	
October	1,109	35	198	102	774	
November	1,452	29	150	218	1,055	
December	1,984	30	177	627	1,150	
Year 2024						
January	1,890	101	340	514	935	
February	972	19	135	270	549	
March	1,107	24	156	374	553	
April	1,238	32	429	240	538	
May	1,103	20	298	347	438	
June	1,152	31	229	501	391	
July	1,039	23	532	39	445	
August	740	26	303	29	382	
September	612	18	148	28	419	
October	849	30	211	42	566	
November	827	26	221	72	509	
December	1,461	24	582	145	709	

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.2.F. Petroleum Liquids: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	206,995	118,621	70,291		4,076	14,008
2015	191,333	112,186	62,727		3,236	13,184
2016	146,621	97,363	34,313		2,135	12,810
2017	140,474	93,380	33,148		2,557	11,389
2018	184,826	110,332	57,383		3,661	13,449
2019	134,974	93,491	26,998		3,937	10,548
2020	115,697	82,594	20,877		2,991	9,235
2021	138,788	99,827	25,271		3,430	10,259
2022	193,845	109,086	58,664		4,402	21,693
2023	144,113	97,210	27,320		3,323	16,260
2024	136,263	95,477	28,455		3,641	8,690
Year 2022						
January	33,558	13,924	17,144		924	1,566
February	13,549	7,365	4,619		277	1,288
March	12,178	7,725	2,388		276	1,789
April	10,216	6,509	1,651		252	1,805
May	11,190	7,597	1,666		314	1,613
June	11,968	7,582	2,239		225	1,923
July	14,037	8,150	3,613		348	1,927
August	12,585	7,694	3,359		282	1,249
September	12,026	7,985	2,157		134	1,750
October	12,564	8,169	2,453		163	1,780
November	11,857	7,928	1,993		184	1,751
December	38,117	18,460	15,382		1,022	3,253
Year 2023						
January	13,002	8,612	1,850		513	2,028
February	16,648	9,317	4,929		393	2,009
March	11,767	7,723	1,959		239	1,845
April	11,359	7,479	1,907		109	1,864
May	10,913	8,017	1,881		151	865
June	10,855	8,146	1,661		159	889
July	11,533	7,829	2,609		170	926
August	11,739	8,580	1,873		169	1,118
September	11,082	7,617	2,178		189	1,098
October	11,902	8,050	2,699		179	974
November	11,302	7,783	1,950		306	1,264
December	12,011	8,058	1,825		747	1,380
Year 2024						
January	18,146	11,834	4,430		687	1,195
February	9,153	6,794	1,221		351	788
March	9,489	6,822	1,446		477	743
April	10,600	7,262	2,270		338	730
May	10,494	7,483	1,953		449	608
June	10,712	7,253	2,258		637	563
July	11,903	7,853	3,343		85	621
August	11,546	8,640	2,275		82	548
September	9,484	7,363	1,480		68	573
October	10,691	8,146	1,717		85	743
November	9,935	7,380	1,749		131	674
December	14,109	8,646	4,311		249	902

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.3.A. Petroleum Coke: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	4,412	3,440	599	2	371	
2015	4,044	3,120	669	2	253	
2016	4,253	3,427	591	2	233	
2017	3,490	2,731	542	3	214	
2018	3,623	2,740	704	2	177	
2019	2,724	2,067	478	1	177	
2020	3,077	2,260	658	1	158	
2021	3,070	2,323	618	1	127	
2022	2,985	2,271	578	3	132	
2023	2,028	1,328	594	1	105	
2024	1,662	960	596	1	104	
Year 2022						
January	240	166	63	0	11	
February	248	180	55	0	13	
March	216	143	62	0	10	
April	225	156	59	0	10	
May	248	212	22	0	12	
June	281	224	46	0	10	
July	219	177	31	0	11	
August	241	178	52	0	11	
September	280	210	60	0	10	
October	263	192	60	0	11	
November	227	178	36	0	13	
December	296	254	31	0	10	
Year 2023						
January	179	116	52	0	11	
February	163	107	47	0	9	
March	135	73	49	0	12	
April	124	74	43	0	7	
May	144	76	60	0	8	
June	162	107	48	0	7	
July	266	196	59	0	10	
August	265	197	59	0	9	
September	238	175	55	0	8	
October	125	76	41	0	8	
November	80	49	24	0	8	
December	147	81	57	0	8	
Year 2024						
January	163	95	59	0	9	
February	120	69	42	0	8	
March	89	22	58	0	9	
April	125	66	51	0	8	
May	140	76	56	0	8	
June	171	115	47	0	9	
July	199	131	58	0	10	
August	193	128	57	0	9	
September	109	70	32	0	7	
October	113	72	33	0	8	
November	102	44	49	0	9	
December	137	72	55	0	10	

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas. See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.3.B. Petroleum Coke: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	1,283	3	90	16	1,174
2015	1,144	9	109	16	1,010
2016	1,099	6	113	9	971
2017	977	11	115	15	836
2018	929	12	93	10	814
2019	839	17	93	6	724
2020	780	16	124	3	637
2021	760	21	113	6	621
2022	718	23	92	13	589
2023	622	8	115	3	495
2024	608	0	103	5	499
Year 2022					
January	55	2	8	2	44
February	67	8	11	2	46
March	60	1	9	2	48
April	56	0	8	1	47
May	68	1	8	2	57
June	52	1	6	2	44
July	51	1	1	1	47
August	69	1	8	0	60
September	49	1	8	0	40
October	62	1	8	0	53
November	71	6	8	1	56
December	58	0	9	1	48
Year 2023					
January	49	1	9	1	37
February	38	1	10	0	26
March	60	2	10	0	47
April	52	2	8	0	41
May	56	0	10	0	46
June	51	0	10	0	41
July	52	1	10	0	41
August	56	1	10	0	45
September	53	0	11	0	41
October	53	0	8	0	45
November	49	0	8	0	41
December	53	0	10	1	41
Year 2024					
January	57	0	9	1	46
February	43	0	8	1	35
March	45	0	9	0	36
April	49	0	7	0	42
May	47	0	7	1	39
June	52	0	10	1	41
July	57	0	10	0	47
August	56	0	12	0	44
September	47	0	8	0	39
October	43	0	1	0	42
November	51	0	9	0	42
December	62	0	13	1	48

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas.

See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.3.C. Petroleum Coke: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	5,695	3,443	689		18	1,545
2015	5,188	3,128	779		18	1,263
2016	5,352	3,433	705		10	1,204
2017	4,467	2,742	657		17	1,050
2018	4,552	2,752	797		12	991
2019	3,563	2,083	571		7	900
2020	3,856	2,276	782		4	795
2021	3,830	2,344	731		7	748
2022	3,702	2,294	671		16	721
2023	2,649	1,336	709		4	600
2024	2,270	960	699		6	604
Year 2022						
January	295	168	71		2	54
February	315	188	66		2	59
March	275	144	71		2	58
April	282	156	67		2	57
May	315	214	30		2	69
June	333	225	53		2	53
July	270	178	33		1	58
August	310	179	59		0	72
September	330	211	68		0	51
October	325	193	68		0	64
November	298	184	44		1	69
December	355	255	40		2	58
Year 2023						
January	228	116	62		2	48
February	201	108	57		0	35
March	195	75	60		0	59
April	175	77	51		0	48
May	200	76	70		0	54
June	213	107	57		0	49
July	318	197	69		0	52
August	321	197	69		0	54
September	290	175	66		0	49
October	178	76	49		0	53
November	129	49	32		0	49
December	200	81	67		1	50
Year 2024						
January	220	95	68		2	55
February	163	69	50		1	43
March	134	22	67		0	45
April	174	66	58		0	50
May	187	76	63		1	46
June	223	115	57		1	50
July	256	131	68		0	57
August	248	128	68		0	52
September	156	70	40		0	46
October	156	72	33		0	50
November	153	44	58		0	50
December	199	72	68		1	58

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas. See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.3.D. Petroleum Coke: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	123,736	95,642	17,032	59	11,003
2015	113,568	87,210	18,889	58	7,411
2016	118,303	94,892	16,591	47	6,774
2017	94,136	72,919	15,100	72	6,045
2018	100,362	73,895	21,327	57	5,083
2019	74,970	56,411	13,472	37	5,050
2020	84,427	61,343	18,446	18	4,619
2021	83,779	62,714	17,234	32	3,799
2022	79,689	59,461	16,174	81	3,973
2023	53,489	33,329	16,961	16	3,183
2024	41,450	21,300	16,984	28	3,137
Year 2022					
January	6,687	4,613	1,750	10	314
February	6,925	5,013	1,523	10	380
March	5,799	3,783	1,702	10	304
April	5,978	4,010	1,660	9	299
May	6,475	5,449	643	11	372
June	7,360	5,737	1,321	10	293
July	5,639	4,423	886	6	324
August	6,432	4,643	1,452	0	337
September	7,444	5,440	1,689	2	313
October	6,735	4,743	1,647	0	345
November	6,147	4,750	1,005	4	388
December	8,067	6,858	897	8	304
Year 2023					
January	4,615	2,789	1,484	8	334
February	4,475	2,860	1,349	2	264
March	3,677	1,909	1,402	1	365
April	3,282	1,854	1,222	0	206
May	3,714	1,754	1,713	0	247
June	4,382	2,763	1,399	0	220
July	7,156	5,123	1,715	0	318
August	7,008	5,049	1,682	0	277
September	6,291	4,496	1,563	0	232
October	3,107	1,710	1,154	0	242
November	2,046	1,130	688	0	228
December	3,736	1,892	1,588	5	251
Year 2024					
January	4,055	2,135	1,637	6	276
February	2,840	1,400	1,183	3	253
March	2,403	450	1,674	0	279
April	3,164	1,454	1,459	0	251
May	3,491	1,667	1,585	6	232
June	4,287	2,653	1,364	6	265
July	5,001	3,034	1,666	0	301
August	4,926	3,043	1,627	0	256
September	2,655	1,523	916	0	216
October	2,602	1,431	921	0	250
November	2,649	979	1,408	0	261
December	3,377	1,530	1,543	7	297

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas. See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

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Table 5.3.E. Petroleum Coke: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	36,602	90	2,597	449	33,467
2015	33,138	255	3,167	446	29,269
2016	32,473	159	3,255	241	28,817
2017	28,680	297	3,335	403	24,645
2018	27,398	332	2,693	284	24,088
2019	24,348	470	2,681	164	21,032
2020	22,623	453	3,563	87	18,521
2021	22,772	594	3,182	152	18,844
2022	21,600	665	2,646	366	17,924
2023	18,788	241	3,297	87	15,163
2024	18,416	6	2,976	140	15,294
Year 2022					
January	1,642	46	233	47	1,317
February	1,998	246	305	43	1,404
March	1,809	34	261	46	1,468
April	1,679	5	229	39	1,406
May	2,045	35	224	50	1,736
June	1,593	29	179	45	1,340
July	1,546	27	36	32	1,450
August	2,088	23	224	0	1,841
September	1,502	18	225	9	1,250
October	1,856	20	232	0	1,604
November	2,117	175	238	19	1,686
December	1,726	7	261	36	1,422
Year 2023					
January	1,392	14	265	39	1,075
February	1,112	35	292	8	777
March	1,808	63	299	6	1,440
April	1,574	72	235	0	1,267
May	1,710	0	293	0	1,418
June	1,571	2	276	0	1,293
July	1,577	22	277	0	1,279
August	1,708	20	286	0	1,402
September	1,604	8	310	0	1,286
October	1,623	3	238	0	1,382
November	1,496	0	230	0	1,266
December	1,612	3	295	35	1,279
Year 2024					
January	1,699	6	270	36	1,387
February	1,300	0	232	15	1,052
March	1,364	0	270	0	1,094
April	1,482	0	200	0	1,282
May	1,444	0	212	28	1,205
June	1,586	0	295	30	1,261
July	1,713	0	290	0	1,423
August	1,689	0	344	0	1,346
September	1,445	0	227	0	1,218
October	1,323	0	21	0	1,302
November	1,523	0	251	0	1,272
December	1,847	0	365	31	1,452

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.3.F. Petroleum Coke: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector			Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers			
Annual Totals						
2014	160,338	95,731	19,629	508	44,470	
2015	146,706	87,465	22,056	505	36,680	
2016	150,776	95,051	19,846	288	35,591	
2017	122,816	73,216	18,435	475	30,690	
2018	127,760	74,227	24,020	341	29,171	
2019	99,318	56,881	16,153	201	26,083	
2020	107,050	61,796	22,009	105	23,140	
2021	106,551	63,308	20,416	184	22,644	
2022	101,289	60,125	18,820	446	21,897	
2023	72,276	33,570	20,257	103	18,347	
2024	59,865	21,306	19,960	168	18,431	
Year 2022						
January	8,330	4,659	1,983	57	1,631	
February	8,923	5,259	1,828	52	1,784	
March	7,608	3,817	1,963	57	1,772	
April	7,657	4,015	1,889	48	1,705	
May	8,520	5,484	867	61	2,108	
June	8,953	5,766	1,499	54	1,633	
July	7,185	4,450	922	38	1,774	
August	8,520	4,666	1,676	0	2,178	
September	8,946	5,459	1,914	11	1,563	
October	8,591	4,763	1,879	0	1,949	
November	8,263	4,924	1,242	23	2,074	
December	9,793	6,865	1,158	44	1,726	
Year 2023						
January	6,007	2,803	1,749	46	1,408	
February	5,588	2,895	1,641	10	1,041	
March	5,485	1,973	1,700	7	1,805	
April	4,856	1,926	1,457	0	1,472	
May	5,425	1,754	2,006	0	1,665	
June	5,953	2,765	1,675	0	1,513	
July	8,733	5,145	1,992	0	1,596	
August	8,715	5,068	1,969	0	1,679	
September	7,895	4,504	1,874	0	1,518	
October	4,730	1,713	1,393	0	1,624	
November	3,542	1,130	918	0	1,494	
December	5,347	1,895	1,883	39	1,530	
Year 2024						
January	5,754	2,141	1,907	42	1,663	
February	4,140	1,400	1,416	19	1,306	
March	3,767	450	1,945	0	1,372	
April	4,646	1,454	1,659	0	1,532	
May	4,935	1,667	1,796	34	1,437	
June	5,874	2,653	1,659	36	1,526	
July	6,714	3,034	1,956	0	1,724	
August	6,616	3,043	1,971	0	1,602	
September	4,100	1,523	1,143	0	1,434	
October	3,925	1,431	942	0	1,552	
November	4,172	979	1,659	0	1,534	
December	5,225	1,530	1,908	37	1,749	

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Fossil Gas. See the Technical Notes for fuel conversion factors.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.4.A. Natural Gas: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	8,544,387	3,895,008	3,954,032	71,957	623,390
2015	10,016,576	4,745,255	4,576,683	70,092	624,545
2016	10,170,110	5,018,894	4,571,375	46,304	533,537
2017	9,508,062	4,754,893	4,161,984	50,060	541,126
2018	10,842,129	5,560,267	4,663,935	52,650	565,276
2019	11,612,858	5,980,679	4,958,798	55,575	617,805
2020	11,928,104	6,196,152	5,061,569	51,827	618,556
2021	11,502,569	5,876,442	4,995,247	45,537	585,343
2022	12,384,086	6,376,041	5,364,050	48,658	595,337
2023	13,245,495	6,821,490	5,766,810	49,069	608,127
2024	13,754,749	7,282,518	5,831,864	47,993	592,373
Year 2022					
January	972,571	499,668	416,488	3,980	52,436
February	823,713	414,497	360,403	3,525	45,288
March	800,152	407,227	339,907	3,791	49,227
April	767,572	391,895	325,930	3,536	46,211
May	947,250	488,790	406,341	3,767	48,352
June	1,168,712	623,023	491,993	4,050	49,645
July	1,430,805	752,312	619,375	4,873	54,246
August	1,407,824	722,888	625,436	5,064	54,436
September	1,149,683	579,459	517,292	4,325	48,606
October	971,750	491,554	428,251	3,632	48,313
November	928,162	480,119	394,845	3,849	49,349
December	1,015,891	524,610	437,787	4,265	49,229
Year 2023					
January	987,973	509,721	424,167	4,015	50,070
February	887,314	452,645	385,437	3,707	45,525
March	960,860	498,746	408,397	3,937	49,780
April	883,667	460,878	375,346	3,608	43,836
May	1,016,179	541,909	421,533	3,794	48,943
June	1,205,103	629,369	519,772	4,171	51,790
July	1,502,219	772,992	669,249	4,980	54,998
August	1,499,764	785,760	653,790	4,761	55,453
September	1,226,450	620,224	549,340	4,449	52,437
October	1,041,989	527,917	459,521	3,948	50,603
November	987,442	487,374	445,387	3,784	50,897
December	1,046,536	533,955	454,871	3,915	53,796
Year 2024					
January	1,162,832	599,189	505,458	4,128	54,057
February	934,713	485,159	397,568	3,745	48,241
March	941,501	495,352	393,681	3,746	48,722
April	905,025	476,354	377,984	3,512	47,174
May	1,070,779	580,971	438,725	3,519	47,565
June	1,260,404	676,543	531,767	4,168	47,925
July	1,551,563	834,670	659,202	4,998	52,693
August	1,521,577	822,175	639,987	4,741	54,674
September	1,244,270	662,026	529,221	3,974	49,050
October	1,089,749	575,812	465,530	3,720	44,687
November	1,009,898	531,088	428,789	3,798	46,223
December	1,062,440	543,180	463,952	3,945	51,363

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.4.B. Natural Gas: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector			
		Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2014	865,146	4,926	292,016	46,635	521,569
2015	935,098	8,060	283,372	46,287	597,379
2016	1,151,866	38,096	356,905	80,943	675,922
2017	1,168,544	38,740	309,949	104,324	715,532
2018	1,205,962	43,156	331,952	81,856	748,997
2019	1,196,025	42,645	317,231	79,734	756,415
2020	1,292,624	47,025	326,976	78,844	839,778
2021	1,221,841	49,103	307,795	71,094	793,849
2022	1,206,250	46,329	305,125	74,683	780,113
2023	1,210,187	46,531	306,058	69,832	787,767
2024	1,246,683	48,851	313,214	80,431	804,187
Year 2022					
January	111,979	4,635	28,424	7,331	71,588
February	98,435	3,929	25,170	6,465	62,872
March	102,253	3,852	25,861	6,384	66,156
April	92,922	2,748	22,502	5,734	61,937
May	95,766	3,356	24,200	5,623	62,587
June	97,703	3,887	25,622	5,855	62,339
July	106,539	4,604	28,679	6,816	66,440
August	106,095	4,242	27,578	6,894	67,381
September	96,584	3,583	24,804	5,816	62,381
October	95,266	3,073	23,556	5,412	63,225
November	98,143	4,017	23,125	5,694	65,307
December	104,564	4,401	25,603	6,659	67,900
Year 2023					
January	105,723	4,357	25,508	6,329	69,529
February	96,304	3,879	24,676	5,808	61,940
March	103,019	3,925	25,733	5,947	67,415
April	93,580	3,302	23,341	5,165	61,771
May	94,810	3,414	22,583	5,196	63,617
June	98,931	3,707	24,782	5,484	64,959
July	105,392	4,560	27,941	6,314	66,578
August	104,094	4,161	27,825	5,996	66,113
September	99,792	3,791	25,380	5,797	64,824
October	97,361	3,239	25,276	5,602	63,245
November	102,875	3,964	26,458	6,009	66,444
December	108,306	4,232	26,556	6,186	71,332
Year 2024					
January	115,493	4,354	27,991	7,908	75,239
February	101,815	3,991	25,995	6,931	64,898
March	103,186	4,285	25,888	6,646	66,368
April	94,071	3,262	22,280	5,730	62,799
May	98,002	3,599	24,380	5,331	64,691
June	100,201	4,040	26,090	6,319	63,752
July	109,041	4,795	28,982	7,424	67,841
August	109,971	4,683	29,645	7,236	68,407
September	102,699	4,298	27,052	6,464	64,886
October	99,916	3,508	25,663	6,278	64,469
November	102,011	3,645	23,961	6,680	67,725
December	110,274	4,390	25,287	7,484	73,112

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.4.C. Natural Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	9,409,532	3,899,934	4,246,048	118,591	1,144,959
2015	10,951,674	4,753,315	4,860,055	116,380	1,221,924
2016	11,321,975	5,056,990	4,928,280	127,246	1,209,459
2017	10,676,606	4,793,632	4,471,933	154,383	1,256,658
2018	12,048,091	5,603,423	4,995,888	134,507	1,314,273
2019	12,808,883	6,023,324	5,276,029	135,310	1,374,220
2020	13,220,728	6,243,178	5,388,546	130,671	1,458,334
2021	12,724,410	5,925,545	5,303,041	116,631	1,379,193
2022	13,590,336	6,422,369	5,669,175	123,342	1,375,449
2023	14,455,682	6,868,021	6,072,868	118,901	1,395,893
2024	15,001,432	7,331,369	6,145,078	128,424	1,396,561
Year 2022					
January	1,084,549	504,303	444,912	11,311	124,023
February	922,149	418,426	385,573	9,989	108,160
March	902,405	411,079	365,768	10,175	115,382
April	860,494	394,643	348,432	9,270	108,148
May	1,043,016	492,145	430,541	9,390	110,939
June	1,266,415	626,911	517,616	9,905	111,984
July	1,537,345	756,916	648,054	11,689	120,685
August	1,513,919	727,130	653,015	11,958	121,816
September	1,246,267	583,042	542,096	10,141	110,987
October	1,067,017	494,626	451,807	9,044	111,539
November	1,026,306	484,136	417,970	9,543	114,656
December	1,120,455	529,011	463,390	10,924	117,129
Year 2023					
January	1,093,696	514,078	449,675	10,344	119,599
February	983,618	456,525	410,113	9,514	107,465
March	1,063,879	502,671	434,129	9,884	117,195
April	977,247	464,180	398,687	8,774	105,607
May	1,110,989	545,322	444,116	8,990	112,560
June	1,304,034	633,076	544,554	9,655	116,748
July	1,607,611	777,552	697,190	11,294	121,576
August	1,603,858	789,921	681,615	10,757	121,565
September	1,326,241	624,014	574,721	10,246	117,261
October	1,139,351	531,156	484,797	9,550	113,848
November	1,090,317	491,338	471,844	9,793	117,342
December	1,154,842	538,187	481,427	10,101	125,127
Year 2024					
January	1,278,325	603,544	533,449	12,036	129,296
February	1,036,528	489,150	423,563	10,676	113,139
March	1,044,687	499,637	419,569	10,392	115,089
April	999,096	479,616	400,264	9,242	109,973
May	1,168,782	584,570	463,105	8,850	112,256
June	1,360,605	680,584	557,858	10,487	111,677
July	1,660,604	839,464	688,184	12,422	120,534
August	1,631,548	826,858	669,632	11,976	123,081
September	1,346,969	666,324	556,272	10,438	113,936
October	1,189,665	579,319	491,192	9,998	109,156
November	1,111,910	534,733	452,750	10,478	113,948
December	1,172,713	547,570	489,239	11,429	124,475

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

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Table 5.4.D. Natural Gas: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	8,795,303	4,001,826	4,076,787	74,194	642,495
2015	10,360,990	4,905,009	4,739,438	71,929	644,615
2016	10,515,826	5,189,543	4,728,444	47,550	550,288
2017	9,827,794	4,911,629	4,308,241	51,592	556,331
2018	11,200,796	5,739,753	4,825,957	54,390	580,696
2019	12,008,434	6,178,186	5,137,826	57,028	635,394
2020	12,324,847	6,398,560	5,239,106	53,175	634,006
2021	11,892,547	6,071,668	5,172,999	46,896	600,984
2022	12,792,589	6,580,269	5,550,639	50,198	611,483
2023	13,684,878	7,041,713	5,967,921	50,769	624,475
2024	14,226,488	7,528,352	6,040,206	49,538	608,392
Year 2022					
January	1,005,525	516,084	431,435	4,104	53,901
February	851,167	427,737	373,226	3,640	46,563
March	825,945	419,799	351,669	3,910	50,566
April	791,873	403,696	337,071	3,637	47,469
May	976,896	503,588	419,789	3,875	49,643
June	1,205,401	642,072	508,210	4,180	50,938
July	1,476,117	775,494	640,021	5,013	55,590
August	1,455,041	746,891	647,073	5,212	55,865
September	1,189,365	599,087	535,910	4,476	49,894
October	1,003,933	507,308	443,201	3,758	49,666
November	958,728	495,304	408,724	3,979	50,722
December	1,052,598	543,210	454,311	4,413	50,664
Year 2023					
January	1,023,822	528,227	439,936	4,156	51,503
February	917,770	468,004	399,184	3,842	46,740
March	993,060	515,120	422,752	4,081	51,106
April	911,874	474,690	388,440	3,729	45,014
May	1,048,194	558,303	435,700	3,922	50,269
June	1,244,180	649,299	537,412	4,315	53,155
July	1,551,623	797,788	692,277	5,146	56,412
August	1,548,587	810,543	676,215	4,925	56,904
September	1,265,777	639,723	567,639	4,602	53,813
October	1,075,631	544,341	475,223	4,088	51,978
November	1,020,346	502,764	461,393	3,912	52,278
December	1,084,013	552,910	471,749	4,051	55,304
Year 2024					
January	1,205,058	621,082	524,115	4,262	55,598
February	968,732	502,543	412,709	3,869	49,611
March	974,061	511,931	408,216	3,869	50,045
April	934,104	490,734	391,304	3,624	48,441
May	1,104,003	598,023	453,505	3,626	48,848
June	1,301,428	697,766	550,162	4,300	49,200
July	1,606,334	864,343	682,739	5,155	54,098
August	1,575,288	851,390	662,885	4,892	56,121
September	1,286,659	684,448	547,770	4,101	50,340
October	1,126,414	594,946	481,782	3,846	45,839
November	1,044,383	548,971	444,017	3,921	47,473
December	1,100,025	562,174	481,001	4,071	52,779

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Table 5.4.E. Natural Gas: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	891,994	5,033	300,870	47,579	538,514
2015	965,573	8,254	292,629	47,573	617,118
2016	1,188,399	39,123	367,919	83,938	697,418
2017	1,204,582	39,828	318,611	107,987	738,156
2018	1,242,771	44,393	341,707	85,108	771,563
2019	1,232,925	43,862	327,203	82,455	779,405
2020	1,330,225	48,377	337,024	81,490	863,334
2021	1,258,705	50,514	316,694	73,588	817,909
2022	1,241,812	47,619	313,753	77,225	803,214
2023	1,245,459	47,866	314,352	72,281	810,961
2024	1,283,047	50,258	321,517	83,211	828,062
Year 2022					
January	115,425	4,763	29,244	7,589	73,829
February	101,428	4,030	25,905	6,706	64,787
March	105,152	3,945	26,566	6,606	68,035
April	95,492	2,808	23,111	5,921	63,651
May	98,439	3,439	24,825	5,804	64,370
June	100,539	3,996	26,351	6,061	64,131
July	109,613	4,736	29,480	7,039	68,358
August	109,239	4,375	28,378	7,127	69,360
September	99,549	3,697	25,602	6,017	64,232
October	98,163	3,163	24,207	5,599	65,194
November	101,006	4,130	23,735	5,878	67,263
December	107,768	4,538	26,349	6,877	70,004
Year 2023					
January	108,883	4,492	26,208	6,550	71,633
February	99,105	3,990	25,368	6,007	63,740
March	105,904	4,034	26,442	6,149	69,279
April	96,246	3,387	23,983	5,324	63,552
May	97,552	3,502	23,200	5,368	65,482
June	101,827	3,807	25,465	5,671	66,884
July	108,416	4,694	28,686	6,530	68,506
August	107,213	4,289	28,645	6,211	68,068
September	102,648	3,905	26,025	6,004	66,714
October	100,203	3,331	25,929	5,799	65,144
November	105,925	4,079	27,145	6,241	68,460
December	111,537	4,357	27,254	6,427	73,499
Year 2024					
January	119,009	4,487	28,786	8,185	77,551
February	104,900	4,103	26,740	7,181	66,877
March	106,209	4,399	26,598	6,879	68,332
April	96,649	3,339	22,832	5,924	64,554
May	100,760	3,696	24,987	5,509	66,568
June	103,083	4,148	26,755	6,531	65,649
July	112,169	4,947	29,732	7,673	69,818
August	113,213	4,835	30,475	7,485	70,418
September	105,660	4,431	27,720	6,683	66,827
October	102,836	3,604	26,312	6,509	66,411
November	104,992	3,750	24,583	6,912	69,747
December	113,568	4,520	25,997	7,740	75,310

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.4.F. Natural Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	9,687,297	4,006,859	4,377,657	121,773	1,181,009
2015	11,326,564	4,913,263	5,032,066	119,502	1,261,732
2016	11,704,224	5,228,667	5,096,363	131,489	1,247,706
2017	11,032,375	4,951,457	4,626,852	159,580	1,294,487
2018	12,443,568	5,784,146	5,167,665	139,498	1,352,259
2019	13,241,359	6,222,048	5,465,029	139,483	1,414,799
2020	13,655,071	6,446,937	5,576,130	134,665	1,497,340
2021	13,151,252	6,122,182	5,489,692	120,485	1,418,893
2022	14,034,401	6,627,889	5,864,392	127,423	1,414,697
2023	14,930,337	7,089,579	6,282,273	123,050	1,435,435
2024	15,509,535	7,578,610	6,361,723	132,749	1,436,454
Year 2022					
January	1,120,949	520,847	460,679	11,693	127,730
February	952,594	431,767	399,131	10,346	111,350
March	931,097	423,744	378,235	10,516	118,601
April	887,365	406,504	360,181	9,559	111,120
May	1,075,335	507,028	444,615	9,679	114,014
June	1,305,940	646,069	534,561	10,241	115,069
July	1,585,730	780,229	669,501	12,052	123,948
August	1,564,279	751,266	675,450	12,339	125,225
September	1,288,914	602,784	561,511	10,493	114,126
October	1,102,096	510,470	467,408	9,358	114,860
November	1,059,735	499,433	432,459	9,857	117,985
December	1,160,366	547,747	480,661	11,290	120,668
Year 2023					
January	1,132,704	532,719	466,145	10,706	123,135
February	1,016,876	471,994	424,553	9,848	110,480
March	1,098,964	519,154	449,195	10,230	120,385
April	1,008,120	478,077	412,424	9,054	108,566
May	1,145,746	561,805	458,900	9,290	115,751
June	1,346,007	653,106	562,877	9,986	120,039
July	1,660,039	802,482	720,962	11,676	124,918
August	1,655,800	814,832	704,860	11,136	124,972
September	1,368,425	643,628	593,665	10,606	120,526
October	1,175,834	547,672	501,153	9,887	117,121
November	1,126,271	506,842	488,538	10,153	120,738
December	1,195,550	557,267	499,003	10,478	128,802
Year 2024					
January	1,324,066	625,568	552,902	12,447	133,149
February	1,073,631	506,646	439,449	11,049	116,488
March	1,080,270	516,331	434,813	10,748	118,377
April	1,030,753	494,073	414,136	9,548	112,996
May	1,204,763	601,720	478,492	9,135	115,415
June	1,404,511	701,914	576,917	10,832	114,849
July	1,718,503	869,289	712,471	12,827	123,916
August	1,688,501	856,226	693,360	12,377	126,539
September	1,392,319	688,878	575,489	10,784	117,167
October	1,229,250	598,550	508,095	10,355	112,250
November	1,149,375	552,721	468,600	10,833	117,220
December	1,213,593	566,694	506,999	11,812	128,088

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.5.D. Wood / Wood Waste Biomass: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	431,285	45,643	174,513	961	210,167
2015	406,650	43,919	171,387	504	190,840
2016	359,983	41,036	149,516	473	168,959
2017	363,646	42,806	151,877	460	168,503
2018	361,703	45,856	143,288	520	172,039
2019	338,317	42,240	128,980	583	166,514
2020	318,381	31,606	125,695	608	160,472
2021	328,253	41,868	129,554	998	155,833
2022	323,820	46,357	125,125	1,140	151,198
2023	289,996	38,914	110,338	732	140,012
2024	279,132	35,766	104,307	709	138,350
Year 2022					
January	28,590	4,116	11,148	102	13,225
February	27,354	4,072	10,966	94	12,223
March	26,834	3,220	10,911	69	12,633
April	24,378	2,638	9,297	73	12,370
May	26,094	3,542	9,711	110	12,731
June	27,667	4,060	10,713	129	12,766
July	30,189	4,960	11,506	119	13,604
August	29,708	5,264	11,129	171	13,144
September	26,117	3,722	10,273	81	12,041
October	23,854	3,181	9,295	42	11,335
November	25,533	3,117	9,864	72	12,481
December	27,502	4,466	10,313	77	12,647
Year 2023					
January	26,972	3,947	10,564	76	12,384
February	23,316	3,531	8,879	47	10,859
March	24,472	2,504	9,943	55	11,971
April	21,340	1,966	8,038	46	11,290
May	24,408	2,836	9,447	24	12,101
June	24,292	3,798	9,164	68	11,262
July	26,080	4,560	9,783	58	11,678
August	27,025	4,473	10,163	85	12,304
September	23,669	3,310	8,832	82	11,446
October	20,337	2,193	7,284	61	10,800
November	22,798	2,521	8,717	56	11,503
December	25,286	3,276	9,522	74	12,414
Year 2024					
January	26,093	4,339	9,893	99	11,762
February	23,434	3,273	9,003	37	11,121
March	23,476	1,944	9,739	24	11,770
April	20,826	2,962	6,634	9	11,221
May	22,584	2,707	8,149	33	11,696
June	24,318	3,708	8,842	66	11,702
July	25,152	3,598	9,419	111	12,025
August	25,625	4,069	9,488	60	12,008
September	22,153	2,006	9,021	83	11,044
October	19,018	1,403	6,868	45	10,702
November	21,812	2,012	8,127	76	11,596
December	24,640	3,744	9,124	68	11,704

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.5.E. Wood / Wood Waste Biomass: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	946,344	8,835	22,262	3,766	911,481
2015	943,962	9,351	19,200	3,714	911,697
2016	969,841	10,950	22,905	4,520	931,465
2017	939,633	11,656	22,986	4,522	900,469
2018	929,365	10,297	21,623	4,806	892,639
2019	907,420	3,564	25,740	4,969	873,147
2020	860,062	3,051	25,022	3,595	828,394
2021	870,986	3,520	21,804	2,958	842,704
2022	819,538	4,629	21,579	3,158	790,172
2023	754,615	4,076	20,744	2,343	727,452
2024	740,218	4,445	17,219	2,295	716,259
Year 2022					
January	72,157	390	2,158	282	69,327
February	65,478	385	1,740	281	63,071
March	68,069	443	1,613	228	65,785
April	68,138	403	1,617	171	65,947
May	70,011	289	1,639	274	67,828
June	68,973	296	1,688	367	66,623
July	71,267	330	1,709	327	68,901
August	70,484	360	1,819	375	67,931
September	64,897	408	1,977	199	62,313
October	65,076	230	1,763	149	62,935
November	66,976	513	1,895	250	64,318
December	68,011	603	1,960	256	65,192
Year 2023					
January	69,277	456	1,721	249	66,851
February	60,917	377	1,949	163	58,427
March	66,831	438	2,692	223	63,478
April	59,109	391	1,725	162	56,830
May	63,132	91	1,803	81	61,157
June	58,285	266	1,869	254	55,897
July	61,598	295	1,451	129	59,723
August	62,979	339	1,215	221	61,204
September	60,896	182	866	256	59,592
October	61,213	344	2,393	185	58,292
November	64,741	433	1,506	179	62,623
December	65,636	464	1,555	241	63,377
Year 2024					
January	63,467	474	1,688	285	61,020
February	60,551	431	1,485	138	58,497
March	62,314	473	1,366	75	60,401
April	61,443	433	1,324	65	59,621
May	60,090	252	1,392	147	58,299
June	60,041	365	1,310	223	58,143
July	61,068	410	1,461	318	58,879
August	62,242	346	1,483	185	60,227
September	62,115	364	1,566	233	59,953
October	58,196	169	1,301	150	56,576
November	62,481	343	1,262	218	60,659
December	66,211	387	1,582	259	63,983

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.5.F. Wood / Wood Waste Biomass: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	1,377,629	54,478	196,775	4,727	1,121,648
2015	1,350,612	53,269	190,587	4,219	1,102,537
2016	1,329,824	51,986	172,421	4,993	1,100,424
2017	1,303,279	54,462	174,862	4,982	1,068,972
2018	1,291,068	56,153	164,911	5,326	1,064,678
2019	1,245,737	45,804	154,720	5,552	1,039,661
2020	1,178,443	34,657	150,717	4,203	988,866
2021	1,199,240	45,387	151,359	3,957	998,537
2022	1,143,358	50,986	146,704	4,297	941,370
2023	1,044,610	42,990	131,082	3,075	867,464
2024	1,019,350	40,211	121,526	3,004	854,608
Year 2022					
January	100,746	4,505	13,306	384	82,552
February	92,833	4,457	12,706	376	75,294
March	94,902	3,663	12,524	297	78,418
April	92,516	3,041	10,914	244	78,317
May	96,104	3,810	11,350	384	80,559
June	96,641	4,356	12,401	495	79,388
July	101,457	5,290	13,216	446	82,505
August	100,192	5,624	12,948	545	81,075
September	91,014	4,131	12,251	280	74,354
October	88,930	3,412	11,058	191	74,270
November	92,510	3,630	11,759	322	76,800
December	95,513	5,068	12,273	334	77,839
Year 2023					
January	96,249	4,403	12,285	325	79,236
February	84,233	3,908	10,828	210	69,287
March	91,304	2,942	12,635	278	75,449
April	80,449	2,357	9,763	209	68,121
May	87,540	2,927	11,250	105	73,258
June	82,577	4,064	11,032	322	67,159
July	87,677	4,855	11,234	187	71,401
August	90,005	4,812	11,378	306	73,508
September	84,565	3,492	9,698	338	71,037
October	81,550	2,537	9,677	246	69,091
November	87,538	2,954	10,223	235	74,126
December	90,923	3,740	11,078	315	75,791
Year 2024					
January	89,560	4,813	11,581	384	72,782
February	83,985	3,704	10,488	175	69,618
March	85,790	2,416	11,105	98	72,171
April	82,268	3,394	7,958	74	70,842
May	82,674	2,959	9,540	180	69,995
June	84,359	4,073	10,152	289	69,845
July	86,220	4,008	10,880	429	70,903
August	87,867	4,415	10,972	245	72,236
September	84,269	2,370	10,586	315	70,997
October	77,215	1,573	8,169	195	67,278
November	84,293	2,355	9,389	294	72,255
December	90,851	4,131	10,707	326	75,687

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.6.A. Landfill Gas: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	285,982	25,819	228,447	27,038	4,678
2015	282,530	25,257	227,381	25,250	4,642
2016	273,557	24,280	224,993	20,445	3,839
2017	278,112	25,074	229,050	20,121	3,866
2018	270,235	23,580	223,513	19,790	3,352
2019	257,494	22,726	214,819	16,874	3,075
2020	252,501	23,571	208,196	18,136	2,597
2021	231,876	22,831	190,031	16,472	2,542
2022	211,866	18,486	176,160	14,898	2,323
2023	194,292	15,815	162,861	13,392	2,224
2024	181,646	14,369	152,452	12,687	2,137
Year 2022					
January	18,515	1,725	15,257	1,343	190
February	17,347	1,602	14,349	1,216	180
March	19,127	1,751	15,882	1,301	192
April	17,226	1,547	14,618	900	161
May	17,953	1,594	14,955	1,209	195
June	17,609	1,531	14,651	1,225	202
July	17,975	1,543	14,919	1,314	198
August	17,540	1,487	14,533	1,315	207
September	17,102	1,461	14,174	1,275	192
October	17,877	1,480	14,857	1,337	202
November	16,933	1,419	14,149	1,177	188
December	16,663	1,347	13,815	1,285	216
Year 2023					
January	16,986	1,407	14,217	1,180	182
February	15,093	1,220	12,583	1,094	196
March	16,449	1,392	13,673	1,145	238
April	15,225	1,273	12,683	1,075	193
May	17,019	1,411	14,329	1,104	175
June	16,409	1,356	13,731	1,113	208
July	16,595	1,332	13,925	1,162	176
August	16,660	1,320	13,972	1,207	162
September	15,396	1,188	12,927	1,133	149
October	15,747	1,271	13,387	930	160
November	15,859	1,284	13,301	1,100	174
December	16,855	1,360	14,133	1,150	212
Year 2024					
January	15,763	1,189	13,278	1,108	189
February	14,939	1,216	12,519	1,002	203
March	15,785	1,228	13,266	1,081	211
April	14,426	1,123	12,149	981	172
May	15,722	1,216	13,318	1,060	128
June	14,687	1,148	12,406	993	139
July	15,423	1,218	12,945	1,074	187
August	15,793	1,290	13,244	1,074	184
September	14,907	1,205	12,489	1,040	172
October	15,054	1,201	12,582	1,046	224
November	14,542	1,188	12,077	1,105	172
December	14,604	1,146	12,179	1,124	155

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.6.B. Landfill Gas: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	1,710	176	525	674	335
2015	1,522	2	644	515	362
2016	4,163	3	2,339	1,034	788
2017	3,940	2	1,948	1,099	891
2018	3,621	0	1,867	911	843
2019	3,570	5	1,933	820	812
2020	4,011	3	2,187	820	1,000
2021	4,030	6	2,155	741	1,129
2022	4,280	15	1,996	817	1,451
2023	3,411	10	1,722	705	973
2024	3,228	33	1,709	523	964
Year 2022					
January	401	1	197	81	121
February	374	1	186	69	118
March	436	1	218	78	138
April	330	1	157	70	102
May	293	1	116	51	125
June	344	1	163	65	115
July	362	1	170	66	125
August	362	1	164	74	122
September	355	1	160	76	117
October	355	1	163	69	122
November	315	1	130	64	120
December	354	1	173	55	124
Year 2023					
January	298	1	153	64	80
February	267	1	135	52	79
March	282	1	144	49	88
April	297	1	142	65	89
May	221	1	103	40	78
June	294	1	152	53	88
July	310	1	161	65	83
August	309	1	160	70	78
September	279	1	155	61	63
October	293	1	147	72	73
November	247	1	104	60	83
December	314	1	166	54	93
Year 2024					
January	295	3	166	46	80
February	281	2	144	51	84
March	291	3	151	52	85
April	304	2	132	38	131
May	218	3	120	32	63
June	226	3	133	18	72
July	266	3	148	26	88
August	305	3	156	50	95
September	284	3	143	52	86
October	284	3	147	55	79
November	221	3	112	53	53
December	254	3	155	48	48

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.6.C. Landfill Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	287,692	25,995	228,971	27,713	5,013
2015	284,052	25,259	228,024	25,765	5,004
2016	277,720	24,283	227,332	21,479	4,626
2017	282,051	25,076	230,998	21,220	4,757
2018	273,856	23,580	225,380	20,701	4,196
2019	261,064	22,731	216,753	17,694	3,887
2020	256,512	23,575	210,383	18,956	3,598
2021	235,906	22,836	192,186	17,212	3,671
2022	216,146	18,501	178,155	15,715	3,774
2023	197,703	15,825	164,584	14,097	3,197
2024	184,874	14,402	154,161	13,210	3,100
Year 2022					
January	18,916	1,726	15,454	1,424	311
February	17,721	1,603	14,535	1,285	298
March	19,562	1,753	16,100	1,379	330
April	17,556	1,548	14,775	971	263
May	18,246	1,595	15,070	1,260	321
June	17,953	1,532	14,813	1,290	318
July	18,337	1,545	15,089	1,380	323
August	17,902	1,488	14,696	1,389	329
September	17,456	1,462	14,334	1,350	309
October	18,232	1,482	15,020	1,406	324
November	17,247	1,420	14,279	1,241	308
December	17,017	1,348	13,988	1,340	340
Year 2023					
January	17,284	1,408	14,370	1,244	262
February	15,360	1,221	12,719	1,146	275
March	16,731	1,393	13,817	1,194	326
April	15,522	1,274	12,826	1,140	282
May	17,240	1,412	14,432	1,144	253
June	16,702	1,357	13,884	1,166	295
July	16,905	1,333	14,085	1,227	259
August	16,969	1,321	14,132	1,277	239
September	15,675	1,189	13,082	1,193	211
October	16,040	1,272	13,534	1,001	233
November	16,106	1,285	13,405	1,159	257
December	17,169	1,361	14,299	1,204	305
Year 2024					
January	16,058	1,192	13,444	1,154	268
February	15,220	1,218	12,662	1,053	286
March	16,076	1,231	13,417	1,133	295
April	14,730	1,126	12,282	1,019	303
May	15,940	1,219	13,438	1,092	191
June	14,913	1,151	12,540	1,012	211
July	15,689	1,221	13,093	1,100	275
August	16,097	1,293	13,400	1,125	280
September	15,191	1,208	12,632	1,092	258
October	15,338	1,204	12,729	1,102	303
November	14,763	1,191	12,189	1,158	225
December	14,858	1,149	12,334	1,172	204

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.6.D. Landfill Gas: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	140,779	13,132	114,333	10,937	2,377
2015	138,085	12,846	112,911	10,023	2,304
2016	135,365	12,294	112,770	8,374	1,927
2017	137,635	13,071	114,131	8,508	1,926
2018	133,957	12,395	111,769	8,104	1,689
2019	127,540	11,794	107,100	7,086	1,560
2020	124,647	12,337	103,453	7,510	1,348
2021	113,839	11,897	93,819	6,826	1,297
2022	103,630	9,661	86,766	6,007	1,197
2023	95,684	8,251	80,667	5,640	1,126
2024	89,564	7,341	75,604	5,533	1,086
Year 2022					
January	9,050	900	7,506	546	98
February	8,482	837	7,060	492	93
March	9,339	916	7,813	511	99
April	8,482	812	7,202	385	83
May	8,781	836	7,372	473	100
June	8,624	800	7,221	498	105
July	8,813	806	7,376	529	102
August	8,603	776	7,187	534	106
September	8,359	763	6,979	518	98
October	8,707	773	7,298	531	104
November	8,282	741	6,968	476	96
December	8,108	700	6,784	513	111
Year 2023					
January	8,356	735	7,049	481	91
February	7,401	636	6,224	442	99
March	8,098	728	6,780	470	120
April	7,498	667	6,276	458	98
May	8,365	739	7,070	469	88
June	8,078	708	6,798	468	104
July	8,190	696	6,910	495	89
August	8,221	688	6,937	514	83
September	7,572	617	6,404	475	76
October	7,805	661	6,650	412	82
November	7,809	668	6,587	465	88
December	8,290	707	6,984	490	109
Year 2024					
January	7,775	607	6,587	485	95
February	7,388	623	6,220	442	103
March	7,799	629	6,584	478	109
April	7,135	575	6,031	440	89
May	7,787	620	6,625	474	67
June	7,260	585	6,170	432	72
July	7,607	621	6,425	466	95
August	7,807	659	6,587	466	95
September	7,351	616	6,200	447	89
October	7,396	614	6,229	449	104
November	7,116	608	5,951	470	87
December	7,144	584	5,996	484	81

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.6.E. Landfill Gas: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	852	88	266	326	173
2015	756	1	326	250	179
2016	2,236	1	1,266	589	380
2017	2,196	1	1,066	698	431
2018	1,964	0	966	594	403
2019	1,960	2	1,034	531	394
2020	2,225	1	1,168	535	521
2021	2,210	2	1,151	504	553
2022	2,363	5	1,081	547	729
2023	1,876	3	944	464	465
2024	1,772	10	938	362	462
Year 2022					
January	224	0	107	55	61
February	207	0	101	47	60
March	240	0	117	53	70
April	186	0	86	48	51
May	159	0	64	32	63
June	193	0	89	45	59
July	199	0	93	43	63
August	201	0	89	50	61
September	196	0	87	50	58
October	196	0	88	46	61
November	174	0	71	43	60
December	189	0	89	37	62
Year 2023					
January	163	0	83	42	38
February	145	0	74	34	38
March	156	0	79	34	42
April	163	0	78	43	43
May	121	0	59	25	37
June	160	0	83	34	42
July	171	0	88	43	39
August	172	0	87	47	37
September	155	0	84	40	30
October	163	0	81	47	35
November	134	0	58	37	39
December	174	0	91	37	45
Year 2024					
January	162	1	90	33	38
February	154	1	79	34	40
March	159	1	83	35	41
April	166	1	74	27	65
May	119	1	67	21	30
June	121	1	73	13	34
July	142	1	81	18	42
August	168	1	85	36	46
September	157	1	78	37	41
October	155	1	80	38	36
November	125	1	62	37	25
December	144	1	85	34	24

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.6.F. Landfill Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	141,632	13,220	114,599	11,263	2,550
2015	138,841	12,847	113,238	10,273	2,483
2016	137,600	12,295	114,036	8,963	2,307
2017	139,831	13,072	115,197	9,206	2,357
2018	135,921	12,395	112,736	8,698	2,092
2019	129,500	11,795	108,134	7,617	1,954
2020	126,872	12,338	104,621	8,045	1,868
2021	116,049	11,899	94,971	7,330	1,850
2022	105,993	9,666	87,846	6,554	1,926
2023	97,560	8,254	81,611	6,104	1,591
2024	91,336	7,351	76,542	5,895	1,548
Year 2022					
January	9,274	901	7,612	601	160
February	8,689	838	7,160	538	153
March	9,579	917	7,930	564	169
April	8,668	812	7,288	433	135
May	8,939	836	7,436	505	163
June	8,817	800	7,310	543	163
July	9,012	806	7,468	572	166
August	8,804	776	7,277	584	168
September	8,554	764	7,066	568	156
October	8,903	774	7,386	577	166
November	8,456	742	7,039	519	156
December	8,297	700	6,873	550	173
Year 2023					
January	8,519	735	7,132	523	129
February	7,547	637	6,298	476	136
March	8,254	729	6,859	504	162
April	7,661	667	6,353	500	140
May	8,486	739	7,128	494	125
June	8,238	709	6,881	503	146
July	8,361	697	6,997	539	128
August	8,393	688	7,024	561	120
September	7,727	617	6,488	515	106
October	7,969	662	6,732	459	117
November	7,943	669	6,645	502	128
December	8,464	707	7,075	527	154
Year 2024					
January	7,937	608	6,678	518	133
February	7,543	624	6,299	477	143
March	7,959	630	6,667	513	150
April	7,300	576	6,104	467	154
May	7,906	621	6,692	495	97
June	7,380	586	6,244	444	106
July	7,749	622	6,506	484	137
August	7,975	660	6,672	502	141
September	7,508	616	6,278	484	130
October	7,552	615	6,309	487	140
November	7,241	609	6,013	507	112
December	7,287	585	6,081	517	105

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Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.7.A. Biogenic Municipal Solid Waste: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	16,706	444	13,809	2,447	6
2015	16,631	452	13,797	2,375	8
2016	16,994	464	13,953	2,566	11
2017	16,348	422	13,381	2,537	8
2018	16,783	467	13,859	2,448	9
2019	15,559	297	12,941	2,310	10
2020	15,516	280	12,975	2,251	10
2021	15,223	252	12,442	2,521	7
2022	14,589	274	7,346	6,969	0
2023	13,916	283	6,960	6,674	0
2024	13,636	283	6,721	6,632	0
Year 2022					
January	1,214	22	645	547	0
February	1,117	20	567	530	0
March	1,215	17	638	560	0
April	1,207	23	592	591	0
May	1,225	28	607	589	0
June	1,248	25	622	601	0
July	1,272	25	634	612	0
August	1,246	28	623	595	0
September	1,199	18	604	577	0
October	1,211	24	592	595	0
November	1,212	23	593	595	0
December	1,224	21	626	577	0
Year 2023					
January	1,205	24	616	564	0
February	1,048	15	539	494	0
March	1,112	21	575	516	0
April	1,065	21	533	512	0
May	1,170	21	591	558	0
June	1,180	26	582	572	0
July	1,248	24	620	604	0
August	1,235	28	614	592	0
September	1,140	24	572	544	0
October	1,156	27	564	565	0
November	1,131	26	546	559	0
December	1,226	24	607	595	0
Year 2024					
January	1,182	21	582	578	0
February	1,065	17	531	516	0
March	1,105	13	565	527	0
April	1,070	20	504	546	0
May	1,172	29	567	575	0
June	1,137	27	555	555	0
July	1,201	28	595	578	0
August	1,228	27	604	597	0
September	1,117	24	560	533	0
October	1,118	27	544	547	0
November	1,113	24	554	535	0
December	1,129	25	558	546	0

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

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Table 5.7.B. Biogenic Municipal Solid Waste: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	1,955	0	650	1,104	200
2015	1,986	0	655	1,127	203
2016	2,232	0	885	1,134	213
2017	2,124	0	814	1,102	208
2018	2,050	0	752	1,109	189
2019	1,667	0	743	737	187
2020	1,650	0	757	705	188
2021	1,712	0	873	666	173
2022	1,647	0	401	1,246	0
2023	1,667	0	449	1,218	0
2024	1,611	0	417	1,194	0
Year 2022					
January	148	0	38	110	0
February	130	0	31	99	0
March	129	0	30	100	0
April	125	0	29	96	0
May	143	0	34	109	0
June	141	0	32	108	0
July	148	0	37	111	0
August	151	0	34	117	0
September	137	0	32	104	0
October	127	0	32	95	0
November	139	0	34	106	0
December	129	0	38	91	0
Year 2023					
January	135	0	38	97	0
February	129	0	33	96	0
March	137	0	34	103	0
April	129	0	32	97	0
May	141	0	33	108	0
June	128	0	33	95	0
July	148	0	41	107	0
August	153	0	40	113	0
September	140	0	40	101	0
October	122	0	37	85	0
November	145	0	44	102	0
December	159	0	43	115	0
Year 2024					
January	153	0	43	110	0
February	141	0	35	106	0
March	137	0	33	103	0
April	121	0	35	85	0
May	146	0	36	109	0
June	137	0	31	106	0
July	141	0	35	106	0
August	124	0	36	87	0
September	124	0	33	91	0
October	126	0	30	96	0
November	126	0	31	95	0
December	136	0	37	99	0

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.7.C. Biogenic Municipal Solid Waste: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector			
		Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2014	18,661	444	14,459	3,551	206
2015	18,617	452	14,452	3,502	211
2016	19,226	464	14,838	3,700	224
2017	18,473	422	14,195	3,639	216
2018	18,833	467	14,611	3,557	197
2019	17,225	297	13,684	3,047	197
2020	17,166	280	13,732	2,956	198
2021	16,934	252	13,315	3,187	180
2022	16,236	274	7,747	8,215	0
2023	15,584	283	7,408	7,892	0
2024	15,247	283	7,138	7,827	0
Year 2022					
January	1,362	22	683	657	0
February	1,248	20	598	629	0
March	1,344	17	668	660	0
April	1,332	23	621	687	0
May	1,368	28	642	697	0
June	1,389	25	655	709	0
July	1,420	25	671	723	0
August	1,397	28	657	712	0
September	1,336	18	636	682	0
October	1,338	24	624	690	0
November	1,351	23	627	701	0
December	1,353	21	664	668	0
Year 2023					
January	1,340	24	654	662	0
February	1,177	15	571	591	0
March	1,250	21	609	619	0
April	1,194	21	564	609	0
May	1,311	21	625	665	0
June	1,309	26	615	668	0
July	1,396	24	661	711	0
August	1,388	28	654	705	0
September	1,281	24	612	644	0
October	1,278	27	601	649	0
November	1,276	26	590	660	0
December	1,385	24	650	710	0
Year 2024					
January	1,335	21	626	688	0
February	1,206	17	566	623	0
March	1,242	13	599	630	0
April	1,191	20	539	631	0
May	1,317	29	604	684	0
June	1,274	27	586	661	0
July	1,342	28	630	684	0
August	1,352	27	641	684	0
September	1,241	24	593	624	0
October	1,244	27	575	642	0
November	1,239	24	585	630	0
December	1,265	25	595	645	0

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.7.D. Biogenic Municipal Solid Waste: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	134,408	4,429	110,569	19,366	45
2015	133,117	4,295	109,691	19,068	63
2016	135,957	4,434	111,003	20,431	89
2017	130,942	4,172	106,382	20,320	67
2018	134,465	4,568	110,452	19,374	72
2019	115,114	2,454	95,638	16,946	76
2020	114,814	2,284	95,941	16,511	77
2021	113,173	2,029	92,144	18,944	56
2022	108,508	2,212	54,250	52,046	0
2023	103,306	2,275	51,190	49,841	0
2024	100,831	2,273	49,294	49,263	0
Year 2022					
January	9,109	172	4,796	4,141	0
February	8,332	161	4,204	3,967	0
March	9,091	134	4,797	4,160	0
April	9,014	186	4,404	4,424	0
May	9,156	227	4,528	4,401	0
June	9,285	203	4,602	4,480	0
July	9,451	205	4,699	4,547	0
August	9,222	227	4,574	4,420	0
September	8,817	143	4,423	4,251	0
October	8,960	192	4,319	4,449	0
November	8,977	188	4,321	4,468	0
December	9,095	174	4,584	4,338	0
Year 2023					
January	8,952	198	4,517	4,237	0
February	7,833	124	3,984	3,725	0
March	8,285	174	4,245	3,866	0
April	7,938	169	3,923	3,846	0
May	8,740	173	4,378	4,188	0
June	8,746	208	4,274	4,264	0
July	9,244	195	4,584	4,465	0
August	9,066	227	4,465	4,373	0
September	8,403	194	4,194	4,015	0
October	8,593	215	4,161	4,217	0
November	8,403	204	4,003	4,196	0
December	9,104	193	4,462	4,449	0
Year 2024					
January	8,780	167	4,308	4,305	0
February	7,906	137	3,911	3,857	0
March	8,207	106	4,164	3,937	0
April	7,900	156	3,723	4,021	0
May	8,714	237	4,182	4,294	0
June	8,334	211	4,059	4,063	0
July	8,825	219	4,333	4,273	0
August	8,959	225	4,354	4,380	0
September	8,199	192	4,090	3,918	0
October	8,281	225	3,994	4,062	0
November	8,305	198	4,064	4,043	0
December	8,420	200	4,112	4,108	0

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

The new methodology was retroactively applied to 2004-2007 data. See the Technical Notes (Appendix C) for further information. See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.7.E. Biogenic Municipal Solid Waste: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	15,783	0	5,140	9,046	1,597
2015	16,623	0	5,195	9,752	1,676
2016	18,259	0	6,877	9,665	1,717
2017	17,720	0	6,475	9,474	1,772
2018	16,724	0	5,887	9,312	1,524
2019	12,308	0	5,362	5,527	1,419
2020	11,939	0	5,420	5,117	1,401
2021	12,721	0	6,371	5,050	1,300
2022	12,244	0	2,966	9,278	0
2023	12,535	0	3,367	9,168	0
2024	12,179	0	3,101	9,079	0
Year 2022					
January	1,125	0	281	845	0
February	959	0	231	728	0
March	949	0	220	729	0
April	912	0	211	701	0
May	1,051	0	254	797	0
June	1,042	0	238	803	0
July	1,125	0	274	851	0
August	1,117	0	254	862	0
September	1,020	0	237	783	0
October	929	0	232	696	0
November	1,063	0	253	810	0
December	952	0	279	673	0
Year 2023					
January	995	0	282	713	0
February	955	0	245	710	0
March	1,024	0	254	770	0
April	965	0	237	728	0
May	1,064	0	251	813	0
June	975	0	249	726	0
July	1,102	0	307	795	0
August	1,121	0	292	829	0
September	1,051	0	297	754	0
October	942	0	291	650	0
November	1,129	0	334	795	0
December	1,211	0	327	884	0
Year 2024					
January	1,170	0	329	840	0
February	1,064	0	259	805	0
March	1,042	0	250	792	0
April	900	0	259	640	0
May	1,064	0	260	804	0
June	1,025	0	231	794	0
July	1,052	0	262	790	0
August	921	0	269	652	0
September	951	0	250	701	0
October	972	0	228	745	0
November	981	0	232	749	0
December	1,039	0	273	766	0

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.7.F. Biogenic Municipal Solid Waste: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	150,191	4,429	115,709	28,411	1,643
2015	149,740	4,295	114,886	28,821	1,739
2016	154,216	4,434	117,880	30,095	1,806
2017	148,662	4,172	112,857	29,794	1,839
2018	151,188	4,568	116,339	28,686	1,596
2019	127,422	2,454	101,000	22,473	1,495
2020	126,752	2,284	101,362	21,629	1,478
2021	125,894	2,029	98,516	23,994	1,355
2022	120,753	2,212	57,217	61,324	0
2023	115,841	2,275	54,557	59,009	0
2024	113,010	2,273	52,395	58,341	0
Year 2022					
January	10,234	172	5,077	4,986	0
February	9,291	161	4,435	4,696	0
March	10,040	134	5,018	4,889	0
April	9,926	186	4,615	5,125	0
May	10,207	227	4,782	5,198	0
June	10,327	203	4,841	5,283	0
July	10,576	205	4,973	5,398	0
August	10,338	227	4,829	5,283	0
September	9,837	143	4,660	5,033	0
October	9,889	192	4,551	5,146	0
November	10,040	188	4,575	5,277	0
December	10,047	174	4,863	5,010	0
Year 2023					
January	9,947	198	4,799	4,950	0
February	8,788	124	4,229	4,436	0
March	9,310	174	4,499	4,637	0
April	8,903	169	4,160	4,573	0
May	9,804	173	4,630	5,001	0
June	9,721	208	4,523	4,989	0
July	10,346	195	4,891	5,260	0
August	10,187	227	4,757	5,202	0
September	9,455	194	4,491	4,769	0
October	9,534	215	4,452	4,867	0
November	9,532	204	4,337	4,991	0
December	10,316	193	4,789	5,333	0
Year 2024					
January	9,950	167	4,637	5,146	0
February	8,970	137	4,170	4,662	0
March	9,249	106	4,414	4,729	0
April	8,800	156	3,982	4,662	0
May	9,778	237	4,442	5,098	0
June	9,358	211	4,290	4,857	0
July	9,877	219	4,595	5,063	0
August	9,880	225	4,623	5,032	0
September	9,150	192	4,339	4,619	0
October	9,254	225	4,222	4,807	0
November	9,286	198	4,297	4,792	0
December	9,458	200	4,385	4,874	0

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.8.D. Other Waste Biomass: Consumption for Electricity Generation, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	38,361	2,360	21,628	5,745	8,627
2015	41,785	2,853	25,058	5,935	7,939
2016	33,786	2,553	18,194	5,504	7,536
2017	35,755	1,845	22,517	5,288	6,105
2018	29,407	1,343	16,874	5,867	5,324
2019	23,947	1,133	12,606	5,668	4,540
2020	22,234	1,024	11,195	5,014	5,001
2021	22,623	1,007	11,536	5,075	5,005
2022	19,910	638	9,809	4,548	4,915
2023	20,807	865	11,019	4,700	4,224
2024	21,130	842	10,266	5,320	4,702
Year 2022					
January	1,896	57	934	436	470
February	1,712	40	904	351	417
March	1,800	45	851	414	490
April	1,502	34	665	356	447
May	1,427	64	566	355	442
June	1,610	55	858	365	331
July	1,648	63	883	373	329
August	1,701	48	903	378	372
September	1,593	70	840	375	307
October	1,709	44	848	398	419
November	1,535	59	675	373	428
December	1,777	59	882	374	462
Year 2023					
January	1,708	78	882	335	412
February	1,932	80	1,138	354	360
March	1,614	60	784	388	383
April	1,540	85	759	337	360
May	1,727	66	844	439	379
June	1,604	47	840	420	298
July	1,655	61	895	402	297
August	1,716	60	966	390	300
September	1,642	73	943	374	252
October	1,783	105	879	419	380
November	1,773	66	889	408	409
December	2,112	84	1,200	435	393
Year 2024					
January	1,875	47	924	458	446
February	1,745	45	852	429	418
March	1,763	68	729	500	466
April	1,545	62	631	447	406
May	1,742	84	741	478	439
June	1,715	92	876	449	299
July	1,654	99	792	436	327
August	1,784	105	946	382	350
September	1,765	63	970	396	337
October	1,829	64	936	440	389
November	1,795	53	875	443	424
December	1,917	61	994	461	400

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report.

Table 5.8.E. Other Waste Biomass: Consumption for Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	65,201	15	6,930	1,543	56,712
2015	67,512	1	7,845	2,000	57,666
2016	57,123	18	11,252	3,569	42,284
2017	50,518	15	10,543	3,218	36,742
2018	50,338	14	10,753	3,673	35,898
2019	41,084	39	10,452	3,282	27,312
2020	43,383	18	9,358	3,166	30,841
2021	45,209	9	9,499	2,907	32,793
2022	45,181	13	9,088	2,633	33,446
2023	39,471	15	9,646	2,666	27,144
2024	40,916	12	8,722	2,601	29,581
Year 2022					
January	4,959	0	1,143	247	3,568
February	4,327	0	1,079	237	3,010
March	5,115	0	1,158	244	3,712
April	4,088	0	672	196	3,219
May	3,785	0	364	221	3,199
June	2,664	0	515	222	1,927
July	2,521	0	612	197	1,712
August	2,727	0	558	197	1,972
September	2,339	2	440	228	1,671
October	3,637	3	536	231	2,867
November	4,198	3	953	198	3,044
December	4,821	2	1,058	214	3,546
Year 2023					
January	4,601	4	1,199	257	3,141
February	3,837	4	1,010	215	2,607
March	4,177	0	1,186	234	2,757
April	3,713	4	1,004	210	2,495
May	3,571	0	705	214	2,652
June	2,156	0	348	211	1,596
July	2,108	0	467	202	1,439
August	2,082	0	486	206	1,390
September	1,922	0	410	230	1,281
October	3,457	0	813	243	2,401
November	3,638	0	978	212	2,448
December	4,211	0	1,042	232	2,937
Year 2024					
January	4,557	1	1,111	248	3,196
February	4,093	1	911	233	2,948
March	4,057	1	959	251	2,846
April	3,876	1	752	225	2,898
May	3,672	1	437	234	3,000
June	2,089	1	343	214	1,531
July	2,241	1	437	211	1,592
August	2,312	1	456	186	1,669
September	2,272	1	368	214	1,689
October	3,388	1	634	210	2,543
November	4,180	1	1,180	177	2,822
December	4,179	1	1,132	198	2,848

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Table 5.8.F. Other Waste Biomass: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2014 - 2024 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2014	103,561	2,375	28,558	7,289	65,339
2015	109,297	2,854	32,903	7,935	65,605
2016	90,909	2,571	29,446	9,073	49,820
2017	86,274	1,860	33,060	8,506	42,848
2018	79,745	1,357	27,627	9,540	41,221
2019	65,031	1,172	23,057	8,950	31,852
2020	65,617	1,043	20,552	8,180	35,842
2021	67,832	1,017	21,035	7,982	37,798
2022	65,090	652	18,897	7,181	38,361
2023	60,278	879	20,665	7,366	31,368
2024	62,046	854	18,988	7,921	34,283
Year 2022					
January	6,855	57	2,077	683	4,038
February	6,039	40	1,983	588	3,428
March	6,915	46	2,009	658	4,202
April	5,590	35	1,338	552	3,666
May	5,211	64	930	577	3,641
June	4,273	56	1,373	587	2,258
July	4,169	63	1,495	570	2,041
August	4,428	49	1,461	574	2,344
September	3,932	72	1,280	603	1,978
October	5,346	47	1,385	629	3,285
November	5,733	62	1,628	571	3,472
December	6,598	61	1,940	589	4,008
Year 2023					
January	6,309	82	2,081	593	3,553
February	5,769	84	2,148	570	2,967
March	5,791	60	1,969	622	3,140
April	5,253	89	1,762	547	2,855
May	5,298	66	1,548	653	3,030
June	3,760	47	1,188	631	1,894
July	3,763	61	1,363	603	1,736
August	3,799	60	1,452	596	1,690
September	3,563	73	1,353	604	1,534
October	5,240	106	1,692	662	2,781
November	5,411	67	1,867	620	2,858
December	6,324	85	2,242	668	3,330
Year 2024					
January	6,432	48	2,035	706	3,642
February	5,838	46	1,764	663	3,366
March	5,820	69	1,688	750	3,312
April	5,422	63	1,383	673	3,304
May	5,414	85	1,178	712	3,439
June	3,804	93	1,219	663	1,830
July	3,896	100	1,229	647	1,920
August	4,096	106	1,402	568	2,019
September	4,038	64	1,338	610	2,025
October	5,217	65	1,571	650	2,931
November	5,974	54	2,055	620	3,246
December	6,096	62	2,127	659	3,248

Notes: Beginning with the collection of Form EIA-923 in January 2008, the methodology to allocate total fuel consumption for electricity generation and consumption for useful thermal output was changed.

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Table 5.9. Consumption of Coal for Electricity Generation by State by Sector, 2024 and 2023 (Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	106	82	29.0%	0	0	106	82	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	8	12	-39.0%	0	0	8	12	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	98	70	41.0%	0	0	98	70	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	9,432	9,769	-3.5%	0	0	9,413	9,749	0	0	19	20
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	9,432	9,769	-3.5%	0	0	9,413	9,749	0	0	19	20
East North Central	75,333	74,465	1.2%	47,788	46,314	27,304	27,808	6	11	234	332
Illinois	16,293	16,078	1.3%	731	768	15,349	15,033	3	5	210	272
Indiana	20,579	20,998	-2.0%	18,956	19,025	1,621	1,966	3	6	0	0
Michigan	14,405	12,777	13.0%	14,328	12,684	76	92	0	0	1	0
Ohio	12,369	12,788	-3.3%	2,110	2,071	10,259	10,717	0	0	0	0
Wisconsin	11,686	11,825	-1.2%	11,663	11,765	0	0	0	0	23	60
West North Central	76,664	81,912	-6.4%	75,844	81,126	0	0	5	5	815	780
Iowa	8,424	9,380	-10.0%	7,937	8,935	0	0	2	3	485	443
Kansas	8,480	10,482	-19.0%	8,480	10,482	0	0	0	0	0	0
Minnesota	6,618	7,425	-11.0%	6,574	7,380	0	0	2	2	42	43
Missouri	22,880	24,046	-4.8%	22,879	24,046	0	0	1	1	0	0
Nebraska	10,021	10,954	-8.5%	9,772	10,702	0	0	0	0	249	252
North Dakota	19,261	18,646	3.3%	19,222	18,604	0	0	0	0	39	41
South Dakota	981	978	0.3%	981	978	0	0	0	0	0	0
South Atlantic	47,950	46,873	2.3%	43,937	42,046	3,915	4,735	6	3	92	89
Delaware	107	13	706.0%	0	0	107	13	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	3,818	5,456	-30.0%	3,814	5,451	0	0	0	0	4	5
Georgia	9,295	8,641	7.6%	9,267	8,616	0	0	0	0	27	25
Maryland	1,130	815	39.0%	0	0	1,130	815	0	0	0	0
North Carolina	7,135	5,913	21.0%	7,123	5,897	0	0	6	3	6	13
South Carolina	7,356	6,452	14.0%	7,353	6,432	0	15	0	0	2	4
Virginia	1,138	816	39.0%	1,085	775	0	0	0	0	53	41
West Virginia	17,972	18,766	-4.2%	15,294	14,875	2,678	3,892	0	0	0	0
East South Central	45,511	43,869	3.7%	43,329	40,859	2,082	2,926	0	0	100	85
Alabama	11,880	10,966	8.3%	11,880	10,966	0	0	0	0	0	0
Kentucky	21,546	20,594	4.6%	21,546	20,594	0	0	0	0	0	0
Mississippi	3,045	3,888	-22.0%	964	962	2,082	2,926	0	0	0	0
Tennessee	9,039	8,421	7.3%	8,939	8,336	0	0	0	0	100	85
West South Central	63,051	67,421	-6.5%	29,106	30,377	33,916	37,029	0	0	29	15
Arkansas	9,459	10,095	-6.3%	7,629	8,159	1,824	1,929	0	0	6	6
Louisiana	2,556	3,096	-17.0%	1,974	2,133	582	963	0	0	0	0
Oklahoma	4,177	3,525	19.0%	4,154	3,516	0	0	0	0	23	9
Texas	46,860	50,706	-7.6%	15,349	16,569	31,510	34,137	0	0	0	0
Mountain	52,289	58,839	-11.0%	44,417	49,930	7,794	8,822	0	0	79	87
Arizona	5,956	7,301	-18.0%	5,956	7,301	0	0	0	0	0	0
Colorado	9,599	10,964	-12.0%	9,599	10,964	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	6,304	7,371	-14.0%	0	0	6,301	7,368	0	0	3	3
Nevada	1,459	1,300	12.0%	799	675	660	625	0	0	0	0
New Mexico	4,630	4,033	15.0%	4,630	4,033	0	0	0	0	0	0
Utah	8,122	7,867	3.2%	7,714	7,533	408	334	0	0	0	0
Wyoming	16,220	20,002	-19.0%	15,719	19,423	425	495	0	0	76	84
Pacific Contiguous	2,016	2,848	-29.0%	0	0	1,954	2,795	0	0	62	53
California	56	47	20.0%	0	0	0	0	0	0	56	47
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	1,960	2,802	-30.0%	0	0	1,954	2,795	0	0	6	7
Pacific Noncontiguous	580	549	5.6%	429	381	102	118	49	50	0	0
Alaska	580	549	5.6%	429	381	102	118	49	50	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	372,931	386,626	-3.5%	284,849	291,034	86,586	94,063	65	69	1,431	1,460

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells. Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923. Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding. Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 5.10. Consumption of Petroleum Liquids for Electricity Generation by State, by Sector, 2024 and 2023 (Thousand Barrels)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	645	737	-12.0%	83	66	522	633	28	25	12	14
Connecticut	172	265	-35.0%	7	8	163	253	1	1	2	2
Maine	91	110	-17.0%	0	0	82	99	0	0	10	11
Massachusetts	292	195	50.0%	64	49	211	135	16	10	1	0
New Hampshire	68	115	-41.0%	0	0	57	103	10	11	0	0
Rhode Island	11	45	-75.0%	0	0	10	43	NM	2	0	0
Vermont	12	8	39.0%	12	8	0	0	0	0	0	0
Middle Atlantic	864	1,034	-16.0%	329	262	463	679	30	50	43	43
New Jersey	49	60	-19.0%	0	0	47	58	2	2	0	0
New York	579	795	-27.0%	324	260	230	490	19	33	6	12
Pennsylvania	236	178	32.0%	4	2	185	132	10	15	36	30
East North Central	845	853	-0.9%	596	588	238	253	2	4	9	8
Illinois	53	64	-17.0%	16	14	37	50	0	0	0	0
Indiana	191	205	-7.0%	189	188	0	16	1	0	0	1
Michigan	179	177	1.5%	177	173	0	0	0	0	2	3
Ohio	255	217	17.0%	51	27	201	186	1	1	3	3
Wisconsin	167	190	-12.0%	162	185	0	1	1	2	4	1
West North Central	1,117	1,059	5.5%	1,107	1,050	5	4	3	2	3	3
Iowa	132	147	-10.0%	127	143	4	3	0	NM	0	0
Kansas	248	156	59.0%	248	156	0	0	0	0	0	0
Minnesota	51	160	-68.0%	46	155	1	1	2	2	3	2
Missouri	416	340	22.0%	416	340	0	0	0	0	0	0
Nebraska	128	96	33.0%	128	96	0	0	0	0	0	0
North Dakota	89	107	-17.0%	89	107	0	0	0	0	0	0
South Dakota	53	53	-0.6%	53	53	0	0	NM	NM	0	0
South Atlantic	2,288	1,772	29.0%	1,377	1,188	765	355	65	78	81	151
Delaware	62	36	75.0%	0	2	62	33	0	0	0	0
District of Columbia	0	0	-36.0%	0	0	0	0	0	0	0	0
Florida	327	396	-17.0%	306	366	17	24	0	0	4	6
Georgia	226	191	18.0%	109	67	64	10	2	1	51	112
Maryland	484	183	164.0%	3	2	480	181	NM	1	0	NM
North Carolina	314	187	68.0%	263	159	39	11	6	3	6	14
South Carolina	196	172	15.0%	183	160	4	4	1	0	9	7
Virginia	449	307	47.0%	283	133	99	88	56	73	10	12
West Virginia	229	301	-24.0%	229	297	0	4	0	0	0	0
East South Central	413	419	-1.4%	393	397	1	NM	0	0	19	21
Alabama	35	49	-29.0%	18	29	1	NM	0	0	15	19
Kentucky	126	122	3.1%	126	122	0	0	0	0	0	0
Mississippi	13	11	12.0%	10	10	0	0	0	0	3	1
Tennessee	240	236	1.4%	240	236	NM	0	0	0	0	0
West South Central	511	623	-18.0%	281	358	222	260	0	0	8	5
Arkansas	94	81	17.0%	82	62	12	18	0	0	0	0
Louisiana	18	18	1.5%	18	18	0	0	0	0	0	0
Oklahoma	53	40	32.0%	49	38	0	0	0	0	5	3
Texas	346	485	-29.0%	132	240	210	242	0	0	3	2
Mountain	359	905	-60.0%	322	878	36	26	0	0	0	1
Arizona	60	62	-3.4%	60	62	0	0	0	0	0	0
Colorado	96	508	-81.0%	89	506	7	1	0	0	0	1
Idaho	0	0	-52.0%	0	0	0	0	0	0	0	0
Montana	37	18	103.0%	13	0	24	18	0	0	0	0
Nevada	13	18	-30.0%	10	15	3	3	0	0	0	0
New Mexico	2	151	-99.0%	2	151	0	0	0	0	0	0
Utah	61	56	9.5%	59	51	2	5	0	0	0	0
Wyoming	90	91	-1.9%	90	91	0	0	0	0	0	0
Pacific Contiguous	254	190	34.0%	173	95	33	25	34	23	15	47
California	130	142	-8.6%	65	64	18	14	33	21	13	42
Oregon	24	0	NM	24	0	0	0	0	0	0	0
Washington	101	48	112.0%	84	30	15	11	0	1	1	5
Pacific Noncontiguous	13,490	13,744	-1.8%	11,398	11,486	1,851	2,016	16	18	225	224
Alaska	1,688	1,626	3.8%	1,616	1,556	0	0	3	2	69	68
Hawaii	11,803	12,118	-2.6%	9,782	9,930	1,851	2,016	13	16	157	156
U.S. Total	20,787	21,335	-2.6%	16,058	16,366	4,137	4,253	179	200	414	517

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Table 5.11. Consumption of Petroleum Coke for Electricity Generation by State, by Sector, 2024 and 2023 (Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	0	0	--	0	0	0	0	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0	0	0	0	0
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	0	--	0	0	0	0	0	0	0	0
East North Central	1,202	1,028	17.0%	686	548	457	416	0	0	59	64
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	744	594	25.0%	685	530	0	0	0	0	59	64
Ohio	457	416	9.8%	0	0	457	416	0	0	0	0
Wisconsin	1	18	-93.0%	1	18	0	0	0	0	0	0
West North Central	1	1	99.0%	0	0	0	0	1	1	0	0
Iowa	1	1	99.0%	0	0	0	0	1	1	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	279	399	-30.0%	259	383	0	0	0	0	21	16
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	259	383	-33.0%	259	383	0	0	0	0	0	0
Georgia	21	16	30.0%	0	0	0	0	0	0	21	16
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	0	0	--	0	0	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	0	0	--	0	0	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	0	0	--	0	0	0	0	0	0	0	0
West South Central	40	421	-91.0%	15	396	0	0	0	0	24	25
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	15	396	-96.0%	15	396	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	24	25	-1.9%	0	0	0	0	0	0	24	25
Mountain	139	178	-22.0%	0	0	139	178	0	0	0	0
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	139	178	-22.0%	0	0	139	178	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	0	0	--	0	0	0	0	0	0	0	0
California	0	0	--	0	0	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	1,662	2,028	-18.0%	960	1,328	596	594	1	1	104	105

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Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 5.12. Consumption of Natural Gas for Electricity Generation by State, by Sector, 2024 and 2023 (Million Cubic Feet)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	439,569	409,759	7.3%	2,579	1,681	423,397	394,951	6,843	5,743	6,749	7,384
Connecticut	179,512	172,421	4.1%	770	794	173,297	166,191	1,755	1,706	3,690	3,730
Maine	43,463	27,059	61.0%	0	0	42,652	25,875	153	150	658	1,034
Massachusetts	118,088	106,935	10.0%	1,802	884	110,768	101,528	4,706	3,610	812	914
New Hampshire	31,961	31,076	2.8%	0	0	31,758	30,849	54	55	149	172
Rhode Island	66,535	72,259	-7.9%	0	0	64,922	70,507	172	218	1,441	1,534
Vermont	10	8	24.0%	8	3	0	0	3	5	0	0
Middle Atlantic	1,712,403	1,657,419	3.3%	116,650	104,837	1,562,121	1,515,554	7,841	8,003	25,791	29,025
New Jersey	208,860	232,173	-10.0%	1,366	1,543	203,469	226,561	1,883	1,816	2,142	2,253
New York	494,919	459,614	7.7%	115,053	103,135	370,658	347,478	5,261	5,399	3,946	3,601
Pennsylvania	1,008,624	965,633	4.5%	231	159	987,994	941,515	696	788	19,703	23,170
East North Central	1,698,855	1,596,860	6.4%	690,581	634,104	965,309	919,184	8,100	8,408	34,864	35,164
Illinois	214,217	206,544	3.7%	23,822	20,805	181,856	177,320	2,138	2,465	6,401	5,954
Indiana	297,409	271,610	9.5%	163,255	139,670	116,369	113,133	1,053	1,048	16,733	17,760
Michigan	402,532	386,488	4.2%	238,814	227,125	156,514	152,889	3,085	3,114	4,119	3,360
Ohio	595,059	546,691	8.8%	81,180	67,796	510,570	475,843	1,381	1,302	1,927	1,751
Wisconsin	189,638	185,526	2.2%	183,511	178,708	0	0	443	479	5,684	6,339
West North Central	368,146	353,576	4.1%	302,971	287,973	52,180	54,245	2,060	2,034	10,935	9,325
Iowa	66,374	70,472	-5.8%	61,924	66,557	0	1	845	829	3,604	3,085
Kansas	53,937	43,392	24.0%	51,272	40,877	0	0	0	0	2,665	2,514
Minnesota	114,753	100,974	14.0%	74,847	63,753	35,822	33,824	446	466	3,638	2,932
Missouri	77,227	79,501	-2.9%	60,024	58,210	16,358	20,420	707	722	137	149
Nebraska	14,018	14,311	-2.0%	13,742	14,226	0	0	61	17	215	68
North Dakota	22,672	26,949	-16.0%	22,493	26,836	0	0	0	0	179	114
South Dakota	19,165	17,977	6.6%	18,669	17,514	0	0	0	0	496	463
South Atlantic	3,083,361	2,968,871	3.9%	2,575,550	2,479,796	473,275	453,816	7,053	7,014	27,483	28,245
Delaware	31,948	32,510	-1.7%	723	187	26,501	26,787	0	0	4,724	5,536
District of Columbia	1,036	929	12.0%	0	0	0	0	1,036	929	0	0
Florida	1,461,029	1,411,685	3.5%	1,380,249	1,334,485	73,002	69,181	733	611	7,044	7,408
Georgia	409,570	432,544	-5.3%	339,623	351,745	64,680	75,916	0	0	5,267	4,883
Maryland	103,528	113,908	-9.1%	20,415	29,849	79,201	79,968	3,615	3,804	297	287
North Carolina	432,828	402,323	7.6%	372,923	341,537	57,880	58,451	1,373	1,506	652	829
South Carolina	171,963	181,285	-5.1%	160,623	176,155	10,479	4,138	0	0	861	993
Virginia	437,577	359,769	22.0%	295,279	239,745	136,004	114,036	295	163	5,998	5,825
West Virginia	33,882	33,917	-0.1%	5,716	6,094	25,527	25,339	0	0	2,640	2,484
East South Central	1,159,126	1,070,452	8.3%	907,887	796,214	227,201	252,010	970	930	23,069	21,298
Alabama	457,530	440,871	3.8%	226,527	185,032	220,316	246,231	0	0	10,687	9,608
Kentucky	140,930	111,679	26.0%	133,280	105,150	6,792	5,692	0	0	858	837
Mississippi	433,715	404,776	7.1%	430,590	401,631	NM	87	0	0	3,032	3,058
Tennessee	126,952	113,126	12.0%	117,490	104,401	0	0	970	930	8,492	7,795
West South Central	3,291,213	3,174,679	3.7%	1,416,933	1,294,209	1,488,843	1,475,232	3,633	4,364	381,805	400,874
Arkansas	181,207	188,232	-3.7%	173,722	180,167	6,050	6,709	380	426	1,056	930
Louisiana	541,815	527,984	2.6%	366,776	336,771	32,496	37,130	258	408	142,285	153,677
Oklahoma	385,146	361,639	6.5%	272,505	252,811	108,984	104,869	3	1	3,654	3,957
Texas	2,183,045	2,096,823	4.1%	603,930	524,460	1,341,313	1,326,524	2,992	3,529	234,810	242,309
Mountain	1,055,921	1,003,818	5.2%	853,253	796,598	186,897	192,413	2,362	2,270	13,409	12,536
Arizona	419,403	401,841	4.4%	296,100	282,480	122,700	118,779	603	582	0	0
Colorado	143,210	134,799	6.2%	118,100	113,708	23,884	19,907	26	14	1,200	1,170
Idaho	53,862	47,138	14.0%	43,740	34,166	9,217	12,190	171	170	734	611
Montana	9,941	10,315	-3.6%	8,262	9,265	1,671	1,043	0	0	8	7
Nevada	185,103	180,100	2.8%	173,263	167,450	7,700	8,331	257	267	3,883	4,053
New Mexico	101,168	121,525	-17.0%	79,264	89,193	20,533	31,014	542	518	829	800
Utah	90,034	89,405	0.7%	85,936	86,091	1,181	1,140	763	719	2,154	1,455
Wyoming	53,200	18,694	185.0%	48,587	14,245	12	9	0	0	4,600	4,440
Pacific Contiguous	919,250	982,282	-6.4%	389,374	398,570	452,640	509,403	9,131	10,302	68,105	64,007
California	618,772	680,050	-9.0%	205,190	209,418	342,082	402,638	8,889	9,126	62,610	58,868
Oregon	174,275	162,894	7.0%	93,414	92,367	79,929	69,745	212	165	720	617
Washington	126,204	139,338	-9.4%	90,770	96,784	30,630	37,019	29	1,012	4,776	4,522
Pacific Noncontiguous	26,906	27,780	-3.1%	26,742	27,509	0	0	2	1	162	270
Alaska	26,906	27,780	-3.1%	26,742	27,509	0	0	2	1	162	270
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	13,754,749	13,245,495	3.8%	7,282,518	6,821,490	5,831,864	5,766,810	47,993	49,069	592,373	608,127

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells. Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923. Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding. Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Table 5.13. Consumption of Landfill Gas for Electricity Generation by State, by Sector, 2024 and 2023 (Million Cubic Feet)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	10,127	11,098	-8.7%	1,259	1,154	8,657	9,729	211	216	0	0
Connecticut	130	144	-9.6%	0	0	130	144	0	0	0	0
Maine	408	412	-1.0%	0	0	408	412	0	0	0	0
Massachusetts	1,961	2,163	-9.3%	0	0	1,961	2,163	0	0	0	0
New Hampshire	2,186	2,123	3.0%	0	0	1,975	1,907	211	216	0	0
Rhode Island	4,183	4,907	-15.0%	0	0	4,183	4,907	0	0	0	0
Vermont	1,259	1,350	-8.8%	1,259	1,154	0	196	0	0	0	0
Middle Atlantic	30,882	31,878	-3.1%	0	0	29,372	30,367	290	351	1,220	1,160
New Jersey	3,550	3,929	-9.7%	0	0	3,478	3,905	71	24	0	0
New York	14,373	14,421	-0.3%	0	0	14,373	14,421	0	0	0	0
Pennsylvania	12,960	13,528	-4.2%	0	0	11,521	12,041	219	327	1,220	1,160
East North Central	38,928	42,136	-7.6%	4,243	5,868	34,405	35,814	93	243	188	211
Illinois	7,033	7,218	-2.6%	2,448	2,428	4,585	4,790	0	0	0	0
Indiana	2,864	4,744	-40.0%	1,795	3,440	1,069	1,304	0	0	0	0
Michigan	17,046	18,055	-5.6%	0	0	17,046	18,055	0	0	0	0
Ohio	2,933	3,342	-12.0%	0	0	2,933	3,342	0	0	0	0
Wisconsin	9,052	8,777	3.1%	0	0	8,772	8,324	93	243	188	211
West North Central	6,830	7,223	-5.4%	2,160	2,211	4,654	4,999	0	0	17	13
Iowa	2,242	2,221	0.9%	0	0	2,242	2,221	0	0	0	0
Kansas	1,200	1,453	-17.0%	0	0	1,200	1,453	0	0	0	0
Minnesota	507	484	4.8%	7	31	499	453	0	0	0	0
Missouri	1,274	1,360	-6.3%	562	488	713	872	0	0	0	0
Nebraska	1,591	1,692	-6.0%	1,591	1,692	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	17	13	30.0%	0	0	0	0	0	0	17	13
South Atlantic	35,243	39,744	-11.0%	2,301	2,421	32,294	36,606	291	205	357	512
Delaware	757	1,284	-41.0%	0	0	617	1,160	0	0	140	124
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	8,417	8,133	3.5%	1,053	723	7,363	7,410	0	0	0	0
Georgia	6,455	6,577	-1.8%	0	0	6,450	6,558	0	0	5	19
Maryland	1,341	1,501	-11.0%	0	0	1,339	1,499	2	2	0	0
North Carolina	6,239	7,945	-21.0%	0	0	6,239	7,945	0	0	0	0
South Carolina	1,459	2,083	-30.0%	1,247	1,699	0	15	0	0	212	369
Virginia	10,486	12,115	-13.0%	0	0	10,198	11,912	289	203	0	0
West Virginia	89	107	-18.0%	0	0	89	107	0	0	0	0
East South Central	5,211	4,288	22.0%	2,080	1,955	3,131	2,333	0	0	0	0
Alabama	943	875	7.8%	0	0	943	875	0	0	0	0
Kentucky	2,438	2,216	10.0%	2,080	1,955	358	261	0	0	0	0
Mississippi	144	150	-4.4%	0	0	144	150	0	0	0	0
Tennessee	1,686	1,047	61.0%	0	0	1,686	1,047	0	0	0	0
West South Central	4,098	5,046	-19.0%	0	0	4,098	5,046	0	0	0	0
Arkansas	625	614	1.8%	0	0	625	614	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	528	378	40.0%	0	0	528	378	0	0	0	0
Texas	2,945	4,054	-27.0%	0	0	2,945	4,054	0	0	0	0
Mountain	7,093	6,974	1.7%	830	547	5,330	5,581	932	846	0	0
Arizona	406	427	-4.8%	0	0	406	427	0	0	0	0
Colorado	1,019	891	14.0%	0	0	1,019	891	0	0	0	0
Idaho	1,555	1,617	-3.9%	419	397	382	630	754	590	0	0
Montana	411	150	175.0%	411	150	0	0	0	0	0	0
Nevada	1,714	1,718	-0.2%	0	0	1,714	1,718	0	0	0	0
New Mexico	417	0	--	0	0	417	0	0	0	0	0
Utah	1,571	2,171	-28.0%	0	0	1,392	1,915	179	256	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	42,414	45,143	-6.0%	1,497	1,659	30,510	32,386	10,051	10,769	356	329
California	36,559	38,921	-6.1%	85	104	26,549	28,062	9,570	10,426	356	329
Oregon	5,043	5,248	-3.9%	1,412	1,555	3,150	3,350	482	343	0	0
Washington	811	974	-17.0%	0	0	811	974	0	0	0	0
Pacific Noncontiguous	818	762	7.4%	0	0	0	0	818	762	0	0
Alaska	818	762	7.4%	0	0	0	0	818	762	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	181,646	194,292	-6.5%	14,369	15,815	152,452	162,861	12,687	13,392	2,137	2,224

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Table 5.14. Consumption of Biogenic Municipal Solid Waste for Electricity Generation by State, by Sector, 2024 and 2023 (Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	2,941,593	2,980,013	-1.3%	0	0	1,885,646	1,908,674	1,055,947	1,071,339	0	0
Connecticut	855,203	860,460	-0.6%	0	0	855,203	860,460	0	0	0	0
Maine	131,430	153,208	-14.0%	0	0	93,772	106,137	37,658	47,071	0	0
Massachusetts	1,845,975	1,856,682	-0.6%	0	0	827,686	832,414	1,018,289	1,024,268	0	0
New Hampshire	108,985	109,663	-0.6%	0	0	108,985	109,663	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	4,872,619	4,841,993	0.6%	0	0	1,976,231	2,031,713	2,896,388	2,810,280	0	0
New Jersey	1,271,226	1,266,075	0.4%	0	0	348,364	346,491	922,862	919,584	0	0
New York	1,790,301	1,737,122	3.1%	0	0	303,760	303,946	1,486,541	1,433,176	0	0
Pennsylvania	1,811,092	1,838,796	-1.5%	0	0	1,324,107	1,381,276	486,985	457,520	0	0
East North Central	167,088	162,756	2.7%	38,580	35,569	0	0	128,508	127,187	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	15,058	16,411	-8.2%	0	0	0	0	15,058	16,411	0	0
Michigan	113,450	110,776	2.4%	0	0	0	0	113,450	110,776	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	38,580	35,569	8.5%	38,580	35,569	0	0	0	0	0	0
West North Central	482,382	474,670	1.6%	244,164	247,635	222,651	213,909	15,567	13,126	0	0
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	482,382	474,670	1.6%	244,164	247,635	222,651	213,909	15,567	13,126	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	4,456,333	4,615,485	-3.4%	0	0	2,397,035	2,465,758	2,059,298	2,149,727	0	0
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	2,935,805	3,113,542	-5.7%	0	0	1,822,867	1,957,695	1,112,938	1,155,847	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	574,168	508,063	13.0%	0	0	574,168	508,063	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	946,360	993,880	-4.8%	0	0	0	0	946,360	993,880	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	0	0	--	0	0	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	0	0	--	0	0	0	0	0	0	0	0
West South Central	4,839	1,150	321.0%	0	0	0	0	4,839	1,150	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	4,839	1,150	321.0%	0	0	0	0	4,839	1,150	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	0	0	--	0	0	0	0	0	0	0	0
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	324,958	465,926	-30.0%	0	0	239,399	339,670	85,559	126,256	0	0
California	95,180	248,135	-62.0%	0	0	9,621	121,879	85,559	126,256	0	0
Oregon	75,894	71,939	5.5%	0	0	75,894	71,939	0	0	0	0
Washington	153,884	145,852	5.5%	0	0	153,884	145,852	0	0	0	0
Pacific Noncontiguous	386,197	374,493	3.1%	0	0	0	0	386,197	374,493	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	386,197	374,493	3.1%	0	0	0	0	386,197	374,493	0	0
U.S. Total	13,636,009	13,916,486	-2.0%	282,744	283,204	6,720,962	6,959,724	6,632,303	6,673,558	0	0

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells. Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923. Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding. Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

Chapter 6

Fossil Fuel Stocks for Electricity Generation

Table 6.1. Stocks of Coal, Petroleum Liquids, and Petroleum Coke: Electric Power Sector, 2014 - 2024

Period	Electric Power Sector			Electric Utilities			Independent Power Producers		
	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Petroleum Coke (Thousand Tons)	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Petroleum Coke (Thousand Tons)	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Petroleum Coke (Thousand Tons)
End of Year Stocks									
2014	151,548	32,322	827	116,684	21,304	666	34,864	11,018	142
2015	195,548	31,694	1,340	153,226	20,253	1,163	42,322	11,441	177
2016	162,009	30,593	845	130,885	19,767	603	31,124	10,827	241
2017	137,687	28,089	864	114,782	19,047	692	22,905	9,041	171
2018	102,793	25,977	539	84,728	16,553	521	18,065	9,423	19
2019	128,102	25,960	471	104,265	16,435	428	23,837	9,525	43
2020	131,431	26,063	298	107,965	15,941	273	23,466	10,123	25
2021	91,884	26,002	302	75,231	15,634	290	16,653	10,368	12
2022	88,861	22,812	318	74,917	14,204	297	13,943	8,608	21
2023	133,028	24,402	427	111,524	15,353	421	21,504	9,050	7
2024	127,826	23,014	438	105,219	14,659	431	22,607	8,355	7
Year 2022, End of Month Stocks									
January	84,541	24,166	336	70,468	14,938	324	14,073	9,228	12
February	81,034	24,252	299	68,800	15,159	287	12,234	9,092	12
March	86,143	23,755	350	73,271	15,156	340	12,872	8,599	10
April	90,746	23,758	424	76,913	15,311	416	13,833	8,446	8
May	92,692	24,025	454	78,852	15,053	425	13,840	8,972	29
June	86,869	24,076	423	73,119	15,309	408	13,750	8,769	16
July	79,172	25,707	474	66,434	15,384	459	12,738	10,323	15
August	75,570	22,794	490	64,276	14,882	479	11,292	7,912	11
September	79,354	22,484	405	67,442	14,704	397	11,912	7,780	8
October	87,342	22,771	351	73,276	14,779	344	14,066	7,992	7
November	93,203	23,678	408	78,597	14,925	393	14,605	8,753	15
December	88,861	22,812	318	74,917	14,204	297	13,943	8,608	21
Year 2023, End of Month Stocks									
January	92,714	24,410	385	77,005	15,167	360	15,709	9,243	25
February	99,760	24,622	380	82,205	15,413	355	17,554	9,209	24
March	109,041	24,059	534	89,836	15,370	505	19,205	8,689	29
April	119,460	24,068	644	98,558	15,363	598	20,902	8,704	46
May	127,788	23,882	600	105,620	15,175	591	22,168	8,708	9
June	129,191	24,066	533	106,412	15,299	525	22,778	8,767	8
July	122,916	24,065	440	101,603	15,422	434	21,313	8,643	6
August	117,898	23,416	356	97,758	15,018	348	20,140	8,398	8
September	118,054	23,469	279	98,026	15,117	273	20,027	8,352	6
October	123,046	23,257	284	102,453	14,998	279	20,593	8,258	5
November	130,985	23,335	369	109,555	14,910	356	21,430	8,425	13
December	133,028	24,402	427	111,524	15,353	421	21,504	9,050	7
Year 2024, End of Month Stocks									
January	123,854	24,275	312	104,292	15,319	306	19,562	8,956	6
February	129,170	24,355	308	108,070	15,307	300	21,100	9,047	8
March	135,537	24,275	333	112,576	15,275	328	22,961	9,000	5
April	138,839	24,011	309	115,173	15,191	302	23,666	8,820	7
May	139,893	23,834	311	116,439	15,072	305	23,454	8,762	6
June	135,229	23,974	332	112,260	15,154	317	22,970	8,820	15
July	127,378	23,442	410	105,766	14,843	379	21,611	8,600	31
August	121,756	22,743	399	100,925	14,416	384	20,831	8,327	15
September	122,555	22,927	470	101,105	14,630	439	21,450	8,298	31
October	127,747	22,567	428	105,127	14,270	421	22,620	8,297	7
November	131,091	22,697	404	107,639	14,251	400	23,452	8,446	4
December	127,826	23,014	438	105,219	14,659	431	22,607	8,355	7

Notes: See Glossary for definitions. Values are final.

See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms. Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms.

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report; Form EIA-423,

Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

**Table 6.2 Stocks of Coal, Petroleum Liquids, and Petroleum Coke:
Electric Power Sector, by State, 2024 and 2023**

Census Division and State	Coal (Thousand Tons)			Petroleum Liquids (Thousand Barrels)			Petroleum Coke (Thousand Tons)		
	December 2024	December 2023	Percentage Change	December 2024	December 2023	Percentage Change	December 2024	December 2023	Percentage Change
New England	W	W	W	1,952	2,315	-15.7%	0	0	--
Connecticut	0	0	--	496	644	-23.0%	0	0	--
Maine	W	0	W	252	294	-14.4%	0	0	--
Massachusetts	0	0	--	804	986	-18.5%	0	0	--
New Hampshire	W	W	W	242	235	3.1%	0	0	--
Rhode Island	0	0	--	130	126	2.9%	0	0	--
Vermont	0	0	--	29	29	-2.4%	0	0	--
Middle Atlantic	1,971	2,627	-25.0%	4,647	5,047	-7.9%	0	0	--
New Jersey	0	0	--	500	520	-3.9%	0	0	--
New York	0	0	--	2,874	3,165	-9.2%	0	0	--
Pennsylvania	1,971	2,627	-25.0%	1,273	1,361	-6.5%	0	0	--
East North Central	26,580	27,100	-1.9%	1,066	1,040	2.4%	W	W	W
Illinois	6,776	5,591	21.2%	134	102	31.0%	0	0	--
Indiana	9,294	9,574	-2.9%	98	110	-10.9%	0	0	--
Michigan	3,297	3,730	-11.6%	164	190	-13.9%	W	W	W
Ohio	4,173	4,122	1.2%	452	428	5.7%	0	0	--
Wisconsin	3,041	4,083	-25.5%	218	210	3.7%	W	W	W
West North Central	25,740	27,153	-5.2%	1,241	1,178	5.4%	0	0	--
Iowa	4,669	5,094	-8.3%	84	94	-10.4%	0	0	--
Kansas	5,753	5,151	11.7%	210	206	1.9%	0	0	--
Minnesota	2,356	2,879	-18.1%	95	117	-18.9%	0	0	--
Missouri	8,047	8,458	-4.9%	588	569	3.4%	0	0	--
Nebraska	3,015	3,556	-15.2%	159	91	73.6%	0	0	--
North Dakota	1,483	1,561	-5.0%	36	36	-0.9%	0	0	--
South Dakota	W	W	W	70	64	8.2%	0	0	--
South Atlantic	18,942	21,166	-10.5%	9,360	9,578	-2.3%	W	W	W
Delaware	W	W	W	416	518	-19.7%	0	0	--
District of Columbia	0	0	--	0	0	--	0	0	--
Florida	1,838	1,996	-7.9%	3,815	3,846	-0.8%	W	W	W
Georgia	W	W	W	1,221	1,211	0.8%	0	0	--
Maryland	W	799	W	637	641	-0.7%	0	0	--
North Carolina	3,973	3,654	8.7%	1,099	1,144	-3.9%	0	0	--
South Carolina	1,759	2,353	-25.2%	567	574	-1.2%	0	0	--
Virginia	W	W	W	1,457	1,491	-2.3%	0	0	--
West Virginia	6,380	6,852	-6.9%	149	153	-2.6%	W	W	W
East South Central	11,175	13,032	-14.2%	1,067	1,099	-2.9%	0	0	--
Alabama	3,220	4,180	-23.0%	254	258	-1.4%	0	0	--
Kentucky	5,570	6,731	-17.2%	285	278	2.6%	0	0	--
Mississippi	W	W	W	18	4	295.2%	0	0	--
Tennessee	1,748	1,573	11.1%	510	559	-8.7%	0	0	--
West South Central	24,985	26,728	-6.5%	2,099	2,164	-3.0%	W	W	W
Arkansas	4,071	4,679	-13.0%	170	165	3.0%	0	0	--
Louisiana	4,279	3,563	20.1%	181	185	-1.9%	W	W	W
Oklahoma	4,240	5,042	-15.9%	18	38	-51.6%	0	0	--
Texas	12,395	13,444	-7.8%	1,729	1,776	-2.6%	0	0	--
Mountain	17,702	14,249	24.2%	350	330	6.0%	W	W	W
Arizona	3,886	3,585	8.4%	148	126	17.7%	0	0	--
Colorado	3,563	3,566	-0.1%	116	117	-1.6%	0	0	--
Idaho	0	0	--	0	0	141.9%	0	0	--
Montana	W	W	W	14	12	13.6%	W	W	W
Nevada	W	W	W	2	3	-24.9%	0	0	--
New Mexico	0	0	--	4	5	-10.5%	0	0	--
Utah	3,743	2,438	53.5%	37	28	33.2%	0	0	--
Wyoming	5,102	3,530	44.5%	28	39	-27.3%	0	0	--
Pacific Contiguous	W	W	W	337	351	-3.9%	0	0	--
California	0	0	--	165	173	-4.6%	0	0	--
Oregon	0	0	--	51	72	-29.4%	0	0	--
Washington	W	W	W	122	107	14.3%	0	0	--
Pacific Noncontiguous	W	W	W	896	1,301	-31.2%	0	0	--
Alaska	W	W	W	38	62	-38.6%	0	0	--
Hawaii	0	0	--	858	1,240	-30.8%	0	0	--
U.S. Total	127,826	133,028	-3.9%	23,014	24,402	-5.7%	438	427	2.5%

Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

NM = Not meaningful due to large relative standard error or excessive percentage change.

W = Withheld to avoid disclosure of individual company data.

Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Negative generation denotes that electric power consumed for plant use exceeds gross generation.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Source: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report.

**Table 6.3 Stocks of Coal, Petroleum Liquids, and Petroleum Coke:
Electric Power Sector, by Census Divison, 2024 and 2023**

Census Division	Electric Power Sector			Electric Utilities		Independent Power Producers	
	December 2024	December 2023	Percentage Change	December 2024	December 2023	December 2024	December 2023
Coal (Thousand Tons)							
New England	W	W	W	0	0	W	W
Middle Atlantic	1,971	2,627	-25.0%	W	W	1,711	2,366
East North Central	26,580	27,100	-1.9%	17,185	18,108	9,396	8,992
West North Central	25,740	27,153	-5.2%	25,740	27,153	0	0
South Atlantic	18,942	21,166	-10.5%	18,180	19,855	761	1,311
East South Central	11,175	13,032	-14.2%	11,175	13,032	0	0
West South Central	24,985	26,728	-6.5%	15,642	19,496	9,342	7,232
Mountain	17,702	14,249	24.2%	16,971	13,558	W	W
Pacific Contiguous	W	W	W	0	0	W	W
Pacific Noncontiguous	W	W	W	W	W	W	W
U.S. Total	127,826	133,028	-3.9%	105,219	111,524	22,607	21,504
Petroleum Liquids (Thousand Barrels)							
New England	1,952	2,315	-15.7%	253	255	1,699	2,060
Middle Atlantic	4,647	5,047	-7.9%	1,947	2,085	2,700	2,962
East North Central	1,066	1,040	2.4%	672	687	393	353
West North Central	1,241	1,178	5.4%	1,215	1,150	26	27
South Atlantic	9,360	9,578	-2.3%	7,225	7,348	2,135	2,230
East South Central	1,067	1,099	-2.9%	1,029	1,060	38	39
West South Central	2,099	2,164	-3.0%	883	919	1,216	1,244
Mountain	350	330	6.0%	323	305	26	24
Pacific Contiguous	337	351	-3.9%	255	270	82	81
Pacific Noncontiguous	896	1,301	-31.2%	858	1,273	38	29
U.S. Total	23,014	24,402	-5.7%	14,659	15,353	8,355	9,050
Petroleum Coke (Thousand Tons)							
New England	0	0	--	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0
East North Central	W	W	W	W	W	0	0
West North Central	0	0	--	0	0	0	0
South Atlantic	W	W	W	W	W	W	W
East South Central	0	0	--	0	0	0	0
West South Central	W	W	W	W	W	0	0
Mountain	W	W	W	0	0	W	W
Pacific Contiguous	0	0	--	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0
U.S. Total	438	427	2.5%	431	421	7	7

W = Withheld to avoid disclosure of individual company data.

Notes: See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form-923.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Source: U.S. Energy Information Administration, Form-923, 'Power Plant Operations Report.'

**Table 6.4. Stocks of Coal by Coal Rank: Electric Power Sector, 2014 - 2024
(Thousand Tons)**

Period	Electric Power Sector			
	Bituminous Coal	Subbituminous Coal	Lignite Coal	Total
End of Year Stocks				
2014	72,771	72,552	6,225	151,548
2015	82,004	108,614	4,931	195,548
2016	67,241	90,376	4,393	162,009
2017	56,140	77,875	3,672	137,687
2018	41,507	58,247	3,039	102,793
2019	54,769	69,942	3,124	128,102
2020	50,649	77,033	3,556	131,431
2021	34,560	54,726	2,598	91,884
2022	35,194	50,704	2,956	88,861
2023	46,574	83,013	3,439	133,028
2024	43,844	80,772	3,198	127,826
Year 2022, End of Month Stocks				
January	30,697	51,157	2,686	84,541
February	29,288	49,029	2,717	81,034
March	31,687	51,304	3,152	86,143
April	33,868	53,609	3,269	90,746
May	33,202	56,289	3,191	92,692
June	30,392	53,338	3,129	86,869
July	28,769	47,358	3,040	79,172
August	28,730	44,005	2,826	75,570
September	30,766	45,802	2,776	79,354
October	34,061	50,366	2,905	87,342
November	35,998	54,329	2,867	93,203
December	35,194	50,704	2,956	88,861
Year 2023, End of Month Stocks				
January	37,880	51,812	3,014	92,714
February	40,066	56,667	3,022	99,760
March	41,614	64,432	2,991	109,041
April	43,352	72,772	3,330	119,460
May	46,598	77,685	3,500	127,788
June	47,911	77,671	3,601	129,191
July	44,256	75,155	3,499	122,916
August	42,345	72,129	3,424	117,898
September	42,659	72,147	3,247	118,054
October	44,914	74,948	3,184	123,046
November	46,999	80,588	3,393	130,985
December	46,574	83,013	3,439	133,028
Year 2024, End of Month Stocks				
January	42,859	77,766	3,220	123,854
February	44,581	81,459	3,124	129,170
March	47,285	85,012	3,232	135,537
April	48,624	86,824	3,388	138,839
May	49,199	87,376	3,311	139,893
June	46,915	84,931	3,374	135,229
July	43,890	80,227	3,251	127,378
August	42,163	76,310	3,273	121,756
September	42,608	76,769	3,171	122,555
October	44,603	79,892	3,245	127,747
November	46,116	81,733	3,231	131,091
December	43,844	80,772	3,198	127,826

Notes: See Glossary for definitions.

Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms. Totals may not equal sum of components because of independent rounding.

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report, and predecessor forms. Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report; Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, FERC Form 423, Monthly Report of Cost and Quality of Fuels for Electric Plants.

Chapter 7

Receipts, Cost, and Quality of Fossil Fuels

Table 7.1. Receipts, Average Cost, and Quality of Fossil Fuels for the Electric Power Industry, 2014 through 2024

Period	Coal				Petroleum				Natural Gas		All Fossil Fuels
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Cost		Receipts (Thousand Barrels)	Average Sulfur Percent by Weight	Average Cost		Receipts (Thousand Mcf)	Average Cost	Average Cost
			(Dollars per MMBtu)	(Dollars per Ton)			(Dollars per MMBtu)	(Dollars per Barrel)		(Dollars per MMBtu)	(Dollars per MMBtu)
2014	854,560	1.32	2.37	45.96	54,488	3.56	11.60	68.12	8,431,423	5.00	3.31
2015	782,929	1.29	2.22	42.86	48,804	3.38	6.74	39.51	9,842,581	3.23	2.65
2016	650,770	1.34	2.11	40.64	37,637	3.69	5.24	30.46	10,271,180	2.87	2.47
2017	642,364	1.28	2.06	39.27	32,672	3.59	7.10	41.23	9,628,733	3.37	2.65
2018	596,215	1.31	2.06	39.25	37,341	3.31	9.68	56.82	10,894,849	3.55	2.83
2019	560,153	1.31	2.02	38.70	24,556	3.03	9.07	53.55	11,704,743	2.88	2.50
2020	439,636	1.28	1.92	36.36	24,846	3.45	5.98	34.92	11,981,552	2.40	2.22
2021	461,477	1.30	1.98	37.48	27,783	3.11	10.08	58.93	11,578,254	5.20	3.82
2022	469,718	1.28	2.36	44.69	30,792	2.91	16.53	97.42	12,436,074	7.21	5.22
2023	431,375	1.23	2.51	47.23	25,590	2.44	15.98	94.80	13,237,380	3.36	3.12
2024	369,134	1.27	2.47	46.66	19,275	2.14	14.70	87.70	13,741,165	2.76	2.73

* = Value is less than half of the smallest unit of measure. (e.g., for values with no decimals, the smallest unit is 1 then values under 0.5 are shown as *.)

NM = Not meaningful due to large relative standard error or excessive percentage change.

W = Withheld to avoid disclosure of individual company data.

Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM - includes petroleum liquids (distillate fuel oil and residual fuel oil) and petroleum coke which includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

- All values are final.

- See Glossary for definitions.

- Starting in January 2013, there may have been a shift in the continuity of Chapter 7 tables due to changes in the sample design of Form EIA-923 and the imputation process.

- See the EIA-923 section of the Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

- See the Technical Notes for fuel conversion factors.

- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.2. Receipts and Quality of Coal Delivered for the Electric Power Industry, 2014 through 2024

Period	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
2014	334,082	2.34	10.3	440,013	0.31	5.8	71,534	0.90	14.1
2015	289,093	2.40	10.4	421,127	0.32	5.8	65,826	0.89	14.1
2016	245,141	2.43	10.3	333,241	0.31	5.8	64,426	0.91	14.0
2017	224,500	2.45	10.3	350,580	0.31	5.6	59,665	0.96	14.0
2018	205,783	2.55	10.1	329,974	0.31	5.7	52,438	0.91	13.4
2019	198,016	2.52	10.0	309,029	0.32	5.7	46,781	0.90	13.3
2020	144,966	2.57	10.3	245,158	0.32	5.8	43,862	0.86	13.1
2021	149,031	2.66	10.3	262,770	0.31	5.6	43,018	0.86	13.3
2022	148,785	2.64	10.2	271,258	0.32	5.8	41,887	0.89	13.5
2023	133,921	2.59	10.4	253,550	0.30	5.4	37,150	0.84	12.7
2024	120,985	2.57	10.6	206,952	0.30	5.4	34,677	0.87	13.0

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W = Withheld to avoid disclosure of individual company data.

Notes:

Bituminous coal includes anthracite and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other Gases.

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- See Glossary for definitions.
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- See the EIA-923 section of the Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.
- See the Technical Notes for fuel conversion factors.
- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.3. Average Quality of Fossil Fuel Receipts for the Electric Power Industry, 2014 through 2024

Period	Coal			Petroleum			Natural Gas
	Average Btu per Pound	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Average Btu per Gallon	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Average Btu per Cubic Foot
2014	9,710	1.32	8.6	139,713	3.56	0.5	1,029
2015	9,634	1.29	8.6	139,681	3.38	0.5	1,034
2016	9,617	1.34	8.7	138,384	3.69	0.5	1,034
2017	9,544	1.28	8.4	138,324	3.59	0.4	1,034
2018	9,536	1.31	8.3	139,762	3.31	0.3	1,033
2019	9,592	1.31	8.3	140,549	3.03	0.3	1,034
2020	9,473	1.28	8.4	138,976	3.45	0.3	1,033
2021	9,485	1.30	8.3	139,137	3.11	0.3	1,034
2022	9,448	1.28	8.4	140,441	2.91	0.4	1,033
2023	9,403	1.23	8.1	141,246	2.44	0.4	1,033
2024	9,435	1.27	8.4	142,048	2.14	0.4	1,034

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NM = Not meaningful due to large relative standard error or excessive percentage change.

W = Withheld to avoid disclosure of individual company data.

Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM - includes petroleum liquids (distillate fuel oil and residual fuel oil) and petroleum coke which includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

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- See Glossary for definitions.
- Starting in January 2013, there may have been a shift in the continuity of Chapter 7 tables due to changes in the sample design of Form EIA-923 and the imputation process.
- See the EIA-923 section of the Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.
- See the Technical Notes for fuel conversion factors.
- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.4. Weighted Average Cost of Fossil Fuels for the Electric Power Industry, 2014 through 2024

Period	Coal								Petroleum		Natural Gas		Total Fossil	
	Bituminous		Subbituminous		Lignite		All Coal Ranks		Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)
	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)						
2014	7,883	2.74	7,681	2.06	934	1.77	16,595	2.37	320	11.60	8,679	5.00	25,594	3.31
2015	6,797	2.58	7,353	1.94	855	1.92	15,086	2.22	286	6.74	10,174	3.23	25,546	2.65
2016	5,770	2.40	5,818	1.89	840	1.74	12,516	2.11	219	5.24	10,619	2.87	23,354	2.47
2017	5,279	2.31	6,123	1.90	773	1.66	12,261	2.06	190	7.10	9,952	3.37	22,403	2.65
2018	4,838	2.31	5,765	1.90	677	1.71	11,371	2.06	219	9.68	11,254	3.55	22,844	2.83
2019	4,670	2.26	5,401	1.86	601	1.68	10,746	2.02	145	9.07	12,105	2.89	22,996	2.50
2020	3,399	2.11	4,300	1.78	566	1.90	8,329	1.92	145	5.98	12,381	2.40	20,855	2.22
2021	3,513	2.13	4,610	1.85	553	2.09	8,754	1.98	162	10.08	11,967	5.20	20,883	3.82
2022	3,499	2.74	4,748	2.17	538	1.78	8,876	2.36	182	16.53	12,840	7.21	21,898	5.22
2023	3,130	3.15	4,428	2.15	481	1.79	8,112	2.51	152	15.98	13,669	3.36	21,934	3.12
2024	2,813	3.08	3,628	2.08	451	1.94	6,965	2.47	115	14.70	14,206	2.76	21,286	2.73

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W = Withheld to avoid disclosure of individual company data.

Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

COAL - All coal ranks subtotal includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

Bituminous coal includes anthracite coal and beginning in 2011, coal-derived synthesis gas.

PETROLEUM - includes petroleum liquids (distillate fuel oil and residual fuel oil) and petroleum coke which includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

- All values are final.
- See Glossary for definitions.
- Starting in January 2013, there may have been a shift in the continuity of Chapter 7 tables due to changes in the sample design of Form EIA-923 and the imputation process.
- See the EIA-923 section of the Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.
- See the Technical Notes for fuel conversion factors.
- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.5. Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities, 2014 - 2024

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2014	12,064,810	614,728	2.39	46.95	1.21	98.3	98,357	16,161	19.90	121.14	0.44	82.0
2015	11,088,631	571,707	2.25	43.71	1.17	105.8	90,041	14,747	11.32	69.13	0.46	79.2
2016	9,256,878	476,207	2.16	42.01	1.21	95.4	73,294	11,985	9.16	56.02	0.45	74.0
2017	9,011,629	467,595	2.12	40.81	1.16	96.0	70,422	11,640	11.60	70.19	0.47	74.4
2018	8,351,036	435,964	2.11	40.35	1.18	91.6	84,050	13,896	14.39	87.09	0.37	75.3
2019	7,970,069	413,915	2.08	39.99	1.18	103.1	66,789	11,010	13.40	81.29	0.46	69.9
2020	6,256,811	327,488	1.96	37.49	1.15	100.2	56,530	9,371	9.84	59.37	0.47	67.1
2021	6,448,846	338,205	2.03	38.68	1.14	90.2	69,111	11,468	14.53	87.56	0.47	67.7
2022	6,594,794	346,120	2.41	45.96	1.15	98.4	73,400	12,131	24.43	147.80	0.48	65.6
2023	6,224,613	326,208	2.56	48.88	1.15	111.5	78,893	13,023	20.48	124.06	0.46	79.3
2024	5,332,739	277,592	2.55	48.93	1.20	97.0	63,680	10,480	18.22	110.71	0.43	65.0
Year 2022												
January	546,113	29,056	2.24	42.12	1.06	81.3	6,596	1,103	17.23	103.03	0.46	46.9
February	500,644	26,344	2.19	41.69	1.05	91.5	6,361	1,045	18.65	113.52	0.48	83.4
March	537,576	28,123	2.18	41.71	1.14	115.4	5,580	926	22.53	135.80	0.49	70.7
April	486,354	25,278	2.24	43.02	1.17	113.7	5,684	934	26.28	159.85	0.48	84.8
May	552,474	28,904	2.29	43.87	1.16	108.7	4,509	747	28.14	169.81	0.48	58.4
June	537,295	28,300	2.35	44.64	1.14	88.2	7,089	1,166	28.58	173.77	0.48	90.3
July	557,748	29,313	2.47	47.07	1.18	76.9	6,739	1,115	28.96	175.11	0.48	80.8
August	627,619	32,918	2.53	48.27	1.19	90.2	5,736	947	26.06	157.81	0.47	72.6
September	599,306	31,443	2.60	49.50	1.17	110.8	5,857	966	24.83	150.60	0.48	71.8
October	579,715	30,502	2.53	48.08	1.16	129.7	6,272	1,028	23.81	145.25	0.48	74.8
November	542,727	28,448	2.55	48.63	1.14	121.1	5,760	953	26.15	158.05	0.46	70.9
December	527,223	27,491	2.69	51.67	1.22	86.5	7,217	1,202	23.01	138.22	0.48	38.2
Year 2023												
January	559,118	29,346	2.65	50.44	1.13	106.6	11,620	1,944	22.15	132.38	0.47	133.2
February	477,280	25,125	2.67	50.72	1.17	125.0	6,931	1,155	22.13	132.74	0.48	73.8
March	549,894	28,881	2.53	48.18	1.19	135.3	5,960	986	20.64	124.72	0.48	75.3
April	481,181	25,153	2.51	47.98	1.16	154.9	5,523	905	19.34	117.99	0.47	71.5
May	486,120	25,332	2.54	48.84	1.14	135.6	6,074	1,006	18.86	113.90	0.48	74.2
June	504,353	26,328	2.50	47.98	1.16	100.4	6,134	1,010	17.52	106.44	0.47	73.5
July	552,719	29,116	2.53	48.00	1.13	83.9	7,002	1,138	17.18	105.70	0.44	86.0
August	583,320	30,491	2.55	48.69	1.14	89.2	4,863	797	19.97	121.81	0.47	55.0
September	517,934	27,065	2.59	49.49	1.12	102.8	6,073	992	22.75	139.30	0.43	77.5
October	504,437	26,340	2.58	49.51	1.14	119.1	5,203	855	22.31	135.80	0.40	63.0
November	509,063	26,715	2.57	48.89	1.14	125.8	5,628	932	21.72	131.14	0.43	70.7
December	499,194	26,316	2.52	47.89	1.17	109.9	7,883	1,303	20.21	122.26	0.45	95.1
Year 2024												
January	466,667	24,584	2.54	48.26	1.17	75.4	8,252	1,370	18.93	114.00	0.45	68.2
February	447,767	23,505	2.57	48.91	1.13	115.9	5,312	874	19.54	118.80	0.46	76.3
March	427,408	21,930	2.59	50.39	1.29	124.4	4,824	788	19.77	121.10	0.46	68.0
April	365,902	18,583	2.67	52.51	1.33	117.4	4,798	785	19.55	119.45	0.43	63.6
May	405,066	20,695	2.65	51.86	1.33	103.2	4,762	789	19.00	114.67	0.38	62.8
June	431,887	22,308	2.58	50.00	1.28	82.7	4,898	808	18.10	109.70	0.41	65.7
July	479,544	25,008	2.56	49.01	1.21	79.7	4,041	664	18.56	112.97	0.36	50.0
August	490,835	26,647	2.50	47.79	1.18	84.8	5,085	835	18.26	111.11	0.46	57.5
September	460,696	24,152	2.47	47.11	1.09	100.1	4,706	771	17.20	104.95	0.36	62.4
October	455,323	23,814	2.56	48.96	1.12	116.8	6,392	1,051	16.29	99.08	0.41	76.7
November	434,798	22,677	2.48	47.64	1.17	114.6	4,408	725	17.02	103.55	0.45	58.1
December	466,846	24,692	2.45	46.28	1.10	91.4	6,202	1,020	16.76	101.96	0.47	69.9

Displayed values of zero may represent small values that round to zero.

NM = Not meaningful due to large relative standard error or excessive percentage change.

W = Withheld to avoid disclosure of individual company data.

Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

- Values are final.

- See Glossary for definitions.

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- See the Technical Notes for fuel conversion factors.

- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.6. Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities, 2014 - 2024 (continued)

Period	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	Percentage of Consumption	(Dollars per MMBtu)
Annual Totals												
2014	123,793	4,349	1.89	53.77	5.56	126.3	3,876,549	3,772,596	5.17	5.31	96.7	3.16
2015	115,929	4,069	1.77	50.44	5.23	130.1	4,717,748	4,565,040	3.52	3.64	96.0	2.67
2016	99,706	3,538	1.52	42.85	5.38	103.1	5,075,337	4,907,538	3.15	3.26	97.0	2.54
2017	90,481	3,224	2.15	60.31	5.55	117.6	4,794,383	4,640,827	3.62	3.74	96.8	2.68
2018	83,211	2,940	2.56	72.34	5.74	106.8	5,562,903	5,388,544	3.68	3.80	96.2	2.80
2019	54,266	1,896	1.92	54.88	5.50	91.0	6,038,432	5,842,392	3.03	3.13	97.0	2.53
2020	65,684	2,317	1.70	48.07	5.39	101.8	6,207,039	6,011,244	2.63	2.72	96.3	2.32
2021	64,891	2,296	3.16	89.27	5.24	98.0	5,901,472	5,713,855	5.21	5.39	96.4	3.60
2022	64,607	2,283	4.35	122.99	5.52	99.5	6,393,812	6,200,191	7.49	7.73	96.5	5.01
2023	40,716	1,450	4.05	113.73	5.61	108.5	6,803,788	6,596,937	3.81	3.92	96.1	3.32
2024	26,786	953	2.96	83.22	5.60	99.2	7,249,583	7,018,235	3.03	3.13	95.7	2.90
Year 2022												
January	5,343	189	4.32	122.16	5.11	112.6	503,615	487,628	7.15	7.39	96.7	4.67
February	4,050	141	4.24	121.53	5.80	75.1	414,806	402,121	6.13	6.32	96.1	4.08
March	5,791	205	4.84	136.40	5.31	142.5	408,255	396,288	5.28	5.43	96.4	3.63
April	6,637	235	4.80	135.31	5.57	150.6	395,234	383,835	6.25	6.44	97.0	4.17
May	5,932	212	4.97	140.62	5.48	99.1	494,026	479,966	7.53	7.75	97.5	4.86
June	4,887	173	4.50	126.93	5.51	76.9	621,160	603,483	8.29	8.53	96.3	5.66
July	5,781	205	4.65	131.34	5.54	115.1	749,263	727,668	7.75	7.98	96.1	5.61
August	6,465	228	5.02	142.06	5.62	127.5	723,303	700,993	9.35	9.65	96.4	6.25
September	3,818	134	2.32	66.08	5.74	63.7	579,405	560,966	8.53	8.81	96.2	5.58
October	4,060	144	3.35	94.31	5.74	74.8	493,094	478,019	6.19	6.38	96.6	4.31
November	6,485	229	3.84	108.96	5.53	124.4	482,176	467,566	6.05	6.24	96.6	4.31
December	5,298	187	4.19	118.73	5.50	73.4	529,475	511,657	9.05	9.36	96.7	5.97
Year 2023												
January	4,871	176	4.54	126.02	5.67	151.3	509,603	492,284	8.55	8.85	95.8	5.62
February	3,886	136	4.80	136.95	5.62	125.8	447,571	433,509	4.89	5.05	95.0	3.88
March	4,905	172	4.66	132.76	5.71	228.6	493,900	478,430	3.76	3.88	95.2	3.22
April	4,768	168	4.70	133.61	5.72	218.3	460,793	447,538	3.05	3.14	96.4	2.88
May	1,985	72	3.14	86.86	5.76	94.2	543,700	528,159	2.86	2.94	96.9	2.81
June	1,853	66	3.48	98.25	5.77	61.3	627,911	609,220	2.92	3.01	96.2	2.81
July	2,787	100	3.62	101.16	5.45	50.5	767,356	743,822	3.26	3.36	95.7	3.03
August	2,311	84	3.39	93.79	5.73	42.4	781,288	757,734	3.30	3.40	95.9	3.04
September	3,289	118	3.76	104.81	5.48	67.3	618,399	600,954	3.28	3.38	96.3	3.07
October	2,404	86	3.84	107.56	5.50	112.5	528,905	513,656	3.32	3.41	96.7	3.06
November	3,097	111	3.60	100.64	5.35	228.6	488,206	473,567	3.79	3.91	96.4	3.27
December	4,559	163	3.39	94.99	5.53	199.5	536,155	518,063	3.73	3.86	96.3	3.27
Year 2024												
January	909	33	2.65	73.16	5.53	34.6	592,967	572,724	4.98	5.16	94.9	4.02
February	1,385	50	2.63	73.05	5.56	72.1	487,202	470,741	3.35	3.47	96.2	3.07
March	1,054	38	2.63	73.51	5.49	173.2	498,041	482,291	2.48	2.56	96.5	2.62
April	1,078	38	2.62	73.50	5.51	57.9	469,587	455,940	2.32	2.39	95.1	2.57
May	2,177	78	2.86	80.18	5.46	101.9	575,740	559,701	2.57	2.64	95.8	2.68
June	3,620	127	3.11	88.55	5.54	110.7	676,666	656,292	2.99	3.08	96.4	2.90
July	5,356	189	3.23	91.69	5.52	144.2	828,531	801,114	2.78	2.88	95.4	2.75
August	3,756	134	3.08	86.70	5.70	104.8	808,451	781,275	2.51	2.60	94.5	2.57
September	3,518	125	3.09	87.22	5.49	178.0	662,215	640,859	2.60	2.69	96.2	2.61
October	1,008	37	2.63	72.20	5.78	50.7	581,102	562,732	2.94	3.04	97.1	2.86
November	1,280	46	2.64	72.99	6.91	104.8	534,520	517,612	2.93	3.03	96.8	2.79
December	1,645	59	2.66	74.04	5.43	82.1	534,561	516,955	4.11	4.25	94.4	3.42

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Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

PETROLEUM COKE - includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.

NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

- Values are final.

- See Glossary for definitions.

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- See the Technical Notes for fuel conversion factors.

- Totals may not equal the sum of components because of independent rounding.

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Table 7.7 Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers, 2014 - 2024

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2014	4,243,949	226,600	2.25	42.20	1.61	100.1	71,774	11,980	19.90	119.36	0.45	101.0
2015	3,731,508	198,982	2.10	39.39	1.66	100.5	55,248	9,189	11.69	70.36	0.46	86.5
2016	3,047,358	164,648	1.93	35.69	1.73	91.8	25,975	4,410	9.93	58.56	0.48	75.1
2017	3,056,215	165,567	1.85	34.19	1.64	93.1	24,704	4,190	12.67	74.73	0.46	73.8
2018	2,849,062	152,015	1.89	35.41	1.70	94.2	47,699	8,022	14.52	86.39	0.44	81.7
2019	2,629,405	139,141	1.81	34.16	1.74	101.6	20,188	3,425	14.40	84.89	0.50	73.0
2020	1,937,714	105,627	1.74	31.92	1.72	97.1	18,954	3,216	9.44	55.61	0.49	88.7
2021	2,163,331	116,480	1.79	33.35	1.79	92.0	25,972	4,447	15.38	89.84	0.47	101.6
2022	2,142,472	116,864	2.19	40.16	1.69	96.4	41,066	6,827	22.83	137.45	0.39	69.1
2023	1,763,719	98,990	2.28	40.63	1.52	104.7	29,337	4,849	20.59	124.91	0.36	105.8
2024	1,513,856	85,656	2.17	38.37	1.54	98.5	22,399	3,685	18.64	113.35	0.38	77.6
Year 2022												
January	190,059	10,391	2.06	37.66	1.62	79.5	8,892	1,482	18.48	111.05	0.39	51.8
February	169,787	9,274	2.07	37.95	1.56	82.2	4,566	762	18.20	109.02	0.36	96.9
March	191,644	10,240	2.04	38.27	1.72	101.2	1,540	252	22.72	138.89	0.45	63.0
April	175,332	9,448	1.99	37.03	1.86	107.7	1,498	247	27.01	163.98	0.48	89.1
May	170,813	9,355	2.01	36.76	1.87	107.8	1,250	205	28.43	173.23	0.48	73.6
June	170,764	9,296	2.20	40.47	1.83	95.7	1,651	275	30.73	185.03	0.41	72.6
July	188,956	10,384	2.45	44.55	1.71	90.8	1,756	293	30.58	183.42	0.47	48.7
August	189,136	10,350	2.41	44.15	1.63	86.5	2,286	381	27.18	162.89	0.47	67.6
September	175,484	9,589	2.16	39.62	1.72	106.1	2,185	358	23.44	143.49	0.41	98.3
October	185,852	10,141	2.18	40.02	1.67	126.2	2,848	471	23.30	140.86	0.35	112.5
November	164,764	9,127	2.20	39.71	1.49	101.3	3,910	654	26.55	158.67	0.37	194.2
December	169,882	9,269	2.47	45.38	1.65	91.6	8,682	1,447	19.92	119.50	0.33	55.5
Year 2023												
January	160,350	8,640	2.36	43.91	1.70	107.3	3,706	618	22.40	134.71	0.41	194.5
February	150,824	8,308	2.25	40.84	1.63	122.3	3,914	637	17.39	107.13	0.37	77.7
March	156,569	8,706	2.31	41.52	1.54	117.5	1,599	261	21.45	131.58	0.47	79.2
April	143,467	8,154	2.27	39.94	1.50	122.5	1,844	305	20.51	124.08	0.37	95.0
May	145,409	8,086	2.32	41.86	1.59	118.4	1,720	282	19.41	118.27	0.43	89.2
June	136,863	7,723	2.28	40.48	1.52	105.1	1,623	269	18.98	114.73	0.46	95.4
July	142,931	8,208	2.24	38.98	1.44	83.9	2,180	361	18.91	114.20	0.35	83.9
August	148,108	8,433	2.23	39.31	1.46	86.3	2,952	490	21.29	129.36	0.26	157.0
September	135,357	7,629	2.24	39.75	1.41	96.0	1,974	327	23.62	143.13	0.30	89.9
October	138,346	7,862	2.28	40.14	1.50	104.7	2,214	362	22.47	137.36	0.33	79.5
November	153,037	8,666	2.27	40.16	1.46	103.8	2,920	484	20.22	121.98	0.38	147.1
December	152,457	8,573	2.27	40.45	1.52	105.4	2,692	453	21.47	128.27	0.29	148.0
Year 2024												
January	136,350	7,689	2.25	39.91	1.54	78.0	2,732	457	19.22	114.73	0.35	61.1
February	125,437	7,169	2.12	37.19	1.56	124.9	1,128	186	20.22	122.40	0.42	90.7
March	111,385	6,300	2.10	37.16	1.63	131.3	1,259	206	21.01	128.52	0.45	86.0
April	97,606	5,729	2.02	34.36	1.45	105.2	1,632	269	20.39	123.79	0.44	69.7
May	104,074	5,887	2.20	38.90	1.59	96.0	2,004	329	19.41	118.21	0.38	101.2
June	120,305	6,732	2.20	39.37	1.65	90.3	2,044	335	18.17	110.82	0.46	89.9
July	137,833	7,806	2.15	37.95	1.60	85.8	1,836	301	19.09	116.28	0.29	53.8
August	147,122	8,293	2.23	39.55	1.49	90.6	1,705	280	18.63	113.61	0.40	74.0
September	133,554	7,466	2.20	39.42	1.47	101.3	1,454	236	17.80	109.92	0.39	97.5
October	141,888	7,921	2.15	38.56	1.54	114.4	1,923	313	16.68	102.39	0.32	111.3
November	128,787	7,226	2.17	38.75	1.59	110.5	2,482	408	17.54	106.75	0.37	141.1
December	129,516	7,437	2.19	38.19	1.44	88.6	2,202	365	17.27	104.34	0.39	50.6

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Notes:

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COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

- Values are final.

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- See the EIA-923 section of the Technical Notes for a discussion of the sample design for the Form EIA-923 and predecessor forms.

- See the Technical Notes for fuel conversion factors.

- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.8. Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers, 2014 - 2024 (continued)

Period	Petroleum Coke							Natural Gas					All Fossil Fuels
	Receipts		Average Cost			Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost			Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	(Billion Btu)			(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	Percentage of Consumption	(Dollars per MMBtu)	
Annual Totals													
2014	13,781	488	2.48	70.31	5.33	70.9	4,054,540	3,934,672	4.90	5.05	92.7	3.52	
2015	14,550	524	2.45	68.22	5.26	67.3	4,683,291	4,530,195	2.94	3.04	93.2	2.57	
2016	13,573	492	2.50	68.88	5.44	69.9	4,791,729	4,634,518	2.54	2.63	94.0	2.29	
2017	0	0	--	--	--	0.0	4,346,156	4,201,573	3.08	3.19	94.0	2.54	
2018	0	0	--	--	--	0.0	4,889,212	4,727,692	3.40	3.52	94.6	2.84	
2019	0	0	--	--	--	0.0	5,242,547	5,062,877	2.70	2.80	96.0	2.40	
2020	0	0	--	--	--	0.0	5,359,545	5,178,938	2.10	2.17	96.1	2.01	
2021	0	0	--	--	--	0.0	5,255,390	5,077,009	5.29	5.48	95.7	4.16	
2022	0	0	--	--	--	--	5,602,375	5,414,698	6.95	7.20	95.5	5.50	
2023	0	0	--	--	--	--	6,038,310	5,836,072	2.82	2.92	96.1	2.75	
2024	0	0	--	--	--	--	6,133,734	5,923,429	2.41	2.50	96.4	2.41	
Year 2022													
January	0	0	--	--	--	--	440,567	425,442	6.15	6.38	95.6	4.92	
February	0	0	--	--	--	--	375,891	363,057	5.88	6.09	94.2	4.62	
March	0	0	--	--	--	--	359,407	347,490	4.96	5.14	95.0	3.87	
April	0	0	--	--	--	--	344,208	332,882	6.22	6.44	95.5	4.66	
May	0	0	--	--	--	--	428,890	414,929	7.60	7.86	96.4	5.80	
June	0	0	--	--	--	--	513,920	497,609	7.55	7.81	96.1	6.03	
July	0	0	--	--	--	--	644,066	623,293	7.29	7.54	96.2	6.04	
August	0	0	--	--	--	--	645,276	623,863	8.56	8.86	95.5	6.95	
September	0	0	--	--	--	--	538,145	519,483	7.58	7.86	95.8	6.04	
October	0	0	--	--	--	--	446,464	431,379	5.29	5.48	95.5	4.32	
November	0	0	--	--	--	--	407,043	393,319	5.35	5.54	94.1	4.44	
December	0	0	--	--	--	--	458,497	441,951	9.26	9.61	95.4	7.27	
Year 2023													
January	0	0	--	--	--	--	446,640	430,815	5.37	5.57	95.8	4.57	
February	0	0	--	--	--	--	407,924	394,009	3.92	4.06	96.1	3.50	
March	0	0	--	--	--	--	428,537	414,070	2.95	3.06	95.4	2.81	
April	0	0	--	--	--	--	393,827	380,548	2.28	2.36	95.5	2.35	
May	0	0	--	--	--	--	444,722	430,350	2.12	2.19	96.9	2.23	
June	0	0	--	--	--	--	542,599	524,807	2.17	2.24	96.4	2.24	
July	0	0	--	--	--	--	691,161	668,245	2.67	2.76	95.9	2.63	
August	0	0	--	--	--	--	677,647	655,199	2.46	2.55	96.1	2.48	
September	0	0	--	--	--	--	571,702	553,460	2.35	2.43	96.3	2.39	
October	0	0	--	--	--	--	483,231	467,338	2.42	2.51	96.4	2.47	
November	0	0	--	--	--	--	469,276	453,150	2.94	3.05	96.0	2.85	
December	0	0	--	--	--	--	481,043	464,082	2.76	2.86	96.4	2.70	
Year 2024													
January	0	0	--	--	--	--	535,112	516,165	4.90	5.08	96.8	4.33	
February	0	0	--	--	--	--	422,449	407,092	2.34	2.42	96.1	2.32	
March	0	0	--	--	--	--	417,748	402,983	1.85	1.92	96.1	1.96	
April	0	0	--	--	--	--	398,022	384,553	1.69	1.75	96.1	1.83	
May	0	0	--	--	--	--	462,442	447,391	1.92	1.99	96.6	2.05	
June	0	0	--	--	--	--	554,335	535,943	2.25	2.33	96.1	2.30	
July	0	0	--	--	--	--	687,681	664,168	2.10	2.18	96.5	2.16	
August	0	0	--	--	--	--	666,449	643,563	1.88	1.95	96.1	2.00	
September	0	0	--	--	--	--	557,352	538,490	2.04	2.11	96.8	2.11	
October	0	0	--	--	--	--	485,365	469,303	2.14	2.21	95.5	2.19	
November	0	0	--	--	--	--	455,042	439,462	2.27	2.35	97.1	2.32	
December	0	0	--	--	--	--	491,738	474,316	3.60	3.73	97.0	3.31	

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Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

PETROLEUM COKE - includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.

NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

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Table 7.9. Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector, 2014 - 2024

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2014	4,096	182	3.12	70.30	2.50	17.1	0	0	--	--	--	0.0
2015	2,439	109	2.85	63.90	2.55	13.6	0	0	--	--	--	0.0
2016	1,288	57	2.69	60.89	3.03	8.3	0	0	--	--	--	0.0
2017	548	24	2.78	63.31	2.99	3.9	0	0	--	--	--	0.0
2018	290	13	2.94	66.52	3.04	2.2	0	0	--	--	--	0.0
2019	193	8	2.92	66.55	3.01	1.6	0	0	--	--	--	0.0
2020	132	6	2.96	67.66	2.93	1.2	0	0	--	--	--	0.0
2021	262	11	3.03	69.50	2.94	2.1	0	0	--	--	--	0.0
2022	268	12	4.17	94.87	3.08	2.2	0	0	--	--	--	--
2023	66	3	4.28	96.92	3.22	0.7	0	0	--	--	--	--
2024	128	6	4.28	96.74	3.06	1.3	0	0	--	--	--	--
Year 2022												
January	74	3	3.95	90.18	3.03	5.8	0	0	--	--	--	--
February	19	1	3.95	90.65	3.00	1.5	0	0	--	--	--	--
March	0	0	--	--	--	0.0	0	0	--	--	--	--
April	0	0	--	--	--	0.0	0	0	--	--	--	--
May	0	0	--	--	--	0.0	0	0	--	--	--	--
June	0	0	--	--	--	--	0	0	--	--	--	--
July	0	0	--	--	--	--	0	0	--	--	--	--
August	0	0	--	--	--	--	0	0	--	--	--	--
September	106	5	4.28	97.46	3.05	10.0	0	0	--	--	--	--
October	54	2	4.28	97.11	3.24	5.2	0	0	--	--	--	--
November	0	0	--	--	--	0.0	0	0	--	--	--	--
December	15	1	4.28	96.94	3.02	1.1	0	0	--	--	--	--
Year 2023												
January	21	1	4.28	96.60	3.06	1.8	0	0	--	--	--	--
February	22	1	4.28	97.20	3.12	2.1	0	0	--	--	--	--
March	0	0	--	--	--	--	0	0	--	--	--	--
April	0	0	--	--	--	--	0	0	--	--	--	--
May	0	0	--	--	--	--	0	0	--	--	--	--
June	0	0	--	--	--	--	0	0	--	--	--	--
July	0	0	--	--	--	--	0	0	--	--	--	--
August	0	0	--	--	--	--	0	0	--	--	--	--
September	0	0	--	--	--	--	0	0	--	--	--	--
October	0	0	--	--	--	--	0	0	--	--	--	--
November	0	0	--	--	--	--	0	0	--	--	--	--
December	24	1	4.28	96.94	3.46	2.6	0	0	--	--	--	--
Year 2024												
January	85	4	4.28	96.86	3.06	5.9	0	0	--	--	--	--
February	43	2	4.28	96.51	3.06	4.1	0	0	--	--	--	--
March	0	0	--	--	--	0.0	0	0	--	--	--	--
April	0	0	--	--	--	--	0	0	--	--	--	--
May	0	0	--	--	--	--	0	0	--	--	--	--
June	0	0	--	--	--	--	0	0	--	--	--	--
July	0	0	--	--	--	--	0	0	--	--	--	--
August	0	0	--	--	--	0.0	0	0	--	--	--	--
September	0	0	--	--	--	0.0	0	0	--	--	--	--
October	0	0	--	--	--	0.0	0	0	--	--	--	--
November	0	0	--	--	--	0.0	0	0	--	--	--	--
December	0	0	--	--	--	0.0	0	0	--	--	--	--

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COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

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Table 7.10. Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector, 2014 - 2024 (continued)

Period	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	Percentage of Consumption	(Dollars per MMBtu)
Annual Totals												
2014	0	0	--	--	--	0.0	5,849	5,795	5.42	5.47	4.9	4.47
2015	0	0	--	--	--	0.0	6,499	6,371	4.11	4.19	5.5	3.76
2016	0	0	--	--	--	0.0	8,005	7,766	3.85	3.97	6.1	3.69
2017	0	0	--	--	--	0.0	7,841	7,593	3.82	3.95	4.9	3.75
2018	0	0	--	--	--	0.0	9,090	8,823	3.49	3.59	6.6	3.47
2019	0	0	--	--	--	0.0	9,429	9,087	3.26	3.39	6.7	3.26
2020	0	0	--	--	--	0.0	8,532	8,188	3.07	3.20	6.3	3.07
2021	0	0	--	--	--	0.0	8,869	8,528	3.42	3.56	7.3	3.41
2022	0	0	--	--	--	--	8,636	8,322	3.88	4.02	6.8	3.89
2023	0	0	--	--	--	--	8,130	7,861	3.04	3.15	6.6	3.05
2024	0	0	--	--	--	--	7,834	7,544	3.28	3.41	5.9	3.30
Year 2022												
January	0	0	--	--	--	--	759	731	3.29	3.42	6.5	3.35
February	0	0	--	--	--	--	711	683	3.32	3.45	6.8	3.33
March	0	0	--	--	--	--	712	687	3.30	3.42	6.8	3.30
April	0	0	--	--	--	--	786	758	4.35	4.51	8.2	4.35
May	0	0	--	--	--	--	686	661	4.13	4.29	7.0	4.13
June	0	0	--	--	--	--	628	603	3.89	4.05	6.1	3.89
July	0	0	--	--	--	--	693	668	3.86	4.00	5.7	3.86
August	0	0	--	--	--	--	732	703	4.86	5.06	5.9	4.86
September	0	0	--	--	--	--	766	738	4.56	4.73	7.3	4.53
October	0	0	--	--	--	--	657	634	3.98	4.12	7.0	4.00
November	0	0	--	--	--	--	856	836	3.18	3.28	6.7	3.18
December	0	0	--	--	--	--	850	821	3.73	3.86	7.5	3.74
Year 2023												
January	0	0	--	--	--	--	707	682	3.11	3.22	6.6	3.14
February	0	0	--	--	--	--	707	683	3.01	3.11	7.2	3.05
March	0	0	--	--	--	--	680	655	3.05	3.17	6.6	3.05
April	0	0	--	--	--	--	720	700	2.89	2.97	8.0	2.89
May	0	0	--	--	--	--	748	726	2.84	2.92	8.1	2.84
June	0	0	--	--	--	--	617	598	2.89	2.99	6.2	2.89
July	0	0	--	--	--	--	629	607	3.07	3.18	5.4	3.07
August	0	0	--	--	--	--	670	646	3.09	3.21	6.0	3.09
September	0	0	--	--	--	--	619	597	3.10	3.21	5.8	3.10
October	0	0	--	--	--	--	685	664	3.03	3.13	7.0	3.03
November	0	0	--	--	--	--	687	664	3.19	3.31	6.8	3.19
December	0	0	--	--	--	--	661	638	3.27	3.38	6.3	3.30
Year 2024												
January	0	0	--	--	--	--	715	686	3.29	3.43	5.7	3.40
February	0	0	--	--	--	--	666	641	3.29	3.42	6.0	3.35
March	0	0	--	--	--	--	572	552	3.18	3.29	5.3	3.18
April	0	0	--	--	--	--	648	629	3.14	3.24	6.8	3.14
May	0	0	--	--	--	--	577	554	3.18	3.31	6.3	3.18
June	0	0	--	--	--	--	486	469	3.10	3.21	4.5	3.10
July	0	0	--	--	--	--	652	629	3.31	3.42	5.1	3.31
August	0	0	--	--	--	--	764	733	3.26	3.40	6.1	3.26
September	0	0	--	--	--	--	618	595	3.42	3.56	5.7	3.42
October	0	0	--	--	--	--	642	620	3.38	3.50	6.2	3.38
November	0	0	--	--	--	--	772	740	3.30	3.44	7.1	3.30
December	0	0	--	--	--	--	722	695	3.43	3.56	6.1	3.43

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Notes:

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NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

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Table 7.11. Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector, 2014 - 2024

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2014	281,867	13,050	2.97	64.15	1.33	68.4	2,290	373	17.91	109.99	1.43	15.6
2015	263,630	12,132	2.72	59.17	1.35	71.4	2,359	385	13.45	82.47	1.42	16.9
2016	210,749	9,859	2.67	57.01	1.30	67.0	2,541	412	10.51	64.79	1.27	18.3
2017	192,637	9,178	2.49	52.29	1.35	70.7	1,850	297	11.18	69.57	1.42	15.2
2018	170,730	8,224	2.47	51.38	1.30	67.2	2,319	372	13.46	83.97	1.35	15.9
2019	146,324	7,088	2.55	52.69	1.19	65.1	1,684	275	13.19	80.82	1.47	14.5
2020	134,523	6,515	2.49	51.38	1.27	68.9	1,700	277	10.52	64.54	1.20	17.0
2021	141,492	6,781	2.33	48.60	1.33	69.9	2,380	387	12.90	79.39	1.46	21.3
2022	138,708	6,721	2.78	57.30	1.27	70.3	2,475	404	18.35	112.54	1.26	10.5
2023	123,941	6,174	3.26	65.45	1.02	73.6	2,862	468	17.32	105.80	1.35	16.2
2024	118,599	5,880	2.94	59.35	1.03	72.3	2,130	346	16.58	102.07	1.57	22.6
Year 2022												
January	12,244	593	2.58	53.22	1.35	67.4	301	49	14.12	86.62	1.46	18.3
February	10,697	520	2.65	54.46	1.17	68.2	229	37	15.76	97.63	1.27	16.8
March	12,941	626	2.53	52.28	1.39	74.0	219	36	15.78	97.43	1.06	11.4
April	10,674	504	2.78	58.94	1.37	65.8	112	18	19.33	118.47	1.55	5.7
May	12,282	597	2.49	51.10	1.38	72.5	175	29	19.13	117.32	0.90	10.0
June	11,491	564	2.36	48.06	1.45	72.2	144	23	21.21	129.90	1.07	6.9
July	12,246	595	2.65	54.47	1.30	75.6	156	26	19.35	118.47	1.57	7.5
August	10,874	533	2.67	54.52	1.21	66.4	157	25	20.21	124.53	1.54	11.4
September	11,393	556	3.10	63.58	1.06	74.0	202	33	18.30	112.79	1.13	10.7
October	11,143	541	3.52	72.50	0.91	68.4	223	36	17.89	109.96	1.15	11.7
November	10,179	488	3.21	66.97	1.29	65.4	219	36	23.10	140.27	1.11	12.1
December	12,543	605	2.91	60.37	1.36	73.2	337	56	19.51	118.50	1.38	9.1
Year 2023												
January	11,082	548	2.99	60.56	1.21	67.8	336	55	17.76	108.25	1.35	15.2
February	10,894	523	3.79	78.83	1.06	75.4	332	55	17.22	104.12	1.55	15.6
March	10,570	525	3.64	73.24	0.78	73.6	440	73	16.48	99.40	1.62	22.5
April	11,351	563	3.48	70.15	0.97	84.9	300	50	17.07	103.34	1.55	15.1
May	10,576	520	3.41	69.33	1.16	75.3	309	51	15.64	95.51	1.12	32.7
June	10,155	532	2.82	53.77	0.82	79.2	93	15	16.41	103.52	1.09	9.0
July	9,652	499	2.86	55.29	0.73	69.5	141	23	16.54	102.83	1.00	13.4
August	10,109	515	3.10	60.84	0.91	76.1	136	22	17.84	111.00	1.20	10.9
September	8,716	431	3.73	75.33	1.07	64.2	154	25	16.85	104.23	1.13	12.6
October	10,465	521	3.22	64.67	1.08	77.9	232	38	20.00	122.63	1.47	21.7
November	9,969	489	3.04	62.05	1.15	70.7	198	32	19.26	117.80	1.37	14.8
December	10,403	508	3.04	62.22	1.25	70.8	191	31	17.47	108.06	1.32	12.6
Year 2024												
January	9,556	480	2.78	55.44	0.87	60.5	313	51	16.91	104.56	1.20	24.5
February	11,198	553	3.08	62.42	1.01	82.4	195	32	18.01	108.28	1.65	22.5
March	10,962	527	3.18	66.06	0.99	71.9	148	24	15.74	95.28	1.53	18.8
April	8,753	436	2.86	57.41	1.03	73.3	132	21	17.82	109.90	1.57	16.7
May	9,654	481	2.86	57.39	0.85	76.0	128	21	16.69	103.83	1.60	18.9
June	9,675	483	3.00	60.11	0.97	77.7	142	23	16.94	104.50	1.23	22.8
July	10,223	503	2.93	59.57	1.21	73.5	183	30	16.48	101.78	1.58	26.7
August	9,931	491	2.94	59.46	1.16	73.9	162	26	15.32	95.00	1.65	27.1
September	9,443	478	2.86	56.60	0.90	73.3	181	29	16.22	100.75	1.63	29.0
October	9,747	476	3.11	63.70	1.11	71.8	160	26	15.84	96.88	1.76	20.0
November	9,621	485	2.77	54.98	1.02	70.1	144	23	15.94	98.83	1.80	19.4
December	9,836	488	2.87	57.79	1.25	66.7	243	39	16.63	102.58	1.83	25.2

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Notes:

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COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

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Table 7.12. Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector, 2014 - 2024 (continued)

Period	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	Percentage of Consumption	(Dollars per MMBtu)
Annual Totals												
2014	9,736	358	2.56	69.67	5.83	23.2	742,347	718,360	4.54	4.69	62.7	4.12
2015	8,189	304	1.73	46.72	5.50	24.1	765,964	740,975	2.83	2.93	60.6	2.82
2016	3,664	135	2.00	54.12	5.84	11.2	744,034	721,358	2.65	2.74	59.6	2.68
2017	2,356	85	1.59	44.08	5.84	8.1	803,435	778,741	3.18	3.28	62.0	3.06
2018	1,911	71	1.75	47.47	5.74	7.1	792,297	769,790	3.39	3.49	58.6	3.25
2019	2,028	73	1.69	46.99	5.81	8.1	814,483	790,388	2.82	2.91	57.5	2.80
2020	2,157	80	1.73	46.84	5.89	10.0	805,785	783,182	2.28	2.34	53.7	2.32
2021	0	0	--	--	--	0.0	801,054	778,861	4.65	4.79	56.5	4.33
2022	82	3	4.46	124.88	5.99	0.4	835,428	812,863	6.51	6.69	59.1	6.01
2023	0	0	--	--	--	--	819,270	796,511	2.96	3.05	57.1	3.04
2024	0	0	--	--	--	--	814,871	791,957	2.47	2.55	56.7	2.57
Year 2022												
January	0	0	--	--	--	--	76,455	74,275	4.68	4.82	59.9	4.42
February	0	0	--	--	--	--	65,784	63,860	5.74	5.91	59.0	5.34
March	0	0	--	--	--	--	71,461	69,559	4.69	4.82	60.3	4.39
April	0	0	--	--	--	--	67,470	65,714	5.97	6.13	60.8	5.55
May	0	0	--	--	--	--	67,025	65,283	7.68	7.89	58.9	6.90
June	0	0	--	--	--	--	68,964	67,264	8.29	8.50	60.1	7.47
July	0	0	--	--	--	--	72,749	70,916	6.93	7.11	58.8	6.33
August	0	0	--	--	--	--	73,848	72,011	8.69	8.91	59.1	7.94
September	0	0	--	--	--	--	66,052	64,306	8.40	8.63	57.9	7.65
October	82	3	4.46	124.88	5.99	4.6	65,621	63,673	5.82	5.99	57.1	5.52
November	0	0	--	--	--	--	69,498	67,553	5.11	5.26	58.9	4.92
December	0	0	--	--	--	--	70,500	68,450	6.26	6.45	58.4	5.81
Year 2023												
January	0	0	--	--	--	--	71,716	69,675	5.00	5.14	58.3	4.78
February	0	0	--	--	--	--	64,329	62,549	3.21	3.31	58.2	3.36
March	0	0	--	--	--	--	69,643	67,835	2.75	2.82	57.9	2.94
April	0	0	--	--	--	--	63,498	61,740	2.31	2.38	58.5	2.55
May	0	0	--	--	--	--	66,713	64,886	2.36	2.43	57.7	2.56
June	0	0	--	--	--	--	66,989	65,355	2.48	2.54	56.0	2.54
July	0	0	--	--	--	--	67,515	65,565	2.84	2.93	53.9	2.87
August	0	0	--	--	--	--	68,641	66,678	2.82	2.90	54.9	2.88
September	0	0	--	--	--	--	67,506	65,578	2.80	2.88	55.9	2.93
October	0	0	--	--	--	--	67,344	65,433	2.86	2.94	57.5	2.96
November	0	0	--	--	--	--	70,348	68,333	3.08	3.18	58.2	3.12
December	0	0	--	--	--	--	75,027	72,883	2.86	2.95	58.3	2.92
Year 2024												
January	0	0	--	--	--	--	74,708	72,490	3.68	3.79	56.1	3.62
February	0	0	--	--	--	--	65,778	63,867	2.58	2.65	56.5	2.69
March	0	0	--	--	--	--	67,919	66,041	1.83	1.88	57.4	2.04
April	0	0	--	--	--	--	67,078	65,299	1.94	1.99	59.4	2.07
May	0	0	--	--	--	--	66,345	64,508	1.98	2.04	57.5	2.12
June	0	0	--	--	--	--	64,633	62,797	2.52	2.59	56.2	2.61
July	0	0	--	--	--	--	67,769	65,866	2.46	2.53	54.7	2.55
August	0	0	--	--	--	--	69,890	67,923	2.08	2.14	55.2	2.21
September	0	0	--	--	--	--	66,925	65,081	2.22	2.29	57.1	2.34
October	0	0	--	--	--	--	63,855	62,024	2.53	2.61	56.8	2.64
November	0	0	--	--	--	--	65,486	63,669	2.32	2.39	55.9	2.40
December	0	0	--	--	--	--	74,487	72,393	3.37	3.46	58.2	3.35

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**Table 7.13. Receipts of Coal Delivered for Electricity Generation by State, 2024 and 2023
(Thousand Tons)**

Census Division and State	Electric Power Sector										
	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	42	120	-65.0%	0	0	42	120	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	42	66	-36.0%	0	0	42	66	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	54	-100.0%	0	0	0	54	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	7,790	8,551	-8.9%	0	0	7,683	8,443	0	0	107	108
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	7,790	8,551	-8.9%	0	0	7,683	8,443	0	0	107	108
East North Central	75,082	86,520	-13.0%	45,885	52,619	27,796	32,298	0	0	1,401	1,603
Illinois	21,009	23,125	-9.2%	3,833	4,040	15,775	17,482	0	0	1,401	1,603
Indiana	17,079	21,554	-21.0%	15,478	19,257	1,601	2,298	0	0	0	0
Michigan	13,764	13,700	0.5%	13,764	13,598	0	102	0	0	0	0
Ohio	12,622	14,980	-16.0%	2,202	2,563	10,420	12,417	0	0	0	0
Wisconsin	10,608	13,161	-19.0%	10,608	13,161	0	0	0	0	0	0
West North Central	79,285	95,536	-17.0%	76,573	92,829	0	0	6	3	2,706	2,704
Iowa	9,928	13,137	-24.0%	7,788	11,043	0	0	0	0	2,140	2,094
Kansas	9,142	12,351	-26.0%	9,142	12,351	0	0	0	0	0	0
Minnesota	6,583	8,693	-24.0%	6,583	8,693	0	0	0	0	0	0
Missouri	22,243	27,819	-20.0%	22,238	27,816	0	0	6	3	0	0
Nebraska	9,803	12,365	-21.0%	9,237	11,754	0	0	0	0	567	610
North Dakota	20,498	20,090	2.0%	20,498	20,090	0	0	0	0	0	0
South Dakota	1,087	1,082	0.4%	1,087	1,082	0	0	0	0	0	0
South Atlantic	44,613	52,480	-15.0%	40,845	47,058	3,447	5,006	0	0	321	416
Delaware	0	95	-100.0%	0	0	0	95	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	3,625	5,943	-39.0%	3,595	5,913	0	0	0	0	30	30
Georgia	8,291	10,336	-20.0%	8,178	10,204	0	0	0	0	113	132
Maryland	703	1,135	-38.0%	0	0	703	1,135	0	0	0	0
North Carolina	6,460	5,608	15.0%	6,460	5,531	0	0	0	0	0	77
South Carolina	6,778	7,443	-8.9%	6,756	7,319	0	88	0	0	22	37
Virginia	1,118	1,089	2.7%	962	949	0	0	0	0	156	140
West Virginia	17,638	20,830	-15.0%	14,894	17,142	2,744	3,688	0	0	0	0
East South Central	43,938	47,995	-8.5%	41,355	44,448	1,867	2,926	0	0	716	622
Alabama	10,876	13,185	-18.0%	10,876	13,185	0	0	0	0	0	0
Kentucky	25,989	27,297	-4.8%	25,989	27,297	0	0	0	0	0	0
Mississippi	2,869	4,098	-30.0%	1,002	1,172	1,867	2,926	0	0	0	0
Tennessee	4,203	3,415	23.0%	3,488	2,793	0	0	0	0	716	622
West South Central	60,627	76,160	-20.0%	24,949	36,967	35,615	39,009	0	0	63	184
Arkansas	8,762	11,174	-22.0%	7,108	9,042	1,607	2,076	0	0	47	56
Louisiana	3,134	4,928	-36.0%	1,743	2,906	1,391	2,022	0	0	0	0
Oklahoma	3,250	5,869	-45.0%	3,235	5,741	0	0	0	0	15	129
Texas	45,481	54,190	-16.0%	12,864	19,279	32,617	34,911	0	0	0	0
Mountain	55,176	60,535	-8.9%	47,600	51,947	7,576	8,589	0	0	0	0
Arizona	6,244	8,510	-27.0%	6,244	8,510	0	0	0	0	0	0
Colorado	9,556	12,453	-23.0%	9,556	12,453	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	6,096	7,092	-14.0%	0	0	6,096	7,092	0	0	0	0
Nevada	1,699	1,467	16.0%	1,036	800	662	667	0	0	0	0
New Mexico	4,630	3,504	32.0%	4,630	3,504	0	0	0	0	0	0
Utah	9,452	7,177	32.0%	9,060	6,843	392	334	0	0	0	0
Wyoming	17,499	20,333	-14.0%	17,074	19,838	425	495	0	0	0	0
Pacific Contiguous	2,196	3,135	-30.0%	0	0	1,629	2,599	0	0	566	536
California	566	536	5.6%	0	0	0	0	0	0	566	536
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	1,629	2,599	-37.0%	0	0	1,629	2,599	0	0	0	0
Pacific Noncontiguous	386	342	13.0%	386	342	0	0	0	0	0	0
Alaska	386	342	13.0%	386	342	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	369,134	431,375	-14.0%	277,592	326,208	85,656	98,990	6	3	5,880	6,174

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Notes:
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 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Table 7.14. Receipts of Petroleum Liquids Delivered for Electricity Generation by State, 2024 and 2023
(Thousand Barrels)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Electric Utilities		Independent Power Producers		Year 2024	Year 2023	Year 2024	Year 2023
				Year 2024	Year 2023	Year 2024	Year 2023				
New England	421	987	-57.0%	61	101	360	885	0	0	0	0
Connecticut	92	100	-8.0%	0	0	92	100	0	0	0	0
Maine	103	331	-69.0%	0	0	103	331	0	0	0	0
Massachusetts	76	336	-77.0%	61	101	14	234	0	0	0	0
New Hampshire	135	164	-17.0%	0	0	135	164	0	0	0	0
Rhode Island	14	55	-74.0%	0	0	14	55	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	369	1,768	-79.0%	96	806	212	897	0	0	61	65
New Jersey	16	28	-45.0%	0	0	16	28	0	0	0	0
New York	160	1,355	-88.0%	96	806	64	549	0	0	0	0
Pennsylvania	193	384	-50.0%	0	0	132	320	0	0	61	64
East North Central	726	831	-13.0%	401	510	280	269	0	0	45	51
Illinois	76	78	-2.8%	20	21	56	56	0	0	0	0
Indiana	185	185	0.1%	185	185	0	0	0	0	0	0
Michigan	153	251	-39.0%	139	223	0	0	0	0	14	28
Ohio	289	297	-2.5%	34	61	224	213	0	0	31	23
Wisconsin	22	20	14.0%	22	20	0	0	0	0	0	0
West North Central	871	950	-8.4%	871	950	0	1	0	0	0	0
Iowa	106	115	-7.6%	106	115	0	0	0	0	0	0
Kansas	245	152	60.0%	245	152	0	0	0	0	0	0
Minnesota	28	154	-82.0%	28	154	0	1	0	0	0	0
Missouri	368	390	-5.6%	368	390	0	0	0	0	0	0
Nebraska	24	22	6.3%	24	22	0	0	0	0	0	0
North Dakota	90	105	-14.0%	90	105	0	0	0	0	0	0
South Dakota	10	12	-13.0%	10	12	0	0	0	0	0	0
South Atlantic	1,794	2,905	-38.0%	1,043	2,063	514	495	0	0	237	347
Delaware	18	86	-80.0%	0	0	18	86	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	192	745	-74.0%	171	661	0	55	0	0	21	29
Georgia	283	438	-35.0%	116	263	12	9	0	0	155	166
Maryland	416	211	97.0%	0	0	416	211	0	0	0	0
North Carolina	111	348	-68.0%	111	266	0	0	0	0	0	82
South Carolina	190	228	-17.0%	162	186	0	12	0	0	28	30
Virginia	384	530	-28.0%	283	400	69	91	0	0	32	39
West Virginia	201	317	-37.0%	201	287	0	30	0	0	0	0
East South Central	184	515	-64.0%	181	510	0	0	0	0	3	5
Alabama	10	52	-80.0%	10	52	0	0	0	0	0	0
Kentucky	140	184	-24.0%	140	184	0	0	0	0	0	0
Mississippi	10	7	48.0%	10	7	0	0	0	0	0	0
Tennessee	24	273	-91.0%	21	267	0	0	0	0	3	5
West South Central	461	490	-5.9%	245	165	217	325	0	0	0	0
Arkansas	91	83	9.8%	73	62	17	21	0	0	0	0
Louisiana	17	12	45.0%	17	12	0	0	0	0	0	0
Oklahoma	35	45	-23.0%	35	45	0	0	0	0	0	0
Texas	319	351	-9.1%	119	46	199	304	0	0	0	0
Mountain	236	221	6.3%	207	200	28	21	0	0	0	0
Arizona	46	56	-17.0%	46	56	0	0	0	0	0	0
Colorado	25	18	41.0%	25	18	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	35	13	175.0%	12	0	24	13	0	0	0	0
Nevada	12	16	-27.0%	10	13	2	3	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	52	37	40.0%	50	32	2	5	0	0	0	0
Wyoming	65	81	-20.0%	65	81	0	0	0	0	0	0
Pacific Contiguous	43	43	2.0%	29	32	15	11	0	0	0	0
California	0	0	--	0	0	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	43	43	2.0%	29	32	15	11	0	0	0	0
Pacific Noncontiguous	9,404	9,631	-2.4%	7,345	7,686	2,059	1,945	0	0	0	0
Alaska	14	18	-23.0%	14	18	0	0	0	0	0	0
Hawaii	9,390	9,614	-2.3%	7,332	7,669	2,059	1,945	0	0	0	0
U.S. Total	14,510	18,341	-21.0%	10,480	13,023	3,685	4,849	0	0	346	488

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 Petroleum Liquids includes distillate and residual fuel oils.
 See the Technical Notes for fuel conversion factors.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Table 7.15. Receipts of Petroleum Coke Delivered for Electricity Generation by State, 2024 and 2023
(Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	0	0	--	0	0	0	0	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	0	0	--	0	0	0	0	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0	0	0	0	0
New Jersey	0	0	--	0	0	0	0	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	0	--	0	0	0	0	0	0	0	0
East North Central	615	641	-4.2%	615	641	0	0	0	0	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	612	619	-1.2%	612	619	0	0	0	0	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	3	22	-86.0%	3	22	0	0	0	0	0	0
West North Central	0	0	--	0	0	0	0	0	0	0	0
Iowa	0	0	--	0	0	0	0	0	0	0	0
Kansas	0	0	--	0	0	0	0	0	0	0	0
Minnesota	0	0	--	0	0	0	0	0	0	0	0
Missouri	0	0	--	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	229	431	-47.0%	229	431	0	0	0	0	0	0
Delaware	0	0	--	0	0	0	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	229	431	-47.0%	229	431	0	0	0	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	0	0	--	0	0	0	0	0	0	0	0
North Carolina	0	0	--	0	0	0	0	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	0	0	--	0	0	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	0	0	--	0	0	0	0	0	0	0	0
Alabama	0	0	--	0	0	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	0	0	--	0	0	0	0	0	0	0	0
West South Central	109	378	-71.0%	109	378	0	0	0	0	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	109	378	-71.0%	109	378	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	0	0	--	0	0	0	0	0	0	0	0
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	0	0	--	0	0	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	0	0	--	0	0	0	0	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	0	0	--	0	0	0	0	0	0	0	0
California	0	0	--	0	0	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	0	0	--	0	0	0	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	953	1,450	-34.0%	953	1,450	0	0	0	0	0	0

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 Petroleum Coke includes petroleum coke-derived synthesis gas.
 See the Technical Notes for fuel conversion factors.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

**Table 7.16. Receipts of Natural Gas Delivered for Electricity Generation by State, 2024 and 2023
(Million Cubic Feet)**

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	423,716	400,731	5.7%	347	318	423,368	400,413	0	0	0	0
Connecticut	168,669	163,651	3.1%	0	0	168,669	163,651	0	0	0	0
Maine	43,467	26,981	61.0%	0	0	43,467	26,981	0	0	0	0
Massachusetts	114,967	106,804	7.6%	347	318	114,620	106,486	0	0	0	0
New Hampshire	31,526	30,878	2.1%	0	0	31,526	30,878	0	0	0	0
Rhode Island	65,086	72,417	-10.0%	0	0	65,086	72,417	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	1,682,696	1,613,381	4.3%	112,428	102,567	1,546,911	1,486,256	0	0	23,356	24,558
New Jersey	218,212	240,430	-9.2%	0	0	218,212	240,430	0	0	0	0
New York	475,862	432,635	9.7%	112,428	102,567	356,388	324,377	0	0	7,045	6,692
Pennsylvania	988,622	939,315	5.2%	0	0	972,311	921,449	0	0	16,311	17,866
East North Central	1,651,296	1,547,784	6.7%	655,446	596,441	988,555	925,377	5,228	5,488	22,067	20,478
Illinois	202,165	196,069	3.1%	21,028	19,106	175,098	170,809	0	0	6,039	6,154
Indiana	275,410	245,235	12.0%	155,680	127,925	119,731	117,310	0	0	0	0
Michigan	395,420	382,379	3.4%	214,369	207,219	171,219	164,590	5,228	5,488	4,604	5,082
Ohio	590,626	545,984	8.2%	81,324	67,570	502,508	472,668	0	0	6,794	5,745
Wisconsin	187,675	178,118	5.4%	183,045	174,621	0	0	0	0	4,630	3,498
West North Central	347,393	332,994	4.3%	289,328	273,532	49,742	51,408	2,317	2,372	6,007	5,683
Iowa	72,015	75,387	-4.5%	66,009	69,705	0	0	0	0	6,007	5,683
Kansas	44,659	34,113	31.0%	44,659	34,113	0	0	0	0	0	0
Minnesota	102,420	89,633	14.0%	67,423	56,907	34,980	32,709	16	17	0	0
Missouri	75,918	77,363	-1.9%	58,856	56,310	14,762	18,698	2,300	2,355	0	0
Nebraska	12,821	13,670	-6.2%	12,821	13,670	0	0	0	0	0	0
North Dakota	25,139	28,868	-13.0%	25,139	28,868	0	0	0	0	0	0
South Dakota	14,421	13,960	3.3%	14,421	13,960	0	0	0	0	0	0
South Atlantic	3,050,531	2,956,451	3.2%	2,557,166	2,481,716	454,802	438,180	0	0	38,564	36,555
Delaware	24,242	24,782	-2.2%	0	0	24,242	24,782	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	1,428,330	1,377,415	3.7%	1,363,618	1,319,876	59,989	53,407	0	0	4,723	4,131
Georgia	410,473	442,228	-7.2%	340,633	359,343	58,880	72,776	0	0	10,960	10,108
Maryland	99,892	105,516	-8.8%	20,546	30,070	79,346	79,446	0	0	0	0
North Carolina	430,335	403,276	6.7%	369,735	341,075	60,600	61,117	0	0	0	1,084
South Carolina	169,953	188,627	-9.9%	161,819	183,305	5,416	3,086	0	0	2,718	2,236
Virginia	448,881	372,762	20.0%	295,424	242,564	140,695	117,904	0	0	12,761	12,294
West Virginia	38,425	37,846	1.5%	5,391	5,482	25,634	25,662	0	0	7,400	6,702
East South Central	1,160,002	1,069,590	8.5%	902,465	786,335	229,237	258,275	0	0	28,300	24,980
Alabama	436,723	428,575	1.9%	214,403	176,158	222,320	252,417	0	0	0	0
Kentucky	139,124	107,514	29.0%	132,332	101,821	6,792	5,692	0	0	0	0
Mississippi	438,365	404,871	8.3%	438,240	404,704	125	167	0	0	0	0
Tennessee	145,789	128,631	13.0%	117,490	103,651	0	0	0	0	28,300	24,980
West South Central	3,639,532	3,538,619	2.9%	1,350,215	1,250,595	1,642,022	1,630,050	0	0	647,295	657,974
Arkansas	172,753	188,168	-8.2%	158,827	173,665	10,477	11,743	0	0	3,449	2,759
Louisiana	590,712	582,914	1.3%	350,549	328,480	37,713	42,319	0	0	202,450	212,115
Oklahoma	361,359	344,298	5.0%	256,520	237,147	98,702	100,248	0	0	6,137	6,903
Texas	2,514,707	2,423,240	3.8%	584,318	511,303	1,495,130	1,475,740	0	0	435,260	436,196
Mountain	957,752	910,018	5.2%	789,327	740,999	168,053	168,870	0	0	372	149
Arizona	411,133	389,864	5.5%	293,122	279,143	118,011	110,721	0	0	0	0
Colorado	129,967	126,143	3.0%	108,565	108,562	21,401	17,581	0	0	0	0
Idaho	33,433	29,658	13.0%	24,216	17,468	9,217	12,190	0	0	0	0
Montana	5,793	6,226	-7.0%	5,743	6,171	50	56	0	0	0	0
Nevada	175,017	168,209	4.0%	175,017	168,209	0	0	0	0	0	0
New Mexico	85,286	99,119	-14.0%	65,925	70,806	19,361	28,313	0	0	0	0
Utah	76,661	76,793	-0.2%	76,289	76,644	0	0	0	0	372	149
Wyoming	40,463	14,005	189.0%	40,451	13,996	12	9	0	0	0	0
Pacific Contiguous	815,788	854,903	-4.6%	349,054	351,527	440,738	477,243	0	0	25,997	26,133
California	535,140	579,502	-7.7%	177,538	181,047	331,605	372,322	0	0	25,997	26,133
Oregon	174,285	161,864	7.7%	95,782	93,963	78,503	67,901	0	0	0	0
Washington	106,363	113,537	-6.3%	75,734	76,517	30,630	37,019	0	0	0	0
Pacific Noncontiguous	12,460	12,908	-3.5%	12,460	12,908	0	0	0	0	0	0
Alaska	12,460	12,908	-3.5%	12,460	12,908	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	13,741,165	13,237,380	3.8%	7,018,235	6,596,937	5,923,429	5,836,072	7,544	7,861	791,957	796,511

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Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

**Table 7.17. Average Cost of Coal Delivered for Electricity Generation by State, 2024 and 2023
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023
New England	W	W	W	--	--	W	W
Connecticut	--	--	--	--	--	--	--
Maine	W	W	W	--	--	W	W
Massachusetts	--	--	--	--	--	--	--
New Hampshire	--	W	W	--	--	--	W
Rhode Island	--	--	--	--	--	--	--
Vermont	--	--	--	--	--	--	--
Middle Atlantic	2.23	2.31	-3.5%	--	--	2.23	2.31
New Jersey	--	--	--	--	--	--	--
New York	--	--	--	--	--	--	--
Pennsylvania	2.23	2.31	-3.5%	--	--	2.23	2.31
East North Central	2.41	2.54	-5.1%	2.59	2.69	2.12	2.32
Illinois	1.80	1.85	-2.7%	2.02	2.09	1.75	1.79
Indiana	W	W	W	2.87	2.99	W	W
Michigan	2.53	W	W	2.53	2.58	--	W
Ohio	2.55	2.67	-4.5%	2.77	2.56	2.50	2.69
Wisconsin	2.32	2.48	-6.5%	2.32	2.48	--	--
West North Central	1.81	1.83	-1.1%	1.81	1.83	--	--
Iowa	1.89	1.76	7.4%	1.89	1.76	--	--
Kansas	1.61	1.70	-5.3%	1.61	1.70	--	--
Minnesota	2.29	2.40	-4.6%	2.29	2.40	--	--
Missouri	1.84	1.92	-4.2%	1.84	1.92	--	--
Nebraska	1.32	1.33	-0.8%	1.32	1.33	--	--
North Dakota	1.90	1.86	2.2%	1.90	1.86	--	--
South Dakota	2.36	2.25	4.9%	2.36	2.25	--	--
South Atlantic	3.45	3.55	-2.8%	3.53	3.64	2.47	2.72
Delaware	--	W	W	--	--	--	W
District of Columbia	--	--	--	--	--	--	--
Florida	3.62	3.37	7.4%	3.62	3.37	--	--
Georgia	4.14	4.48	-7.6%	4.14	4.48	--	--
Maryland	W	W	W	--	--	W	W
North Carolina	4.50	4.68	-3.8%	4.50	4.68	--	--
South Carolina	3.28	W	W	3.28	3.57	--	W
Virginia	4.46	5.20	-14.0%	4.46	5.20	--	--
West Virginia	2.78	2.81	-1.1%	2.90	2.94	2.10	2.13
East South Central	W	W	W	2.54	2.74	W	W
Alabama	2.65	3.04	-13.0%	2.65	3.04	--	--
Kentucky	2.40	2.50	-4.0%	2.40	2.50	--	--
Mississippi	W	W	W	3.70	3.96	W	W
Tennessee	3.01	3.54	-15.0%	3.01	3.54	--	--
West South Central	2.10	2.17	-3.2%	2.08	2.21	2.12	2.12
Arkansas	W	W	W	2.02	2.19	W	W
Louisiana	W	W	W	2.80	2.97	W	W
Oklahoma	2.16	2.27	-4.8%	2.16	2.27	--	--
Texas	2.02	2.03	-0.5%	1.98	2.08	2.04	2.00
Mountain	2.61	W	W	2.69	2.39	2.05	W
Arizona	3.24	3.04	6.6%	3.24	3.04	--	--
Colorado	2.23	2.11	5.7%	2.23	2.11	--	--
Idaho	--	--	--	--	--	--	--
Montana	W	W	W	--	--	W	W
Nevada	W	W	W	4.52	5.15	W	W
New Mexico	3.66	3.57	2.5%	3.66	3.57	--	--
Utah	3.64	2.51	45.0%	3.64	2.51	--	--
Wyoming	W	W	W	1.71	1.88	W	W
Pacific Contiguous	W	W	W	--	--	W	W
California	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--
Washington	W	W	W	--	--	W	W
Pacific Noncontiguous	4.43	4.57	-3.1%	4.43	4.57	--	--
Alaska	4.43	4.57	-3.1%	4.43	4.57	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	2.46	2.50	-1.6%	2.55	2.56	2.17	2.28

Displayed values of zero may represent small values that round to zero.

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Notes:

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See Technical Notes for a discussion of the sample design for the Form EIA-923.

Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.

Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

**Table 7.18. Average Cost of Petroleum Liquids Delivered for Electricity Generation by State, 2024 and 2023
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023
New England	16.78	17.21	-2.5%	15.83	21.04	16.96	16.76
Connecticut	23.86	27.98	-15.0%	--	--	23.86	27.98
Maine	W	15.78	W	--	--	W	15.78
Massachusetts	W	W	W	15.83	21.04	W	W
New Hampshire	W	W	W	--	--	W	W
Rhode Island	W	W	W	--	--	W	W
Vermont	--	--	--	--	--	--	--
Middle Atlantic	18.37	19.57	-6.1%	18.48	18.25	18.32	21.05
New Jersey	W	23.54	W	--	--	W	23.54
New York	W	18.78	W	18.48	18.25	W	19.65
Pennsylvania	19.21	24.22	-21.0%	--	--	19.21	24.22
East North Central	18.34	20.20	-9.2%	18.05	19.82	18.75	20.95
Illinois	20.40	23.48	-13.0%	20.71	23.88	20.29	23.28
Indiana	18.25	21.24	-14.0%	18.25	21.24	--	--
Michigan	17.48	17.31	1.0%	17.48	17.31	--	--
Ohio	18.35	21.15	-13.0%	18.23	23.56	18.37	20.47
Wisconsin	17.35	19.67	-12.0%	17.35	19.67	--	--
West North Central	18.28	W	W	18.28	21.38	--	W
Iowa	18.35	21.80	-16.0%	18.35	21.80	--	--
Kansas	18.50	20.56	-10.0%	18.50	20.56	--	--
Minnesota	17.68	W	W	17.68	20.07	--	W
Missouri	18.12	22.06	-18.0%	18.12	22.06	--	--
Nebraska	17.84	21.75	-18.0%	17.84	21.75	--	--
North Dakota	18.93	21.07	-10.0%	18.93	21.07	--	--
South Dakota	15.16	24.42	-38.0%	15.16	24.42	--	--
South Atlantic	18.65	22.30	-16.0%	19.40	22.10	17.12	23.37
Delaware	W	W	W	--	--	W	W
District of Columbia	--	--	--	--	--	--	--
Florida	19.72	W	W	19.72	21.70	--	W
Georgia	22.43	W	W	22.43	24.66	--	W
Maryland	16.83	21.36	-21.0%	--	--	16.83	21.36
North Carolina	18.80	24.50	-23.0%	18.80	24.50	--	--
South Carolina	18.34	W	W	18.34	22.28	--	W
Virginia	W	W	W	19.62	19.71	W	W
West Virginia	18.27	W	W	18.27	21.71	--	W
East South Central	18.46	21.61	-15.0%	18.46	21.61	--	--
Alabama	19.27	23.02	-16.0%	19.27	23.02	--	--
Kentucky	18.54	22.14	-16.0%	18.54	22.14	--	--
Mississippi	18.63	20.99	-11.0%	18.63	20.99	--	--
Tennessee	17.38	20.98	-17.0%	17.38	20.98	--	--
West South Central	18.86	22.02	-14.0%	18.42	21.55	19.36	22.26
Arkansas	W	W	W	18.42	22.02	W	W
Louisiana	16.53	19.58	-16.0%	16.53	19.58	--	--
Oklahoma	17.77	22.10	-20.0%	17.77	22.10	--	--
Texas	19.16	22.04	-13.0%	18.82	20.90	19.37	22.22
Mountain	W	24.78	W	20.19	24.67	W	25.81
Arizona	21.56	23.97	-10.0%	21.56	23.97	--	--
Colorado	19.63	26.51	-26.0%	19.63	26.51	--	--
Idaho	--	--	--	--	--	--	--
Montana	W	W	W	20.32	--	W	W
Nevada	W	W	W	22.74	26.76	W	W
New Mexico	--	--	--	--	--	--	--
Utah	W	W	W	19.42	24.65	W	W
Wyoming	19.60	24.40	-20.0%	19.60	24.40	--	--
Pacific Contiguous	W	W	W	24.76	25.90	W	W
California	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--
Washington	W	W	W	24.76	25.90	W	W
Pacific Noncontiguous	W	W	W	17.99	20.02	W	W
Alaska	21.28	25.12	-15.0%	21.28	25.12	--	--
Hawaii	W	W	W	17.98	20.01	W	W
U.S. Total	18.33	20.51	-11.0%	18.22	20.48	18.64	20.59

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 Petroleum Liquids includes distillate and residual fuel oils.
 See the Technical Notes for fuel conversion factors.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

**Table 7.19. Average Cost of Petroleum Coke Delivered for Electricity Generation by State, 2024 and 2023
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023
New England	--	--	--	--	--	--	--
Connecticut	--	--	--	--	--	--	--
Maine	--	--	--	--	--	--	--
Massachusetts	--	--	--	--	--	--	--
New Hampshire	--	--	--	--	--	--	--
Rhode Island	--	--	--	--	--	--	--
Vermont	--	--	--	--	--	--	--
Middle Atlantic	--	--	--	--	--	--	--
New Jersey	--	--	--	--	--	--	--
New York	--	--	--	--	--	--	--
Pennsylvania	--	--	--	--	--	--	--
East North Central	2.63	2.97	-11.0%	2.63	2.97	--	--
Illinois	--	--	--	--	--	--	--
Indiana	--	--	--	--	--	--	--
Michigan	2.63	2.89	-9.0%	2.63	2.89	--	--
Ohio	--	--	--	--	--	--	--
Wisconsin	2.36	5.15	-54.0%	2.36	5.15	--	--
West North Central	--	--	--	--	--	--	--
Iowa	--	--	--	--	--	--	--
Kansas	--	--	--	--	--	--	--
Minnesota	--	--	--	--	--	--	--
Missouri	--	--	--	--	--	--	--
Nebraska	--	--	--	--	--	--	--
North Dakota	--	--	--	--	--	--	--
South Dakota	--	--	--	--	--	--	--
South Atlantic	3.64	5.20	-30.0%	3.64	5.20	--	--
Delaware	--	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--	--
Florida	3.64	5.20	-30.0%	3.64	5.20	--	--
Georgia	--	--	--	--	--	--	--
Maryland	--	--	--	--	--	--	--
North Carolina	--	--	--	--	--	--	--
South Carolina	--	--	--	--	--	--	--
Virginia	--	--	--	--	--	--	--
West Virginia	--	--	--	--	--	--	--
East South Central	--	--	--	--	--	--	--
Alabama	--	--	--	--	--	--	--
Kentucky	--	--	--	--	--	--	--
Mississippi	--	--	--	--	--	--	--
Tennessee	--	--	--	--	--	--	--
West South Central	3.34	4.49	-26.0%	3.34	4.49	--	--
Arkansas	--	--	--	--	--	--	--
Louisiana	3.34	4.49	-26.0%	3.34	4.49	--	--
Oklahoma	--	--	--	--	--	--	--
Texas	--	--	--	--	--	--	--
Mountain	--	--	--	--	--	--	--
Arizona	--	--	--	--	--	--	--
Colorado	--	--	--	--	--	--	--
Idaho	--	--	--	--	--	--	--
Montana	--	--	--	--	--	--	--
Nevada	--	--	--	--	--	--	--
New Mexico	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--
Wyoming	--	--	--	--	--	--	--
Pacific Contiguous	--	--	--	--	--	--	--
California	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--
Pacific Noncontiguous	--	--	--	--	--	--	--
Alaska	--	--	--	--	--	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	2.96	4.05	-27.0%	2.96	4.05	--	--

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 Petroleum Coke includes petroleum coke-derived synthesis gas.
 See the Technical Notes for fuel conversion factors.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

**Table 7.20. Average Cost of Natural Gas Delivered for Electricity Generation by State, 2024 and 2023
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2024	Year 2023	Percentage Change	Year 2024	Year 2023	Year 2024	Year 2023
New England	3.60	4.43	-19.0%	3.37	5.70	3.60	4.43
Connecticut	3.06	3.75	-18.0%	--	--	3.06	3.75
Maine	W	W	W	--	--	W	W
Massachusetts	4.85	6.91	-30.0%	3.37	5.70	4.85	6.92
New Hampshire	W	W	W	--	--	W	W
Rhode Island	2.95	2.97	-0.7%	--	--	2.95	2.97
Vermont	--	--	--	--	--	--	--
Middle Atlantic	2.28	2.32	-1.7%	2.63	3.07	2.24	2.26
New Jersey	2.34	2.07	13.0%	--	--	2.34	2.07
New York	2.71	2.93	-7.5%	2.63	3.07	2.73	2.87
Pennsylvania	2.03	2.09	-2.9%	--	--	2.03	2.09
East North Central	2.38	2.67	-11.0%	2.60	3.14	2.23	2.37
Illinois	2.39	2.55	-6.3%	2.35	2.84	2.40	2.52
Indiana	2.48	2.88	-14.0%	2.68	3.12	2.22	2.63
Michigan	2.36	2.69	-12.0%	2.51	2.80	2.18	2.55
Ohio	2.23	2.24	-0.4%	2.46	2.50	2.20	2.20
Wisconsin	2.74	3.84	-29.0%	2.74	3.84	--	--
West North Central	2.77	3.31	-16.0%	2.79	3.38	2.56	2.69
Iowa	2.47	2.92	-15.0%	2.47	2.92	--	--
Kansas	2.70	3.07	-12.0%	2.70	3.07	--	--
Minnesota	W	W	W	3.04	4.94	W	W
Missouri	W	W	W	2.82	2.85	W	W
Nebraska	4.16	3.45	21.0%	4.16	3.45	--	--
North Dakota	2.57	2.74	-6.2%	2.57	2.74	--	--
South Dakota	2.53	3.35	-24.0%	2.53	3.35	--	--
South Atlantic	3.51	3.84	-8.6%	3.64	3.99	2.62	2.81
Delaware	--	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--	--
Florida	3.62	3.99	-9.3%	3.64	4.00	2.93	3.47
Georgia	W	W	W	2.93	3.05	W	W
Maryland	3.04	2.90	4.8%	2.83	2.45	3.09	3.07
North Carolina	W	4.97	W	4.79	5.35	W	2.79
South Carolina	3.59	3.95	-9.1%	3.59	3.95	--	--
Virginia	2.85	3.30	-14.0%	3.10	3.71	2.17	2.18
West Virginia	1.91	W	W	2.22	1.93	1.84	W
East South Central	2.77	2.92	-5.1%	2.77	2.94	2.77	2.84
Alabama	2.77	3.00	-7.7%	2.77	3.18	2.78	2.85
Kentucky	W	W	W	3.11	3.41	W	W
Mississippi	W	W	W	2.70	2.75	W	W
Tennessee	2.64	2.83	-6.7%	2.64	2.83	--	--
West South Central	2.34	2.66	-12.0%	2.53	2.79	2.15	2.55
Arkansas	W	W	W	2.72	2.69	W	W
Louisiana	2.60	2.80	-7.1%	2.64	2.84	2.29	2.50
Oklahoma	W	W	W	3.23	2.97	W	W
Texas	2.13	2.60	-18.0%	2.10	2.70	2.15	2.56
Mountain	2.47	5.12	-52.0%	2.46	5.19	2.58	4.51
Arizona	2.24	4.30	-48.0%	2.19	4.16	2.51	4.86
Colorado	W	W	W	2.64	3.84	W	W
Idaho	2.88	6.57	-56.0%	2.88	6.57	--	--
Montana	W	W	W	1.41	2.29	W	W
Nevada	2.97	7.23	-59.0%	2.97	7.23	--	--
New Mexico	0.99	2.62	-62.0%	0.99	2.62	--	--
Utah	3.14	7.98	-61.0%	3.14	7.98	--	--
Wyoming	W	W	W	2.52	6.91	W	W
Pacific Contiguous	3.32	6.39	-48.0%	3.42	6.78	3.18	5.87
California	3.85	7.31	-47.0%	4.25	8.33	3.43	6.41
Oregon	W	W	W	2.21	5.07	W	W
Washington	W	W	W	3.28	5.78	W	W
Pacific Noncontiguous	6.38	7.29	-12.0%	6.38	7.29	--	--
Alaska	6.38	7.29	-12.0%	6.38	7.29	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	2.77	3.39	-18.0%	3.03	3.81	2.41	2.82

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Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

**Table 7.21. Receipts and Quality of Coal by Rank Delivered for Electricity Generation:
Total (All Sectors) by State, 2024**

Census Division and State	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
New England	42	0.97	5.1	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	42	0.97	5.1	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	2,377	2.68	8.1	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	2,377	2.68	8.1	0	--	--	0	--	--
East North Central	39,211	3.14	11.2	35,871	0.25	4.7	0	--	--
Illinois	8,268	3.38	22.1	12,742	0.23	4.6	0	--	--
Indiana	16,640	2.92	9.2	439	0.26	4.7	0	--	--
Michigan	1,097	2.37	7.8	12,667	0.26	4.7	0	--	--
Ohio	12,622	3.39	8.8	0	--	--	0	--	--
Wisconsin	584	2.57	7.8	10,024	0.25	4.8	0	--	--
West North Central	466	3.21	8.6	58,320	0.26	4.9	20,386	0.77	10.7
Iowa	186	3.65	8.7	9,742	0.27	4.8	0	--	--
Kansas	0	--	--	9,142	0.27	5.1	0	--	--
Minnesota	0	--	--	6,583	0.27	5.0	0	--	--
Missouri	280	2.93	8.5	21,963	0.23	4.7	0	--	--
Nebraska	0	--	--	9,803	0.27	5.1	0	--	--
North Dakota	0	--	--	0	--	--	20,386	0.77	10.7
South Dakota	0	--	--	1,087	0.33	5.3	0	--	--
South Atlantic	39,465	2.51	9.9	4,608	0.35	5.3	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	3,625	2.83	8.9	0	--	--	0	--	--
Georgia	3,683	2.55	9.0	4,608	0.35	5.3	0	--	--
Maryland	703	2.76	8.9	0	--	--	0	--	--
North Carolina	6,460	1.54	10.1	0	--	--	0	--	--
South Carolina	6,778	2.02	9.2	0	--	--	0	--	--
Virginia	1,118	1.00	20.8	0	--	--	0	--	--
West Virginia	17,098	3.05	9.9	0	--	--	0	--	--
East South Central	23,918	2.83	9.7	18,153	0.25	4.9	1,867	0.57	14.1
Alabama	1,072	1.21	13.0	9,804	0.27	5.0	0	--	--
Kentucky	19,588	2.99	9.7	6,401	0.22	4.8	0	--	--
Mississippi	207	1.79	10.6	795	0.23	4.7	1,867	0.57	14.1
Tennessee	3,051	2.42	8.7	1,153	0.22	4.9	0	--	--
West South Central	270	2.85	9.1	48,256	0.29	5.1	12,102	1.09	16.9
Arkansas	47	0.86	12.2	8,715	0.23	4.7	0	--	--
Louisiana	222	3.31	8.4	2,912	0.25	4.8	0	--	--
Oklahoma	0	--	--	3,250	0.25	5.2	0	--	--
Texas	0	--	--	33,379	0.32	5.3	12,102	1.09	16.9
Mountain	14,669	0.68	13.5	40,115	0.45	7.1	0	--	--
Arizona	0	--	--	6,244	0.47	8.9	0	--	--
Colorado	841	0.43	10.5	8,715	0.31	6.4	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	5	0.45	5.7	6,091	0.71	8.9	0	--	--
Nevada	562	0.39	7.3	1,137	0.38	4.6	0	--	--
New Mexico	4,630	0.83	19.5	0	--	--	0	--	--
Utah	8,631	0.65	11.5	429	0.25	5.0	0	--	--
Wyoming	0	--	--	17,499	0.42	6.5	0	--	--
Pacific Contiguous	566	0.37	6.7	1,629	0.38	8.2	0	--	--
California	566	0.37	6.7	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	1,629	0.38	8.2	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	321	0.14	7.9
Alaska	0	--	--	0	--	--	321	0.14	7.9
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	120,985	2.57	10.6	206,952	0.30	5.4	34,677	0.87	13.0

Displayed values of zero may represent small values that round to zero.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 W = Withheld to avoid disclosure of individual company data.

Notes:
 Bituminous coal includes anthracite coal and coal-derived synthesis gas.
 See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Table 7.22. Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Electric Utilities by State, 2024

Census Division and State	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
New England	0	--	--	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	0	--	--	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	0	--	--	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	0	--	--	0	--	--	0	--	--
East North Central	19,729	2.87	9.2	26,156	0.25	4.7	0	--	--
Illinois	807	2.57	10.9	3,026	0.21	4.6	0	--	--
Indiana	15,039	2.87	9.3	439	0.26	4.7	0	--	--
Michigan	1,097	2.37	7.8	12,667	0.26	4.7	0	--	--
Ohio	2,202	3.31	8.8	0	--	--	0	--	--
Wisconsin	584	2.57	7.8	10,024	0.25	4.8	0	--	--
West North Central	277	2.92	8.5	55,798	0.26	4.9	20,386	0.77	10.7
Iowa	2	3.16	8.7	7,786	0.27	4.8	0	--	--
Kansas	0	--	--	9,142	0.27	5.1	0	--	--
Minnesota	0	--	--	6,583	0.27	5.0	0	--	--
Missouri	275	2.92	8.5	21,963	0.23	4.7	0	--	--
Nebraska	0	--	--	9,237	0.27	5.1	0	--	--
North Dakota	0	--	--	0	--	--	20,386	0.77	10.7
South Dakota	0	--	--	1,087	0.33	5.3	0	--	--
South Atlantic	36,237	2.47	10.0	4,608	0.35	5.3	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	3,595	2.85	8.9	0	--	--	0	--	--
Georgia	3,570	2.60	9.0	4,608	0.35	5.3	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	6,460	1.54	10.1	0	--	--	0	--	--
South Carolina	6,756	2.03	9.2	0	--	--	0	--	--
Virginia	962	0.98	23.7	0	--	--	0	--	--
West Virginia	14,894	3.01	10.1	0	--	--	0	--	--
East South Central	23,202	2.89	9.8	18,153	0.25	4.9	0	--	--
Alabama	1,072	1.21	13.0	9,804	0.27	5.0	0	--	--
Kentucky	19,588	2.99	9.7	6,401	0.22	4.8	0	--	--
Mississippi	207	1.79	10.6	795	0.23	4.7	0	--	--
Tennessee	2,335	2.91	8.9	1,153	0.22	4.9	0	--	--
West South Central	222	3.31	8.4	23,256	0.26	4.9	1,471	2.36	29.5
Arkansas	0	--	--	7,108	0.23	4.7	0	--	--
Louisiana	222	3.31	8.4	1,521	0.21	4.6	0	--	--
Oklahoma	0	--	--	3,235	0.25	5.2	0	--	--
Texas	0	--	--	11,393	0.30	5.1	1,471	2.36	29.5
Mountain	14,664	0.68	13.5	32,936	0.40	6.9	0	--	--
Arizona	0	--	--	6,244	0.47	8.9	0	--	--
Colorado	841	0.43	10.5	8,715	0.31	6.4	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	0	--	--	0	--	--
Nevada	562	0.39	7.3	474	0.51	4.0	0	--	--
New Mexico	4,630	0.83	19.5	0	--	--	0	--	--
Utah	8,631	0.65	11.5	429	0.25	5.0	0	--	--
Wyoming	0	--	--	17,074	0.42	6.5	0	--	--
Pacific Contiguous	0	--	--	0	--	--	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	0	--	--	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	321	0.14	7.9
Alaska	0	--	--	0	--	--	321	0.14	7.9
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	94,331	2.41	10.2	160,906	0.29	5.3	22,178	0.84	11.6

Displayed values of zero may represent small values that round to zero.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 W = Withheld to avoid disclosure of individual company data.

Notes:
 Bituminous coal includes anthracite coal and coal-derived synthesis gas.
 See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Table 7.23. Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Independent Power Producers by State, 2024

Census Division and State	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
New England	42	0.97	5.1	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	42	0.97	5.1	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	2,270	2.71	8.1	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	2,270	2.71	8.1	0	--	--	0	--	--
East North Central	18,753	3.41	13.5	9,043	0.23	4.6	0	--	--
Illinois	6,732	3.47	25.5	9,043	0.23	4.6	0	--	--
Indiana	1,601	3.29	8.1	0	--	--	0	--	--
Michigan	0	--	--	0	--	--	0	--	--
Ohio	10,420	3.41	8.8	0	--	--	0	--	--
Wisconsin	0	--	--	0	--	--	0	--	--
West North Central	0	--	--	0	--	--	0	--	--
Iowa	0	--	--	0	--	--	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	0	--	--	0	--	--	0	--	--
Nebraska	0	--	--	0	--	--	0	--	--
North Dakota	0	--	--	0	--	--	0	--	--
South Dakota	0	--	--	0	--	--	0	--	--
South Atlantic	2,908	3.21	8.9	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	0	--	--	0	--	--	0	--	--
Georgia	0	--	--	0	--	--	0	--	--
Maryland	703	2.76	8.9	0	--	--	0	--	--
North Carolina	0	--	--	0	--	--	0	--	--
South Carolina	0	--	--	0	--	--	0	--	--
Virginia	0	--	--	0	--	--	0	--	--
West Virginia	2,205	3.36	8.8	0	--	--	0	--	--
East South Central	0	--	--	0	--	--	1,867	0.57	14.1
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	1,867	0.57	14.1
Tennessee	0	--	--	0	--	--	0	--	--
West South Central	0	--	--	24,984	0.32	5.3	10,631	0.96	15.5
Arkansas	0	--	--	1,607	0.25	4.7	0	--	--
Louisiana	0	--	--	1,391	0.29	5.0	0	--	--
Oklahoma	0	--	--	0	--	--	0	--	--
Texas	0	--	--	21,986	0.33	5.4	10,631	0.96	15.5
Mountain	5	0.45	5.7	7,179	0.65	8.5	0	--	--
Arizona	0	--	--	0	--	--	0	--	--
Colorado	0	--	--	0	--	--	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	5	0.45	5.7	6,091	0.71	8.9	0	--	--
Nevada	0	--	--	662	0.26	5.1	0	--	--
New Mexico	0	--	--	0	--	--	0	--	--
Utah	0	--	--	0	--	--	0	--	--
Wyoming	0	--	--	425	0.49	6.9	0	--	--
Pacific Contiguous	0	--	--	1,629	0.38	8.2	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	1,629	0.38	8.2	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	0	--	--
Alaska	0	--	--	0	--	--	0	--	--
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	23,978	3.31	12.3	42,836	0.36	5.8	12,498	0.91	15.4

Displayed values of zero may represent small values that round to zero.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 W = Withheld to avoid disclosure of individual company data.

Notes:
 Bituminous coal includes anthracite coal and coal-derived synthesis gas.
 See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Table 7.24. Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Commercial Sector by State, 2024

Census Division and State	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
New England	0	--	--	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	0	--	--	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	0	--	--	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	0	--	--	0	--	--	0	--	--
East North Central	0	--	--	0	--	--	0	--	--
Illinois	0	--	--	0	--	--	0	--	--
Indiana	0	--	--	0	--	--	0	--	--
Michigan	0	--	--	0	--	--	0	--	--
Ohio	0	--	--	0	--	--	0	--	--
Wisconsin	0	--	--	0	--	--	0	--	--
West North Central	6	3.06	9.3	0	--	--	0	--	--
Iowa	0	--	--	0	--	--	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	6	3.06	9.3	0	--	--	0	--	--
Nebraska	0	--	--	0	--	--	0	--	--
North Dakota	0	--	--	0	--	--	0	--	--
South Dakota	0	--	--	0	--	--	0	--	--
South Atlantic	0	--	--	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	0	--	--	0	--	--	0	--	--
Georgia	0	--	--	0	--	--	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	0	--	--	0	--	--	0	--	--
South Carolina	0	--	--	0	--	--	0	--	--
Virginia	0	--	--	0	--	--	0	--	--
West Virginia	0	--	--	0	--	--	0	--	--
East South Central	0	--	--	0	--	--	0	--	--
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	0	--	--
Tennessee	0	--	--	0	--	--	0	--	--
West South Central	0	--	--	0	--	--	0	--	--
Arkansas	0	--	--	0	--	--	0	--	--
Louisiana	0	--	--	0	--	--	0	--	--
Oklahoma	0	--	--	0	--	--	0	--	--
Texas	0	--	--	0	--	--	0	--	--
Mountain	0	--	--	0	--	--	0	--	--
Arizona	0	--	--	0	--	--	0	--	--
Colorado	0	--	--	0	--	--	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	0	--	--	0	--	--
Nevada	0	--	--	0	--	--	0	--	--
New Mexico	0	--	--	0	--	--	0	--	--
Utah	0	--	--	0	--	--	0	--	--
Wyoming	0	--	--	0	--	--	0	--	--
Pacific Contiguous	0	--	--	0	--	--	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	0	--	--	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	0	--	--
Alaska	0	--	--	0	--	--	0	--	--
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	6	3.06	9.3	0	--	--	0	--	--

Displayed values of zero may represent small values that round to zero.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 W = Withheld to avoid disclosure of individual company data.

Notes:
 Bituminous coal includes anthracite coal and coal-derived synthesis gas.
 See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Table 7.25. Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Industrial Sector by State, 2024

Census Division and State	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
New England	0	--	--	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	0	--	--	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	107	1.96	7.6	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	107	1.96	7.6	0	--	--	0	--	--
East North Central	729	3.54	8.4	672	0.38	5.0	0	--	--
Illinois	729	3.54	8.4	672	0.38	5.0	0	--	--
Indiana	0	--	--	0	--	--	0	--	--
Michigan	0	--	--	0	--	--	0	--	--
Ohio	0	--	--	0	--	--	0	--	--
Wisconsin	0	--	--	0	--	--	0	--	--
West North Central	184	3.65	8.7	2,522	0.28	4.8	0	--	--
Iowa	184	3.65	8.7	1,955	0.28	4.8	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	0	--	--	0	--	--	0	--	--
Nebraska	0	--	--	567	0.28	4.8	0	--	--
North Dakota	0	--	--	0	--	--	0	--	--
South Dakota	0	--	--	0	--	--	0	--	--
South Atlantic	321	0.91	7.9	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	30	0.69	7.7	0	--	--	0	--	--
Georgia	113	0.77	8.3	0	--	--	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	0	--	--	0	--	--	0	--	--
South Carolina	22	0.73	7.3	0	--	--	0	--	--
Virginia	156	1.07	7.8	0	--	--	0	--	--
West Virginia	0	--	--	0	--	--	0	--	--
East South Central	716	0.93	7.8	0	--	--	0	--	--
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	0	--	--
Tennessee	716	0.93	7.8	0	--	--	0	--	--
West South Central	47	0.86	12.2	15	0.23	4.2	0	--	--
Arkansas	47	0.86	12.2	0	--	--	0	--	--
Louisiana	0	--	--	0	--	--	0	--	--
Oklahoma	0	--	--	15	0.23	4.2	0	--	--
Texas	0	--	--	0	--	--	0	--	--
Mountain	0	--	--	0	--	--	0	--	--
Arizona	0	--	--	0	--	--	0	--	--
Colorado	0	--	--	0	--	--	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	0	--	--	0	--	--
Nevada	0	--	--	0	--	--	0	--	--
New Mexico	0	--	--	0	--	--	0	--	--
Utah	0	--	--	0	--	--	0	--	--
Wyoming	0	--	--	0	--	--	0	--	--
Pacific Contiguous	566	0.37	6.7	0	--	--	0	--	--
California	566	0.37	6.7	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	0	--	--	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	0	--	--
Alaska	0	--	--	0	--	--	0	--	--
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	2,671	1.70	7.9	3,210	0.30	4.8	0	--	--

Displayed values of zero may represent small values that round to zero.
 NM = Not meaningful due to large relative standard error or excessive percentage change.
 W = Withheld to avoid disclosure of individual company data.

Notes:
 Bituminous coal includes anthracite coal and coal-derived synthesis gas.
 See Glossary for definitions. Values are final. See Technical Notes for a discussion of the sample design for the Form EIA-923.

Source: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report."

Chapter 8

Electric Power System Characteristics and Performance

Table 8.1. Average Operating Heat Rate for Selected Energy Sources, 2014 through 2024 (Btu per Kilowatthour)

Year	Coal	Petroleum	Natural Gas	Nuclear
2014	10,428	10,814	7,907	10,459
2015	10,495	10,687	7,869	10,458
2016	10,493	10,811	7,863	10,459
2017	10,465	10,834	7,803	10,459
2018	10,481	11,095	7,811	10,455
2019	10,551	11,205	7,725	10,442
2020	10,655	11,259	7,725	10,446
2021	10,583	11,224	7,689	10,429
2022	10,689	11,166	7,740	10,448
2023	10,745	11,465	7,721	10,452
2024	10,777	11,200	7,754	10,443

Note:

Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, refined coal; and coal-derived synthesis gas.

Petroleum includes distillate fuel oil (all diesel and No. 1 and No. 2 fuel oils), residual fuel oil (No. 5 and No. 6 fuel oils and bunker C fuel oil, jet fuel, kerosene, petroleum coke, and waste oil.

Notes:

Included in the calculation for coal, petroleum, and natural gas average operating heat rate are electric power plants in the utility and independent power producer sectors.

Combined heat and power plants, and all plants in the commercial and industrial sectors are excluded from the calculations.

The nuclear average heat rate is the weighted average tested heat rate for nuclear units as reported on the Form EIA-860.

Sources: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report" and Form EIA-860, "Annual Electric Generator Report."

Table 8.2. Average Tested Heat Rates by Prime Mover and Energy Source, 2014 - 2024
(Btu per Kilowatthour)

Prime Mover	Coal	Petroleum	Natural Gas	Nuclear
2014				
Steam Generator	10,080	10,156	10,408	10,459
Gas Turbine	--	13,457	11,378	--
Internal Combustion	--	10,403	9,375	--
Combined Cycle	W	9,924	7,658	--
2015				
Steam Generator	10,059	10,197	10,372	10,458
Gas Turbine	--	13,550	11,302	--
Internal Combustion	--	10,379	9,322	--
Combined Cycle	W	9,676	7,655	--
2016				
Steam Generator	10,045	10,189	10,382	10,459
Gas Turbine	--	13,535	11,214	--
Internal Combustion	--	10,331	9,179	--
Combined Cycle	W	9,860	7,652	--
2017				
Steam Generator	10,043	10,199	10,353	10,459
Gas Turbine	--	13,491	11,176	--
Internal Combustion	--	10,301	9,120	--
Combined Cycle	W	9,811	7,649	--
2018				
Steam Generator	10,015	10,270	10,334	10,455
Gas Turbine	--	13,352	11,138	--
Internal Combustion	--	10,326	9,009	--
Combined Cycle	W	9,663	7,627	--
2019				
Steam Generator	10,002	10,236	10,347	10,442
Gas Turbine	--	13,315	11,098	--
Internal Combustion	--	10,325	8,899	--
Combined Cycle	W	9,662	7,633	--
2020				
Steam Generator	9,997	10,339	10,368	10,446
Gas Turbine	--	13,223	11,069	--
Internal Combustion	--	10,334	8,832	--
Combined Cycle	W	9,208	7,604	--
2021				
Steam Generator	10,002	10,347	10,365	10,429
Gas Turbine	--	13,227	11,068	--
Internal Combustion	--	10,461	8,821	--
Combined Cycle	W	9,208	7,580	--
2022				
Steam Generator	10,026	10,263	10,295	10,448
Gas Turbine	--	13,217	11,030	--
Internal Combustion	--	10,475	8,894	--
Combined Cycle	W	9,204	7,596	--
2023				
Steam Generator	10,020	10,314	10,285	10,452
Gas Turbine	--	13,088	11,010	--
Internal Combustion	--	10,506	8,900	--
Combined Cycle	W	9,696	7,549	--
2024				
Steam Generator	10,018	10,331	10,337	10,443
Gas Turbine	--	13,083	10,999	--
Internal Combustion	--	10,512	8,924	--
Combined Cycle	W	9,702	7,548	--

Notes: W = Withheld to avoid disclosure of individual company data.

Heat rate is reported at full load conditions for electric utilities and independent power producers. The average heat rates above are weighted by Net Summer Capacity. Coal Combined Cycle represents integrated gasification units.

Source: U.S. Energy Information Administration, Form EIA-860, 'Annual Electric Generator Report.'

Table 8.3. Revenue and Expense Statistics for Major U.S. Investor-Owned Electric Utilities, 2014 through 2024 (Million Dollars)

Description	2014	2015	2016	2017	2018	2019
Utility Operating Revenues	298,430	282,695	282,499	286,501	293,868	293,000
.....Electric Utility	271,832	260,121	261,047	263,265	268,421	266,876
.....Other Utility	26,598	22,574	21,451	23,235	25,447	26,124
Utility Operating Expenses	258,936	242,728	239,037	240,041	253,944	250,136
.....Electric Utility	240,643	228,366	226,457	226,110	238,526	234,892
.....Operation	165,989	149,939	145,077	142,000	163,479	157,265
.....Production	123,366	107,201	100,852	98,859	104,185	99,518
.....Cost of Fuel	42,545	34,711	32,621	32,165	33,592	29,614
.....Purchased Power	62,066	59,970	49,962	49,030	53,060	50,378
.....Other	18,755	19,521	18,269	17,664	17,533	19,526
.....Transmission	8,902	9,624	10,447	10,804	11,387	11,941
.....Distribution	4,331	4,406	4,734	4,358	4,806	5,218
.....Customer Accounts	5,255	5,184	5,077	4,789	4,969	4,978
.....Customer Service	6,396	6,445	6,187	5,961	6,019	6,156
.....Sales	208	201	205	213	203	204
.....Administrative and General	17,532	16,878	17,575	17,016	31,911	29,248
.....Maintenance	16,801	16,392	16,982	17,996	17,786	19,898
.....Depreciation	25,919	26,847	30,097	30,323	32,125	34,883
.....Taxes and Other	31,934	35,188	34,301	35,791	25,136	22,846
.....Other Utility	18,293	14,362	12,579	13,931	15,418	15,245
Net Utility Operating Income	39,494	39,968	43,462	46,460	39,924	42,864

Description	2020	2021	2022	2023	2024
Utility Operating Revenues	294,756	329,138	381,129	378,230	384,741
.....Electric Utility	269,869	299,956	344,355	343,701	352,516
.....Other Utility	24,888	29,181	36,774	34,529	32,226
Utility Operating Expenses	240,802	271,078	315,491	307,839	306,372
.....Electric Utility	227,084	253,979	292,247	287,611	289,892
.....Operation	144,335	163,952	196,589	185,924	179,919
.....Production	93,505	110,775	140,287	126,857	120,333
.....Cost of Fuel	25,856	34,771	49,486	36,229	32,871
.....Purchased Power	50,407	61,627	80,032	67,897	63,763
.....Other	17,242	14,377	10,768	22,731	23,699
.....Transmission	12,949	15,310	15,872	15,746	17,863
.....Distribution	5,480	5,659	5,973	6,402	6,740
.....Customer Accounts	5,775	5,249	5,658	6,607	7,099
.....Customer Service	5,868	6,192	6,659	6,953	7,462
.....Sales	211	215	255	217	212
.....Administrative and General	20,546	20,553	21,886	23,142	20,211
.....Maintenance	20,030	20,875	21,834	21,570	23,128
.....Depreciation	38,208	39,666	42,104	44,693	47,887
.....Taxes and Other	24,510	29,485	31,720	35,424	38,958
.....Other Utility	13,718	17,100	23,244	20,228	16,480
Net Utility Operating Income	53,954	58,060	65,638	70,391	78,369

Notes: Missing or erroneous respondent data may result in slight imbalances in some of the expense account subtotals.
Total may not equal sum of components due to independent rounding.

Sources: Federal Energy Regulatory Commission, FERC Form 1, "Annual Report of Major Electric Utilities, Licensees and Others via Ventyx Global Energy Velocity Suite.

Table 8.4. Average Power Plant Operating Expenses for Major U.S. Investor-Owned

Electric Utilities, 2014 through 2024 (Mills per Kilowatthour)

Year	Operation				Maintenance			
	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale
2014	12.41	4.55	7.30	2.63	6.67	5.11	4.59	2.90
2015	11.17	5.16	8.37	2.34	7.06	5.41	5.06	2.68
2016	10.90	5.05	6.65	2.49	7.01	5.53	4.34	2.74
2017	10.27	5.01	6.33	2.45	6.63	5.13	3.96	2.83
2018	10.78	5.19	6.69	2.37	5.93	5.27	3.96	2.71
2019	10.63	5.52	6.86	2.58	6.29	6.85	3.94	2.64
2020	10.05	6.40	7.72	2.38	5.78	5.60	5.00	2.51
2021	10.55	5.70	7.98	2.12	5.88	5.32	4.33	2.28
2022	10.51	6.75	7.68	2.20	6.10	5.09	4.76	2.36
2023	9.52	6.48	9.18	2.16	6.36	5.61	5.53	2.12
2024	9.87	6.98	8.97	2.25	6.84	5.81	6.10	2.11

Year	Fuel				Total			
	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale
2014	7.71	29.39	--	37.06	26.79	39.04	11.90	42.60
2015	7.48	26.70	--	28.22	25.71	37.26	13.42	33.24
2016	7.45	25.50	--	24.97	25.36	36.08	10.98	30.19
2017	7.47	25.27	--	26.48	24.38	35.41	10.29	31.76
2018	7.15	25.40	--	27.35	23.86	35.86	10.65	32.43
2019	6.81	24.28	--	23.11	23.73	36.66	10.80	28.33
2020	6.10	22.87	--	19.65	21.92	34.86	12.71	24.55
2021	6.31	24.64	--	25.78	22.74	35.66	12.30	30.18
2022	6.12	32.04	--	38.72	22.73	43.88	12.44	43.28
2023	6.12	30.58	--	22.19	22.00	42.67	14.71	26.47
2024	6.37	28.52	--	18.59	23.08	41.32	15.07	22.95

Hydroelectric category consists of both conventional hydroelectric and pumped storage.

Gas Turbine and Small Scale category consists of gas turbine, internal combustion, photovoltaic, and wind plants.

Notes: Expenses are average expenses weighted by net generation. A mill is a monetary cost and billing unit equal to 1/1000 of the U.S. dollar (equivalent to 1/10 of one cent).

Total may not equal sum of components due to independent rounding.

Sources: Federal Energy Regulatory Commission, FERC Form 1, "Annual Report of Major Electric Utilities, Licensees and Others via Ventyx Global Energy Velocity Suite.

Table 8.11.A. U.S. Transmission Circuit Outages by Type and NERC region, 2024

Outage Type	frc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
Circuit Outage Counts									
Automatic Outages (Sustained)	--	--	--	--	--	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--	--	--	--	--	--
Circuit Outage Hours									
Automatic Outages (Sustained)	--	--	--	--	--	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--	--	--	--	--	--
Circuit Outage Counts per 1,000 Circuit Miles									
Automatic Outages (Sustained)	--	--	--	--	--	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--	--	--	--	--	--
Circuit Outage Hours per Outage Incident									
Automatic Outages (Sustained)	--	--	--	--	--	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--	--	--	--	--	--

Notes:

Circuit Miles for each region is displayed in Table 8.10.A.

An Automatic Outage is an outage which results from the automatic operation of a switching device, causing an Element to change from an In-Service State to a not In-Service State.

A Sustained Outage is an automatic outage with an outage duration of a minute or greater.

A Non-Automatic Outage is an outage which results from the manual operation (including supervisory control) of a switching device, causing an element to change from an In-Service State to a not In-Service State.

An Operational Outage is a Non-Automatic Outage for the purpose of avoiding an emergency (i.e., risk to human life, damage to equipment, damage to property) or to maintain the system within operational limits and that cannot be deferred.

A Planned Outage is a Non-Automatic Outage with advance notice for the purpose of maintenance, construction, inspection, testing, or planned activities by third parties that may be deferred.

Detailed information on the Transmission Availability Data System outage definitions is available at:

<http://www.nerc.com/docs/pc/tadswg/Appendix%207%2020101202a%20clean.pdf>

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Table 8.11.B. U.S. Transformer Outages by Type and NERC region, 2024

Outage Type	Eastern Interconnection	tre	wecc	Contiguous U.S.
Circuit Outage Counts				
Automatic Outages (Sustained)	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--
Non-Automatic Outages (Planned)	--	--	--	--
Circuit Outage Hours				
Automatic Outages (Sustained)	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--
Non-Automatic Outages (Planned)	--	--	--	--
Circuit Outage Hours per Outage Incident				
Automatic Outages (Sustained)	--	--	--	--
Non-Automatic Outages (Operational)	--	--	--	--
Non-Automatic Outages (Planned)	--	--	--	--

Notes:

An Automatic Outage is an outage which results from the automatic operation of a switching device, causing an Element to change from an In-Service State to a not In-Service State.

A Sustained Outage is an automatic outage with an outage duration of a minute or greater.

A Non-Automatic Outage is an outage which results from the manual operation (including supervisory control) of a switching device, causing an element to change from an In-Service State to a not In-Service State.

An Operational Outage is a Non-Automatic Outage for the purpose of avoiding an emergency (i.e., risk to human life, damage to equipment, damage to property) or to maintain the system within operational limits and that cannot be deferred.

A Planned Outage is a Non-Automatic Outage with advance notice for the purpose of maintenance, construction, inspection, testing, or planned activities by third parties that may be deferred.

Detailed information on the Transmission Availability Data System outage definitions is available at:
<http://www.nerc.com/docs/pc/tadswg/Appendix%207%2020101202a%20clean.pdf>

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Table 8.12.A. U.S. Transmission Circuit Sustained Automatic Outage Counts and Hours by High-Voltage Size and NERC Region, 2024

Sustained Automatic Outage Counts										
Voltage		Region								
Type	Operating (kV)	frcc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
Grand Total		--

Total Outages per 1,000 Circuit Miles										
		Region								
		frcc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
Rate		--

Sustained Automatic Outage Hours										
Voltage		Region								
Type	Operating (kV)	frcc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
Grand Total		--

Outage Hours per Outage Incident										
		Region								
		frcc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
Rate		--

Notes:

* = Value is less than half of the smallest unit of measure. (e.g., for values with no decimals, the smallest unit is 1 then values under 0.5 are shown as *.)

Circuit Miles for each region is displayed in Table 8.10.A.

An Automatic Outage is an outage which results from the automatic operation of a switching device, causing an Element to change from an In-Service State to a not In-Service State.

A Sustained Outage is an automatic outage with an outage duration of a minute or greater.

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Table 8.12.B. U.S. Transformer Sustained Automatic Outage Counts

and Hours by High-Voltage Size and NERC Region, 2024

Sustained Automatic Outage Counts				
High-Side Voltage (kV)	Eastern Interconnection	tre	wecc	Contiguous U.S.
	--	--	--	--

Sustained Automatic Outage Hours				
High-Side Voltage (kV)	Eastern Interconnection	tre	wecc	Contiguous U.S.
	--	--	--	--

Table 8.13.A. U.S. Transmission Circuit Sustained Automatic Outage Counts and

Hours by Cause Code and by NERC Region, 2024 (Page 1)

Sustained Outage Causes	AC & DC Circuit Outage Counts								
	frcc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
TOTAL	--	--	--	--	--	--	--	--	--

Sustained Outage Causes	Percentage of Total AC & DC Circuit Outage Counts								
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Contiguous U.S.
TOTAL	--	--	--	--	--	--	--	--	--

Notes:

Detailed information on the Transmission Availability Data System outage causes is available at:

<http://www.nerc.com/docs/pc/tadswg/Appendix%207%2020101202a%20clean.pdf>

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Table 8.13.A. U.S. Transmission Circuit Sustained Automatic Outage Counts and

Hours by Cause Code and by NERC Region, 2024 (Page 2)

Sustained Outage Causes	AC & DC Circuit Outage Hours								
	frcc	mro	npcc	rfc	serc	spp	tre	wecc	Contiguous U.S.
TOTAL	--	--	--	--	--	--	--	--	--

Sustained Outage Causes	Percentage of Total AC & DC Circuit Outage Hours								
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	Contiguous U.S.
TOTAL	--	--	--	--	--	--	--	--	--

Notes:

Detailed information on the Transmission Availability Data System outage causes is available at:

<http://www.nerc.com/docs/pc/tadswg/Appendix%207%2020101202a%20clean.pdf>

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Table 8.13.B. U.S. Transformer Sustained Automatic Outage Counts and

Hours by Cause Code and by NERC Region, 2024 (Page 1)

Sustained Outage Causes	Transformer Outage Counts								Contiguous U.S.
	frcc	mro	npcc	rfc	serc	spp	tre	wecc	
TOTAL	--	--	--	--	--	--	--	--	--

Sustained Outage Causes	Percentage of Total Transformer Outage Counts								Contiguous U.S.
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	
TOTAL	--	--	--	--	--	--	--	--	--

Notes:

Detailed information on the Transmission Availability Data System outage causes is available at:

<http://www.nerc.com/docs/pc/tadswg/Appendix%207%2020101202a%20clean.pdf>

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Table 8.13.B. U.S. Transformer Sustained Automatic Outage Counts and

Hours by Cause Code and by NERC Region, 2024 (Page 2)

Sustained Outage Causes	Transformer Outage Hours								Contiguous U.S.
	frcc	mro	npcc	rfc	serc	spp	tre	wecc	
TOTAL	--	--	--	--	--	--	--	--	--

OUTAGE_CAUSE	Percentage of Total Transformer Outage Hours								Contiguous U.S.
	FRCC	MRO	NPCC	RFC	SERC	SPP	TRE	WECC	
TOTAL	--	--	--	--	--	--	--	--	--

Notes:

Detailed information on the Transmission Availability Data System outage causes is available at:

<http://www.nerc.com/docs/pc/tadswg/Appendix%207%2020101202a%20clean.pdf>

Source: U.S. Energy Information Administration, Form EIA-411, "Coordinated Bulk Power Supply Program Report."

Chapter 9

Environmental Data

Table 9.1. Emissions from Energy Consumption at Conventional Power Plants and Combined-Heat-and-Power Plants 2014 through 2024 (Thousand Metric Tons)

Year	Carbon Dioxide (CO2)	Sulfur Dioxide (SO2)	Nitrogen Oxides (NOx)
2014	2,168,284	3,454	2,100
2015	2,031,452	2,548	1,824
2016	1,928,401	1,807	1,630
2017	1,849,750	1,599	1,493
2018	1,872,330	1,517	1,474
2019	1,724,873	1,267	1,342
2020	1,553,586	1,023	1,211
2021	1,651,911	1,168	1,253
2022	1,650,367	1,079	1,230
2023	1,531,554	848	1,117
2024	1,537,073	808	1,112

Notes:

The emissions data presented include total emissions from both electricity generation and the production of useful thermal output.

See Appendix A, Technical Notes, for a description of the sources and methodology used to develop the emissions estimates.

Source: Calculations made by the Office of Electricity, Renewables, and Uranium Statistics, U.S. Energy Information Administration.

Table 9.2. Quantity and Net Summer Capacity of Operable Environmental Equipment, 2014 - 2024

Year	Flue Gas Desulfurization Systems		Electrostatic Precipitators		Baghouses		Select Catalytic and Non-Catalytic Reduction Systems		Activated Carbon Injection Systems		Direct Sorbent Injection Systems	
	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)
2014	703	223,850	1,173	284,303	621	105,990	1,485	361,548	280	69,287	105	16,913
2015	694	224,159	1,038	265,268	623	110,820	1,493	363,007	364	106,450	123	23,443
2016	698	228,598	944	253,267	614	112,824	1,497	365,644	482	153,800	126	26,815
2017	683	222,607	887	244,450	603	109,759	1,506	369,042	477	151,208	128	25,916
2018	664	214,176	842	229,774	584	105,546	1,503	369,625	455	143,471	121	26,415
2019	619	203,130	784	217,711	537	102,103	1,476	366,814	431	136,597	116	25,615
2020	595	193,216	749	207,516	514	98,754	1,455	363,480	410	130,761	112	23,917
2021	570	186,400	708	197,689	483	94,981	1,436	360,901	396	127,791	108	22,975
2022	552	178,539	665	183,139	467	91,660	1,410	354,352	364	117,573	103	22,308
2023	523	167,691	621	171,029	457	90,154	1,387	347,508	344	110,996	98	21,257
2024	500	163,094	596	165,540	437	89,328	1,364	344,431	332	107,481	97	21,035

Note:

'Associated Net Summer Capacity' is defined as the net summer capacity of the generators that are associated with the operation of this environmental equipment. In some cases respondents have reported equipment late. Counts and capacity may have changed from prior publications of this table because of late reporting.

Source: Form EIA-860, "Annual Electric Generator Report."

Table 9.3. Quantity and Net Summer Capacity of Operable Cooling Systems, by Energy Source and Cooling System Type, 2014 - 2024

Energy Source	Once-Through Cooling Systems		Recirculating Cooling Systems		Cooling Ponds		Dry Cooling Systems		Hybrid Wet and Dry Cooling Systems		Other Cooling System Types	
	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)
2014												
Coal	328	115,930	340	160,534	74	38,906	4	1,422	1	750	22	8,322
Natural Gas	161	50,985	420	84,984	56	20,294	58	11,878	4	637	3	2,419
Nuclear	44	49,596	35	37,650	13	15,237	--	--	--	--	9	11,886
Petroleum	42	10,893	11	3,473	4	4,691	--	--	--	--	--	--
Solar Thermal	--	--	4	841	--	--	5	900	--	--	--	--
Other	16	1,332	31	2,756	1	66	1	72	--	--	1	128
2015												
Coal	259	93,180	313	153,917	77	45,026	4	1,422	1	750	25	9,883
Natural Gas	160	49,219	437	88,982	59	22,351	59	12,038	3	475	3	2,410
Nuclear	43	47,268	35	37,610	14	17,663	--	--	--	--	9	12,062
Petroleum	29	9,104	9	2,308	4	4,299	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	900	1	110	--	--
Other	18	1,676	26	2,104	1	66	1	72	--	--	1	128
2016												
Coal	210	82,047	294	149,187	79	44,702	4	1,422	1	750	22	10,148
Natural Gas	168	49,664	441	88,690	58	21,970	64	14,128	3	475	3	2,359
Nuclear	42	47,029	35	38,745	14	17,660	--	--	--	--	9	13,298
Petroleum	27	8,620	8	2,222	3	3,904	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	900	1	110	--	--
Other	18	1,689	24	2,035	1	66	1	72	--	--	1	128
2017												
Coal	197	76,492	281	142,578	75	44,341	4	1,422	1	750	19	9,581
Natural Gas	172	50,053	440	91,396	59	21,677	66	15,271	4	801	6	3,772
Nuclear	42	47,013	35	38,784	14	17,700	--	--	--	--	9	13,298
Petroleum	26	8,174	8	1,844	4	3,965	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	900	1	110	--	--
Other	17	1,582	26	2,464	2	97	2	245	--	--	1	128
2018												
Coal	180	70,659	273	138,632	67	39,593	4	1,422	1	750	16	6,089
Natural Gas	161	47,653	446	93,078	59	21,549	77	18,613	4	801	7	4,478
Nuclear	41	46,723	35	38,805	14	17,759	--	--	--	--	9	13,608
Petroleum	27	8,575	8	1,844	3	2,304	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	900	1	110	--	--
Other	17	1,931	25	2,161	1	31	1	72	--	--	1	128
2019												
Coal	163	67,142	246	129,998	63	37,807	4	1,432	1	750	14	7,629
Natural Gas	150	45,079	448	95,673	56	21,279	78	18,769	4	801	7	4,058
Nuclear	40	46,244	34	37,970	14	17,759	--	--	--	--	10	14,927
Petroleum	26	8,147	7	1,684	3	2,302	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	900	1	110	--	--
Other	18	1,962	25	2,161	--	--	1	72	--	--	1	128
2020												
Coal	143	61,538	232	123,410	58	35,832	5	1,536	1	750	13	6,703
Natural Gas	152	46,653	453	97,151	56	23,018	83	19,640	4	801	8	4,804
Nuclear	39	43,163	33	37,281	14	17,855	--	--	--	--	9	14,326
Petroleum	24	7,175	6	898	2	682	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	893	1	110	--	--
Other	18	1,955	25	2,158	--	--	1	72	--	--	1	128
2021												
Coal	130	59,230	221	119,928	58	35,856	5	1,536	1	750	14	7,992
Natural Gas	144	44,244	460	101,024	52	22,762	82	19,627	4	801	6	3,612
Nuclear	38	42,013	33	37,471	14	17,862	--	--	--	--	9	14,213
Petroleum	24	7,222	6	898	2	684	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	893	1	110	--	--
Other	18	1,955	22	2,045	--	--	1	72	--	--	1	128
2022												
Coal	105	46,596	207	112,393	57	35,718	4	1,432	1	750	11	6,581
Natural Gas	146	46,954	458	102,623	52	21,970	85	21,884	4	801	9	4,947
Nuclear	38	42,002	32	36,609	14	17,847	--	--	--	--	9	14,198
Petroleum	27	9,035	6	1,020	1	628	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	893	1	110	--	--
Other	15	1,760	19	1,773	--	--	1	72	--	--	1	128
2023												
Coal	94	41,649	198	107,601	54	34,183	4	1,432	1	750	10	5,581
Natural Gas	136	44,252	457	103,564	52	21,758	90	24,794	5	947	7	3,901
Nuclear	38	41,999	33	37,713	14	17,799	--	--	--	--	9	14,198
Petroleum	26	7,954	6	1,020	1	637	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	893	1	110	--	--
Other	16	1,806	20	1,826	--	--	1	72	--	--	1	128
2024												
Coal	86	38,413	194	106,748	53	34,044	4	1,432	1	750	10	5,581
Natural Gas	135	44,306	455	103,538	50	21,140	88	24,480	6	1,090	6	3,635
Nuclear	38	41,961	34	38,836	14	17,823	--	--	--	--	9	14,227
Petroleum	25	7,549	5	839	1	603	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	893	1	110	--	--
Other	15	1,645	20	1,823	--	--	1	72	--	--	1	128

Notes:
 'Associated Net Summer Capacity' is defined as the net summer capacity of the generators that are associated with the operation of this environmental equipment.
 In some cases respondents have reported equipment late. Counts and capacity may have changed from prior publications of this table because of late reporting.
 Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, refined coal; and coal-derived synthesis gas.
 Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane.
 Petroleum Coke includes petroleum coke-derived synthesis gas.
 Other Energy Sources consists of wood and wood waste products, biomass, blast furnace gas and Other Fossil Gas.

Source: Form EIA-860, "Annual Electric Generator Report."

Table 9.4. Average Costs of Existing Flue Gas Desulfurization Units Operating in Electric Power Sector, 2014 - 2024

Year	Average Operation and Maintenance Costs (Dollars per Megawatthour)	Average Installed Capital Costs (Dollars per Kilowatt)
2014	1.84	186.45
2015	2.03	154.73
2016	1.96	303.32
2017	2.15	242.88
2018	2.08	--
2019	2.11	452.20
2020	2.21	--
2021	2.14	--
2022	2.36	310.18
2023	2.54	--
2024	2.59	--

Notes:

Average Installed Capital Costs reflect units which began operating in the specified year.

Years in which no new Flue Gas Desulfurization units were installed a '--' is indicated in the Average Installed Capital Cost column.

Average Operation and Maintenance Costs are based on all units in operation during the specified year regardless of installation year.

Commercial and industrial facilities had significantly different costs than units used in the electric power sector. In order to give a more accurate reflection of the electric power sector, commercial and industrial facilities have been excluded from this publication table.

Sources: U.S. Energy Information Administration, Form EIA-923, "Power Plant Operations Report" and Form EIA-860, "Annual Electric Generator Report."

Table 9.5. Emissions from Energy Consumption at Conventional Power Plants and Combined-Heat-and-Power Plants, by State, 2023 and 2024 (Thousand Metric Tons)

Census Division and State	Carbon Dioxide (CO2)		Sulfur Dioxide (SO2)		Nitrogen Oxides (NOx)	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	28,989	27,434	7	7	21	21
Connecticut	11,002	10,653	0	0	4	5
Maine	3,245	2,434	4	4	4	4
Massachusetts	8,895	8,263	2	2	8	8
New Hampshire	2,159	2,060	0	0	2	2
Rhode Island	3,680	4,014	0	0	2	2
Vermont	8	9	0	0	1	1
Middle Atlantic	117,697	114,738	32	33	64	63
New Jersey	13,861	15,112	0	1	7	8
New York	31,513	29,418	6	6	25	25
Pennsylvania	72,323	70,207	27	26	32	31
East North Central	255,892	249,331	155	149	154	155
Illinois	42,894	42,186	28	29	18	18
Indiana	61,437	61,252	23	23	42	43
Michigan	54,012	50,018	31	31	42	43
Ohio	65,214	63,226	65	59	31	31
Wisconsin	32,335	32,649	7	7	21	20
West North Central	153,777	161,366	150	170	125	133
Iowa	22,400	24,593	10	18	17	19
Kansas	17,842	20,280	2	3	14	14
Minnesota	20,391	20,842	11	11	16	18
Missouri	44,270	45,916	59	66	32	34
Nebraska	18,303	19,770	34	38	16	18
North Dakota	27,555	27,040	33	33	27	27
South Dakota	3,016	2,926	1	1	3	3
South Atlantic	288,907	281,059	136	147	180	176
Delaware	2,456	2,374	0	0	1	1
District of Columbia	80	73	0	0	0	0
Florida	92,505	93,735	18	21	44	44
Georgia	42,718	43,044	40	42	35	35
Maryland	9,718	9,138	2	2	6	5
North Carolina	41,129	36,765	16	18	37	36
South Carolina	26,896	25,599	19	19	16	15
Virginia	29,439	24,587	10	10	16	15
West Virginia	43,967	45,743	30	36	25	26
East South Central	157,357	148,514	94	86	82	78
Alabama	48,517	46,082	27	25	24	23
Kentucky	53,086	50,039	39	34	31	29
Mississippi	27,914	27,096	11	11	13	14
Tennessee	27,840	25,297	18	16	14	11
West South Central	309,487	310,377	146	165	248	241
Arkansas	26,858	28,363	30	32	18	17
Louisiana	41,958	42,944	23	24	57	53
Oklahoma	28,769	26,301	10	9	27	21
Texas	211,902	212,769	84	101	146	150
Mountain	153,836	162,426	54	58	113	119
Arizona	33,418	34,788	5	6	21	22
Colorado	25,602	27,579	7	9	13	15
Idaho	3,482	3,002	3	3	4	4
Montana	11,839	13,774	7	8	12	12
Nevada	13,068	12,540	3	3	10	10
New Mexico	13,402	13,542	2	2	8	7
Utah	21,120	20,620	5	4	21	21
Wyoming	31,905	36,580	23	22	24	28
Pacific Contiguous	61,556	66,670	15	14	90	94
California	39,594	43,360	1	1	57	59
Oregon	10,351	9,636	4	4	22	22
Washington	11,610	13,674	10	10	11	13
Pacific Noncontiguous	9,574	9,639	19	19	35	37
Alaska	3,636	3,605	2	2	18	20
Hawaii	5,938	6,035	16	17	16	16
U.S. Total	1,537,073	1,531,554	808	848	1,112	1,117

Notes:

The emissions data presented include total emissions from both electricity generation and the production of useful thermal output. See Appendix A, Technical Notes, for a description of the sources and methodology used to develop the emissions estimates. Displayed values of zero may represent small values that round to zero. The Excel version of this table provides additional precision which may be accessed by selecting individual cells.

Source: Calculations made by the Office of Energy Production Conversion and Delivery, U.S. Energy Information Administration.

Chapter 10

Energy Efficiency, Demand Response and Advanced Meters

**Table 10.1. Energy Efficiency
Category, by Sector, 2013 through 2024**

Year	Residential	Commercial	Industrial	Transportation	Total
Incremental Annual Savings - Energy Savings (MWh)					
2015	11,012,627	12,285,000	2,818,448	13,414	26,129,489
2016	11,712,873	13,348,029	2,425,175	14,147	27,500,224
2017	13,199,995	14,095,101	2,592,155	11,776	29,899,028
2018	12,459,323	13,350,203	2,565,238	40,273	28,415,037
2019	13,283,024	12,706,234	2,538,169	35,103	28,562,529
2020	13,136,061	12,464,063	2,559,475	7,859	28,167,459
2021	12,444,823	11,459,062	1,853,577	3,195	25,760,657
2022	11,709,919	10,835,070	1,839,391	139	24,384,518
2023	11,243,272	11,048,142	1,929,875	--	24,221,289
2024	10,200,084	11,498,785	2,140,086	10	23,838,965
Incremental Annual Savings - Peak Demand Savings (MW)					
2015	2,654	2,891	407	--	5,952
2016	2,698	2,556	401	3	5,658
2017	2,790	2,739	540	1	6,071
2018	2,775	3,072	459	4	6,309
2019	3,402	3,116	614	4	7,135
2020	2,985	2,877	424	1	6,287
2021	2,753	2,712	336	1	5,801
2022	2,466	2,499	479	--	5,445
2023	2,204	3,191	366	--	5,761
2024	2,198	3,206	860	*	6,264
Incremental Costs - Customer Incentive (thousand dollars)					
2015	1,488,651	1,616,843	342,773	20	3,448,286
2016	1,541,458	1,733,170	296,321	--	3,570,950
2017	1,657,086	1,713,295	294,026	--	3,664,407
2018	1,602,723	1,608,369	273,676	--	3,484,767
2019	1,712,243	1,659,591	285,643	--	3,657,477
2020	1,358,512	1,557,663	236,198	--	3,152,372
2021	1,574,404	1,594,830	206,571	--	3,375,805
2022	1,644,822	1,531,745	197,812	--	3,374,379
2023	1,826,044	1,771,421	252,897	--	3,850,362
2024	1,917,829	2,015,664	274,988	--	4,208,481
Incremental Costs - All Other Costs (thousand dollars)					
2015	1,152,224	938,021	193,015	40	2,283,300
2016	1,387,122	959,160	176,560	12	2,522,854
2017	1,221,072	900,291	176,585	10	2,297,957
2018	1,127,692	874,427	163,783	78	2,165,981
2019	1,209,389	910,039	168,567	33	2,288,028
2020	1,108,027	844,860	159,365	9	2,112,261
2021	1,178,407	932,133	130,700	3	2,240,600
2022	1,110,656	964,655	141,385	--	2,216,696
2023	1,250,790	1,124,056	163,345	--	2,538,191
2024	1,285,513	1,249,059	158,031	4	2,692,606

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

Table 10.2. Energy Efficiency - Life Cycle Category, by Sector, 2013 through 2024

Year	Residential	Commercial	Industrial	Transportation	Total
Life Cycle Savings - Energy Savings (MWh)					
2015	99,512,487	160,045,443	36,589,144	199,328	296,346,403
2016	134,003,597	186,654,713	33,477,182	212,200	354,347,692
2017	137,297,599	204,102,657	33,249,999	176,636	374,826,892
2018	129,572,460	195,288,558	33,981,062	604,095	359,446,175
2019	134,474,216	186,931,400	33,284,347	526,549	355,216,512
2020	144,098,659	190,336,319	33,276,349	117,879	367,829,206
2021	122,339,730	153,947,500	23,992,054	47,932	300,327,216
2022	113,782,935	137,420,139	22,384,375	2,085	273,589,534
2023	101,341,591	146,197,493	22,912,335		270,451,419
2024	106,666,954	149,150,238	25,569,385	149	281,386,727
Life Cycle Savings - Peak Demand Savings (MW)					
2015	3,492	3,104	500		7,096
2016	3,408	3,132	507	3	7,050
2017	2,668	2,698	584	1	5,951
2018	2,649	2,987	436	4	6,075
2019	3,322	2,993	613	4	6,931
2020	2,769	2,807	425	1	6,003
2021	2,628	2,651	351	1	5,631
2022	2,294	2,449	473		5,216
2023	2,069	3,214	372		5,655
2024	2,141	3,165	846		6,152
Life Cycle Costs - Customer Incentive (thousand dollars)					
2015	1,844,246	1,997,677	413,416	30	4,255,368
2016	1,704,458	2,079,373	342,927		4,126,758
2017	2,194,049	2,359,255	296,498		4,849,803
2018	1,808,354	2,093,170	276,381		4,177,905
2019	1,911,197	2,000,492	440,237		4,351,926
2020	1,414,886	1,650,928	495,334		3,561,148
2021	1,636,371	1,713,633	328,872	3	3,678,879
2022	1,920,560	1,885,652	213,120		4,019,332
2023	2,035,217	2,125,178	253,091		4,413,487
2024	2,128,317	2,340,496	275,298		4,744,110
Life Cycle Costs - All Other Costs (thousand dollars)					
2015	2,086,543	1,407,658	216,226	40	3,710,453
2016	1,964,832	1,265,765	202,112	12	3,432,717
2017	1,649,863	1,335,176	177,945	10	3,162,995
2018	2,605,135	1,409,483	164,623	78	4,179,320
2019	1,884,678	1,527,461	243,435	33	3,655,607
2020	1,773,693	1,346,643	228,973	9	3,349,318
2021	1,258,415	1,015,672	192,451	3	2,466,541
2022	1,314,337	1,205,465	147,051		2,666,853
2023	1,420,950	1,335,146	163,528		2,919,623
2024	1,427,688	1,444,307	168,060	4	3,040,059

* = Value is less than half of the smallest unit of measure.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

Table 10.3. Demand Response - Yearly Energy and Demand Savings Category, by Sector, 2013 through 2024

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Customers Enrolled					
2015	8,140,688	890,284	63,163	3	9,094,138
2016	8,739,535	1,033,649	66,170	1	9,839,355
2017	8,287,913	1,084,392	68,630	3	9,440,938
2018	8,700,669	986,816	64,753	--	9,752,238
2019	10,447,335	432,669	52,841	--	10,932,845
2020	11,302,017	324,939	38,706	1	11,665,663
2021	10,196,668	255,355	40,560	1	10,492,584
2022	10,044,583	235,825	39,365	1	10,319,774
2023	10,282,113	245,332	39,808	1	10,567,254
2024	10,658,027	249,192	43,608	1	10,950,828
Energy Savings (MWh)					
2015	855,017	273,089	122,900	--	1,251,006
2016	1,005,144	225,174	105,818	--	1,336,136
2017	948,037	244,603	118,230	--	1,310,862
2018	1,099,179	221,502	105,536	--	1,426,211
2019	1,075,567	306,832	80,336	--	1,462,735
2020	1,186,421	251,719	70,984	--	1,509,124
2021	984,129	88,947	80,715	--	1,153,791
2022	1,004,031	126,867	162,081	--	1,292,980
2023	230,285	107,321	69,649	--	407,255
2024	247,973	88,063	73,367	--	409,404
Potential Peak Demand Savings (MW)					
2015	8,703	6,989	17,169	14	32,875
2016	10,518	11,053	14,339	14	35,924
2017	8,996	6,995	15,512	5	31,508
2018	8,539	7,021	15,335	--	30,895
2019	8,867	6,907	15,246	--	31,020
2020	8,535	5,837	15,098	--	29,470
2021	8,705	6,646	13,871	--	29,222
2022	9,039	6,545	14,864	--	30,448
2023	9,667	7,035	13,840	--	30,542
2024	9,706	7,346	14,439	--	31,491
Actual Peak Demand Savings (MW)					
2015	3,430	3,047	6,546	13	13,036
2016	3,608	3,598	4,632	4	11,841
2017	3,960	2,743	5,546	--	12,248
2018	3,788	2,694	6,040	--	12,522
2019	3,426	2,403	5,505	--	11,334
2020	3,504	2,115	4,768	--	10,387
2021	3,836	2,807	5,569	--	12,211
2022	4,606	2,608	6,613	--	13,827
2023	4,082	2,661	4,009	--	10,752
2024	4,785	2,457	5,080	--	12,322

Energy Savings dropped due to a reclassification in the 2023 annual filings.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

**Table 10.4. Demand Response - Program Costs
Category, by Sector, 2013 through 2024**

Year	Residential	Commercial	Industrial	Transportation	Total
Customer Incentives (thousand dollars)					
2015	320,683	338,153	461,271	339	1,120,446
2016	306,635	448,332	284,584	339	1,039,890
2017	292,443	345,226	365,451	--	1,003,124
2018	310,892	347,235	531,157	--	1,189,284
2019	306,152	322,611	490,119	--	1,118,882
2020	274,021	281,304	432,328	--	987,653
2021	293,293	314,739	580,358	--	1,188,390
2022	265,186	287,785	596,309	--	1,149,280
2023	262,583	306,095	550,092	--	1,118,770
2024	273,346	348,692	602,656	--	1,224,694
All Other Costs (thousand dollars)					
2015	256,519	78,758	46,613	28	381,918
2016	253,180	66,084	60,443	--	379,707
2017	245,231	68,251	57,221	--	370,700
2018	235,159	66,024	59,534	--	360,718
2019	223,129	49,407	70,677	--	343,214
2020	213,592	59,905	53,365	10	326,872
2021	218,758	70,615	22,709	10	312,091
2022	244,430	62,832	21,782	10	329,053
2023	222,739	64,259	24,935	10	311,943
2024	262,017	68,914	31,132	10	362,073

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

Table 10.05. Advanced Metering Count by Technology Type, 2015 through 2024

Year	Residential	Commercial	Industrial	Transportation	Total
Automated Meter Reading (AMR)					
2015	42,326,302	5,049,978	226,908	1,023	47,604,211
2016	41,508,261	5,074,877	223,584	971	46,807,693
2017	39,325,014	4,813,029	230,099	707	44,368,849
2018	36,365,339	4,591,398	213,108	712	41,170,557
2019	32,750,506	4,160,628	207,286	861	37,119,281
2020	29,345,377	3,769,118	197,641	905	33,313,041
2021	26,098,336	3,550,517	184,358	920	29,834,131
2022	23,296,364	3,185,114	157,857	873	26,640,208
2023	19,591,318	2,982,169	156,330	571	22,730,388
2024	16,572,563	2,546,768	130,377	579	19,250,287
Advanced Metering Infrastructure (AMI)					
2015	57,107,785	7,324,345	310,889	813	64,743,832
2016	62,360,132	8,119,223	342,766	1,345	70,823,466
2017	69,474,626	9,060,128	365,447	1,389	78,901,590
2018	76,498,388	9,932,993	411,287	1,489	86,844,157
2019	83,539,594	10,850,886	446,871	1,504	94,838,855
2020	90,692,768	11,771,565	468,071	1,499	102,933,903
2021	97,708,824	12,930,423	535,725	1,786	111,176,758
2022	104,237,855	13,908,481	574,526	1,879	118,722,741
2023	112,175,762	14,830,952	755,067	2,584	127,764,365
2024	123,019,799	16,529,599	940,214	2,369	140,491,981
Standard (non-AMR/AMI) Meters					
2015	32,430,105	5,744,831	290,354	432	38,465,722
2016	28,491,094	4,929,344	280,406	416	33,701,260
2017	24,351,523	4,261,918	225,949	445	28,839,835
2018	21,982,727	3,884,695	186,001	414	26,053,837
2019	20,778,995	3,734,399	175,344	478	24,689,216
2020	18,941,774	3,572,152	140,087	510	22,654,523
2021	17,551,772	3,225,410	127,901	716	20,905,799
2022	15,675,775	2,953,060	106,426	691	18,735,952
2023	13,233,236	2,404,543	102,080	563	15,740,422
2024	6,958,631	1,284,234	100,308	558	8,343,731
Total Number of Meters					
2015	131,864,192	18,119,154	828,151	2,268	150,813,765
2016	132,359,487	18,123,444	846,756	2,732	151,332,419
2017	133,151,163	18,135,075	821,495	2,541	152,110,274
2018	134,846,454	18,409,086	810,396	2,615	154,068,551
2019	137,069,095	18,745,913	829,501	2,843	156,647,352
2020	138,979,919	19,112,835	805,799	2,914	158,901,467
2021	141,358,932	19,706,350	847,984	3,422	161,916,688
2022	143,209,994	20,046,655	838,809	3,443	164,098,901
2023	145,000,316	20,217,664	1,013,477	3,718	166,235,175
2024	146,550,993	20,360,601	1,170,899	3,506	168,085,999

Prior to 2010, the count was the number of customers, not number of meters.

Starting in 2013 Standard (Non-AMR/AMI) meter data was collected on the EIA-861.

This data is not collected on the EIA-861S.

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report." Form EIA-861S, "Annual Electric Power Industry Report (Short Form)."

Chapter 11

Distribution System Reliability

Table 11.1 Reliability Metrics of U.S. Distribution System

Year	IEEE									Any Method					
	All Events (With Major Event Days)			Without Major Event Days			Loss of Supply Removed			All Events (With Major Events)			Without Major Events		
	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)
2014	236.2	1.3	188.0	114.2	1.0	110.0	244.8	1.2	203.7	219.0	1.2	179.6	109.7	1.0	107.7
2015	209.0	1.3	163.9	117.0	1.1	109.1	198.2	1.2	170.4	205.0	1.2	164.5	113.1	1.0	108.1
2016	268.4	1.3	202.2	119.8	1.1	110.7	257.0	1.2	209.0	249.2	1.3	192.9	116.9	1.1	110.0
2017	505.9	1.4	356.2	117.0	1.0	114.3	489.6	1.3	390.6	473.1	1.4	339.3	114.4	1.0	113.6
2018	349.2	1.3	260.5	121.4	1.1	115.5	338.5	1.2	283.8	346.4	1.3	261.5	117.2	1.0	114.0
2019	295.5	1.3	221.8	122.2	1.0	117.5	289.1	1.2	243.0	284.6	1.3	214.8	118.6	1.0	116.6
2020	456.1	1.4	329.3	116.0	1.0	114.5	460.5	1.2	371.9	491.9	1.4	341.7	119.0	1.0	114.7
2021	475.8	1.4	331.2	125.7	1.0	120.9	404.5	1.3	312.6	440.0	1.4	308.8	121.5	1.0	118.5
2022	333.0	1.4	233.5	131.1	1.1	120.2	324.7	1.3	246.9	335.5	1.4	238.8	125.7	1.1	118.1
2023	366.6	1.3	271.8	123.9	1.0	121.3	357.7	1.2	288.0	342.0	1.3	256.6	118.4	1.0	118.5
2024	662.6	1.5	432.7	131.6	1.1	123.6	646.1	1.4	451.6	611.3	1.5	401.9	126.0	1.0	120.8

SAIDI = System Average Interruption Duration Index. It is the minutes of non-momentary electric interruptions, per year, the average customer experienced.
 SAIFI = System Average Interruption Frequency Index. It is the number of non-momentary electric interruptions, per year, the average customer experienced.
 CAIDI = Customer Average Interruption Duration Index. It is average number of minutes it takes to restore non-momentary electric interruptions.
 IEEE refers to the IEEE 1366-2003 or the IEEE 1366-2012 standard. Any method combines data from utilities that use IEEE standard with data from utilities that do not.
 For utilities using the IEEE method, a Major Event Day is any day that exceeds a daily SAIDI threshold called Tmed. Tmed is a duration statistic calculated from daily SAIDI values from the past five years. For utilities not using IEEE methods, Major Events are self-determined by the reporting utility.
 Loss of Supply Removed excludes outages due to loss of supply from the high-voltage/bulk power system.
 For a five minute video explanation of these metrics, go to <https://youtu.be/oVH9L0fCMTU>.
 Source: U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report.

Table 11.2 Reliability Metrics Using IEEE of U.S. Distribution System by State, 2024 and 2023

Census Division and State	Percent of Customers Reported		All Events (With Major Event Days)						Without Major Event Days						Loss of Supply Removed					
			SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	89.7%	83.3%	389.8	489.3	1.3	1.4	299.6	357.7	101.4	103.4	0.9	0.9	111.9	112.5	387.1	481.2	1.2	1.3	311.8	370.7
Connecticut	99.8%	79.0%	152.8	193.4	0.9	0.9	174.3	212.4	73.6	77.7	0.6	0.7	113.3	114.0	152.3	188.2	0.9	0.9	177.4	214.9
Maine	100.3%	100.8%	1,748.6	1,863.0	3.6	3.3	480.9	562.2	274.0	247.4	2.1	2.0	128.1	125.0	1,701.0	1,781.4	3.3	3.0	511.5	590.9
Massachusetts	90.2%	86.0%	103.7	265.3	0.9	1.1	121.8	248.2	77.0	83.5	0.7	0.8	102.9	105.7	103.9	268.5	0.8	1.0	125.3	262.0
New Hampshire	88.1%	88.2%	735.5	590.6	1.6	1.5	455.2	397.7	84.2	89.3	0.8	0.8	108.5	116.6	733.0	587.7	1.6	1.5	459.0	397.2
Rhode Island	97.6%	98.3%	104.3	104.6	0.9	0.8	116.4	133.7	60.8	52.2	0.8	0.7	79.9	78.3	99.0	100.8	0.9	0.7	114.9	136.9
Vermont	10.5%	10.4%	895.8	486.3	3.3	2.3	268.2	216.1	231.8	204.3	1.4	1.4	165.6	148.1	884.6	480.1	2.1	2.0	429.4	235.3
Middle Atlantic	60.5%	58.8%	309.1	196.8	1.3	1.0	230.7	189.0	121.5	112.2	1.0	0.9	123.3	126.1	299.7	185.9	1.2	1.0	243.2	195.5
New Jersey	99.2%	99.3%	173.3	108.2	1.1	0.9	155.3	122.9	98.8	88.0	0.9	0.8	104.7	106.0	161.2	99.2	1.0	0.8	166.0	126.8
New York	23.8%	20.0%	477.3	204.8	1.7	1.1	286.1	181.7	142.8	130.1	1.1	1.0	134.4	135.1	483.6	207.5	1.7	1.1	291.1	182.0
Pennsylvania	84.4%	84.3%	353.1	265.1	1.4	1.1	253.5	232.0	131.5	125.9	1.0	0.9	133.0	137.7	340.9	248.3	1.3	1.0	266.7	242.3
East North Central	91.2%	91.0%	357.8	489.5	1.2	1.2	308.6	412.3	114.3	108.8	0.9	0.8	131.5	134.6	342.5	483.4	1.1	1.1	323.7	434.5
Illinois	96.6%	96.3%	158.0	210.4	0.8	0.8	186.3	252.4	59.1	56.2	0.6	0.6	92.7	93.0	154.7	209.9	0.8	0.8	189.9	256.4
Indiana	84.3%	83.4%	310.0	467.4	1.3	1.4	242.9	330.6	123.3	111.3	1.0	0.9	122.4	118.0	252.3	462.1	1.1	1.3	221.4	357.6
Michigan	94.3%	94.2%	481.7	1,127.7	1.4	1.5	353.0	730.9	161.3	164.8	1.0	0.9	164.0	177.1	456.2	1,131.2	1.3	1.5	364.5	738.0
Ohio	96.5%	96.4%	511.0	366.6	1.3	1.3	393.7	292.7	133.3	127.1	1.0	0.9	133.4	138.4	500.3	336.0	1.1	1.1	445.1	312.6
Wisconsin	74.2%	74.5%	296.8	203.8	1.0	0.9	285.2	223.3	97.5	76.8	0.7	0.6	134.3	121.4	294.8	200.9	1.0	0.9	288.8	228.0
West North Central	76.9%	76.2%	255.3	222.7	1.2	1.1	207.8	203.8	93.9	84.6	0.9	0.8	108.8	104.3	254.7	215.6	1.1	1.0	228.9	221.5
Iowa	52.9%	52.8%	200.3	83.9	1.2	0.9	165.1	97.7	84.1	60.7	0.8	0.6	103.6	94.1	187.0	75.5	1.0	0.7	179.3	101.9
Kansas	80.0%	80.1%	289.8	287.1	1.5	1.3	192.8	216.3	104.0	101.8	1.0	1.0	103.5	101.4	277.9	274.4	1.4	1.2	205.9	234.3
Minnesota	86.9%	86.7%	222.4	127.1	1.3	1.0	176.3	130.6	91.5	72.8	0.9	0.8	107.5	93.6	222.3	123.6	1.1	0.9	194.3	143.9
Missouri	82.7%	83.6%	212.6	379.0	1.2	1.3	180.8	286.1	106.6	104.4	0.9	0.9	115.4	118.9	206.0	391.2	1.1	1.3	192.5	309.8
Nebraska	66.2%	67.0%	697.8	69.4	1.2	0.6	560.8	125.2	69.8	55.6	0.6	0.5	116.3	116.2	696.7	66.4	1.2	0.5	564.0	121.8
North Dakota	83.6%	63.2%	102.7	262.3	0.9	1.2	109.0	227.9	87.0	93.9	0.9	0.9	98.7	99.7	82.2	259.0	0.7	0.8	120.7	307.2
South Dakota	70.8%	67.9%	85.6	78.1	0.8	1.0	105.0	76.8	61.5	63.9	0.7	0.9	85.4	71.4	67.5	62.2	0.6	0.7	116.0	90.1
South Atlantic	81.8%	81.7%	1,405.8	240.4	1.8	1.3	768.3	179.4	133.1	119.7	1.0	1.1	129.0	111.9	1,352.3	211.7	1.7	1.2	809.3	180.0
Delaware	87.5%	87.4%	117.9	109.7	0.9	0.8	138.0	130.4	66.8	61.2	0.7	0.7	91.9	87.2	118.9	112.1	0.9	0.9	138.7	130.6
District of Columbia	98.9%	98.9%	32.6	71.9	0.3	0.4	120.2	194.2	26.4	33.3	0.2	0.3	107.2	104.6	32.6	71.9	0.3	0.4	120.2	194.2
Florida	84.1%	84.4%	1,487.6	172.3	1.8	1.0	833.9	175.6	66.7	69.4	0.7	0.8	90.0	89.0	1,485.6	160.0	1.7	0.9	865.9	172.3
Georgia	87.0%	87.8%	1,208.1	342.7	2.1	1.9	574.3	184.5	211.4	133.4	1.2	1.3	170.0	99.9	768.0	300.3	1.9	1.8	403.2	170.1
Maryland	98.6%	98.7%	118.1	166.2	0.8	0.9	144.5	180.7	75.1	66.9	0.7	0.7	108.6	95.1	116.7	156.1	0.8	0.9	145.6	176.9
North Carolina	90.6%	88.5%	1,518.1	262.5	1.8	1.5	831.3	172.1	143.9	156.4	1.2	1.3	122.4	121.9	1,475.0	249.9	1.7	1.4	879.2	178.6
South Carolina	92.6%	92.2%	3,155.0	169.8	2.4	1.5	1,332.3	112.3	115.9	126.5	1.2	1.3	96.7	98.1	2,972.9	140.4	2.1	1.2	1,447.2	117.3
Virginia	30.6%	30.6%	962.1	292.8	2.2	1.7	429.9	176.9	245.1	239.9	1.6	1.5	149.4	157.6	911.2	286.0	2.0	1.6	447.0	179.8
West Virginia	97.3%	97.8%	1,165.5	751.5	2.8	2.4	411.5	319.4	486.1	385.7	2.3	1.9	212.6	206.2	1,067.4	700.4	2.5	2.1	427.0	333.5
East South Central	62.1%	61.5%	423.7	864.3	2.0	2.4	216.7	359.0	176.3	186.5	1.6	1.6	113.6	114.7	423.0	876.2	1.9	2.3	226.0	375.6
Alabama	15.5%	14.3%	197.7	400.2	1.7	2.3	113.0	175.4	120.8	189.5	1.3	1.5	93.6	128.0	189.6	380.2	1.7	2.0	114.6	192.8
Kentucky	93.8%	93.2%	537.7	861.5	1.8	1.9	301.6	463.4	145.7	140.6	1.2	1.1	119.8	124.5	520.1	841.1	1.6	1.7	329.2	507.5
Mississippi	69.3%	68.8%	607.3	877.8	2.5	2.6	244.7	334.1	279.0	266.6	1.9	2.1	148.3	126.2	693.8	991.9	2.7	2.9	255.7	338.3
Tennessee	73.5%	73.2%	289.3	926.9	1.9	2.8	149.2	330.7	169.9	192.7	1.8	1.9	97.0	101.9	283.3	933.4	1.9	2.8	149.4	336.5
West South Central	65.2%	64.8%	1,268.9	685.6	2.2	1.9	568.9	355.7	164.2	163.3	1.4	1.4	113.5	116.2	1,295.8	671.2	2.1	1.8	608.6	376.3
Arkansas	82.0%	82.0%	527.8	915.3	2.1	2.1	247.0	431.2	201.9	230.7	1.6	1.6	124.8	146.2	377.8	879.0	1.8	1.9	209.2	480.4
Louisiana	72.3%	72.3%	630.6	663.2	2.4	1.9	267.7	352.5	215.9	199.3	1.7	1.5	130.0	132.8	603.0	633.7	2.2	1.8	272.8	360.3
Oklahoma	46.2%	45.9%	220.7	1,339.4	1.6	2.1	139.3	844.3	121.3	123.8	1.3	1.1	95.9	109.2	188.1	1,012.7	1.3	1.7	150.4	591.2
Texas	64.9%	64.3%	1,614.3	583.1	2.3	1.9	704.2	308.7	153.4	150.3	1.4	1.4	108.7	108.1	1,724.6	604.3	2.3	1.8	759.9	340.0
Mountain	91.5%	90.2%	176.3	117.9	1.2	1.0	148.8	122.0	102.4	90.4	1.0	0.8	105.2	106.5	169.5	101.2	1.1	0.9	152.9	114.5
Arizona	95.7%	95.8%	83.6	103.8	1.0	1.0	86.8	109.2	69.8	66.9	0.9	0.8	79.4	84.9	75.8	88.7	0.9	0.9	81.1	96.8
Colorado	92.3%	88.8%	257.0	100.2	1.4	0.9	181.6	108.4	118.9	89.2	1.1	0.9	103.9	102.2	251.2	96.2	1.3	0.9	188.1	113.1
Idaho	93.2%	93.1%	204.4	134.4	1.3	1.1	155.5	125.5	152.5	121.8	1.1	1.0	134.2	123.6	150.5	95.9	1.0	0.8	157.1	126.7
Montana	72.3%	68.4%	341.7	113.9	1.6	1.1	209.8	108.3	152.3	113.9	1.2	1.1	130.9	108.3	298.1	93.9	1.4	0.9	219.2	110.2
Nevada	103.1%	102.7%	158.9	138.7	1.1	0.9	143.4	147.2	63.8	81.2	0.7	0.7	97.0	108.9	116.7	96.9	1.3	1.1	88.9	85.7
New Mexico	85.2%	85.1%	272.6	156.0	1.3	1.1	205.7	141.6	152.0	123.7	1.1	0.9	137.4	136.3	255.4	139.0	1.1	1.0	226.5	143.9
Utah	85.4%	85.5%	115.4	127.7	1.0	0.9	114.5	140.0	105.0	108.5	1.0	0.9	109.9	125.3	108.9	119.9	1.0	0.9	108.7	130.4
Wyoming	71.3%	65.9%	137.8	121.4	1.0	0.9	138.0	129.8	116.0	102.6	0.9	0.8	125.4	124.3	128.6	106.4	1.0	0.9	126.4	116.3
Pacific Contiguous	93.0%	92.8%	371.7	299.1	1.4	1.3	261.7	230.9	159.6	147.8	1.1	1.0	140.9	142.8	380.0	287.3	1.4	1.2	269.6	236.5
California	94.4%	94.6%	285.0	352.5	1.4	1.4	210.7	250.2	164.4	157.1	1.2	1.1	139.2	143.2	306.3	351.5	1.4	1.4	214.3	252.4
Oregon	87.5%	87.5%	579.3	122.9	1.3	0.8	437.6	152.1	124.1	103.5	0.8	0.7	150.6	140.4	547.0	115.9	1.2	0.8	457.3	153.9
Washington	90.0%	88.0%	643.5	153.8	1.8	1.1	362.8	146.5	157.3	129.8	1.1	0.9	149.9	141.9	587.2	113.4	1.4	0.7	406.3	156.4
Pacific Noncontiguous	36.9%	23.7%	329.8	456.2	2.6	3.4	129.3	135.2	195.4	325.7	1.9	2.4	101.7	137.6	307.3	472.5	1.5	2.5	201.7	188.8
Alaska	79.5%	47.7%	323.2	499.4	2.3	3.3	139.3	153.2	192.4	325.7	1.9	2.4	103.3	137.6	371.0	472.5	1.8	2.5		

Table 11.3 Reliability Metrics Using Any Method of U.S. Distribution System by State, 2024 and 2023

Census Division and State	Percent of Customers Reported		All Events (With Major Events)						Without Major Events					
			SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)	
	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023	Year 2024	Year 2023
New England	96.0%	94.2%	419.6	480.5	1.4	1.4	303.6	343.7	112.3	107.8	1.0	0.9	118.0	114.2
Connecticut	101.2%	100.6%	153.6	164.6	0.9	0.9	175.5	188.8	73.1	70.3	0.6	0.7	113.4	107.3
Maine	100.3%	100.8%	1,748.6	1,863.0	3.6	3.3	480.9	562.2	274.0	247.4	2.1	2.0	128.1	125.0
Massachusetts	92.3%	88.2%	102.0	259.4	0.8	1.1	120.9	245.4	76.1	82.2	0.7	0.8	102.3	105.4
New Hampshire	99.2%	99.3%	922.7	645.8	2.0	1.8	456.6	368.5	132.3	124.6	1.0	1.0	134.3	126.1
Rhode Island	97.6%	98.3%	104.3	104.6	0.9	0.8	116.4	133.7	60.8	52.2	0.8	0.7	79.9	78.3
Vermont	87.0%	87.0%	696.7	744.4	2.5	2.4	276.9	316.5	275.0	221.3	1.7	1.6	165.5	140.0
Middle Atlantic	97.6%	97.3%	246.2	159.5	1.1	0.9	224.0	180.7	97.2	89.9	0.8	0.7	120.9	122.2
New Jersey	100.9%	101.0%	174.2	108.3	1.1	0.9	155.7	123.0	99.7	88.5	0.9	0.8	105.2	106.5
New York	98.2%	97.7%	219.9	120.0	0.9	0.7	241.7	165.6	72.0	70.0	0.6	0.6	117.8	119.4
Pennsylvania	94.5%	94.4%	336.1	252.7	1.4	1.1	248.3	228.0	131.0	119.2	1.0	0.9	134.9	135.8
East North Central	95.9%	95.7%	349.2	472.8	1.2	1.2	302.2	401.6	112.8	107.1	0.9	0.8	130.0	133.3
Illinois	98.1%	97.8%	156.9	208.2	0.9	0.8	184.0	249.2	59.4	56.2	0.6	0.6	92.3	92.9
Indiana	92.0%	91.1%	312.4	455.4	1.3	1.4	243.5	314.8	121.4	110.3	1.0	0.9	121.8	116.6
Michigan	97.5%	97.4%	470.4	1,093.6	1.4	1.5	346.8	723.5	160.1	162.7	1.0	0.9	162.4	176.7
Ohio	96.6%	96.5%	510.5	366.2	1.3	1.3	393.4	292.5	133.2	127.0	1.0	0.9	133.4	138.4
Wisconsin	92.3%	92.5%	266.1	183.0	1.0	0.9	260.8	208.6	91.3	72.4	0.7	0.6	125.2	114.7
West North Central	84.8%	84.9%	246.9	213.8	1.2	1.1	202.9	198.1	94.3	85.5	0.9	0.8	106.8	105.5
Iowa	85.4%	85.2%	166.7	104.9	1.2	0.9	145.0	115.7	89.8	70.4	0.9	0.7	101.3	99.3
Kansas	82.4%	82.5%	285.6	283.1	1.5	1.3	189.7	214.9	103.6	101.7	1.0	1.0	103.3	101.9
Minnesota	89.0%	88.7%	219.6	126.4	1.3	1.0	175.6	129.9	92.2	73.4	0.9	0.8	102.3	93.5
Missouri	86.7%	87.6%	224.3	371.8	1.2	1.3	188.6	282.9	106.0	106.7	0.9	0.9	115.3	121.7
Nebraska	73.7%	73.6%	641.7	72.6	1.2	0.6	520.8	130.1	73.6	56.8	0.6	0.5	123.8	118.3
North Dakota	88.5%	89.0%	99.1	208.6	0.9	1.1	108.4	197.7	84.2	89.9	0.9	0.9	98.3	99.1
South Dakota	75.4%	74.3%	84.7	77.0	0.8	1.0	104.0	76.2	62.1	63.2	0.7	0.9	86.2	70.8
South Atlantic	96.6%	96.7%	1,247.3	227.4	1.8	1.3	698.7	169.3	129.3	117.5	1.0	1.1	124.0	108.6
Delaware	89.1%	89.0%	116.1	108.2	0.8	0.8	137.8	130.3	65.9	60.4	0.7	0.7	91.9	87.3
District of Columbia	98.9%	98.9%	32.6	71.9	0.3	0.4	120.2	194.2	26.4	33.3	0.2	0.3	107.2	104.6
Florida	100.4%	100.2%	1,321.5	160.1	1.8	1.0	746.6	157.7	66.4	69.2	0.8	0.8	87.1	84.1
Georgia	88.9%	89.5%	1,229.1	349.2	2.1	1.9	579.2	185.2	212.3	136.8	1.3	1.4	168.0	100.8
Maryland	98.6%	98.7%	118.1	166.2	0.8	0.9	144.5	180.7	75.1	66.9	0.7	0.7	109.6	95.1
North Carolina	96.0%	96.1%	1,441.0	252.0	1.8	1.5	795.0	167.4	141.4	153.5	1.2	1.3	120.6	120.5
South Carolina	96.5%	95.6%	3,136.5	167.2	2.4	1.5	1,326.3	110.9	117.8	126.1	1.2	1.3	97.6	97.7
Virginia	96.4%	96.8%	418.3	221.1	1.6	1.5	257.1	151.3	166.4	159.3	1.3	1.3	124.0	124.2
West Virginia	97.3%	97.8%	1,165.5	751.5	2.8	2.4	411.5	319.4	486.1	385.7	2.3	1.9	212.6	206.2
East South Central	86.5%	86.8%	415.7	715.5	2.0	2.3	204.7	317.2	168.8	168.7	1.5	1.5	109.1	111.7
Alabama	80.7%	80.0%	279.4	294.2	1.9	1.6	149.4	186.9	117.8	120.2	1.0	1.0	113.6	122.8
Kentucky	96.5%	96.6%	648.3	868.2	2.0	1.9	331.7	456.3	153.3	143.4	1.3	1.2	116.1	122.9
Mississippi	83.2%	83.6%	567.1	802.1	2.6	2.7	221.9	295.2	266.3	252.8	2.0	2.1	135.6	118.0
Tennessee	85.9%	87.0%	278.6	857.9	2.0	2.8	139.3	305.1	159.5	186.1	1.8	1.9	90.4	98.1
West South Central	96.1%	95.1%	1,050.4	579.1	2.1	1.8	489.0	314.2	142.3	142.0	1.3	1.3	109.3	113.0
Arkansas	89.2%	89.3%	509.1	911.2	2.1	2.1	239.3	433.4	194.6	221.7	1.6	1.5	122.7	144.0
Louisiana	93.5%	93.6%	727.5	584.2	2.7	2.1	267.2	275.1	206.0	195.0	1.8	1.6	117.6	118.8
Oklahoma	90.6%	90.0%	270.9	896.6	1.7	1.9	156.5	481.6	119.6	139.3	1.1	1.1	104.3	121.8
Texas	98.1%	96.9%	1,270.6	496.2	2.1	1.8	600.9	281.5	129.4	124.7	1.2	1.2	106.2	106.1
Mountain	93.3%	92.8%	181.3	120.2	1.2	1.0	152.1	121.6	105.8	91.7	1.0	0.9	108.1	106.3
Arizona	96.6%	96.7%	87.5	106.8	1.0	1.0	88.6	108.6	72.0	69.3	0.9	0.8	80.1	84.8
Colorado	93.7%	91.8%	255.1	99.2	1.4	0.9	181.0	108.3	119.0	88.4	1.1	0.9	104.3	102.2
Idaho	95.1%	94.9%	232.8	137.5	1.3	1.1	177.1	128.4	174.0	119.4	1.1	1.0	153.2	121.2
Montana	74.7%	75.0%	351.5	118.7	1.6	1.1	216.9	111.1	156.6	117.1	1.2	1.1	134.9	111.0
Nevada	103.1%	102.7%	158.9	138.7	1.1	0.9	143.4	147.2	63.8	81.2	0.7	0.7	97.0	108.9
New Mexico	90.1%	90.1%	278.8	168.9	1.3	1.2	211.1	136.0	156.5	132.3	1.1	1.0	141.1	132.7
Utah	88.3%	88.4%	119.8	127.1	1.0	0.9	116.3	138.7	106.7	109.8	1.0	0.9	110.4	124.9
Wyoming	76.0%	75.9%	137.8	127.0	1.0	1.0	138.0	127.8	109.1	96.0	0.9	0.8	125.6	124.7
Pacific Contiguous	98.5%	98.6%	365.4	294.2	1.4	1.3	258.7	229.2	155.8	144.6	1.1	1.0	139.5	140.8
California	100.2%	100.2%	279.6	346.6	1.3	1.4	208.0	248.1	158.2	152.0	1.2	1.1	137.1	140.0
Oregon	93.0%	92.9%	591.0	126.9	1.3	0.8	439.1	153.8	130.9	108.0	0.9	0.8	152.8	143.7
Washington	95.2%	95.1%	623.5	151.7	1.8	1.0	355.9	148.0	158.6	130.6	1.1	0.9	146.0	143.8
Pacific Noncontiguous	93.4%	93.6%	323.0	448.4	2.6	2.1	123.9	210.8	213.7	184.6	2.1	1.6	103.4	115.8
Alaska	84.2%	84.5%	327.1	374.8	2.6	2.7	126.3	138.8	192.4	325.7	1.9	2.4	103.3	137.6
Hawaii	99.9%	99.9%	320.6	491.8	2.6	1.8	122.6	275.1	225.6	148.6	2.2	1.4	103.5	106.3
U.S. Total	95.0%	94.8%	611.3	342.0	1.5	1.3	401.9	256.6	126.0	118.4	1.0	1.0	120.8	118.5

SAIFI = System Average Interruption Frequency Index. It is the number of non-momentary electric interruptions, per year, the average customer experienced.

CAIDI = Customer Average Interruption Duration Index. It is average number of minutes it takes to restore non-momentary electric interruptions.

Any method combines data from utilities that use IEEE standard with data from utilities that do not.

For utilities using the IEEE method, a Major Event Day is any day that exceeds a daily SAIDI threshold called Tmed. Tmed is a duration statistic calculated from

daily SAIDI values from the past five years. For utilities not using IEEE methods, Major Events are self-determined by the reporting utility.

Percent of Customers Reported is an estimate of the percentage of total customers covered by these metrics. The numerator is reported number of meters used on the reliability schedule,

while the denominator is the number of customers reported on the sales to ultimate customer schedule. It is possible, in some instances, for this metric to exceed 100%.

For a five minute video explanation of these metrics, go to <https://youtu.be/oVH9L0fCMTU>.

Source: U.S. Energy Information Administration, Form EIA-861, Annual Electric Power Industry Report.

Table 11.6 CADI Values / Minutes Per Interruption of U.S. Distribution System by State, 2014 - 2024

Current Division and State	EEC																								Any Method																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944	1943	1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	1888	1887	1886	1885	1884	1883	1882	1881	1880	1879	1878	1877	1876	1875	1874	1873	1872	1871	1870	1869	1868	1867	1866	1865	1864	1863	1862	1861	1860	1859	1858	1857	1856	1855	1854	1853	1852	1851	1850	1849	1848	1847	1846	1845	1844	1843	1842	1841	1840	1839	1838	1837	1836	1835	1834	1833	1832	1831	1830	1829	1828	1827	1826	1825	1824	1823	1822	1821	1820	1819	1818	1817	1816	1815	1814	1813	1812	1811	1810	1809	1808	1807	1806	1805	1804	1803	1802	1801	1800	1799	1798	1797	1796	1795	1794	1793	1792	1791	1790	1789	1788	1787	1786	1785	1784	1783	1782	1781	1780	1779	1778	1777	1776	1775	1774	1773	1772	1771	1770	1769	1768	1767	1766	1765	1764	1763	1762	1761	1760	1759	1758	1757	1756	1755	1754	1753	1752	1751	1750	1749	1748	1747	1746	1745	1744	1743	1742	1741	1740	1739	1738	1737	1736	1735	1734	1733	1732	1731	1730	1729	1728	1727	1726	1725	1724	1723	1722	1721	1720	1719	1718	1717	1716	1715	1714	1713	1712	1711	1710	1709	1708	1707	1706	1705	1704	1703	1702	1701	1700	1699	1698	1697	1696	1695	1694	1693	1692	1691	1690	1689	1688	1687	1686	1685	1684	1683	1682	1681	1680	1679	1678	1677	1676	1675	1674	1673	1672	1671	1670	1669	1668	1667	1666	1665	1664	1663	1662	1661	1660	1659	1658	1657	1656	1655	1654	1653	1652	1651	1650	1649	1648	1647	1646	1645	1644	1643	1642	1641	1640	1639	1638	1637	1636	1635	1634	1633	1632	1631	1630	1629	1628	1627	1626	1625	1624	1623	1622	1621	1620	1619	1618	1617	1616	1615	1614	1613	1612	1611	1610	1609	1608	1607	1606	1605	1604	1603	1602	1601	1600	1599	1598	1597	1596	1595	1594	1593	1592	1591	1590	1589	1588	1587	1586	1585	1584	1583	1582	1581	1580	1579	1578	1577	1576	1575	1574	1573	1572	1571	1570	1569	1568	1567	1566	1565	1564	1563	1562	1561	1560	1559	1558	1557	1556	1555	1554	1553	1552	1551	1550	1549	1548	1547	1546	1545	1544	1543	1542	1541	1540	1539	1538	1537	1536	1535	1534	1533	1532	1531	1530	1529	1528	1527	1526	1525	1524	1523	1522	1521	1520	1519	1518	1517	1516	1515	1514	1513	1512	1511	1510	1509	1508	1507	1506	1505	1504	1503	1502	1501	1500	1499	1498	1497	1496	1495	1494	1493	1492	1491	1490	1489	1488	1487	1486	1485	1484	1483	1482	1481	1480	1479	1478	1477	1476	1475	1474	1473	1472	1471	1470	1469	1468	1467	1466	1465	1464	1463	1462	1461	1460	1459	1458	1457	1456	1455	1454	1453	1452	1451	1450	1449	1448	1447	1446	1445	1444	1443	1442	1441	1440	1439	1438	1437	1436	1435	1434	1433	1432	1431	1430	1429	1428	1427	1426	1425	1424	1423	1422	1421	1420	1419	1418	1417	1416	1415	1414	1413	1412	1411	1410	1409	1408	1407	1406	1405	1404	1403	1402	1401	1400	1399	1398	1397	1396	1395	1394	1393	1392	1391	1390	1389	1388	1387	1386	1385	1384	1383	1382	1381	1380	1379	1378	1377	1376	1375	1374	1373	1372	1371	1370	1369	1368	1367	1366	1365	1364	1363	1362	1361	1360	1359	1358	1357	1356	1355	1354	1353	1352	1351	1350	1349	1348	1347	1346	1345	1344	1343	1342	1341	1340	1339	1338	1337	1336	1335	1334	1333	1332	1331	1330	1329	1328	1327	1326	1325	1324	1323	1322	1321	1320	1319	1318	1317	1316	1315	1314	1313	1312	1311	1310	1309	1308	1307	1306	1305	1304	1303	1302	1301	1300	1299	1298	1297	1296	1295	1294	1293	1292	1291	1290	1289	1288	1287	1286	1285	1284	1283	1282	1281	1280	1279	1278	1277	1276	1275	1274	1273	1272	1271	1270	1269	1268	1267	1266	1265	1264	1263	1262	1261	1260	1259	1258	1257	1256	1255	1254	1253	1252	1251	1250	1249	1248	1247	1246	1245	1244	1243	1242	1241	1240	1239	1238	1237	1236	1235	1234	1233	1232	1231	1230	1229	1228	1227	1226	1225	1224	1223	1222	1221	1220	1219	1218	1217	1216	1215	1214	1213	1212	1211	1210	1209	1208	1207	1206	1205	1204	1203	1202	1201	1200	1199	1198	1197	1196	1195	1194	1193	1192	1191	1190	1189	1188	1187	1186	1185	1184	1183	1182	1181	1180	1179	1178	1177	1176	1175	1174	1173	1172	1171	1170	1169	1168	1167	1166	1165	1164	1163	1162	1161	1160	1159	1158	1157	1156	1155	1154	1153	1152	1151	1150	1149	1148	1147	1146	1145	1144	1143	1142	1141	1140	1139	1138	1137	1136	1135	1134	1133	1132	1131	1130	1129	1128	1127	1126	1125	1124	1123	1122	1121	1120	1119	1118	1117	1116	1115	1114	1113	1112	1111	1110	1109	1108	1107	1106	1105	1104	1103	1102	1101	1100	1099	1098	1097	1096	1095	1094	1093	1092	1091	1090	1089	1088	1087	1086	1085	1084	1083	1082	1081	1080	1079	1078	1077	1076	1075	1074	1073	1072	1071	1070	1069	1068	1067	1066	1065	1064	1063	1062	1061	1060	1059	1058	1057	1056	1055	1054	1053	1052	1051	1050	1049	1048	1047	1046	1045	1044	1043	1042	1041	1040	1039	1038	1037	1036	1035	1034	1033	1032	1031	1030	1029	1028	1027	1026	1025	1024	1023	1022	1021	1020	1019	1018	1017	1016	1015	1014	1013	1012	1011	1010	1009	1008	1007	1006	1005	1004	1003	1002	1001	1000	999	998	997	996	995	994	993	992	991	990	989	988	987	986	985	984	983	982	981	980	979	978	977	976	975	974	973	972	971	970	969	968	967	966	965	964	963	962	961	960	959	958	957	956	955	954	953	952	951	950	949	948	947	946	945	944	943	942	941	940	939	938	937	936	935	934	933	932	931	930	929	928	927	926	925	924	923	922	921	920	919	918	917	916	915	914	913	912	911	910	909	908	907	906	905	904	903	902	901	900	899	898	897	896	895	894	893	892	891	890	889	888	887	886	885	884	883	882	881	880	879	878	877	876	875	874	873	872	871	870	869	868	867	866	865	864	863	862	861	860	859	858	857	856	855	854	853	852	851	850	849	848	847	846	845	844	843	842	841	840	839	838	837	836	835	834	833	832	831	830	829	828	827	826	825	824	823	822	821	820	819	818	817	816	815	814	813	812	811	810	809	808	807	806	805	804	803	802	801	800	799	798	797	796	795	794	793	792	791	790	789	788	787	786	785	784	783	782	781	780	779	778	777	776	775	774	773	772	771	770	769	768	767	766	765	764	763	762	761	760	759	758	757	756	755	754	753	752	751	750	749	748	747	746	745	744	743	742	741	740	739	738	737	736	735	734	733	732	731	730	729	728	727	726	725	724	723	722	721	720	719	718	717	716	715	714	713	712	711	710	709	708	707	706	705	704	703	702	701	700	699	698	697	696	695	694	693	692	691	690	689	688	687	686	685	684	683	682	681	680	679	678	677	676	675	674	673	672	671	670	669	668	667	666	665	664	663	662	661	660	659	658	657	656	655	654	653	652	651	650	649	648	647	646	645	644	643	642	641	640	639	638	637	636	635	634

Chapter 12

U.S. Territories

**Table 12.1 Puerto Rico- Number of Ultimate Customers Served:
by Sector, 2014 through 2024**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	1,328,546	129,122	662	--	1,458,330
2015	1,326,631	127,365	647	--	1,454,643
2016	1,332,152	127,179	633	--	1,459,964
2017	1,337,756	127,065	618	--	1,465,439
2018	1,346,102	126,527	602	--	1,473,231
2019	1,341,424	124,912	588	--	1,466,924
2020	1,351,190	125,391	587	--	1,477,168
2021	1,358,513	126,159	591	--	1,485,263
2022	1,370,811	127,741	589	--	1,499,141
2023	1,379,341	127,792	582	--	1,507,715
2024	1,383,774	127,491	583	--	1,511,848
Year 2022					
January	1,366,102	127,193	590	--	1,493,885
February	1,365,877	127,084	590	--	1,493,551
March	1,366,362	127,176	589	--	1,494,127
April	1,368,406	127,392	587	--	1,496,385
May	1,369,833	127,589	585	--	1,498,007
June	1,372,587	127,921	588	--	1,501,096
July	1,372,079	127,976	588	--	1,500,643
August	1,372,668	127,954	589	--	1,501,211
September	1,373,141	128,077	590	--	1,501,808
October	1,374,149	128,107	590	--	1,502,846
November	1,374,192	128,189	589	--	1,502,970
December	1,374,331	128,237	590	--	1,503,158
Year 2023					
January	1,374,717	128,302	589	--	1,503,608
February	1,375,176	128,312	588	--	1,504,076
March	1,376,298	128,040	580	--	1,504,918
April	1,377,070	127,611	580	--	1,505,261
May	1,378,115	127,668	579	--	1,506,362
June	1,379,369	127,598	580	--	1,507,547
July	1,380,020	127,637	581	--	1,508,238
August	1,380,809	127,612	580	--	1,509,001
September	1,381,572	127,766	581	--	1,509,919
October	1,382,416	127,596	582	--	1,510,594
November	1,383,057	127,673	583	--	1,511,313
December	1,383,477	127,690	585	--	1,511,752
Year 2024					
January	1,383,758	126,967	584	--	1,511,309
February	1,382,595	126,777	584	--	1,509,956
March	1,383,053	126,808	584	--	1,510,445
April	1,383,157	126,802	584	--	1,510,543
May	1,383,293	127,693	585	--	1,511,571
June	1,382,822	127,663	585	--	1,511,070
July	1,383,420	127,965	585	--	1,511,970
August	1,384,098	128,003	585	--	1,512,686
September	1,383,799	127,930	582	--	1,512,311
October	1,384,566	127,787	582	--	1,512,935
November	1,385,486	127,813	580	--	1,513,879
December	1,385,241	127,685	579	--	1,513,505

Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report.
Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report;
Form EIA-861, Annual Electric Power Industry Report

**Table 12.2 Puerto Rico- Sales of Electricity to Ultimate Customers:
by Sector, 2014 through 2024 (Megawatthours)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	6,218,352	8,761,182	2,376,022	--	17,355,556
2015	6,313,615	8,586,457	2,355,385	--	17,255,457
2016	6,524,304	8,568,874	2,251,095	--	17,344,273
2017	5,045,346	6,819,591	1,746,554	--	13,611,491
2018	6,102,980	8,202,893	2,128,354	--	16,434,227
2019	6,205,152	7,905,084	2,048,192	--	16,158,428
2020	6,908,138	7,320,018	1,909,660	--	16,137,816
2021	7,119,383	7,484,529	1,853,200	--	16,457,112
2022	6,723,199	7,511,478	1,768,396	--	16,003,073
2023	7,402,045	8,083,092	1,684,002	--	17,169,139
2024	7,853,014	8,369,293	1,558,835	--	17,781,142
Year 2022					
January	529,162	572,918	163,052	--	1,265,132
February	447,525	578,680	141,256	--	1,167,461
March	504,302	569,385	146,676	--	1,220,362
April	509,408	552,580	128,935	--	1,190,924
May	558,688	724,155	178,453	--	1,461,296
June	691,409	696,464	137,232	--	1,525,105
July	677,481	707,421	160,056	--	1,544,958
August	641,604	644,816	159,043	--	1,445,462
September	614,175	676,030	144,496	--	1,434,702
October	426,129	525,960	116,067	--	1,068,155
November	587,283	624,719	149,591	--	1,361,593
December	536,033	638,350	143,540	--	1,317,923
Year 2023					
January	476,437	585,902	125,879	--	1,188,218
February	428,728	547,881	123,762	--	1,100,372
March	497,284	606,624	142,910	--	1,246,818
April	522,925	621,366	143,333	--	1,287,624
May	630,969	689,494	125,636	--	1,446,100
June	695,670	698,032	145,894	--	1,539,596
July	765,237	722,232	146,190	--	1,633,660
August	743,125	723,022	163,155	--	1,629,302
September	725,204	747,147	146,118	--	1,618,469
October	742,232	768,617	149,438	--	1,660,286
November	598,657	688,244	133,467	--	1,420,367
December	575,576	684,531	138,220	--	1,398,327
Year 2024					
January	512,524	632,826	108,457	--	1,253,808
February	493,736	612,821	132,288	--	1,238,845
March	646,496	698,774	131,864	--	1,477,135
April	639,471	656,801	145,230	--	1,441,502
May	629,170	771,788	103,158	--	1,504,116
June	751,556	697,964	143,444	--	1,592,964
July	796,135	733,371	130,559	--	1,660,065
August	748,382	733,371	136,500	--	1,618,253
September	697,473	696,856	112,124	--	1,506,453
October	740,475	756,853	152,639	--	1,649,966
November	615,724	685,972	122,842	--	1,424,538
December	581,873	691,895	139,728	--	1,413,497

Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report.
Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report;
Form EIA-861, Annual Electric Power Industry Report

Table 12.3 Puerto Rico- Revenue from Sales of Electricity to Ultimate Customers: by Sector, 2014 through 2024 (Thousand Dollars)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	1,636,166	2,394,155	550,673	--	4,580,994
2015	1,282,008	1,850,101	417,158	--	3,549,267
2016	1,169,715	1,677,209	356,310	--	3,203,233
2017	1,123,005	1,549,337	344,034	--	3,016,376
2018	1,265,179	1,893,330	405,173	--	3,563,682
2019	1,329,706	1,810,611	420,178	--	3,560,495
2020	1,329,048	1,568,470	360,707	--	3,258,225
2021	1,506,288	1,799,862	380,303	--	3,686,454
2022	1,901,871	2,334,964	505,081	--	4,741,916
2023	1,685,843	1,978,615	390,129	--	4,054,587
2024	1,859,196	2,056,541	368,709	--	4,284,446
Year 2022					
January	136,075	154,251	40,378	--	330,704
February	116,007	168,487	36,286	--	320,780
March	138,639	188,166	40,864	--	367,669
April	135,982	182,484	34,936	--	353,402
May	151,008	225,891	47,947	--	424,846
June	190,133	204,465	40,191	--	434,788
July	237,463	238,282	56,584	--	532,329
August	190,956	212,419	48,442	--	451,816
September	170,168	202,916	40,893	--	413,977
October	140,294	194,981	40,032	--	375,307
November	157,125	187,145	40,552	--	384,822
December	138,021	175,478	37,978	--	351,476
Year 2023					
January	107,600	147,132	28,698	--	283,431
February	101,169	144,459	29,577	--	275,205
March	123,536	167,523	37,382	--	328,442
April	127,840	167,604	36,386	--	331,829
May	152,487	187,613	31,346	--	371,446
June	153,899	145,348	32,048	--	331,294
July	184,185	198,081	38,885	--	421,151
August	173,819	180,163	36,641	--	390,624
September	142,739	158,096	28,399	--	329,233
October	178,311	193,748	37,359	--	409,418
November	128,361	150,841	26,953	--	306,156
December	111,895	138,007	26,455	--	276,358
Year 2024					
January	112,384	143,417	23,649	--	279,450
February	114,038	149,219	29,746	--	293,004
March	150,972	170,528	30,735	--	352,234
April	148,863	160,347	33,277	--	342,486
May	168,442	217,368	29,129	--	414,939
June	186,227	180,266	34,775	--	401,267
July	200,221	201,775	35,455	--	437,451
August	192,232	180,702	33,555	--	406,489
September	172,212	176,112	29,813	--	378,137
October	157,810	172,526	33,275	--	363,611
November	123,826	140,027	23,802	--	287,654
December	131,968	164,255	31,500	--	327,723

Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report. Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report; Form EIA-861, Annual Electric Power Industry Report

**Table 12.4 Puerto Rico- Average Price of Electricity to Ultimate Customers:
by Sector, 2014 through 2024 (Cents per Kilowatthour)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2014	26.31	27.33	23.18	--	26.39
2015	20.31	21.55	17.71	--	20.57
2016	17.93	19.57	15.83	--	18.47
2017	22.26	22.72	19.70	--	22.16
2018	20.73	23.08	19.04	--	21.68
2019	21.43	22.90	20.51	--	22.03
2020	19.24	21.43	18.89	--	20.19
2021	21.16	24.05	20.52	--	22.40
2022	28.29	31.09	28.56	--	29.63
2023	22.78	24.48	23.17	--	23.62
2024	23.67	24.57	23.65	--	24.10
Year 2022					
January	25.72	26.92	24.76	--	26.14
February	25.92	29.12	25.69	--	27.48
March	27.49	33.05	27.86	--	30.13
April	26.69	33.02	27.10	--	29.67
May	27.03	31.19	26.87	--	29.07
June	27.50	29.36	29.29	--	28.51
July	35.05	33.68	35.35	--	34.46
August	29.76	32.94	30.46	--	31.26
September	27.71	30.02	28.30	--	28.85
October	32.92	37.07	34.49	--	35.14
November	26.75	29.96	27.11	--	28.26
December	25.75	27.49	26.46	--	26.67
Year 2023					
January	22.58	25.11	22.80	--	23.85
February	23.60	26.37	23.90	--	25.01
March	24.84	27.62	26.16	--	26.34
April	24.45	26.97	25.39	--	25.77
May	24.17	27.21	24.95	--	25.69
June	22.12	20.82	21.97	--	21.52
July	24.07	27.43	26.60	--	25.78
August	23.39	24.92	22.46	--	23.97
September	19.68	21.16	19.44	--	20.34
October	24.02	25.21	25.00	--	24.66
November	21.44	21.92	20.19	--	21.55
December	19.44	20.16	19.14	--	19.76
Year 2024					
January	21.93	22.66	21.80	--	22.29
February	23.10	24.35	22.49	--	23.65
March	23.35	24.40	23.31	--	23.85
April	23.28	24.41	22.91	--	23.76
May	26.77	28.16	28.24	--	27.59
June	24.78	25.83	24.24	--	25.19
July	25.15	27.51	27.16	--	26.35
August	25.69	24.64	24.58	--	25.12
September	24.69	25.27	26.59	--	25.10
October	21.31	22.80	21.80	--	22.04
November	20.11	20.41	19.38	--	20.19
December	22.68	23.74	22.54	--	23.19

Sources: U.S. Energy Information Administration, Form EIA-861M (formerly EIA-826), Monthly Electric Industry Power Report.
Form EIA-826, Monthly Electric Sales and Revenue Report with State Distributions Report;
Form EIA-861, Annual Electric Power Industry Report

**Table 12.5. American Samoa
By Sector, 2014 through 2024**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2014	11,561	1,386	4	--	12,951
2015	11,023	1,356	4	--	12,383
2016	10,916	1,363	6	--	12,285
2017	10,930	1,386	4	--	12,320
2018	10,866	1,395	4	--	12,265
2019	10,762	1,450	4	--	12,216
2020	10,720	1,452	4	--	12,176
2021	10,802	1,522	4	--	12,328
2022	10,893	1,575	4	--	12,472
2023	10,903	1,581	12	--	12,496
2024	10,998	1,674	12	--	12,684
Sales of Electricity to Ultimate Customers (megawatthours)					
2014	41,029	70,598	23,142	--	134,769
2015	43,306	72,007	25,974	--	141,287
2016	46,493	69,617	32,232	--	148,342
2017	49,538	71,173	26,699	--	147,410
2018	45,621	72,185	24,546	--	142,352
2019	47,127	75,151	25,415	--	147,693
2020	50,304	74,463	25,714	--	150,481
2021	55,625	72,814	24,867	--	153,306
2022	56,424	70,418	24,745	--	151,587
2023	57,015	70,466	28,750	--	156,231
2024	62,505	74,799	30,763	--	168,067
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2014	17,286	27,553	8,076	--	52,915
2015	15,035	22,981	7,695	--	45,710
2016	13,184	18,402	7,962	--	39,548
2017	15,020	20,626	7,294	--	42,940
2018	15,434	23,557	7,668	--	46,659
2019	16,617	25,328	8,211	--	50,155
2020	16,513	23,480	7,680	--	47,672
2021	17,640	22,745	7,335	--	47,720
2022	25,373	31,668	10,835	--	67,875
2023	25,286	30,386	12,115	--	67,787
2024	26,519	30,482	12,099	--	69,100
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2014	42.13	39.03	34.90	--	39.26
2015	34.72	31.91	29.63	--	32.35
2016	28.36	26.43	24.70	--	26.66
2017	30.32	28.98	27.32	--	29.13
2018	33.83	32.63	31.24	--	32.78
2019	35.26	33.70	32.31	--	33.96
2020	32.83	31.53	29.87	--	31.68
2021	31.71	31.24	29.50	--	31.13
2022	44.97	44.97	43.79	--	44.78
2023	44.35	43.12	42.14	--	43.39
2024	42.43	40.75	39.33	--	41.11

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

**Table 12.6. Guam
By Sector, 2014 through 2024**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2014	41,999	6,925	--	--	48,924
2015	42,752	6,940	--	--	49,692
2016	43,943	6,956	--	--	50,899
2017	43,756	7,087	--	--	50,843
2018	44,006	7,366	--	--	51,372
2019	44,226	7,517	--	--	51,743
2020	44,420	7,518	--	--	51,938
2021	44,748	7,516	--	--	52,264
2022	45,271	7,602	--	--	52,873
2023	45,302	7,708	--	--	53,010
2024	45,808	7,751	--	--	53,559
Sales of Electricity to Ultimate Customers (megawatthours)					
2014	457,835	1,075,511	--	--	1,533,346
2015	463,990	1,078,018	--	--	1,542,008
2016	494,842	1,087,317	--	--	1,582,159
2017	516,682	1,103,757	--	--	1,620,439
2018	510,725	1,071,705	--	--	1,582,430
2019	514,829	1,071,513	--	--	1,586,342
2020	552,083	991,159	--	--	1,543,242
2021	603,924	970,623	--	--	1,574,547
2022	574,292	984,602	--	--	1,558,894
2023	495,407	952,195	--	--	1,447,602
2024	549,816	1,018,473	--	--	1,568,289
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2014	125,028	309,439	--	--	434,467
2015	106,057	260,652	--	--	366,709
2016	93,568	214,840	--	--	308,408
2017	103,327	230,472	--	--	333,799
2018	121,331	260,506	--	--	381,837
2019	128,641	275,267	--	--	403,908
2020	116,537	221,583	--	--	338,121
2021	121,239	207,645	--	--	328,883
2022	172,623	305,997	--	--	478,620
2023	188,415	360,267	--	--	548,681
2024	192,509	355,416	--	--	547,925
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2014	27.31	28.77	--	--	28.33
2015	22.86	24.18	--	--	23.78
2016	18.91	19.76	--	--	19.49
2017	20.00	20.88	--	--	20.60
2018	23.76	24.31	--	--	24.13
2019	24.99	25.69	--	--	25.46
2020	21.11	22.36	--	--	21.91
2021	20.08	21.39	--	--	20.89
2022	30.06	31.08	--	--	30.70
2023	38.03	37.84	--	--	37.90
2024	35.01	34.90	--	--	34.94

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

**Table 12.7. Northern Mariana Islands
By Sector, 2011 through 2024**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2014	11,045	3,651	--	--	14,696
2015	11,318	3,612	--	--	14,930
2016	11,869	3,952	--	--	15,821
2017	12,106	3,952	--	--	16,058
2018	12,323	4,243	--	--	16,566
2019	11,525	3,983	--	--	15,508
2020	12,329	3,212	--	--	15,541
2021	12,394	4,381	--	--	16,775
2022	12,770	4,195	--	--	16,965
2023	13,027	4,256	--	--	17,283
2024	13,052	4,503	--	--	17,555
Sales of Electricity to Ultimate Customers (megawatthours)					
2014	57,532	153,959	--	--	211,491
2015	52,928	145,170	--	--	198,098
2016	70,404	177,766	--	--	248,170
2017	80,502	193,399	--	--	273,901
2018	75,128	182,533	--	--	257,661
2019	76,795	180,421	--	--	257,216
2020	86,601	121,698	--	--	208,299
2021	98,119	106,158	--	--	204,277
2022	94,566	163,706	--	--	258,272
2023	92,078	169,896	--	--	261,974
2024	95,199	180,702	--	--	275,901
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2014	20,714	66,034	--	--	86,749
2015	12,197	43,521	--	--	55,718
2016	12,657	42,870	--	--	55,527
2017	18,653	52,614	--	--	71,268
2018	20,530	58,788	--	--	79,318
2019	19,410	55,434	--	--	74,844
2020	18,655	32,784	--	--	51,439
2021	24,881	30,748	--	--	55,629
2022	25,079	37,702	--	--	62,781
2023	33,050	68,374	--	--	101,424
2024	27,592	31,062	--	--	58,653
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2014	36.01	42.89	--	--	41.02
2015	23.04	29.98	--	--	28.13
2016	17.98	24.12	--	--	22.37
2017	23.17	27.21	--	--	26.02
2018	27.33	32.21	--	--	30.78
2019	25.28	30.72	--	--	29.10
2020	21.54	26.94	--	--	24.69
2021	25.36	28.96	--	--	27.23
2022	26.52	23.03	--	--	24.31
2023	35.89	40.24	--	--	38.72
2024	28.98	17.19	--	--	21.26

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

**Table 12.8. Virgin Islands
By Sector, 2014 through 2024**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2014	45,066	8,808	1,043	--	54,917
2015	45,090	8,747	1,044	--	54,881
2016	49,559	9,951	1,089	--	60,599
2017	49,559	9,951	1,089	--	60,599
2018	46,721	7,491	2,238	--	56,450
2019	46,283	7,526	2,324	--	56,133
2020	46,283	7,526	2,324	--	56,133
2021	46,386	7,535	2,386	--	56,307
2022	45,850	7,524	2,292	--	55,666
2023	44,216	7,924	2,292	--	54,432
2024	44,319	7,915	2,286	--	54,520
Sales of Electricity to Ultimate Customers (megawatthours)					
2014	219,402	113,517	308,119	--	641,038
2015	211,753	109,530	299,598	--	620,881
2016	224,268	115,464	298,959	--	638,691
2017	174,208	85,273	201,822	--	461,303
2018	191,200	75,000	256,100	--	522,300
2019	217,003	87,000	257,313	--	561,316
2020	244,849	86,350	256,827	--	588,026
2021	253,666	100,239	263,702	--	617,607
2022	258,812	101,485	261,772	--	622,069
2023	266,288	148,402	234,226	--	648,916
2024	267,063	148,381	209,582	--	625,026
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2014	108,204	58,361	153,232	--	319,797
2015	90,567	43,840	134,197	--	268,603
2016	76,907	45,969	101,434	--	224,310
2017	72,035	38,703	93,206	--	203,944
2018	66,093	36,220	83,192	--	185,505
2019	84,090	43,842	95,311	--	223,243
2020	84,094	43,816	95,297	--	223,207
2021	85,613	43,653	95,974	--	225,240
2022	87,199	43,788	95,359	--	226,347
2023	88,316	64,490	96,543	--	249,349
2024	88,624	64,489	87,197	--	240,311
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2014	49.32	51.41	49.73	--	49.89
2015	42.77	40.03	44.79	--	43.26
2016	34.29	39.81	33.93	--	35.12
2017	41.35	45.39	46.18	--	44.21
2018	34.57	48.29	32.48	--	35.52
2019	38.75	50.39	37.04	--	39.77
2020	34.35	50.74	37.11	--	37.96
2021	33.75	43.55	36.39	--	36.47
2022	33.69	43.15	36.43	--	36.39
2023	33.17	43.46	41.22	--	38.43
2024	33.18	43.46	41.61	--	38.45

Source: U.S. Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."

Appendix

Table A.1. Sulfur Dioxide Uncontrolled Emission Factors

Fuel, Code, Source and Emission Units				Combustion System Type / Firing Configuration						
Fuel	EIA Fuel Code	Source and Tables (As Appropriate)	Emissions Units Lbs = Pounds MMCF = Million Cubic Feet MG = Thousand Gallons	Cyclone Firing Boiler	Fluidized Bed Firing Boiler	Stoker Boiler	Tangential Firing Boiler	All Other Boiler Types	Combustion Turbine	Internal Combustion Engine
Distillate Fuel Oil*	DFO	Source: 2, Table 3.1-2a, 3.4-1 & 1.3-1	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Jet Fuel*	JF	Assumed to have emissions similar to DFO.	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Kerosene*	KER	Assumed to have emissions similar to DFO.	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Other Biomass Liquids*	OBL	Source: 1 (including footnotes 3 and 16 within source)	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Residual Fuel Oil*	RFO	Source: 2, Table 1.3-1; Combustion turbines and internal combustion engines assumed to have emissions similar to DFO.	Lbs per MG	157.00	15.70	157.00	157.00	157.00	140.00	140.00
Wood Waste Liquids*	WDL	Source: 1 (including footnotes 3 and 16 within source)	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Waste Oil*	WO	Source: 2, Table 1.11-2; Combustion turbines and internal combustion engines assumed to have emissions similar to DFO.	Lbs per MG	147.00	14.70	147.00	147.00	147.00	140.00	140.00
Blast Furnace Gas	BFG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Landfill Gas	LFG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Natural Gas	NG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Other Biomass Gas	OBG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Other Gases	OG	Source: 1 (including footnote 7 within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Other	OTH	Assumed to have emissions similar to Natural Gas.	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Propane Gas	PG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Coal-Derived Synthesis Gas	SGC	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Synthesis Gas from Petroleum Coke	SGP	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Agricultural Byproducts	AB	Source: 1	Lbs per ton	0.08	0.01	0.08	0.08	0.08	N/A	N/A
Bituminous Coal*	BIT	Source: 2, Table 1.1-3	Lbs per ton	38.00	3.80	38.00	38.00	38.00	N/A	N/A
Lignite Coal*	LIG	Source: 2, Table 1.7-1	Lbs per ton	30.00	3.00	30.00	30.00	30.00	N/A	N/A
Municipal Solid Waste	MSW	Source: 1	Lbs per ton	1.70	0.17	1.70	1.70	1.70	N/A	N/A
Other Biomass Solids	OBS	Source: 1 (including footnote 11 within source)	Lbs per ton	0.23	0.02	0.23	0.23	0.23	N/A	N/A
Petroleum Coke*	PC	Source: 1	Lbs per ton	39.00	3.90	39.00	39.00	39.00	N/A	N/A
Refined Coal*	RC	Assumed to have the emissions similar to Bituminous Coal.	Lbs per ton	38.00	3.80	38.00	38.00	38.00	N/A	N/A
Subbituminous Coal*	SUB	Source: 2, Table 1.1-3	Lbs per ton	35.00	3.50	35.00	35.00	35.00	N/A	N/A
Tire-Derived Fuel*	TDF	Source: 1 (including footnote 13 within source)	Lbs per ton	38.00	3.80	38.00	38.00	38.00	N/A	N/A
Waste Coal*	WC	Source: 1 (including footnote 20 within source)	Lbs per ton	30.00	3.00	30.00	30.00	30.00	N/A	N/A
Wood Waste Solids	WDS	Source: 1	Lbs per ton	0.29	0.08	0.08	0.29	0.29	N/A	N/A
Black Liquor	BLQ	Source: 1	Lbs per ton **	7.00	0.70	7.00	7.00	7.00	N/A	N/A
Sludge Waste	SLW	Source: 1 (including footnote 11 within source)	Lbs per ton **	2.80	0.28	2.80	2.80	2.80	N/A	N/A

Notes:

* For these fuels, emissions are estimated by multiplying the emissions factor by the physical volume of fuel and the sulfur percentage of the fuel (other fuels do not require the sulfur percentage in the calculation). Note that EIA data do not provide the sulfur content of TDF. The value used (1.56 percent) is from U.S. EPA, Control of Mercury Emissions from Coal-Fired Electric Utility Boilers, April 2002, EPA-600/R-01-109, Table A-11 .

** Although Sludge Waste and Black Liquor consist substantially of liquids, these fuels are measured and reported to EIA in tons.

Sources:

1. Eastern Research Group, Inc. and E.H. Pechan & Associates, Inc., Documentation for the 2002 Electric Generating Unit National Emissions Inventory, Table 6, September 2004. Prepared for the U.S. Environmental Protection Agency, Emission Factor and Inventory Group (D205-01), Emissions, Monitoring and Analysis Division, Research Triangle Park.
2. U.S. Environmental Protection Agency, AP 42, Fifth Edition (Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources

Table A.2. Nitrogen Oxides Uncontrolled Emission Factors

Fuel, Code, Source and Emission Units				Combustion System Type / Firing Configuration									
Fuel	EIA Fuel Code	Source and Tables (As Appropriate)	Emissions Units Lbs = Pounds MMCF = Million Cubic Feet MG = Thousand Gallons				Tangential Boiler		All Other Boiler Types		Combustion Turbine	Internal Combustion Engine	
				Cyclone Firing Boiler	Fluidized Bed Firing Boiler	Stoker Boiler	Dry-Bottom Boilers	Wet-Bottom Boilers	Dry-Bottom Boilers	Wet-Bottom Boilers			
Distillate Fuel Oil	DFO	Source: 2, Tables 1.3-1, 3.1-1, & 3.4-1	Lbs per MG	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	122.00	443.80
Jet Fuel	JF	Source: 2, Tables 1.3-1, 3.1-1, & 3.4-1	Lbs per MG	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	118.80	432.00
Kerosene	KER	Source: 2, Tables 1.3-1, 3.1-1, & 3.4-1	Lbs per MG	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	118.80	432.00
Other Biomass Liquids	OBL	Source: 1 (including footnote 3 within source); EIA estimates	Lbs per MG	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	112.30	408.30
Residual Fuel Oil	RFO	Source: 2, Table 1.3-1; EIA estimates	Lbs per MG	47.00	47.00	47.00	32.00	32.00	47.00	47.00	47.00	131.70	479.00
Wood Waste Liquids	WDL	Source: 1 (including footnote 16 within source); EIA estimates	Lbs per MG	5.43	5.43	5.43	5.43	5.43	5.43	5.43	5.43	230.50	838.10
Waste Oil	WO	Source: 2, Table 1.11-2; EIA estimates	Lbs per MG	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	92.20	335.20
Blast Furnace Gas	BFG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	15.40	15.40	15.40	15.40	15.40	15.40	15.40	15.40	30.40	256.55
Landfill Gas	LFG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	72.44	72.44	72.44	72.44	72.44	72.44	72.44	72.44	144.00	1,215.22
Natural Gas	NG	Source: 2, Tables 1.4-1, 3.1-1, and 3.4-1	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	328.00	2,768.00
Other Biomass Gas	OBG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	112.83	112.83	112.83	112.83	112.83	112.83	112.83	112.83	313.60	2,646.48
Other Gases	OG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	152.82	152.82	152.82	152.82	152.82	152.82	152.82	152.82	263.82	2,226.41
Other	OTH	Assumed to have emissions similar to Natural Gas.	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	328.00	2,768.00
Propane Gas	PG	Sources: 3; EIA estimates	Lbs per MMCF	522.26	522.26	522.26	522.26	522.26	522.26	522.26	522.26	803.36	6,779.57
Synthesis Gas from Petroleum Coke	SGC	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	328.00	2,768.00
Coal-Derived Synthesis Gas	SGP	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	328.00	2,768.00
Agricultural Byproducts	AB	Source: 1	Lbs per ton	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	N/A	N/A
Bituminous Coal	BIT	Source: 2, Table 1.1-3	Lbs per ton	33.00	5.00	11.00	10.00	14.00	12.00	31.00		N/A	N/A
Lignite Coal	LIG	Source: 2, Table 1.7-1	Lbs per ton	15.00	3.60	5.80	7.10	7.10	6.30	6.30		N/A	N/A
Municipal Solid Waste	MSW	Source: 1	Lbs per ton	5.00	5.00	5.00	5.00	5.00	5.00	5.00		N/A	N/A
Other Biomass Solids	OBS	Source: 1 (including footnote 11 within source)	Lbs per ton	2.00	2.00	2.00	2.00	2.00	2.00	2.00		N/A	N/A
Petroleum Coke	PC	Source: 1 (including footnote 8 within source)	Lbs per ton	21.00	5.00	21.00	21.00	21.00	21.00	21.00		N/A	N/A
Refined Coal	RC	Assumed to have the emissions similar to Bituminous Coal.	Lbs per ton	33.00	5.00	11.00	10.00	14.00	12.00	31.00		N/A	N/A
Subbituminous Coal	SUB	Source: 2, Table 1.1-3	Lbs per ton	17.00	5.00	8.80	7.20	7.20	7.40	24.00		N/A	N/A
Tire-Derived Fuel	TDF	Source: 1 (including footnote 13 within source)	Lbs per ton	33.00	5.00	11.00	10.00	14.00	12.00	31.00		N/A	N/A
Waste Coal	WC	Source: 1 (including footnote 20 within source)	Lbs per ton	15.00	3.60	5.80	7.10	7.10	6.30	6.30		N/A	N/A
Wood Waste Solids	WDS	Source: 1	Lbs per ton	2.51	2.00	1.50	2.51	2.51	2.51	2.51		N/A	N/A
Black Liquor	BLQ	Source: 1	Lbs per ton **	1.50	1.50	1.50	1.50	1.50	1.50	1.50		N/A	N/A
Sludge Waste	SLW	Source: 1 (including footnote 11 within source)	Lbs per ton **	5.00	5.00	5.00	5.00	5.00	5.00	5.00		N/A	N/A

1. Eastern Research Group, Inc. and E.H. Pechan & Associates, Inc., Documentation for the 2002 Electric Generating Unit National Emissions Inventory, Table 6, September 2004.

2. Prepared for the U.S. Environmental Protection Agency, Emission Factor and Inventory Group (D205-01), Emissions, Monitoring and Analysis Division, Research Triangle Park.

3. U.S. Environmental Protection Agency, AP 42, Fifth Edition (Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources).

4. U.S. Environmental Protection Agency, Factor Information Retrieval (FIRE) Database, Version 6.25.

Table A.3. Carbon Dioxide Uncontrolled Emission Factors

Fuel	EIA Fuel Code	Factor (Kilograms of CO2 Per Million Btu)**	Notes
Bituminous Coal	BIT	93.24	
Distillate Fuel Oil	DFO	74.14	
Geothermal (Steam)	GEO	11.81	
Geothermal (Binary Cycle)	GEO	0.00	
Jet Fuel	JF	72.23	
Kerosene	KER	73.19	
Lignite Coal	LIG	98.27	
Municipal Solid Waste	MSW	49.89	
Natural Gas	NG	52.91	
Petroleum Coke	PC	102.12	
Propane Gas	PG	62.88	
Refined Coal	RC	93.24	Assumed to have emissions similar to Bituminous Coal.
Residual Fuel Oil	RFO	75.09	
Synthesis Gas Derived from Coal	SGC	*	Factor is based on the fuel source used to produce the synthesis gas
Synthesis Gas Derived from Petroleum Coke	SGP	*	Factor is based on the fuel source used to produce the synthesis gas
Subbituminous Coal	SUB	97.13	
Tire-Derived Fuel	TDF	85.97	
Waste Coal	WC	93.24	Assumed to have emissions similar to Bituminous Coal.
Waste Oil	WO	74.00	

Notes:

* Factors for synthesis gas derived from coal and synthesis gas derived from petroleum coke are based on the fuel source used to produce the synthesis gas.

** CO2 factors do not vary by combustion system type or boiler firing configuration.

Source: Energy Information Administration estimates:

http://www.eia.gov/environment/emissions/co2_vol_mass.cfm

Table A.4. Nitrogen Oxides Control Technology Emissions Reduction Factors

Nitrogen Oxides Control Technology	EIA Code	Reduction Factor							
		Coal	Residual Fuel Oil and Distillate Fuel Oil	Natural Gas	Wood	Other Solids	Other Liquids	Other Fossil Gas	Other Fuels
Burner Out of Service	BO	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Low Excess Air	LA	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Biased Firing (Alternative Burners)	BF	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Overfire Air	OV	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%
Advanced Overfire Air	AA	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Low NOx Burners	LN	45.00%	45.00%	50.00%	45.00%	45.00%	45.00%	50.00%	45.00%
Fuel Returning	FU	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%	55.00%
Selective Noncatalytic Reduction	SN	45.00%	32.50%	32.50%	55.00%	45.00%	32.50%	32.50%	45.00%
Selective Catalytic Reduction	SR	80.00%	80.00%	85.00%	80.00%	80.00%	80.00%	85.00%	80.00%
Ammonia Injection	NH3	62.50%	56.25%	58.75%	67.50%	62.50%	56.25%	58.75%	62.50%
Flue Gas Recirculation	FR	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%	45.00%
Water Injection	H2O	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Steam Injection	STM	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
Other	OT	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%

Nitrogen Oxides Control Technology	EIA Code	Source of Selected Reduction Factor							
		Coal	Residual Fuel Oil and Distillate Fuel Oil	Natural Gas	Wood	Other Solids	Other Liquids	Other Fossil Gas	Other Fuels
Burner Out of Service	BO	Source: 1	Source: 2	Source: 9	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Low Excess Air	LA	Source: 1	Source: 2	Source: 9	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Biased Firing (Alternative Burners)	BF	Source: 1	Source: 2	Source: 9	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Overfire Air	OV	Source: 1	Source: 9	Source: 9	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Advanced Overfire Air	AA	Source: 1	Source: 9	Source: 9	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Low NOx Burners	LN	Source: 1	Source: 2	Source: 3	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Fuel Returning	FU	Source: 1	Source: 9	Source: 9	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Selective Noncatalytic Reduction	SN	Source: 1	Source: 2	Source: 4	Source: 5	Source: 9	Source: 10	Source: 11	Source: 9
Selective Catalytic Reduction	SR	Source: 1	Source: 2	Source: 4	Source: 9	Source: 9	Source: 10	Source: 11	Source: 9
Ammonia Injection	NH3	Source: 6	Source: 6	Source: 6	Source: 6	Source: 9	Source: 10	Source: 11	Source: 9
Flue Gas Recirculation	FR	Source: 10	Source: 2	Source: 10	Source: 10	Source: 9	Source: 10	Source: 11	Source: 9
Water Injection	H2O	Source: 8	Source: 8	Source: 8	Source: 8	Source: 9	Source: 10	Source: 11	Source: 9
Steam Injection	STM	Source: 8	Source: 8	Source: 8	Source: 8	Source: 9	Source: 10	Source: 11	Source: 9
Other	OT	Source: 7	Source: 7	Source: 7	Source: 7	Source: 9	Source: 10	Source: 11	Source: 9

Source: U.S. Environmental Protection Agency, AP 42, Fifth Edition (Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources); available at: <http://www.epa.gov/ttn/chief/ap42/>

- Source 1: AP-42, Table 1.1-2
- Source 2: AP-42, Section 1.3.4.3 Text
- Source 3: AP-42, Table 1.4-1
- Source 4: AP-42, Section 1.4.4 Text
- Source 5: AP-42, Section 1.6.4 Text
- Source 6: Average of Selective Catalytic Reduction and Selective Noncatalytic Reduction
- Source 7: Minimum of other technologies for fuel group
- Source 8: Matches Other selection
- Source 9: Assumed to have reduction similar to coal
- Source 10: Assumed to have reduction similar to Residual Fuel Oil and Distillate Fuel Oil
- Source 11: Assumed to have reduction similar to natural gas

Notes:
 Coal reduction factors are applied to Bituminous Coal, Subbituminous Coal, Lignite Coal, and Waste Coal.
 Wood reduction factors are applied to Wood Waste Solids, Black Liquor, and Wood Waste Liquids.
 Other Solids reduction factors are applied to Petroleum Coke, Municipal Solid Waste, Tire-Derived Fuels, Sludge Waste, Agricultural Byproducts, and Other Biomass Solids.
 Other Liquids reduction factors are applied to Jet Fuel, Kerosene, Waste Oil, and Other Biomass Liquids.
 Other Fossil Gas reduction factors are applied to Blast Furnace Gas, Landfill Gas, Propane Gas, Coal-Derived Synthesis Gas, Synthesis Gas from Petroleum Coke, Other Biomass Gas, and Other Fossil Gas.

Table A.5. Unit of Measure Equivalents

Unit	Equivalent
Kilowatt (kW)	1,000 (One Thousand) Watts
Megawatt (MW)	1,000,000 (One Million) Watts
Gigawatt (GW)	1,000,000,000 (One Billion) Watts
Terawatt (TW)	1,000,000,000,000 (One Trillion) Watts
Gigawatt	1,000,000 (One Million) Kilowatts
Thousand Gigawatts	1,000,000,000 (One Billion) Kilowatts
Kilowatthours (kWh)	1,000 (One Thousand) Watthours
Megawatthours (MWh)	1,000,000 (One Million) Watthours
Gigawatthours (GWh)	1,000,000,000 (One Billion) Watthours
Terawatthours (TWh)	1,000,000,000,000 (One Trillion) Watthours
Gigawatthours	1,000,000 (One Million) Kilowatthours
Thousand Gigawatthours	1,000,000,000(One Billion Kilowatthours
U.S. Dollar	1,000 (One Thousand) Mills
U.S. Cent	10 (Ten) Mills
Barrel of Oil	42 Gallons

Source: U.S. Energy Information Administration

Technical Notes

This appendix describes how the U.S. Energy Information Administration collects, estimates, and reports electric power data in the Electric Power Annual.

Data Quality and Submission

The Electric Power Annual (EPA) is prepared by the Office of Energy Production, Conversion, and Delivery (EPCD), U.S. Energy Information Administration (EIA), U.S. Department of Energy (DOE). EPCD performs routine reviews of the data collection respondent frames, survey forms, and reviews the quality of the data received.

Data are entered directly by respondents into the EIA's Internet Data Collection (IDC) system. A small number of hard copy forms are keyed into the system by EIA personnel. All data are subject to review via interactive edits built into the IDC system, internal quality assurance reports, and review by subject matter experts. Questionable data values are verified through contacts with respondents, and survey non-respondents are identified and contacted.

IDC edits include both deterministic checks, in which records are checked for the presence of data in required fields, and statistical checks, in which the data are checked against a range of values based on historical data values and for logical or mathematical consistency with data elements reported in the survey. Discrepancies found in the data, because of these checks, must either be corrected by the respondent or the respondent must enter an explanation as to why the data are correct. If these explanations are unsatisfactory the respondent is contacted by EIA for clarification or corrected data.

Those respondents unable to use the electronic reporting method provide the data in hard copy, typically via fax and email. These data are manually entered into the computerized database and are subjected to the same data edits as those performed during e-filing by the respondent.

Reliability of Data

Annual survey data have non-sampling errors. Non-sampling errors can be attributed to many sources: (1) inability to obtain complete information about all cases (i.e., non-response); (2) response errors; (3) definitional difficulties; (4) differences in the interpretation of questions; (5) mistakes in recording or coding the data; and (6) other errors of collection, response, coverage, and estimation for missing data.

Although no direct measurement of the biases due to non-sampling errors can be obtained, precautionary steps were taken in all phases of the frame development and data collection, processing, and tabulation processes to minimize their influence.

Imputation: If the reported values appear to be in error and the data issue cannot be resolved with the respondent, or if the facility is a non-respondent, a regression methodology is used to impute for the facility. The regression methodology relies on other data to make estimates for erroneous or missing responses. The basis for the current methodology involves a 'borrowing of strength' technique for small domains.¹

Data Revision Procedure

The EPA presents the most current and complete data available to the EIA. The statistics may differ from those published previously in EIA publications due to corrections, revisions, or other adjustments to the data after its original release.

After data are disseminated as final, revisions will be considered if a correction would make a difference of 1 percent or greater at the national level. Revisions for differences that do not meet the 1 percent or greater threshold will be determined by the Office Director. In either case, the proposed revision will be subject to the EIA revision policy concerning how it affects other EIA products.

Sensitive Data (Formerly Identified as Data Confidentiality): Most of the data collected on the electric power surveys are not considered business sensitive. However, the data that are classified as sensitive are handled consistent with EIA's "Policy on the Disclosure of Individually Identifiable Energy Information in the Possession of the EIA" (45 Federal Register 59812 (1980)).

Rounding and Percent Change Calculations

Rounding Rules for Data: To round a number to n digits (decimal places), add one unit to the nth digit if the (n+1) digit is 5 or larger and keep the nth digit unchanged if the (n+1) digit is less than 5.

Percent Change: The following formula is used to calculate percent changes:

$$\text{Percent Change} = \left(\frac{x(t_2) - x(t_1)}{x(t_1)} \right) \times 100,$$

where $x(t_1)$ and $x(t_2)$ denote the quantity at period t_1 and subsequent period t_2 .

Data Sources for Electric Power Annual

Data published in the EPA are compiled from forms filed annually or aggregated to an annual basis from monthly forms (see figure on EIA Electric Industry Data Collection in Appendix A). The respondents to these forms include electric utilities, other generators and sellers of electricity, and North American Electric Reliability Corporation (NERC) reliability entities. The EIA forms used are:

- Form EIA-111, "Quarterly Electricity Imports and Exports Report;"
- Form EIA-860, "Annual Electric Generator Report;"
- Form EIA-861, "Annual Electric Power Industry Report;"
- Form EIA-861M, "Monthly Electric Power Industry Report;"
- Form EIA-861S, "Annual Electric Power Industry Report (Short Form);"
- Form EIA-923, "Power Plant Operations Report."

These forms can be found on the EIA Internet website at: <https://www.eia.gov/survey/>

Survey data from other Federal sources are also utilized for this publication. They include:

- FERC Form 1, "Annual Report of Major Electric Utilities, Licensees, and Others;"

Additionally, some data reported in this publication were acquired from public reports of the National Energy Board of Canada on electricity imports and exports.

Form EIA-111

The Form EIA-111 is a mandatory census that collects import/export data from importers and exporters of electricity, border balancing authorities, and entities authorized to export electric energy and to construct, connect, operate, or maintain facilities for the transmission of electric energy at an international boundary. Respondents report monthly data quarterly. These data are used by EIA to track electricity being imported into and exported from the United States. There are currently 173 respondents to the EIA-111. These data were first collected for the 2016 data year.

Form EIA-860

The Form EIA-860 is a mandatory annual census of all existing and planned electric generating facilities in the United States with a total generator nameplate capacity of 1 or more megawatts. The survey is used to collect data on existing power plants and 10-year plans for constructing new plants, as well as generating unit additions, modifications, and retirements in existing plants. Data on the survey are collected at the individual generator level. Certain power plant environmental-related data are collected at the boiler level. These data include environmental equipment design parameters and boiler air emission standards and boiler emission controls. There are approximately 6,700 respondents on the EIA-860 data collection.

Instrument and Design History: The Form EIA-860 was originally implemented in January 1985 to collect plant data on electric utilities as of year-end 1984. It was preceded by several Federal Power Commission (FPC) forms including the FPC Form 4, Form 12 and 12E, Form 67, and Form 411. In January 1999, the Form EIA-860 was renamed the Form EIA-860A and was implemented to collect data as of January 1, 1999.

In 1989, the Form EIA-867, "Annual Nonutility Power Producer Report," was initiated to collect plant data on unregulated entities with a total generator nameplate capacity of 5 or more megawatts. In 1992, the reporting threshold of the Form EIA-867 was lowered to include all facilities with a combined nameplate capacity of 1 or more megawatts. Previously, data were collected every 3 years from facilities with a nameplate capacity between 1 and 5 megawatts. In 1998, the Form EIA-867, was renamed Form EIA-860B, "Annual Electric Generator Report – Nonutility." The Form EIA-860B was a mandatory survey of all existing and planned nonutility electric generating facilities in the United States with a total generator nameplate capacity of 1 or more megawatts.

Beginning with data collected for the year 2001, the infrastructure data collected on the Form EIA-860A and the Form EIA-860B were combined into the new Form EIA-860 and the monthly and annual versions of the Form EIA-906. The Federal Energy Administration Act of 1974 (Public Law 93-275) defines the legislative authority to collect these data.

Starting with 2007, design parameters data formerly collected on Form EIA-767 were collected on Form EIA-860. These include design parameters associated with certain steam-electric plants' boilers, cooling systems, flue gas particulate collectors, flue gas desulfurization units, and stacks and flues.

Estimation of EIA-860 Data: No imputation is required for EIA-860 data.

Issues within Historical Data Series Regarding Categorization of Capacity by Business Sector: There are a small number of electric utility CHP plants, as well as a small number of industrial and commercial generating facilities that are not CHP. For the purposes of this report the data for these plants are included, respectively, in the following categories: “Electricity Generators, Electric Utilities,” “Combined Heat and Power, Industrial,” and “Combined Heat and Power, Commercial.”

Some capacity in 2001 through 2004 is classified based on the operating company's classification as an electric utility or an independent power producer. Starting in the EPA 2006, capacity by producer type was determined at the power plant level for 2005 and all subsequent data collections. This change required revisions to the original published 2005 data.

Issues within Historical Data Series Regarding Planned Capacity: Delays and cancellations may have occurred after respondent data reporting as of December 31 of the data year.

Issues within Historical Data Series Regarding Capacity by Energy Source: Prior to the EPA 2005, the capacity for generators for which natural gas or petroleum was the most predominant energy source was presented in the following three categories: petroleum only, natural gas only, and dual-fired. The dual-fired category, which was EIA's effort to infer which generators could fuel-switch between natural gas and fuel oil, included only the capacity of generators for which the most predominant energy source and second most predominant energy source were reported as natural gas or petroleum. Beginning in 2005, capacity is assigned to energy source based solely on the most predominant (primary) energy source reported for a generator. The “dual-fired” category was eliminated. Separately, summaries of capacity associated with generators with fuel-switching capability are presented for 2005 and later years. These summaries are based on data collected from new questions added to the Form EIA-860 survey that directly address the ability of generators to switch fuels and co-fire fuels.

In the EPA 2005, certain petroleum-fired capacity was misclassified as natural gas-fired capacity for 1995 – 2003. This was corrected in the EPA 2006. Corrections were noted as revised data.

Prime Movers: The Form EIA-860 sometimes represents a generator's prime mover by using the abbreviations in the table below.

Prime Mover Code	Prime Mover Description
BA	Energy Storage, Battery
BT	Turbines Used in a Binary Cycle. Including those used for geothermal applications
CA	Combined-Cycle -- Steam Part
CE	Energy Storage, Compressed Air
CP	Energy Storage, Concentrated Solar Power
CS	Combined-Cycle Single-Shaft Combustion Turbine and Steam Turbine share of single generator
CT	Combined-Cycle Combustion Turbine Part
ES	Energy Storage, Other (Specify on Schedule 9, Comments)
FC	Fuel Cell
FW	Energy Storage, Flywheel
GT	Combustion (Gas) Turbine. Including Jet Engine design
HA	Hydrokinetic, Axial Flow Turbine
HB	Hydrokinetic, Wave Buoy
HK	Hydrokinetic, Other
HY	Hydraulic Turbine. Including turbines associated with delivery of water by pipeline.
IC	Internal Combustion (diesel, piston, reciprocating) Engine
PS	Energy Storage, Reversible Hydraulic Turbine (Pumped Storage)
OT	Other
ST	Steam Turbine. Including Nuclear, Geothermal, and Solar Steam (does not include Combined Cycle).
PV	Photovoltaic
WT	Wind Turbine, Onshore
WS	Wind Turbine, Offshore

Energy Sources: The Form EIA-860 sometimes represents the energy sources associated with generators by using the abbreviations and/or groupings in the table below.

Energy Source Grouping	Energy Source Code	Energy Source Description
Fossil Fuels		
Coal	ANT	Anthracite Coal
	BIT	Bituminous Coal
	LIG	Lignite Coal
	RC	Refined Coal (A coal product that is created when impurities and/or moisture are removed to improve heat content and reduce emissions. Includes any coal which meets the IRS definition of refined coal [Notice 2010-54 or any superseding IRS notices]. Does not include coal processed by coal preparation plants.)
	SGC	Coal-Derived Synthesis Gas
	SUB	Subbituminous Coal
	WC	Waste/Other Coal (including anthracite culm, bituminous gob, fine coal, lignite waste, waste coal)
Petroleum Products	DFO	Distillate Fuel Oil (including diesel, No. 1, No. 2, and No. 4 fuel oils)
	JF	Jet Fuel
	KER	Kerosene
	PC	Petroleum Coke
	PG	Propane, gaseous
	RFO	Residual Fuel Oil (including No. 5 and No. 6 fuel oils, and bunker C fuel oil)
	SGP	Petroleum Coke Derived Synthesis Gas
Natural Gas and Other Fossil Gas	WO	Waste/Other Oil (including crude oil, liquid butane, liquid propane, naphtha, oil waste, re-refined motor oil, sludge oil, tar oil, or other petroleum-based liquid wastes)
	BFG	Blast Furnace Gas
	NG	Natural Gas
	OG	Other Gas (Specify the fuel in the text box in the applicable schedule.)
Renewable Fuels		
Solid Renewable Fuels	AB	Agricultural By-products
	MSW	Municipal Solid Waste
	OBS	Other Biomass Solids

Energy Source Grouping	Energy Source Code	Energy Source Description
	WDS	Wood/Wood Waste Solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids)
Liquid Renewable (Biomass) Fuels	BLQ	Black Liquor
	OBL	Other Biomass Liquids
	SLW	Sludge Waste
	WDL	Wood Waste Liquids excluding Black Liquor (includes red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids)
Gaseous Renewable (Biomass) Fuels	LFG	Landfill Gas
	OBG	Other Biomass Gas (includes digester gas, methane, and other biomass gasses)
All Other Renewable Fuels	GEO	Geothermal
	SUN	Solar
	WAT	Water at a Conventional Hydroelectric Turbine, and water used in Wave Buoy Hydrokinetic Technology, Current Hydrokinetic Technology, and Tidal Hydrokinetic Technology.
	WND	Wind
	All Other Fuels	
	H2	Hydrogen
	MWH	Electricity used for energy storage
	NUC	Nuclear Uranium, Plutonium, Thorium
	PUR	Purchased Steam
	TDF	Tire-derived Fuels
	WAT	Pumping Energy for Reversible (Pumped Storage) Hydroelectric Turbine
	WH	Waste heat not directly attributed to a fuel source
	OTH	Other

Sensitive Data: The tested heat rate and generator cost data collected on the Form EIA-860 are considered business sensitive.

Form EIA-861

The Form EIA-861 is a mandatory annual census of electric power industry participants in the United States. Prior to data year 2012, the survey was used to collect information on power sales and revenue data from approximately 3,300 respondents. About 3,100 are electric utilities, and the remainders are nontraditional entities such as energy service providers or the unregulated subsidiaries of electric utilities and power marketers. The current frame has since expanded to about 3,400 respondents, with about 3,000 of those respondents being electric utilities and about 400 nontraditional entities.

For data year 2012 and forward, EIA modified the frame of the Form EIA-861, “Annual Electric Power Industry Report,” from a census to a sample, and EIA is using model-based methods to estimate the sales, revenues, and customer counts by sector and state for those respondents that have been removed from the frame. EIA created a new Form EIA-861S, “Annual Electric Power Industry Report (Short Form),” for the respondents that have been removed from the Form EIA-861 frame. Respondents removed from the EIA-861 frame and placed on the EIA-861S are smaller utilities with annual sales volumes. Form EIA-861S with fewer data elements compared to the EIA-861, collects limited data on total sales, revenues, and customer counts by state. Every eighth data year, EIA-861S respondents are required to fill out the full EIA-861 form. For data year 2019, EIA-861S respondents were required to complete the full EIA-861 form. There are about 1,700 respondents on the EIA-861S data collection.

Transportation Sector: Prior to 2003, sales of electric power for transportation (e.g., city subway systems) were included in a sector labeled other, along with sales to customers for public buildings, traffic signals and public street lighting. Beginning with the 2003 data collection, sales to the other sector was removed and the transportation was created. Non transportation that was previously reported in the sector other was reclassified as commercial.

The transportation sector is defined as electrified rail, primarily urban transit, light rail, automated guideway, and other rail systems whose primary propulsive energy source is electricity. Electricity sales to transportation sector consumers whose primary propulsive energy source is not electricity (i.e., gasoline, diesel fuel, etc.) are not included.

Benchmark statistics were reviewed from outside surveys, most notably the U.S. Department of Transportation (DOT) Federal Transit Administration’s National Transportation Database, a source previously used by EIA to estimate electricity transportation consumption. The DOT survey indicated the state and city locations of expected respondents. The Form EIA-861 survey methodology assumed that sales, revenue, and customer counts associated with these mass transit systems would be provided by the incumbent utilities in these areas, relying on information drawn routinely from rate schedules and classifications designed to serve the sector separately and distinctly.

Data Reconciliation: The Electric Power Annual reports total sales volumes (megawatthours) of electricity to ultimate consumers and customer counts in states with deregulated markets as the sum of bundled sales reported by full-service providers and delivery reported by transmission and distribution

utilities. EIA has concluded that the sales of electricity to ultimate consumers data reported by delivery utilities are more reliable than data reported by power marketers and Energy Service Providers (ESPs).

The reporting methodology change uses sales volumes and a customer count reported by distribution utilities, and modifies only an incremental revenue value, representing revenue associated with misreported sales assumed to be attributable to the ESPs that were under-represented in the survey frame.

Instrument and Design History: The Form EIA-861 was implemented in January 1985 for collection of data as of year-end 1984. The Federal Energy Administration Act of 1974 (Public Law 93-275) defines the legislative authority to collect these data.

Average Retail Price of Electricity: This value represents the average cost per unit of electricity sold and is calculated by dividing retail electric revenue by the corresponding sales of electricity. The average retail price of electricity is calculated for all consumers and for each end-use sector.

The electric revenue used to calculate the average retail price of electricity is the operating revenue reported by the electric power industry participant. Operating revenue includes energy charges, demand charges, consumer service charges, environmental surcharges, fuel adjustments, and other miscellaneous charges. Electric power industry participant operating revenues also include ratepayer reimbursements for state and federal income taxes and other taxes paid by the utility.

This computed average retail price of electricity reported in this publication by is a weighted average of consumer revenue and sales and does not equal the per kWh rate charged by the electric power industry participant to the individual consumers. Electric utilities typically employ several rate schedules within a single sector. These alternative rate schedules reflect the varying consumption levels and patterns of consumers and their associated impact on the costs of the electric power industry participant for providing electrical service.

Issues within Historical Data Series: Changes from year to year in consumer counts, sales, and revenues, particularly involving the commercial and industrial consumer sectors, may result from respondent implementation of changes in the definitions of consumers, and reclassifications. Utilities and energy service providers may classify commercial and industrial customers based on either NAICS codes or demands or usage falling within specified limits by rate schedule. The number of ultimate customers is an average of the number of customers at the close of each month. Also see the discussion of the transportation sector, above.

Net-Metering: This section was expanded in 2011. Previously, customer count by sector was the only data collected and published. In 2010, the EIA-861 started collecting the capacity of the net-metered installations by sector and technology. The technology types are photovoltaic (PV), wind, and other. Starting with the 2016 data collection year, storage and virtual net metering were added to the PV section.

Demand-Side Management (DSM): Prior to 2011, DSM data was separated into two categories, large and small utilities. Some tables contained data for just large utilities and others contained both

categories, published separately. Starting in 2011, there is no longer a division in the data. All tables now include all DSM data from utilities; this change is also reflected in the historical data.

Starting in 2011, a new category of respondents was added to the EIA-861, non-utility DSM administrators: Efficiency Maine Trust, Energy trust of Oregon, Focus on Energy, NYSERDA, and Vermont Energy Investment Corporation.

The following definitions are supplied to assist in interpreting DSM data. Utility costs reflect the total cash expenditures for the year, in nominal dollars, that used to support DSM programs.

- **Actual Peak Load Reduction** is the actual reduction in annual peak load achieved by all program participants during the reporting year, at the time of annual peak load, as opposed to the installed peak load reduction capability (potential peak load reduction). Actual peak load reduction is reported by large utilities only.
- **Energy Savings** is the change in aggregate electricity use (measured in megawatthours) for consumers that participate in a utility DSM program. These savings represent changes at the consumer's meter (i.e., exclude transmission and distribution effects) and reflect only activities that are undertaken specifically in response to utility-administered programs, including those activities implemented by third parties under contract to the utility.
- **Large Utilities** are those electric utilities with annual sales to ultimate customers or sales for resale greater than or equal to 150 million kilowatthours in 1998-2009 and, for years prior, the threshold was set at 120 million kilowatthours.
- **Potential Peak Load Reduction** is the potential peak load reduction that may occur if all demand response is called and/or participates.

Advanced Metering: New in 2011, Automated Meter Reading (AMR) and Advanced Metering Infrastructure (AMI), including historical data back to 2007. From 2007-2009, the count by sector is for number of customers, for 2010-2011, the count is the actual number of meters. For example, if an industrial customer had 12 meters, in 2007-2009 the count would have been 1, in 2010-2011, the count would be 12.

In 2013, the number of standard meters (non-AMR/AMI) was added to this schedule. Starting in 2020, EIA imputes the number of standard meters for the short form (EIA-861S) by estimating the number of total meters based on the revenue, sales, and customer count schedule and subtracting the number of advanced meters.

Reliability: New in 2021, reliability metrics SAIDI (System Average Interruption Duration Index), SAIFI (System Average Interruption Frequency Index), and CAIDI (Customer Average Interruption Duration Index) are reported in aggregate by the state, census, and U.S. level dating back to 2013. Data are weighted by customers reported on the schedule and divided by all customers who reported by that metric. For example,

$$SAIDI_{All\ Events} = \frac{\sum(SAIDI_{All\ Events} * customers\ reported_{All\ Events})}{\sum\ customers\ reported_{All\ Events}}$$

Some respondents may report SAIDI for all events, but not with major events removed. In this case their values would be included in the calculations for SAIDI_{All Events} but their values (and customers reported) would not be included in the SAIDI_{w/o Major Events}.

CAIDI is not collected on the form and is a derived value of SAIDI/SAIFI. If a utility reports only one of these values (such as SAIDI) and not the other (SAIFI), it would be included in the regional CAIDI value. The final metric of percent reporting in some of the tables is a sum of customers who reported at least one reliability metric divided by the total number of customers on the revenue, sales, and customer counts schedule.

Form EIA-861M (formerly the EIA-826)

The Form EIA 861M, “Monthly Electric Power Industry Report,” is a monthly collection of data from a sample of approximately 650 of the largest electric utilities (primarily investor and publicly owned) as well as a census of energy service providers with sales to ultimate consumers in deregulated States. Form EIA-861 (see below), with approximately 3,400 respondents, serves as a frame from which the Form EIA-861M sample is drawn. Based on this sample, a model is used to estimate for the entire universe of U.S. electric utilities monthly.

Instrument and design history: The collection of electric power sales data and related information began in the early 1940’s and was established as FPC Form 5 by FPC Order 141 in 1947. In 1980, the report was revised with only selected income items remaining and became the FERC Form 5. The survey has gone by various other names, such as “Electric Utility Company Monthly Statement,” “Monthly Electric Utility Sales and Revenue Report with State Distributions,” and “Monthly Electric Utility Sales and Revenues with State Distributions Report.”

In 1993, EIA for the first time used a model sample for the Form EIA-861M. A stratified random sample, employing auxiliary data, was used for each of the four previous years. The sample for the Form EIA-861M was designed to obtain estimates of electricity sales and average retail price of electricity at the state level by end use sector.

Starting with data for January 2001, the restructuring of the electric power industry was considered by forming different schedules on the Form EIA-861M. These schedules group customers based on services provided by the utility: full service (or bundled) providers), electric service providers (energy) only, distribution service (delivery) only, and energy service providers that also provide the customers’ bill. -

With the revised definitions for the commercial and industrial sectors to include all data previously reported as ‘other’ data except transportation, and a separate transportation sector, all responses that would formerly have been reported under the “other” sector are now to be reported under one of the sectors that currently exist. This means there is probably a lower correlation between commercial and industrial data 2003 and after with data prior.

Average retail price of electricity represents the cost per unit of electricity sold and is calculated by dividing retail electric revenue by the corresponding sales of electricity. The average retail price of electricity is calculated for all consumers and for each end-use sector.

The electric revenue used to calculate the average retail price of electricity is the operating revenue reported by the electric utility. Operating revenue includes energy charges, demand charges, consumer service charges, environmental surcharges, fuel adjustments, and other miscellaneous charges. Electric utility operating revenues also include State and Federal income taxes and taxes other than income taxes paid by the utility.

The average retail price of electricity reported in this publication by sector represents a weighted average of consumer revenue and sales within sectors and across sectors for all consumers and does not reflect the per kWh rate charged by the electric utility to the individual consumers. Electric utilities typically employ several rate schedules within a single sector. These alternative rate schedules reflect the varying consumption levels and patterns of consumers and their associated impact on the costs to the electric utility for providing electrical service.

Adjusting monthly data to annual data: As a final adjustment based on our most complete data, use is made of final Form EIA-861 data, when available. The annual totals for Form EIA-861M data by state and end-use sector are compared to the corresponding Form EIA-861 values for sales and revenue. The ratio of these two values in each case is then used to adjust each corresponding monthly value.

Form EIA-861S (Short Form)

The Form EIA 861S, “Annual Electric Power Industry Report (Short Form),” which started in year 2012. EIA-861S was created to lower the burden for bundled-service utilities with small annual sales that model-based estimation methods can be used to estimate the remaining parts of the survey. Starting in data year 2020, EIA raised the thresholds of utilities that could report on the short form and still ensure acceptable quality of statistical estimates. Respondents report on the long form (EIA-861) once every eight years. The most recent year all respondents were required to complete the full EIA-861 form was 2019. There are currently about 1,700 respondents on the Form EIA-861S.

Short form respondents report data on total sales, revenues, and customer counts by state. They answer a yes/no questions about demand side management (DSM) programs and the number of water heaters added to DSM programs. For time-based rate programs they provide the number of customers enrolled by state. Number of advanced meters are also provided by state, as well as a yes/no question about having any net-metering programs.

Form EIA-923

Form EIA-923, “Power Plant Operations Report,” is used to collect information on receipts and cost of fossil fuels, fuel stocks, generation, consumption of fuel for generation, nonutility source and disposition of electricity, combustion by-product collection and disposal, and cooling systems, as well as operational data for flue gas desulfurization, particulates, and nitrous oxide controls. Data are collected from a monthly sample of approximately 3,300 plants, which includes a census of nuclear and pumped-storage hydroelectric plants. The plants in the monthly sample report their receipts, cost and stocks of fossil

fuels, electric power generation, and the total consumption of fuels for both electric power generation and, at combined heat and power (CHP) plants, useful thermal output. At the end of the year, the monthly respondents report their annual source and disposition of electric power (nonutilities only), operational data for air emissions controls and cooling systems, and the collection and disposal of combustion by-products on the Form EIA-923 Supplemental Form (Schedules 6, 7, and 8A to 8F). Approximately 10,200 plants, representing all generators not included in the monthly sample and with a nameplate capacity of 1 MW or more, report applicable data on the entire form annually. In addition to electric power generating plants, respondents include fuel storage terminals without generating capacity that receive shipments of fossil fuel for eventual use in electric power generation. The monthly data are due by the last day of the month following the reporting period.

Receipts of fossil fuels, fuel cost and quality information, and fuel stocks at the end of the reporting period are all reported at the plant level. Fuel receipts and costs are collected from plants with a total generator nameplate capacity of 50 megawatts or greater where coal is the primary fuel; or the total generator nameplate capacity is 200 megawatts or greater where the primary fuel is any combination of natural gas, petroleum coke, distillate fuel oil, or residual fuel oil. Plants that burn organic fuels and have a steam turbine capacity of at least 10 megawatts report consumption at the boiler level and generation at the generator level for each month, regardless of whether the plant reports in the monthly sample or reports annually. For all other plants, consumption is reported at the prime-mover level and generation is reported at the prime-mover level or, for noncombustible sources (e.g., wind, nuclear), at the prime-mover and energy source levels (including generating units for nuclear only). The source and disposition of electricity are reported annually for nonutilities at the plant level, as is revenue from sales for resale. Operational data for air emissions equipment are collected annually from facilities that have a steam turbine capacity of at least 10 megawatts, and operational data on cooling systems and data on the collection and disposal of combustion by-products are collected from facilities that have a steam turbine capacity of at least 100 megawatts.

Instrument and Design History: See discussion of predecessor forms (EIA-906, -920, -767, and -423, and FERC Form 423).

Imputation: For data collected monthly, regression prediction, or imputation, is done for all missing data including non-sampled units and any non-respondents. For data collected annually, imputation is performed for non-respondents. For gross generation and total fuel consumption, multiple regression is used for imputation (see discussion, above). Approximately 0.12 percent of the national total generation for is imputed, although this will vary by State and energy source.

When gross generation is reported and net generation is not available, or vice versa, net or gross generation is estimated by using a fixed ratio of net to gross generation by prime-mover type and installed emissions equipment. These ratios are:

Net Generation = (Factor) x Gross Generation
<u>Prime Movers:</u>
Combined Cycle Steam - 0.97
Combined Cycle Single Shaft - 0.97
Combined Cycle Combustion Turbine - 0.97
Compressed Air - 0.97
Fuel Cell - 0.99
Gas Turbine - 0.98
Hydroelectric Turbine - 0.99
Hydroelectric Pumped Storage - 0.99
Internal Combustion Engine - 0.98
Other - 0.97
Photovoltaic - 0.99
Steam Turbine - 0.97
Wind Turbine - 0.99
<u>Environmental Equipment:</u>
Flue Gas Desulfurization - 0.97
Flue Gas Particulate 0.99
All Others - 0.97

For stocks, a linear combination of the prior month's ending stocks value and the current month's consumption and receipts values is used.

Receipts of Fossil Fuels: Receipts data, including cost and quality of fuels, are collected at the plant level from selected electric generating plants and fossil-fuel storage terminals in the United States. Power plants include independent power producers, electric utilities, and commercial and industrial CHP facilities. Power plants required to report receipts data are plants with 50 megawatts of capacity that has coal as its primary fuel, as well as plants with a combined capacity of 200 megawatts with its primary fuel being any combination of natural gas, petroleum coke, distillate fuel oil, or residual fuel oil. The data on cost and quality of fuel shipments are used to produce aggregates and weighted averages for each fuel type at the State, Census division, and U.S. levels.

The units for receipts are: 1) coal and petroleum coke, tons and million Btu per ton; 2) petroleum, barrels and million Btu per barrel.; and gases, thousand cubic feet (Mcf) and million Btu per thousand cubic feet.

Net and Gross Generation and Fuel Consumption and Stocks: Generation data are collected in megawatthours from all power plants with a sum of nameplate capacity at least 1 MW. The fuels consumed are collected in tons (solids), barrels (liquids) and thousand cubic feet (gases). Fuels are grouped into coal, petroleum liquids, petroleum coke, natural gas, other gases, and other miscellaneous fuels. Energy consumption is not collected for nuclear, wind, solar, geothermal, or other plants that do not burn fuels. For information on fuel groupings, see the instructions to the Form EIA-923 at http://www.eia.gov/survey/form/eia_923/instructions.pdf.

Combustion By-Product Collection and Disposal: Data are collected in thousand tons. Associated financial data for by-products (O&M and capital expenses and revenue) are collected in thousand dollars.

Air Emissions Equipment: Operational efficiencies and emission rates are collected for flue gas desulfurization, particulate matter, and nitrous oxide control equipment for steam-electric units with at least 10 MW nameplate capacity.

Cooling Systems: Operational data on water use is collected from steam-electric plants, including nuclear plants, with at least 100 MW nameplate capacity.

Methodology to Estimate Biogenic and Non-biogenic Municipal Solid Waste:² Municipal solid waste (MSW) consumption for generation of electric power is split into its biogenic and non-biogenic components beginning with the 2001 data year.

The tonnage of MSW consumed is reported on the Form EIA-923. The composition of MSW and categorization of the components were obtained from the U.S. Environmental Protection Agency (USEPA). For data years 2001 through 2009, the MSW composition was based on the USEPA annual publication, *Municipal Solid Waste in the United States: Facts and Figures*. The compositions developed for the 2009 data year were carried forward for the 2010 through 2018 data years. The most updated composition and categorization of MSW (for the 2019 data year) were also derived from a USEPA publication: *Advancing Sustainable Materials Management: Facts and Figures Report: 2015 Data Tables*. The updated composition values were applied in the October EPM 2019 on the preliminary 2019 values and will be applied going forward in future data years until EIA revises the MSW composition ratios again. The Btu contents of the components of MSW were obtained from various sources.

The numbers in Tables 1 and 2 illustrate two interrelated trends in the composition of the MSW stream. First, the heat content (per unit weight) of the waste stream has been steadily increasing overtime due to higher concentrations of non-biogenic materials. Second, the shares of energy contributed to the waste stream by biogenic and non-biogenic components have been changing over time with the percentage of biogenic materials falling and the share of non-biogenic materials rising.

The potential quantities of combustible MSW discards (which include all MSW material available for combustion with energy recovery, discards to landfill, and other disposal) were multiplied by their respective Btu contents. The EPA-based categories of MSW were then classified into renewable and non-renewable groupings. From this, EIA calculated how much of the energy potentially consumed from MSW was attributed to biogenic components and how much was attributed to non-biogenic components (see Tables 1 and 2, below). Note, biogenic components include newsprint, paper, containers and packaging, leather, textiles, yard trimmings, food wastes, and wood. Non-biogenic components include plastics, rubber, and other miscellaneous non-biogenic waste.

These values are used to allocate net generation published in the Electric Power Monthly generation tables. The tons of biogenic and non-biogenic components were estimated with the assumption that

glass and metals were removed prior to combustion. The average Btu/ton for the biogenic and non-biogenic components is estimated by dividing the total Btu consumption by the total tons. Published net generation attributed to biogenic MSW and non-biogenic MSW is classified under Other Renewables and Other, respectively.

Table 1. Btu consumption for biogenic and non-biogenic municipal solid waste (percent)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	...	2018	2019
Biogenic	57	56	55	55	56	57	55	54	51	51	51	45
Non-biogenic	43	44	45	45	44	43	46	46	49	49	49	55

Table 2. Tonnage consumption for biogenic and non-biogenic municipal solid waste (percent)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	...	2018	2019
Biogenic	77	77	76	76	75	67	65	65	64	64	64	61
Non-biogenic	23	23	24	24	25	34	35	35	36	36	36	39

Useful Thermal Output (UTO): With the implementation of the Form EIA-923, “Power Plant Operations Report,” in 2008, combined heat and power (CHP) plants were required to report total fuel consumed and electric power generation. Beginning with preliminary January 2008 data, EIA estimated the allocation of the total fuel consumed at CHP plants between electric power generation and UTO.

The estimated allocation methodology is summarized in the following paragraphs. The methodology was retroactively applied to 2004-2007 data. Prior to 2004, UTO was collected on the Form EIA-906 and an estimated allocation of fuel for electricity was not necessary.

First, an efficiency factor is determined for each plant and prime mover type. Based on data for electric power generation and UTO collected in 2003 (on Form EIA-906, “Power Plant Report”), efficiency was calculated for each prime mover type at a plant. The efficiency factor is the total output in Btu, including electric power and UTO, divided by the total input in Btu. Electric power is converted to Btu at 3,412 Btu per kilowatthour.

Second, to calculate the amount of fuel for electric power, the gross generation in Btu is divided by the efficiency factor. The fuel for UTO is the difference between the total fuel reported and the fuel for electric power generation. UTO is calculated by multiplying the fuel for UTO by the efficiency factor.

In addition, if the total fuel reported is less than the estimated fuel for electric power generation, then the fuel for electric power generation is equal to the total fuel consumed, and the UTO will be zero.

Beginning with 2016 Form EIA-923 data, reported efficiency factors by survey respondents replaced the previously EIA estimated efficiency factors used in the fuel allocation process. For the processing of 2016 CHP data, EIA used for each plant an average of the efficiency factors reported by the CHP plants on the 2013, 2014, and 2015 Form EIA-923, "Power Plant Operations Report" surveys. An average was used to smooth out variations in any one year's data. Once efficiency of each plant was established, the value was input into the above methodology to allocate the consumption of fuel between electric power and UTO. This update applies to the 2016 data and going forward but was not retroactively applied to previous years.

Issues within Historical Data Series for Receipts and Cost and Quality of Fossil Fuels: Values for receipts of natural gas for 2001 forward do not include blast furnace gas or other gas.

Historical data collected on FERC Form 423 and published by EIA have been reviewed for consistency between volumes and prices and for their consistency over time. However, these data were collected by FERC for regulatory rather than statistical and publication purposes. EIA did not attempt to resolve any late filing issues in the FERC Form 423 data. In 2003, EIA introduced a procedure to estimate for late or non-responding entities that were required to report on the FERC Form 423. Due to the introduction of this procedure, 2003 and later data cannot be directly compared to previous years' data.

Prior to 2008, regulated plants reported receipts data on the FERC Form 423. These plants, along with unregulated plants, now report receipts data on Schedule 2 of Form EIA-923. Because FERC issued waivers to Form 423 filing requirements to some plants who met certain criteria, and because not all types of generators were required to report (only steam turbines and combined cycle units reported), a significant number of plants either did not submit fossil fuel receipts data or submitted only a portion of their fossil fuel receipts. Since Form EIA-923 does not have exemptions based on generator type, or reporting waivers, receipts data from 2008 and later cannot be directly compared to previous years' data for the regulated sector. Also beginning with January 2008 data, tables for total receipts included imputed quantities for plants with capacity one megawatt or more, to be consistent with other electric power data. Previous published receipts data were from plants at or over a 50 megawatt threshold, which was a legacy of their original collection as information for a regulatory agency, not as a survey to provide more meaningful estimates of totals for statistical purposes. Totals appeared to become smaller as more electric production came from unregulated plants, until the Form EIA-423 was created to help fill that gap. As a further improvement, estimation of all receipts for the universe normally depicted in the Electric Power Annual (i.e., one megawatt and above), with associated relative standard errors, provides a more complete assessment of the market.

Issues within Historical Data Series for Generation and Consumption: Beginning in 2008, a new method of allocating fuel consumption between electric power generation and UTO was implemented (see above). This new methodology evenly distributes a CHP plant's losses between the two output products (electric power and UTO). In the historical data, UTO was consistently assumed to be 80 percent efficient and all other losses at the plant were allocated to electric power. This change causes the fuel for electric power to be lower while the fuel for UTO is higher as both are given the same

efficiency. This results in the appearance of an increase in efficiency of production of electric power between periods.

Sensitive Data: The total delivered cost of fuel delivered to nonutilities, the commodity cost of fossil fuels, and fuel stocks are considered business sensitive.

Capacity Factors and Usage Factors

This section describes the methodology for calculating capacity factors and usage factors by fuel and technology type for operating electric power plants. Capacity factor is a measure (expressed as a percent) of how often an electric generator operates over a specific period, using a ratio of the actual output to the maximum possible output over that period.

The monthly capacity factor calculation includes all operating electric generators which operated for the entire month using the net generation reported on the Form EIA-923 and the net summer capacity reported on the Form EIA-860. The capacity factor for a particular fuel/technology type is given by:

$$\text{capacity factor} = \frac{\sum_{x,m} \text{net generation}_{x,m}}{\sum_{x,m} \text{capacity}_{x,m} * \text{hours in month}_m}$$

where x represents generators of that fuel/technology combination and m represents individual months. Net generation and capacity are specific to a generator, and the generator is categorized by its primary fuel type as reported on the EIA-860. All generation from that generator is included, regardless of other fuels consumed. Net generation and capacity for a generator is excluded from the summations during the month that the generator initially began operation and if applicable during the month that the generator retired. Therefore, these published capacity factors will differ from a simple calculation using annual generation and capacity totals from the appropriate tables in this publication.

Usage factors are calculated for energy storage technologies using gross generation instead of net generation:

$$\text{usage factor} = \frac{\sum_{x,m} \text{gross generation}_{x,m}}{\sum_{x,m} \text{capacity}_{x,m} * \text{hours in month}_m}$$

Air Emissions

This section describes the methodology for calculating estimated emissions of carbon dioxide (CO₂) from electric generating plants for 1989 through the present, as well as the estimated emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from electric generating plants for 2001 through the present. For a description of the methodology used for other years, see the technical notes to the EPA 2003.

Methodology Overview: Initial estimates of uncontrolled SO₂ and NO_x emissions for all plants are made by applying an emissions factor to fuel consumption data collected by EIA on the Form EIA-923. An emission factor is the average quantity of a pollutant released from a power plant when a unit of fuel is burned, assuming no use of pollution control equipment. The basic relationship is:

$$\text{Emissions} = \text{Quantity of Fuel Consumed} \times \text{Emission Factor}$$

Quantity is defined in physical units (e.g., tons of solid fuels, million cubic feet of gaseous fuels, and thousands of barrels of liquid fuels) for determining NO_x and SO₂ emissions. As discussed below, physical quantities are converted to millions of Btus for calculating CO₂ emissions.

For some fuels, the calculation of SO₂ emissions requires including in the formula the sulfur content of the fuel measured in percentage of weight. Examples include coal and fuel oil. In these cases, the formula is:

$$\text{Emissions} = \text{Quantity of Fuel Consumed} \times \text{Emission Factor} \times \text{Sulfur Content}$$

The fuels that require the percent sulfur as part of the emissions calculation are indicated in Table A.1., which lists the SO₂ emission factors used for this report.

In the case of SO₂ and NO_x emissions, the factor applied to a fuel can also vary with the combustion system: a steam-producing boiler, a combustion turbine, or an internal combustion engine. In the case of boilers, NO_x emissions can also vary with the firing configuration of a boiler and whether the boiler is a wet-bottom or dry-bottom design.³ These distinctions are shown in Tables A.1. and A.2.

For SO₂ and NO_x, the initial estimate of uncontrolled emissions is reduced to account for the plant's operational pollution control equipment, when data on control equipment are available from the historical Form EIA-767 survey (i.e., data for the years 2005 and earlier) and the EIA-860 and EIA-923 surveys for the years 2007 through 2010. A special case for removal of SO₂ is the fluidized bed boiler, in which the sulfur removal process is integral with the operation of the boiler. The SO₂ emission factors shown in Table A.1. for fluidized bed boilers already account for 90 percent removal of SO₂ since, in effect, the plant has no uncontrolled emissions of this pollutant.

Although SO₂ and NO_x emission estimates are made for all plants, in many cases the estimated emissions can be replaced with actual emissions data collected by the U.S. Environmental Protection Agency's (U.S. EPA's) Continuous Emissions Monitoring System (CEMS) program. (CEMS data for CO₂ are incomplete and are not used in this report.) The CEMS data account for the bulk of SO₂ and NO_x emissions from the electric power industry. For those plants for which CEMS data are available, the EIA estimates of SO₂ and NO_x emissions are employed for the limited purpose of allocating emissions by fuel, since the CEMS data itself do not provide a detailed breakdown of plant emissions by fuel. For plants for which CEMS data are unavailable, the EIA-computed values are used as the final emissions estimates.

There are several reasons why the historical data are periodically revised. These include data revisions, revisions in emission and technology factors, and changes in methodology. For instance, the 2008 Electric Power Annual report features a revision in historic CO₂ values. This revision occurred due to a change in the accepted methodology regarding adjustments made for the percentage combustion of fuels.

The emissions estimation methodologies are described in more detail below.

CO₂ Emissions: CO₂ emissions are estimated using the information on fuel consumption in physical units and the heat content of fuel collected on the Form EIA-923 and predecessors. Heat content information

is used to convert physical units to millions of Btu (MMBtu) consumed. To estimate CO₂ emissions, the fuel-specific emission factor from Table A.3. is multiplied by the fuel consumption in MMBtu.

The estimation procedure calculates uncontrolled CO₂ emissions. CO₂ control technologies are currently in the early stages of research and there are no commercial systems installed. Therefore, no estimates of controlled CO₂ emissions are made.

SO₂ and NO_x Emissions: To comply with environmental regulations controlling SO₂ emissions, many coal-fired generating plants have installed flue gas desulfurization (FGD) units. Similarly, NO_x control regulations require many fossil-fueled plants to install low-NO_x burners, selective catalytic reduction systems, or other technologies to reduce emissions. It is common for power plants to employ two or even three NO_x control technologies; accordingly, the NO_x emissions estimation approach accounts for the combined effect of the equipment (Table A.4.). However, control equipment information is available only for plants that reported on the Form EIA-923 and for historical data from the Form EIA-767. The Form EIA-860, EIA-923, and the historical EIA-767 surveys are limited to plants with boilers fired by combustible fuels⁴ with a minimum generating capacity of 10 megawatts (nameplate). Pollution control equipment data are unavailable from EIA sources for plants that did not report on the historical EIA-767 survey, or the Forms EIA-860 and EIA-923.

The following method is used to estimate SO₂ and NO_x emissions:

- For steam electric plants, uncontrolled emissions are estimated using the emission factors shown in Tables A.1. and A.2. as well as reported data on fuel consumption, sulfur content, and boiler firing configuration. Controlled emissions are then determined when pollution control equipment is present. Although information on control equipment was not collected in 2006, updates for new installations during this period were made based on EPA data. Beginning in 2007, these data were collected on the Forms EIA-860 and EIA-923. For SO₂, the reported efficiency of the plant's FGD units is used to convert uncontrolled to controlled emission estimates. For NO_x, the reduction percentages shown in Table A.4. are applied to the uncontrolled estimates.
- For plants and prime movers not reported on the historical Form EIA-767 survey or Forms EIA-860 and EIA-923, uncontrolled emissions are estimated using the Table A.1. and Table A.2. emission factors and the following data and assumptions:
 - Fuel consumption is taken from the Form EIA-923 and predecessors.
 - The sulfur content of the fuel is estimated from fuel receipts for the plant reported on the Form EIA-923. When plant-specific sulfur content data are unavailable, the national average sulfur content for the fuel, computed from the Form EIA-923 is applied to the plant.
 - As noted earlier, the emission factor for plants with boilers depends in part on the type of combustion system, including whether a boiler is wet-bottom or dry-bottom, and the boiler firing configuration. However, this boiler information is unavailable for steam electric plants that did not report on the historical Forms EIA-767 or EIA-860. For these cases, the plant is assumed to have a dry-bottom, non-cyclone boiler using a firing method that falls into the "All Other" category shown on Table A.1.⁵

For the plants that did not report on the historical Form EIA-767 or EIA-860, pollution control equipment data are unavailable and the uncontrolled estimates are not reduced.

- If actual emissions of SO₂ or NO_x are reported in the EPA's CEMS data, the EIA estimates are replaced with the CEMS values, using the EIA estimates to allocate the CEMS plant-level data by fuel. If CEMS data are unavailable, the EIA estimates are used as the final values.

Conversion Factors for Propane, Petroleum Coke, and Synthesis Gases.

The quantity conversion for petroleum coke is 5 barrels (of 42 U.S. gallons each) per short ton (2,000 pounds), propane is 1.53 thousand cubic feet per barrel, coal-derived synthesis gas is 98.06 thousand cubic feet per ton, and petroleum coke-derived synthesis gas is 107.31 thousand cubic feet per ton.

Relative Standard Error

The relative standard error (RSE) statistic, usually given as a percent, describes the magnitude of sampling error that might reasonably be incurred. The RSE is the square root of the estimated variance, divided by the variable of interest. The variable of interest may be the ratio of two variables, or a single variable.

The sampling error may be less than the non-sampling error. In fact, large RSE estimates found in preliminary work with these data have often indicated non-sampling errors, which were then identified and corrected. Non-sampling errors may be attributed to many sources, including response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding data obtained, and other errors of collection, response, or coverage. These non-sampling errors also occur in complete censuses.

Using the Central Limit Theorem, which applies to sums and means such as are applicable here, there is approximately a 68 percent chance that the true total or mean is within one RSE of the estimated total. Note that reported RSEs are always estimates, themselves, and are usually, as here, reported as percents. As an example, suppose that a net generation from coal value is estimated to be 1,507 total million kilowatthours with an estimated RSE of 4.9 percent. This means that, ignoring any non-sampling error, there is approximately a 68 percent chance that the true million kilowatthour value is within approximately 4.9 percent of 1,507 million kilowatthours (that is, between 1,433 and 1,581 million kilowatthours). Also under the Central Limit Theorem, there is approximately a 95 percent chance that the true mean or total is within 2 RSEs of the estimated mean or total.

Note that there are times when a model may not apply, such as in the case of a substantial reclassification of sales, when the relationship between the variable of interest and the regressor data does not hold. In such a case, the new information represents only itself, and such numbers are added to model results when estimating totals. Further, there are times when sample data may be known to be in error or are not reported. Such cases are treated as if they were never part of the model-based sample, and values are imputed.

Business Classification

Nonutility power producers consist of entities that own or operate electric generating units but are not subject to direct economic regulation of rates, such as by state utility commissions. Nonutility power

producers do not have a designated franchised service area. In addition to entities whose primary business is the production and sale of electric power, entities with other primary business classifications can and do sell electric power. These can consist of, for example, manufacturing facilities and paper mills.

The EIA, in the Electric Power Annual and other data products, classifies nonutility power producers into the following categories:

- **Electric Utility (Sector 1):** All regulated plants with a primary purpose of selling electricity in the public markets (NAICS = 22).
- **Independent Power Producers (Sector 2):** All non-regulated plants with a primary purpose of electric power generation and a primary purpose of selling electricity in the public markets (NAICS = 22) with no ability to cogenerate heat and power.
- **Electric Power, Combined Heat and Power (Sector 3):** All non-regulated plants with a primary purpose of electric power generation and a primary purpose of selling electricity in the public markets (NAICS = 22) with the ability to cogenerate heat and power.
- **Commercial, Non-Combined Heat and Power (Sector 4):** All plants with a commercial primary purpose with no ability to cogenerate heat and power.
- **Commercial, Combined Heat and Power (Sector 5):** All plants with a commercial primary purpose with the ability to cogenerate heat and power.
- **Industrial, Non-Combined Heat and Power (Sector 6):** All plants with an industrial primary purpose with no ability to cogenerate heat and power.
- **Industrial, Combined Heat and Power (Sector 7):** All plants with an industrial primary purpose with the ability to cogenerate heat and power.

The following is a list of the North American Industry Classification System (NAICS) classifications used by EIA.

	Agriculture, Forestry, Fishing and Hunting
111	Crop Production
112	Animal Production
113	Forestry and Logging
114	Fishing, Hunting and Trapping
115	Support Activities for Agriculture and Forestry
	Mining, Quarrying, and Oil and Gas Extraction
211	Oil and Gas Extraction
2121	Coal Mining
2122	Metal Ore Mining
2123	Nonmetallic Mineral Mining and Quarrying
	Utilities
22	Electric Power Generation, Transmission and Distribution (other than 2212, 2213, 22131, 22132 or 22133)
2212	Natural Gas Distribution
22131	Water Supply and Irrigation Systems
22132	Sewage Treatment Facilities

22133	Steam and Air-Conditioning Supply
	Manufacturing
311	Food Manufacturing
312	Beverage and Tobacco Product Manufacturing
313	Textile Mills (Fiber, Yarn, Thread, Fabric, and Textiles)
314	Textile Product Mills
315	Apparel Manufacturing
316	Leather and Allied Product Manufacturing
321	Wood Product Manufacturing
322	Paper Manufacturing (other than 322122 or 32213)
322122	Newsprint Mills
32213	Paperboard Mills
323	Printing and Related Support Activities
324	Petroleum and Coal Products Manufacturing (other than 32411)
32411	Petroleum Refineries
325	Chemical Manufacturing (other than 32511, 32512, 325193, 325188, 3252 325211, 3253 or 325311)
32511	Petrochemical Manufacturing
32512	Industrial Gas Manufacturing
325193	Ethyl Alcohol Manufacturing (including Ethanol)
325188	Industrial Inorganic Chemicals
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (other than 325211)
325211	Plastics Material and Resin Manufacturing
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing (other than 325311)
325311	Nitrogenous Fertilizer Manufacturing
326	Plastics and Rubber Products Manufacturing
327	Nonmetallic Mineral Product Manufacturing (other than 32731)
32731	Cement Manufacturing
331	Primary Metal Manufacturing (other than 331111 or 331312)
331111	Iron and Steel Mills
331312	Primary Aluminum Production
332	Fabricated Metal Product Manufacturing
333	Machinery Manufacturing
334	Computer and Electronic Product Manufacturing
335	Electrical Equipment, Appliance, and Component Manufacturing
336	Transportation Equipment Manufacturing
337	Furniture and Related Product Manufacturing
339	Miscellaneous Manufacturing
421	Wholesale Trade
441	Retail Trade
	Transportation and Warehousing
481	Air Transportation
482	Rail Transportation
483	Water Transportation
484	Truck Transportation
485	Transit and Ground Passenger Transportation
486	Pipeline Transportation
487	Scenic and Sightseeing Transportation

488	Support Activities for Transportation (other than 4881, 4882, 4883 or 4884)
4881	Support Activities for Air Transportation (including Airports)
4882	Support Activities for Rail Transportation (including Rail Stations)
4883	Support Activities for Water Transportation (including Marinas)
4884	Support Activities for Road Transportation
491	Postal Service
492	Couriers and Messengers
493	Warehousing and Storage
	Information
511	Publishing Industries (except Internet)
512	Motion Picture and Sound Recording Industries
515	Broadcasting (except Internet)
517	Telecommunications
518	Data Processing, Hosting, and Related Services
519	Other Information Services
521	Finance and Insurance
53	Real Estate and Rental and Leasing (including Convention Centers and Office Buildings)
541	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
	Administrative and Support and Waste Management and Remediation Services
561	Administrative and Support Services
562	Waste Management and Remediation Services (other than 562212 or 562213)
562212	Solid Waste Landfill
562213	Solid Waste Combustors and Incinerators
611	Educational Services
	Health Care and Social Assistance
621	Ambulatory Health Care Services
622	Hospitals
623	Nursing and Residential Care Facilities
624	Social Assistance
	Arts, Entertainment, and Recreation
711	Performing Arts, Spectator Sports, and Related Industries
712	Museums, Historical Sites, and Similar Institutions
713	Amusement, Gambling, and Recreation Industries
	Accommodation and Food Services
721	Accommodation
722	Food Services and Drinking Places
	Other Services (except Public Administration)
811	Repair and Maintenance
812	Personal and Laundry Services
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations
814	Private Households

92	Public Administration (other than 921, 922, 92214 or 928)
921	Executive, Legislative, and Other General Government Services
922	Justice, Public Order and Safety Activities (other than 92214)
92214	Correctional Facilities
928	National Security and International Affairs (including Military Bases)

Multiple Survey Programs- Small Scale PV Solar Estimation of Generation

Monthly generation from small scale PV solar resources is an estimation of the generation produced from PV solar resources and not the results of a data collection effort for generation directly, except for “Third Party Owned” or (TPO) solar installations which has direct data collection. TPO data however is not comprehensive. TPOs do not operate in every state, TPO collected data is not a large portion of the estimated amount, and the data has been collected for limited period. The generation estimate is based on data collected for PV solar capacity.

Capacity of PV solar resources is collected directly from respondents. These data are collected on several EIA forms and from several types of respondents. Monthly data for net-metered PV solar capacity is reported on the Form EIA-861M. Form EIA-61M is a cutoff sample drawn from the annual survey Form EIA-861 which collects this data from all respondents. Using data from both surveys we have a regression model to impute for the non-sampled monthly capacity.

The survey instruments collect solar net metering capacity from reporting utilities by state and customer class. There are four customer classes: residential, commercial, industrial and transportation. However, the estimation process included only the residential, commercial, and industrial customers.¹ Data for these customer classes were further classified by U.S. Census Regions, to ensure adequate number of customer observations in for each estimation group.

Estimation Model: The total PV capacity reported by utilities in the annual EIA-861 survey is the single primary input (regressor) to the monthly estimation of PV capacity by state. The model tested for each census region was of the form:

$$y_{i_{2015,m}} = \beta_1 x_{i_{2013}} + w_i^{-1/2} e_i, \text{ where}$$

$x_{i_{2013}}$ is the i^{th} utility’s 2013 (or the last published year) solar PV capacity

$y_{i_{2015,m}}$ is the i^{th} utility’s month m , 2015 (or the current year) reported solar PV capacity

w_i is the weight factor, which is the inverse of $x_{i_{2013}}$

β_1 is effectively the growth rate of reported month m solar PV capacity

e_i is the error term

The model checks for outliers and removes them from the regression equation inputs. The model calculates RSEs by sector, state, census region, and U.S. total. Once we have imputed for all the monthly net-metered PV solar capacity we add to total net metered capacity, the PV solar capacity collected for the non net-metered capacity.

We use a second model to estimate the generation using this capacity as an input. The original methodology was developed for the “Annual Energy Outlook” based on our “NEMS” modelled projections several years ago. The original method underwent a calibration project designed to develop PV production levels for the NEMS projections consistent with simulations of a National Renewable Energy Laboratory model called PVWatts, which is itself embedded in PC software under the umbrella of the NREL’s System Advisor Model (SAM).

The PVWatts simulations require, panel azimuth orientations and tilts, something that the NEMS projections do not include. Call the combinations of azimuths and tilts “orientations.” The orientation and solar insolation (specific to a location) have a direct effect on the PV production level. The calibration project selected the 100 largest population Metropolitan Statistical Areas (MSAs) and relied on weights derived from orientation data from California Solar Initiative dataset to develop typical outputs for each of the 100 MSAs. It then was expanded from an annual estimate to a monthly estimate. A further description of this model is located here. A listing of the MSAs is included in Appendix 1.

Using Form EIA-861 data for service territories, which lists the counties that each electric distribution company (EDC) provides service, and NREL solar insolation data by county a simple average of insolation values by EDC is calculated.

Using the estimation model, we produce by utility, by state and by sector an estimate of generation. All the utilities’ capacity and generation estimates are summed by state and sector and a KWh/KW rate by state and sector is calculated.

Capacity from the Form EIA-860 that is net metered is subtracted from the total capacity by state and sector as well as the capacity reported on the EIA-861M from TPOs, resulting in a new “net” capacity amount. This capacity amount is multiplied by the KWh/KW rate to produce the non-TPO generation estimate and then it is added to the TPO reported sales to ultimate customers from the EIA-861 to obtain a final estimate for generation and a blended KWh/KW rate is calculated. The estimate for generation is aggregated by US census regions and US totals. The RSEs for capacity are checked for level of error and if they pass, the summary data by state, US census region and US total are reported in the EPM.

Appendix 2 contains a flow diagram of the data inputs, data quality control checks and data analysis required to perform this estimation.

Appendix 1- MSAs

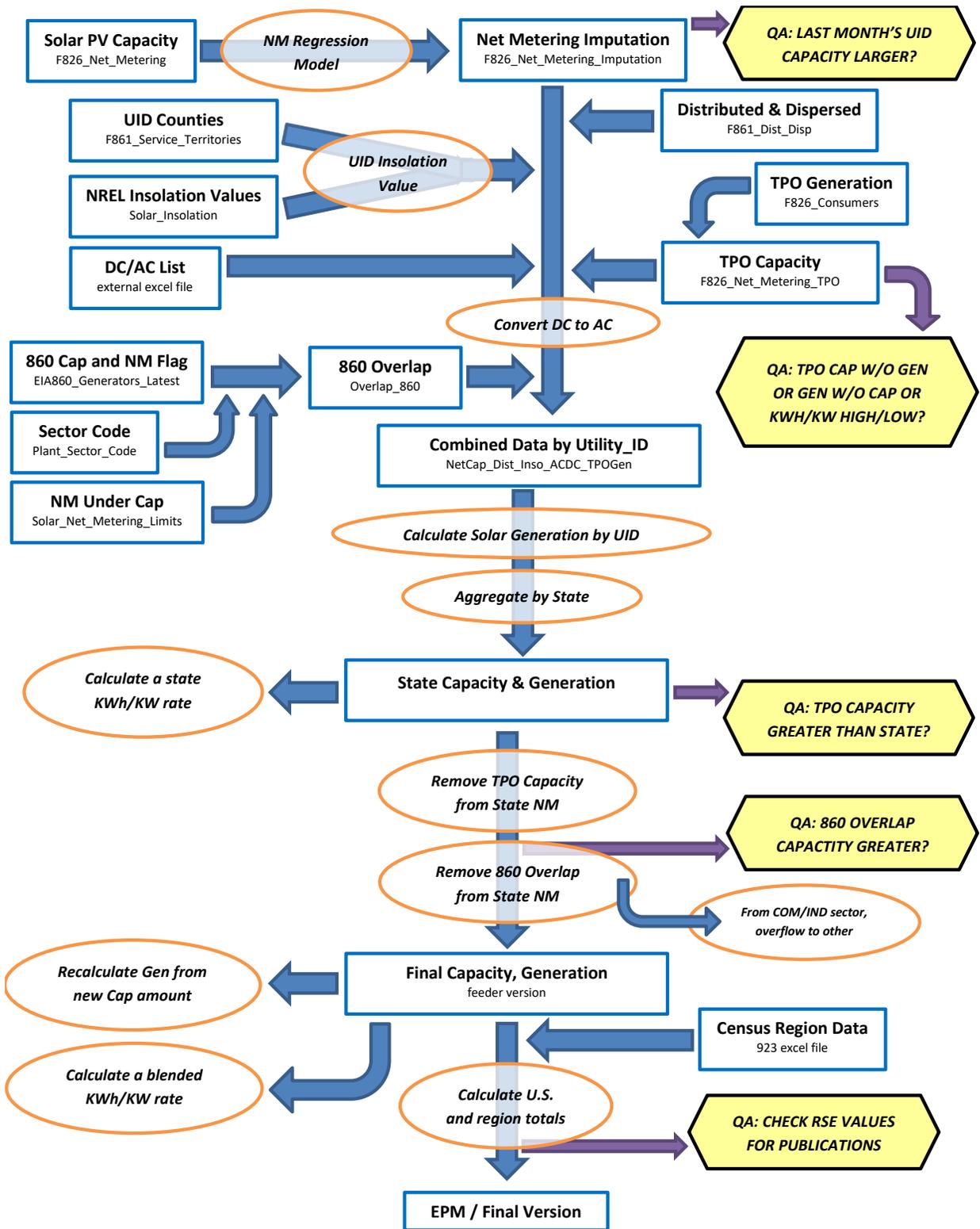
TMY3 (1991-2005) Weather Stations by MSA

Site	Weather Location	MSA
1	USA NY New York Central Park Obs.	New York-Newark-Jersey City, NY-NJ-PA MSA
2	USA CA Los Angeles Intl Airport	Los Angeles-Long Beach-Anaheim, CA MSA
3	USA IL Chicago Midway Airport	Chicago-Naperville-Elgin, IL-IN-WI MSA
4	USA TX Dallas-Fort Worth Intl Airport	Dallas-Fort Worth-Arlington, TX MSA
5	USA TX Houston Bush Intercontinental	Houston-The Woodlands-Sugar Land, TX MSA
6	USA PA Philadelphia Int'l Airport	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD MSA
7	USA VA Washington Dc Reagan Airport	Washington-Arlington-Alexandria, DC-VA-MD-WV MSA
8	USA FL Miami Intl Airport	Miami-Fort Lauderdale-West Palm Beach, FL MSA
9	USA GA Atlanta Hartsfield Intl Airport	Atlanta-Sandy Springs-Roswell, GA MSA
10	USA MA Boston Logan Int'l Airport	Boston-Cambridge-Newton, MA-NH MSA
11	USA CA San Francisco Intl Airport	San Francisco-Oakland-Hayward, CA MSA
12	USA AZ Phoenix Sky Harbor Intl Airport	Phoenix-Mesa-Scottsdale, AZ MSA
13	USA CA Riverside Municipal Airport	Riverside-San Bernardino-Ontario, CA MSA
14	USA MI Detroit City Airport	Detroit-Warren-Dearborn, MI MSA
15	USA WA Seattle Seattle-Tacoma Intl Airport	Seattle-Tacoma-Bellevue, WA MSA
16	USA MN Minneapolis-St. Paul Int'l Arp	Minneapolis-St. Paul-Bloomington, MN-WI MSA
17	USA CA San Diego Lindbergh Field	San Diego-Carlsbad, CA MSA
18	USA FL Tampa Int'l Airport	Tampa-St. Petersburg-Clearwater, FL MSA
19	USA MO St Louis Lambert Int'l Airport	St. Louis, MO-IL MSA
20	USA MD Baltimore-Washington Int'l Airport	Baltimore-Columbia-Towson, MD MSA
21	USA CO Denver Centennial [Golden - NREL]	Denver-Aurora-Lakewood, CO MSA
22	USA PA Pittsburgh Allegheny Co Airport	Pittsburgh, PA MSA
23	USA NC Charlotte Douglas Intl Airport	Charlotte-Concord-Gastonia, NC-SC MSA
24	USA OR Portland Hillsboro	Portland-Vancouver-Hillsboro, OR-WA MSA
25	USA TX San Antonio Intl Airport	San Antonio-New Braunfels, TX MSA
26	USA FL Orlando Intl Airport	Orlando-Kissimmee-Sanford, FL MSA
27	USA CA Sacramento Executive Airport	Sacramento-Roseville-Arden-Arcade, CA MSA
28	USA OH Cincinnati Municipal Airport	Cincinnati, OH-KY-IN MSA
29	USA OH Cleveland Hopkins Intl Airport	Cleveland-Elyria, OH MSA
30	USA MO Kansas City Int'l Airport	Kansas City, MO-KS MSA
31	USA NV Las Vegas McCarran Intl Airport	Las Vegas-Henderson-Paradise, NV MSA
32	USA OH Columbus Port Columbus Intl A	Columbus, OH MSA
33	USA IN Indianapolis Intl Airport	Indianapolis-Carmel-Anderson, IN MSA
34	USA CA San Jose Intl Airport	San Jose-Sunnyvale-Santa Clara, CA MSA
35	USA TX Austin Mueller Municipal Airport	Austin-Round Rock, TX MSA

36	USA TN Nashville Int'l Airport	Nashville-Davidson–Murfreesboro–Franklin, TN MSA
37	USA VA Norfolk Int'l Airport	Virginia Beach-Norfolk-Newport News, VA-NC MSA
38	USA RI Providence T F Green State	Providence-Warwick, RI-MA MSA
39	USA WI Milwaukee Mitchell Intl Airport	Milwaukee-Waukesha-West Allis, WI MSA
40	USA FL Jacksonville Craig	Jacksonville, FL MSA
41	USA TN Memphis Int'l Airport	Memphis, TN-MS-AR MSA
42	USA OK Oklahoma City Will Rogers	Oklahoma City, OK MSA
43	USA KY Louisville Bowman Field	Louisville/Jefferson County, KY-IN MSA
44	USA VA Richmond Int'l Airport	Richmond, VA MSA
45	USA LA New Orleans Alvin Callender	New Orleans-Metairie, LA MSA
46	USA CT Hartford Bradley Intl Airport	Hartford-West Hartford-East Hartford, CT MSA
47	USA NC Raleigh Durham Int'l	Raleigh, NC MSA
48	USA UT Salt Lake City Int'l Airport	Salt Lake City, UT MSA
49	USA AL Birmingham Municipal Airport	Birmingham-Hoover, AL MSA
50	USA NY Buffalo Niagara Intl Airport	Buffalo-Cheektowaga-Niagara Falls, NY MSA
51	USA NY Rochester Greater Rochester	Rochester, NY MSA
52	USA MI Grand Rapids Kent County Int'l Airport	Grand Rapids-Wyoming, MI MSA
53	USA AZ Tucson Int'l Airport	Tucson, AZ MSA
54	USA HI Honolulu Intl Airport	Urban Honolulu, HI MSA
55	USA OK Tulsa Int'l Airport	Tulsa, OK MSA
56	USA CA Fresno Yosemite Intl Airport	Fresno, CA MSA
57	USA CT Bridgeport Sikorsky Memorial	Bridgeport-Stamford-Norwalk, CT MSA
58	USA MA Worcester Regional Airport	Worcester, MA-CT MSA
59	USA NM Albuquerque Intl Airport	Albuquerque, NM MSA
60	USA NE Omaha Eppley Airfield	Omaha-Council Bluffs, NE-IA MSA
61	USA NY Albany County Airport	Albany-Schenectady-Troy, NY MSA
62	USA CA Bakersfield Meadows Field	Bakersfield, CA MSA
63	USA CT New Haven Tweed Airport	New Haven-Milford, CT MSA
64	USA TN Knoxville McGhee Tyson Airport	Knoxville, TN MSA
65	USA SC Greenville Downtown Airport	Greenville-Anderson-Mauldin, SC MSA
66	USA CA Oxnard Airport	Oxnard-Thousand Oaks-Ventura, CA MSA
67	USA TX El Paso Int'l Airport	El Paso, TX MSA
68	USA PA Allentown Lehigh Valley Intl	Allentown-Bethlehem-Easton, PA-NJ MSA
69	USA LA Baton Rouge Ryan Airport	Baton Rouge, LA MSA
70	USA TX McCallen Miller Intl Airport	McAllen-Edinburg-Mission, TX MSA
71	USA OH Dayton Int'l Airport	Dayton, OH MSA
72	USA SC Columbia Metro Airport	Columbia, SC MSA
73	USA NC Greensboro Piedmont Triad Int'l Airport	Greensboro-High Point, NC MSA
74	USA FL Sarasota Bradenton	North Port-Sarasota-Bradenton, FL MSA
75	USA AR Little Rock Adams Field	Little Rock-North Little Rock-Conway, AR MSA
76	USA SC Charleston Intl Airport	Charleston-North Charleston, SC MSA

77	USA OH Akron Akron-canton Reg. Airport	Akron, OH MSA
78	USA CA Stockton Metropolitan Airport	Stockton-Lodi, CA MSA
79	USA CO Colorado Springs Muni Airport	Colorado Springs, CO MSA
80	USA NY Syracuse Hancock Int'l Airport	Syracuse, NY MSA
81	USA FL Fort Myers Page Field	Cape Coral-Fort Myers, FL MSA
82	USA NC Winston-Salem Reynolds Airport	Winston-Salem, NC MSA
83	USA ID Boise Air Terminal	Boise City, ID MSA
84	USA KS Wichita Mid-continent Airport	Wichita, KS MSA
85	USA WI Madison Dane Co Regional Airport	Madison, WI MSA
86	USA MA Worcester Regional Airport	Springfield, MA MSA
87	USA FL Lakeland Linder Regional Airport	Lakeland-Winter Haven, FL MSA
88	USA UT Ogden Hinkley Airport	Ogden-Clearfield, UT MSA
89	USA OH Toledo Express Airport	Toledo, OH MSA
90	USA FL Daytona Beach Intl Airport	Deltona-Daytona Beach-Ormond Beach, FL MSA
91	USA IA Des Moines Intl Airport	Des Moines-West Des Moines, IA MSA
92	USA GA Augusta Bush Field	Augusta-Richmond County, GA-SC MSA
93	USA MS Jackson Int'l Airport	Jackson, MS MSA
94	USA UT Provo Muni	Provo-Orem, UT MSA
95	USA PA Wilkes-Barre Scranton Intl Airport	Scranton-Wilkes-Barre-Hazleton, PA MSA
96	USA PA Harrisburg Capital City Airport	Harrisburg-Carlisle, PA MSA
97	USA OH Youngstown Regional Airport	Youngstown-Warren-Boardman, OH-PA MSA
98	USA FL Melbourne Regional Airport	Palm Bay-Melbourne-Titusville, FL MSA
99	USA TN Chattanooga Lovell Field Airport	Chattanooga, TN-GA MSA
100	USA WA Spokane Int'l Airport	Spokane Spokane Valley, WA MSA

Appendix 2 – Flow diagram of data sources and analysis



Endnotes

- ¹ The basic technique employed is described in the paper “Model-Based Sampling and Inference,” on the EIA website. Additional references can be found on the InterStat website (<http://interstat.statjournals.net/>). See the following sources: Knaub, J.R., Jr. (1999a), “Using Prediction-Oriented Software for Survey Estimation,” InterStat, August 1999, <http://interstat.statjournals.net/>; Knaub, J.R. Jr. (1999b), “Model-Based Sampling, Inference and Imputation,” EIA web site: <http://www.eia.gov/cneaf/electricity/forms/eiawebme.pdf>; Knaub, J.R., Jr. (2005), “Classical Ratio Estimator,” InterStat, October 2005, <http://interstat.statjournals.net/>; Knaub, J.R., Jr. (2007a), “Cutoff Sampling and Inference,” InterStat, April 2007, <http://interstat.statjournals.net/>; Knaub, J.R., Jr. (2008), “Cutoff Sampling.” Definition in Encyclopedia of Survey Research Methods, Editor: Paul J. Lavrakas, Sage, to appear; Knaub, J.R., Jr. (2000), “Using Prediction-Oriented Software for Survey Estimation - Part II: Ratios of Totals,” InterStat, June 2000, <http://interstat.statjournals.net/>; Knaub, J.R., Jr. (2001), “Using Prediction-Oriented Software for Survey Estimation - Part III: Full-Scale Study of Variance and Bias,” InterStat, June 2001, <http://interstat.statjournals.net/>.
- ² See the following sources: Bahillo, A. et al. Journal of Energy Resources Technology, “NOx and N2O Emissions During Fluidized Bed Combustion of Leather Wastes.” Volume 128, Issue 2, June 2006. pp. 99-103; U.S. Energy Information Administration. *Renewable Energy Annual 2004*. “Average Heat Content of Selected Biomass Fuels.” Washington, DC, 2005; Penn State Agricultural College Agricultural and Biological Engineering and Council for Solid Waste Solutions. Garth, J. and Kowal, P. Resource Recovery, Turning Waste into Energy, University Park, PA, 1993; Utah State University Recycling Center Frequently Asked Questions
- ³ A boiler’s firing configuration relates to the arrangement of the fuel burners in the boiler, and whether the boiler is of conventional or cyclone design. Wet- and dry-bottom boilers use different methods to collect a portion of the ash that results from burning coal. For information on wet- and dry-bottom boilers, see the EIA Glossary at <http://www.eia.gov/glossary/index.html>. Additional information on wet- and dry-bottom boilers and on other aspects of boiler design and operation, including the differences between conventional and cyclone designs, can be found in Babcock and Wilcox, *Steam: Its Generation and Use*, 41st Edition, 2005.
- ⁴ Boilers that rely entirely on waste heat to create steam, including the heat recovery portion of most combined cycle plants, did not report on the historical Form EIA-767 or EIA-923.
- ⁵ The “All Other” firing configuration category includes, for example, arch firing and concentric firing. For a full list of firing method options for reporting on the historical Form EIA-767, see the form instructions, page xi, at http://www.eia.gov/survey/form/eia_767/instructions_form.pdf.