Independent Statistics & Analysis
U.S. Energy Information Administration

Electric Power Annual 2021

November 2022

This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government.

Independent Statistics & Analysis
www.eia.gov

U.S. Department of Energy
Washington, DC 20585

Table of Contents

Chapter 4. Generation Capacity

Chapter 5. Consumption of Fossil Fuels

Chapter 6. Fossil Fuel Stocks for Electricity Generation

Chapter 7. Receipts, Cost, and Quality of Fossil Fuels

Chapter 8. Electric Power System Characteristics and Performance

Chapter 9. Environmental Data

Chapter 10. Energy Efficiency, Demand Response and Advanced Meters

Chapter 11. Distribution System Reliability

Chapter 12. U.S. Territories

Appendix

Chapter 1

National Summary Data

Table 1.1. Total Electric Power Industry Summary Statistics, 2021 and 2020

Net Generation and Consumption of Fuels for January through December														
		Total (All Sectors)			Electric Power Sector				Commercial		Industrial		Residential	
					Electric Utilities		Independent Power Producers							
Fuel	Facility Type	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
Net Generation (Thousand Megawatthours)														
Coal	Utility Scale Facilities	897,885	773,393	16.1%	674,804	582,374	217,522	185,328	280	240	5,278	5,451	0	0
Petroleum Liquids	Utility Scale Facilities	11,665	9,662	20.7%	8,791	7,182	2,380	1,984	94	97	400	398	0	0
Petroleum Coke	Utility Scale Facilities	7,511	7,679	-2.2%	5,728	5,663	1,413	1,504	4	2	367	510	0	0
Natural Gas	Utility Scale Facilities	1,579,361	1,626,790	-2.9%	777,057	815,414	699,717	706,885	7,346	8,110	95,240	96,381	0	0
Other Gas	Utility Scale Facilities	11,397	11,818	-3.6%	12	45	3,292	3,129	0	0	8,093	8,644	0	0
Nuclear	Utility Scale Facilities	778,188	789,879	-1.5%	429,227	428,953	348,961	360,925	0	0	0	0	0	0
Hydroelectric Conventional	Utility Scale Facilities	251,585	285,274	-11.8%	228,689	264,650	21,702	19,409	258	214	936	1,001	0	0
Renewable Sources Excluding Hydroelectric	Utility Scale Facilities	563,682	497,738	13.2%	89,249	69,742	445,396	398,200	3,576	3,347	25,461	26,449	0	0
... Wind	Utility Scale Facilities	378,197	337,938	11.9%	70,338	55,554	307,579	281,599	168	168	112	617	0	0
... Solar Thermal and Photovoltaic	Utility Scale Facilities	115,258	89,199	29.2%	13,911	9,945	100,612	78,567	598	586	137	101	0	0
... Wood and Wood-Derived Fuels	Utility Scale Facilities	36,463	36,219	0.7%	2,796	2,077	9,101	9,135	153	91	24,413	24,916	0	0
... Other Biomass	Utility Scale Facilities	17,790	18,493	-3.8%	1,197	1,252	13,637	14,374	2,156	2,053	800	814	0	0
... Geothermal	Utility Scale Facilities	15,975	15,890	0.5%	1,007	915	14,466	14,526	502	449	0	0	0	0
Hydroelectric Pumped Storage	Utility Scale Facilities	-5,112	-5,321	-3.9%	-3,876	-4,326	-1,235	-995	0	0	0	0	0	0
Other Energy Sources	Utility Scale Facilities	12,140	12,855	-5.6%	508	618	6,449	6,971	1,209	1,035	3,975	4,231	0	0
All Energy Sources	Utility Scale Facilities	4,108,303	4,009,767	2.5%	2,210,187	2,170,316	1,745,598	1,683,340	12,768	13,046	139,750	143,064	0	0
Estimated Small Scale Solar Photovoltaic	Small Scale Facilities	49,164	41,522	18.4%	0	0	0	0	15,124	12,859	3,858	3,484	30,182	25,179
Estimated Total Solar Photovoltaic	All Facilities	161,499	127,588	26.6%	13,883	9,915	97,717	75,464	15,722	13,445	3,994	3,586	30,182	25,179
Estimated Total Solar	All Facilities	164,422	130,721	25.8%	13,911	9,945	100,612	78,567	15,722	13,445	3,994	3,586	30,182	25,179
Consumption of Fossil Fuels for Electricity Generation														
Coal (1000 tons)	Utility Scale Facilities	500,298	435,351	14.9%	372,694	325,352	125,851	108,125	87	72	1,666	1,802	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	21,634	18,008	20.1%	16,850	13,913	4,102	3,447	250	238	432	410	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	3,070	3,077	-0.2%	2,323	2,260	618	658	1	1	127	158	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	11,503,839	11,928,104	-3.6%	5,876,442	6,196,152	4,996,517	5,061,569	45,536	51,827	585,344	618,556	0	0
Consumption of Fossil Fuels for Useful Thermal Output														
Coal (1000 tons)	Utility Scale Facilities	11,301	10,402	8.6%	2,153	1,635	667	715	447	401	8,034	7,651	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	2,072	1,730	19.8%	80	59	278	179	331	269	1,384	1,223	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	760	780	-2.5%	21	16	113	124	6	3	621	637	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	1,222,267	1,292,624	-5.4%	49,103	47,025	308,223	326,976	71,093	78,844	793,848	839,778	0	0
Consumption of Fossil Fuels for Electricity Generation and Useful Thermal Output														
Coal (1000 tons)	Utility Scale Facilities	511,600	445,753	14.8%	374,848	326,987	126,518	108,840	534	473	9,700	9,453	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	23,706	19,738	20.1%	16,929	13,972	4,380	3,626	580	507	1,816	1,633	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	3,830	3,856	-0.7%	2,344	2,276	731	782	7	4	748	795	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	12,726,106	13,220,728	-3.7%	5,925,545	6,243,178	5,304,740	5,388,546	116,628	130,671	1,379,192	1,458,334	0	0

Sales, Revenue, and Average Price of Electricity to Ultimate Customers for January through December									
	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)		
Sector	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Percentage Change
Residential	1,470,487	1,464,605	0.4%	200,834	192,663	4.2%	13.66	13.15	3.9%
Commercial	1,328,439	1,287,440	3.2%	149,008	136,372	9.3%	11.22	10.59	5.9%
Industrial	1,000,613	959,082	4.3%	71,835	63,956	12.3%	7.18	6.67	7.6%
Transportation	6,334	6,548	-3.3%	646	648	-0.3%	10.20	9.90	3.0%
All Sectors	3,805,874	3,717,674	2.4%	422,323	393,639	7.3%	11.10	10.59	4.8%

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 Gases includes blast furnace gas and other manufactured and waste gases derived from fossil fuels.
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.
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, 2011 - 2021

(From Table 2.1.) Number of Ultimate Customers

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2011	126,143,072	17,638,062	727,920	92	N/A	144,509,146
2012	126,832,343	17,729,029	732,385	83	N/A	145,293,840
2013	127,777,153	17,679,562	831,790	75	N/A	146,288,580
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

(From Table 2.2.) Sales to Ultimate Customers
(Thousand Megawatthours)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2011	1,422,801	1,328,057	991,316	7,672	N/A	3,749,846
2012	1,374,515	1,327,101	985,714	7,320	N/A	3,694,650
2013	1,394,812	1,337,079	985,352	7,625	N/A	3,724,868
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

(From Table 2.3.) Revenue From Ultimate Customers
(Million Dollars)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2011	166,714	135,927	67,606	803	N/A	371,049
2012	163,280	133,898	65,761	747	N/A	363,687
2013	169,131	137,188	67,934	805	N/A	375,058
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

Table 1.2. Summary Statistics for the United States, 2011 - 2021

(From Table 2.4.) Average Price

(Cents per Kilowatthour)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2011	11.72	10.24	6.82	10.46	N/A	9.90
2012	11.88	10.09	6.67	10.21	N/A	9.84
2013	12.13	10.26	6.89	10.55	N/A	10.07
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

(From Tables 2.12. - 2.14.) Trade

(Thousand Megawatthours)

Year	Purchases	Sales for Resale	Imports	Exports
2011	5,024,621	5,143,121	52,300	15,049
2012	96,692	1,421,173	59,257	11,996
2013	4,684,977	4,842,508	68,947	11,373
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

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

Generation at Utility Scale Facilities									
Year	Coal	Petroleum	Natural Gas	Other Gas	Nuclear	Hydro Conven-tional	Hydro Pumped Storage	Geothermal	Wind
2011	1,733,430	30,182	1,013,689	11,566	790,204	319,355	-6,421	15,316	120,177
2012	1,514,043	23,190	1,225,894	11,898	769,331	276,240	-4,950	15,562	140,822
2013	1,581,115	27,164	1,124,836	12,853	789,016	268,565	-4,681	15,775	167,840
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	897,885	19,176	1,579,361	11,397	778,188	251,585	-5,112	15,975	378,197

Table 1.2. Summary Statistics for the United States, 2011 - 2021

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
2011	1,012	806	37,449	19,222	14,154	4,100,141	--	1,012	1,818
2012	3,451	876	37,799	19,823	13,787	4,047,765	--	3,451	4,327
2013	8,121	915	40,028	20,830	13,588	4,065,964	--	8,121	9,036
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	4,108,303	49,164	161,499	164,422

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

Utility Scale Capacity									
Year	Coal	Petroleum	Natural Gas	Other Gas	Nuclear	Hydro Conven-tional	Hydro Pumped Storage	Geothermal	Wind
2011	317,640.3	51,481.6	415,191.3	1,934.2	101,418.8	78,651.6	22,292.6	2,409.2	45,675.9
2012	309,680.4	47,167.2	422,364.4	1,945.6	101,885.0	78,738.0	22,368.3	2,592.1	59,074.8
2013	303,306.3	43,523.0	425,389.7	2,107.8	99,240.3	79,200.0	22,389.3	2,607.0	59,973.4
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

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
2011	1,052.0	471.5	7,076.5	4,535.9	1,419.6	1,051,251.0	--	1,052.0	1,523.5
2012	2,694.1	476.0	7,507.6	4,810.6	1,728.9	1,063,033.0	--	2,694.1	3,170.1
2013	5,336.1	1,286.4	8,354.2	5,043.0	2,307.0	1,060,063.5	--	5,336.1	6,622.5
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, 2011 - 2021

2019	35,710.2	1,758.1	8,374.5	4,738.8	2,606.4	1,099,109.3	23,213.6	58,923.8	60,681.9
2020	46,306.2	1,747.9	8,326.5	4,623.3	3,079.3	1,115,680.8	27,584.8	73,891.0	75,638.9
2021	60,070.1	1,480.0	7,923.2	4,469.2	6,311.3	1,145,856.1	33,081.0	93,151.1	94,631.1

(From Chapter 5.) Consumption of Fossil Fuels

	For Electricity Generation				For Useful Thermal Output			
Year	Coal (Thousand Tons)	Petroleum (Thousand Barrels)	Natural Gas (Millions of Cubic Feet)	Other Gas (Millions of BTU)	Coal (Thousand Tons)	Petroleum (Thousand Barrels)	Natural Gas (Millions of Cubic Feet)	Other Gas (Millions of BTU)
2011	934,938	52,387	7,883,865	91,290	21,532	9,223	839,681	191,138
2012	825,734	40,977	9,484,710	103,353	19,333	9,828	886,103	199,121
2013	860,729	47,492	8,596,299	115,303	18,350	10,886	882,385	189,902
2014	853,634	53,593	8,544,387	110,010	18,107	9,513	865,146	194,088
2015	739,594	49,145	10,016,576	105,997	16,632	8,864	935,098	183,596
2016	677,371	43,671	10,170,110	73,785	16,586	7,770	1,151,866	221,835
2017	663,911	39,144	9,508,062	70,721	14,667	6,899	1,168,544	227,981
2018	636,213	46,727	10,842,129	78,757	13,813	7,261	1,205,962	274,612
2019	537,620	34,454	11,612,858	71,854	12,397	6,357	1,196,025	209,000
2020	435,351	33,391	11,928,104	69,609	10,402	5,629	1,292,624	199,076
2021	500,298	36,983	11,503,839	65,137	11,301	5,873	1,222,267	198,379

	Total			
Year	Coal (Thousand Tons)	Petroleum (Thousand Barrels)	Natural Gas (Millions of Cubic Feet)	Other Gas (Millions of BTU)
2011	956,470	61,610	8,723,546	282,428
2012	845,066	50,805	10,370,812	302,475
2013	879,078	58,378	9,478,685	305,205
2014	871,741	63,106	9,409,532	304,098
2015	756,226	58,009	10,951,674	289,593
2016	693,958	51,441	11,321,975	295,619
2017	678,578	46,043	10,676,606	298,702
2018	650,027	53,988	12,048,091	353,369
2019	550,017	40,811	12,808,883	280,854
2020	445,753	39,020	13,220,728	268,685
2021	511,600	42,856	12,726,106	263,515

(From Tables 6.1. and 7.1)

Year End Stocks, Annual Receipts and Average Costs

	Electric Power Sector Year End Stocks		Annual Receipts at All Electricty Generators			Average Cost of Fuel at All Electricty Generators		
Year	Coal (Thousand Tons)	Petroleum (Thousand Barrels)	Coal (Thousand Tons)	Petroleum (Thousand Barrels)	Natural Gas (Millions of Cubic Feet)	Coal (Dollars per MMBtu)	Petroleum (Dollars per MMBtu)	Natural Gas (Dollars per MMBtu)
2011	172,387	36,282	956,538	66,058	9,056,164	2.39	12.48	4.72
2012	185,116	33,336	841,183	40,364	9,531,389	2.38	12.48	3.42
2013	147,884	32,336	823,222	43,714	8,503,424	2.34	11.57	4.33
2014	151,548	36,459	854,560	54,488	8,431,423	2.37	11.60	5.00

Table 1.2. Summary Statistics for the United States, 2011 - 2021

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	27,514	461,277	27,776	11,566,909	1.98	10.08	5.20

(From Table 9.1.) Emissions

(Thousand Metric Tons)

Year	Carbon Dioxide (CO2)	Sulfur Dioxide (SO2)	Nitrogen Oxides (NOx)
2011	2,287,071	4,845	2,406
2012	2,156,875	3,704	2,148
2013	2,173,806	3,609	2,163
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

(From Tables 10.1. and 10.2.) Energy Efficiency

	Savings		Incremental Costs		Life Cycle Savings		Life Cycle Costs	
Year	Energy (MWh)	Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)	Energy (MWh)	Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)
2013	24,653,124	11,078	2,871,654	1,944,597	249,940,645	10,956	6,028,810	3,994,889
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

(From Tables 10.3. and 10.4.) Demand Response

	Yearly Energy and Demand Savings				Program Costs	
Year	Customers	Energy (MWh)	Potential Peak Demand (MW)	Actual Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)
2013	9,187,350	1,401,987	27,095	11,883	1,112,782	485,133
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

Table 1.2. Summary Statistics for the United States, 2011 - 2021

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

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 Gases.
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 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 Gas category. Other 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 batteries, hydrogen, purchased steam, sulfur, tire-derived fuels and other miscellaneous energy sources, and for generation values, non-biogenic muncipal solid waste.

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, commerical 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.

N/A = Not available.
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.

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, 2011 through 2021

(From Chapter 3.) Supply (Thousand Megawatthours)

	Generation						
Year	Electric Utilities	IPP (Non-CHP)	IPP (CHP)	Commercial Sector	Industrial Sector	Total Imports	Total Supply
2011	2,460,851	1,331,303	156,032	10,080	141,875	52,300	4,152,441
2012	2,339,172	1,386,991	164,194	11,301	146,107	59,257	4,107,022
2013	2,388,058	1,368,038	147,619	12,234	150,015	68,947	4,134,911
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	2,210,187	1,612,675	132,922	12,768	139,750	53,167	4,161,470

(From Chapter 2.) Disposition (Thousand Megawatthours)

	Sales to Ultimate Customers						
Year	Full-Service Providers	Energy-Only Providers	Facility Direct	Direct Use	Total Exports	Losses and Unaccounted For	Total Disposition
2011	3,272,622	466,964	10,259	132,754	15,049	254,792	4,152,441
2012	3,172,096	514,290	8,263	137,657	11,996	262,720	4,107,022
2013	3,147,192	559,211	18,465	143,462	11,373	255,208	4,134,911
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	202,825	4,161,470

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, 2011 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2011	126,143,072	17,638,062	727,920	92	144,509,146
2012	126,832,343	17,729,029	732,385	83	145,293,840
2013	127,777,153	17,679,562	831,790	75	146,288,580
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
Full-Service Providers					
2011	120,306,190	16,321,174	682,906	56	137,310,326
2012	118,650,233	16,111,883	681,074	48	135,443,238
2013	116,624,884	15,817,442	780,759	48	133,223,133
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
Energy-Only Providers					
2011	5,836,882	1,316,888	45,014	36	7,198,820
2012	8,182,110	1,617,146	51,311	35	9,850,602
2013	11,152,269	1,862,120	51,031	27	13,065,447
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

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, 2011 through 2021 (Megawatthours)

Year	Residential	Commercial	Industrial	Transportation	Total	Direct Use	Total End Use
Total Electric Industry							
2011	1,422,801,093	1,328,057,439	991,315,564	7,672,084	3,749,846,180	132,754,037	3,882,600,217
2012	1,374,514,708	1,327,101,196	985,713,854	7,320,028	3,694,649,786	137,656,510	3,832,306,296
2013	1,394,812,129	1,337,078,777	985,351,874	7,625,041	3,724,867,821	143,461,937	3,868,329,758
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
Full-Service Providers							
2011	1,368,453,770	1,090,292,969	822,404,124	1,730,820	3,282,881,683	N/A	3,282,881,683
2012	1,297,818,441	1,073,346,766	807,805,140	1,389,340	3,180,359,687	N/A	3,180,359,687
2013	1,291,368,071	1,074,915,884	797,769,849	1,603,318	3,165,657,122	N/A	3,165,657,122
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
Energy-Only Providers							
2011	54,347,323	237,764,470	168,911,440	5,941,264	466,964,497	N/A	466,964,497
2012	76,696,267	253,754,430	177,908,714	5,930,688	514,290,099	N/A	514,290,099
2013	103,444,058	262,162,893	187,582,025	6,021,723	559,210,699	N/A	559,210,699
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

N/A = Not Available.
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, 2011 through 2021 (Million Dollars)

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2011	166,714	135,927	67,606	803	371,049
2012	163,280	133,898	65,761	747	363,687
2013	169,131	137,188	67,934	805	375,058
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
Full-Service Providers					
2011	158,788	108,318	54,285	162	321,552
2012	152,817	106,012	52,667	132	311,628
2013	155,203	108,460	54,309	167	318,138
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
Competitive Service Providers					
2011	7,926	27,609	13,321	641	49,497
2012	10,464	27,886	13,094	615	52,059
2013	13,928	28,729	13,625	638	56,919
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
Energy-Only Providers					
2011	4,578	18,086	10,392	463	33,519
2012	5,776	17,397	9,895	432	33,500
2013	7,755	17,876	10,330	451	36,412
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
Delivery-Only Providers					
2011	3,348	9,523	2,929	178	15,978
2012	4,687	10,489	3,199	183	18,559
2013	6,172	10,853	3,295	187	20,507
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

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 2011 through 2021 (Cents per kilowatthour)

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2011	11.72	10.24	6.82	10.46	9.90
2012	11.88	10.09	6.67	10.21	9.84
2013	12.13	10.26	6.89	10.55	10.07
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
Full-Service Providers					
2011	11.60	9.93	6.60	9.35	9.79
2012	11.77	9.88	6.52	9.50	9.80
2013	12.02	10.09	6.81	10.40	10.05
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
Competitive Service Providers					
2011	14.58	11.61	7.89	10.79	10.60
2012	13.64	10.99	7.36	10.38	10.12
2013	13.46	10.96	7.26	10.60	10.18
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
Energy-Only Providers					
2011	8.42	7.61	6.15	7.80	7.18
2012	7.53	6.86	5.56	7.29	6.51
2013	7.50	6.82	5.51	7.49	6.51
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
Delivery-Only Providers					
2011	6.16	4.01	1.73	2.99	3.42
2012	6.11	4.13	1.80	3.09	3.61
2013	5.97	4.14	1.76	3.11	3.67
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

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, 2011 - December 2021 (Thousand Megawatthours)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	1,422,801	1,328,057	991,316	7,672	3,749,846
2012	1,374,515	1,327,101	985,714	7,320	3,694,650
2013	1,394,812	1,337,079	985,352	7,625	3,724,868
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
Year 2019					
January	133,318	112,012	82,610	670	328,609
February	116,608	102,071	76,447	672	295,798
March	112,605	107,468	81,093	686	301,853
April	90,384	102,446	80,460	610	273,900
May	100,331	111,201	84,661	608	296,802
June	120,116	115,745	84,992	608	321,462
July	153,749	130,951	90,752	642	376,095
August	150,083	130,776	91,062	653	372,574
September	131,567	122,059	86,160	677	340,463
October	107,997	115,305	84,396	543	308,241
November	102,453	102,840	79,625	614	285,532
December	121,078	108,001	80,095	648	309,823
Year 2020					
January	124,442	109,812	80,609	670	315,533
February	112,123	103,015	78,903	619	294,659
March	104,255	104,110	80,931	598	289,894
April	97,759	91,406	72,791	444	262,401
May	105,681	94,299	74,273	454	274,707
June	131,538	109,593	78,445	480	320,056
July	167,108	127,107	84,758	556	379,530
August	158,939	123,057	86,366	522	368,885
September	127,824	113,220	80,977	534	322,555
October	105,514	108,468	82,371	523	296,877
November	99,661	97,897	79,167	525	277,249
December	129,761	105,456	79,492	622	315,330
Year 2021					
January	136,682	104,498	79,750	567	321,496
February	126,550	98,356	74,245	548	299,698
March	114,374	102,877	77,552	542	295,345
April	93,891	98,721	79,661	506	272,779
May	101,160	104,711	83,703	487	290,061
June	132,153	119,053	86,702	508	338,415
July	154,495	127,856	91,052	546	373,948
August	157,792	131,111	91,576	560	381,039
September	131,111	118,989	85,817	527	336,444
October	103,992	112,246	85,356	533	302,127
November	100,591	103,506	82,545	492	287,134
December	117,696	106,516	82,655	521	307,387

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, 2011 - December 2021 (Million Dollars)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	166,714	135,927	67,606	803	371,049
2012	163,280	133,898	65,761	747	363,687
2013	169,131	137,188	67,934	805	375,058
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
Year 2019					
January	16,620	11,541	5,433	66	33,660
February	14,831	10,761	5,116	67	30,775
March	14,457	11,238	5,454	63	31,212
April	11,976	10,777	5,239	58	28,050
May	13,356	11,725	5,667	58	30,805
June	16,005	12,618	5,843	61	34,526
July	20,382	14,433	6,476	63	41,354
August	19,955	14,407	6,739	63	41,164
September	17,317	13,379	6,085	66	36,847
October	13,837	12,380	5,770	53	32,039
November	13,346	10,874	5,350	58	29,629
December	15,354	11,146	5,112	61	31,674
Year 2020					
January	15,876	11,184	5,132	65	32,256
February	14,371	10,615	5,078	59	30,123
March	13,596	10,763	5,173	58	29,589
April	12,943	9,480	4,654	43	27,119
May	13,841	9,812	4,859	42	28,554
June	17,389	11,938	5,447	51	34,824
July	22,067	13,785	6,070	57	41,979
August	21,077	13,412	6,105	54	40,648
September	17,247	12,473	5,670	55	35,445
October	14,409	11,626	5,536	52	31,623
November	13,269	10,310	5,135	52	28,766
December	16,578	10,976	5,098	61	32,713
Year 2021					
January	17,254	10,731	5,037	54	33,076
February	16,469	11,175	5,755	54	33,454
March	15,146	11,397	5,415	53	32,011
April	12,887	10,729	5,340	51	29,007
May	14,017	11,369	5,564	49	30,998
June	18,273	13,491	6,263	53	38,080
July	21,364	14,653	6,758	56	42,832
August	21,960	15,104	6,907	58	44,028
September	18,544	13,868	6,530	59	39,001
October	14,619	12,927	6,349	55	33,950
November	14,150	11,688	6,084	51	31,973
December	16,150	11,876	5,832	55	33,914

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, 2011 - December 2021 (Cents per Kilowatthour)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	11.72	10.24	6.82	10.46	9.90
2012	11.88	10.09	6.67	10.21	9.84
2013	12.13	10.26	6.89	10.55	10.07
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
Year 2019					
January	12.47	10.30	6.58	9.83	10.24
February	12.72	10.54	6.69	10.02	10.40
March	12.84	10.46	6.73	9.25	10.34
April	13.25	10.52	6.51	9.45	10.24
May	13.31	10.54	6.69	9.46	10.38
June	13.32	10.90	6.87	10.01	10.74
July	13.26	11.02	7.14	9.82	11.00
August	13.30	11.02	7.40	9.65	11.05
September	13.16	10.96	7.06	9.78	10.82
October	12.81	10.74	6.84	9.72	10.39
November	13.03	10.57	6.72	9.52	10.38
December	12.68	10.32	6.38	9.46	10.22
Year 2020					
January	12.76	10.18	6.37	9.64	10.22
February	12.82	10.30	6.44	9.45	10.22
March	13.04	10.34	6.39	9.67	10.21
April	13.24	10.37	6.39	9.72	10.34
May	13.10	10.40	6.54	9.30	10.39
June	13.22	10.89	6.94	10.55	10.88
July	13.21	10.84	7.16	10.27	11.06
August	13.26	10.90	7.07	10.29	11.02
September	13.49	11.02	7.00	10.37	10.99
October	13.66	10.72	6.72	9.87	10.65
November	13.31	10.53	6.49	9.95	10.38
December	12.78	10.41	6.41	9.86	10.37
Year 2021					
January	12.62	10.27	6.32	9.48	10.29
February	13.01	11.36	7.75	9.92	11.16
March	13.24	11.08	6.98	9.70	10.84
April	13.73	10.87	6.70	10.03	10.63
May	13.86	10.86	6.65	10.03	10.69
June	13.83	11.33	7.22	10.42	11.25
July	13.83	11.46	7.42	10.29	11.45
August	13.92	11.52	7.54	10.27	11.55
September	14.14	11.65	7.61	11.15	11.59
October	14.06	11.52	7.44	10.25	11.24
November	14.07	11.29	7.37	10.47	11.14
December	13.72	11.15	7.06	10.49	11.03

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, 2021 and 2020 (Thousand Megawatthours)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	48,598	48,328	49,061	47,469	15,662	15,583	478	467	113,799	111,846
Connecticut	13,092	12,982	11,701	11,146	2,799	2,860	145	126	27,738	27,114
Maine	5,062	4,905	3,949	3,816	2,574	2,626	0	0	11,585	11,347
Massachusetts	20,305	20,345	23,832	23,121	6,346	6,220	315	323	50,798	50,009
New Hampshire	4,832	4,790	4,107	4,030	1,929	1,873	0	0	10,867	10,694
Rhode Island	3,132	3,148	3,605	3,551	644	635	18	18	7,398	7,352
Vermont	2,174	2,157	1,867	1,806	1,371	1,369	0	0	5,413	5,331
Middle Atlantic	138,192	137,241	143,046	139,685	73,484	71,953	3,112	3,246	357,834	352,126
New Jersey	30,090	29,677	36,137	35,316	6,593	6,735	249	270	73,070	71,998
New York	52,157	52,257	69,920	68,989	16,891	16,610	2,455	2,550	141,424	140,407
Pennsylvania	55,945	55,307	36,988	35,381	50,000	48,607	407	425	143,340	139,721
East North Central	192,188	190,311	174,951	168,614	184,734	177,267	513	508	552,387	536,700
Illinois	46,813	46,171	46,923	45,487	41,498	40,362	455	450	135,689	132,469
Indiana	33,472	32,878	22,921	21,996	43,329	42,263	18	18	99,740	97,156
Michigan	35,868	35,863	36,861	35,491	27,081	25,654	3	4	99,813	97,012
Ohio	53,171	52,553	44,980	43,204	49,529	46,823	37	35	147,718	142,615
Wisconsin	22,864	22,847	23,266	22,436	23,296	22,164	1	1	69,427	67,448
West North Central	107,760	106,677	99,433	96,335	98,747	92,537	43	41	305,983	295,591
Iowa	14,652	14,567	12,135	11,606	26,106	24,467	0	0	52,893	50,640
Kansas	13,769	13,592	15,356	14,843	11,366	11,048	0	0	40,492	39,484
Minnesota	23,246	22,936	22,093	21,527	21,227	19,572	23	20	66,589	64,055
Missouri	35,668	34,950	28,987	27,931	13,087	12,824	21	20	77,763	75,726
Nebraska	10,492	10,515	9,260	9,090	12,588	11,566	0	0	32,341	31,172
North Dakota	4,888	5,047	6,808	6,642	11,166	10,131	0	0	22,863	21,819
South Dakota	5,044	5,070	4,792	4,696	3,206	2,929	0	0	13,041	12,696
South Atlantic	374,746	372,703	313,129	301,366	144,329	135,627	1,098	1,217	833,301	810,913
Delaware	5,170	4,991	4,196	4,082	2,113	2,055	0	0	11,480	11,129
District of Columbia	2,528	2,453	7,044	6,815	240	186	272	332	10,083	9,786
Florida	130,412	133,299	93,965	92,494	17,113	16,573	72	75	241,562	242,440
Georgia	58,685	58,220	45,777	44,302	32,759	30,808	143	141	137,364	133,470
Maryland	27,965	27,306	27,437	26,452	3,480	3,382	422	489	59,304	57,629
North Carolina	60,915	58,642	47,715	45,905	27,049	25,828	14	16	135,693	130,391
South Carolina	31,386	30,826	21,114	20,834	27,292	25,077	0	0	79,792	76,737
Virginia	46,634	46,089	58,724	53,527	19,712	17,474	175	164	125,245	117,254
West Virginia	11,051	10,877	7,156	6,956	14,571	14,243	0	0	32,778	32,077
East South Central	119,430	116,346	89,070	86,034	99,239	94,302	0	0	307,739	296,682
Alabama	31,585	31,331	21,844	21,308	32,156	30,757	0	0	85,585	83,396
Kentucky	26,434	25,935	18,686	18,061	29,397	27,804	0	0	74,517	71,800
Mississippi	18,570	17,995	13,676	13,185	15,769	15,302	0	0	48,015	46,482
Tennessee	42,840	41,085	34,863	33,480	21,917	20,439	0	0	99,621	95,004
West South Central	228,147	228,068	201,819	197,376	209,480	198,512	190	185	639,636	624,140
Arkansas	18,918	17,980	11,517	11,110	18,228	16,760	0	0	48,663	45,851
Louisiana	30,408	30,441	22,460	22,399	37,942	36,276	9	11	90,819	89,127
Oklahoma	23,746	23,232	19,999	18,699	20,780	20,368	0	0	64,525	62,299
Texas	155,075	156,415	147,843	145,168	132,530	125,107	180	174	435,628	426,863
Mountain	107,925	108,571	98,680	95,288	83,947	83,044	153	159	290,707	287,061
Arizona	37,130	38,707	29,990	29,128	14,089	14,113	11	11	81,220	81,960
Colorado	20,625	20,483	20,584	20,042	15,053	15,431	89	94	56,351	56,050
Idaho	9,301	8,971	6,600	6,310	9,384	9,181	0	0	25,286	24,461
Montana	5,559	5,380	4,906	4,702	4,496	4,502	0	0	14,962	14,584
Nevada	14,373	14,322	12,294	11,984	12,360	11,925	5	4	39,032	38,234
New Mexico	7,088	7,282	8,656	8,407	9,650	9,088	0	0	25,394	24,777
Utah	10,950	10,547	12,207	11,395	9,472	9,672	49	49	32,678	31,663
Wyoming	2,897	2,880	3,443	3,320	9,444	9,131	0	0	15,785	15,331
Pacific Contiguous	148,591	151,421	153,908	150,063	86,338	85,690	747	726	389,584	387,900
California	90,284	94,935	108,762	107,006	47,583	47,631	621	603	247,250	250,175
Oregon	20,285	19,628	16,509	15,749	17,319	15,617	23	26	54,135	51,019
Washington	38,021	36,859	28,637	27,307	21,436	22,442	104	98	88,199	86,706
Pacific Noncontiguous	4,909	4,938	5,343	5,208	4,654	4,568	0	0	14,906	14,714
Alaska	2,084	2,089	2,559	2,524	1,327	1,304	0	0	5,969	5,918
Hawaii	2,825	2,849	2,785	2,684	3,327	3,263	0	0	8,936	8,797
U.S. Total	1,470,487	1,464,605	1,328,439	1,287,440	1,000,613	959,082	6,334	6,548	3,805,874	3,717,674

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, 2021 and 2020 (Million Dollars)

	Residential		Commercial		Industrial		Transportation		All Sectors	
Census Division and State	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	10,454	10,269	8,015	7,518	2,004	2,008	42	41	20,516	19,835
Connecticut	2,868	2,949	1,926	1,848	270	374	18	17	5,082	5,188
Maine	862	825	509	479	246	233	0	0	1,617	1,537
Massachusetts	4,648	4,469	4,048	3,707	963	902	21	20	9,680	9,098
New Hampshire	959	912	662	621	266	246	0	0	1,888	1,779
Rhode Island	698	693	559	566	103	100	4	4	1,364	1,363
Vermont	419	421	310	296	156	153	0	0	884	871
Middle Atlantic	22,780	21,866	19,119	17,412	5,045	4,589	362	371	47,307	44,238
New Jersey	4,921	4,757	4,585	4,361	706	674	23	25	10,235	9,816
New York	10,162	9,597	11,238	10,045	1,072	921	311	310	22,783	20,872
Pennsylvania	7,698	7,512	3,295	3,006	3,268	2,994	28	37	14,289	13,549
East North Central	27,043	25,799	18,654	17,311	13,334	12,011	34	34	59,066	55,156
Illinois	6,168	6,022	4,529	4,161	3,028	2,703	29	30	13,754	12,915
Indiana	4,476	4,217	2,654	2,465	3,200	2,950	2	2	10,332	9,634
Michigan	6,290	5,831	4,537	4,156	2,083	1,858	0	0	12,910	11,847
Ohio	6,789	6,457	4,385	4,116	3,247	2,884	3	2	14,424	13,460
Wisconsin	3,320	3,272	2,548	2,413	1,777	1,616	0	0	7,645	7,300
West North Central	13,137	12,762	9,912	9,300	7,255	6,575	4	4	30,307	28,641
Iowa	1,865	1,815	1,234	1,156	1,732	1,572	0	0	4,831	4,543
Kansas	1,788	1,747	1,615	1,544	839	806	0	0	4,241	4,098
Minnesota	3,138	3,020	2,478	2,245	1,760	1,502	2	2	7,379	6,768
Missouri	4,072	3,923	2,658	2,495	930	877	2	2	7,661	7,297
Nebraska	1,128	1,135	816	808	914	854	0	0	2,858	2,797
North Dakota	530	527	624	599	823	736	0	0	1,977	1,861
South Dakota	617	596	486	453	257	228	0	0	1,360	1,277
South Atlantic	45,362	43,946	29,480	27,288	9,389	8,474	90	99	84,321	79,807
Delaware	647	627	398	375	161	138	0	0	1,206	1,140
District of Columbia	331	310	915	808	19	15	27	32	1,292	1,164
Florida	15,518	15,021	8,932	8,181	1,309	1,186	6	6	25,764	24,394
Georgia	7,340	6,996	4,859	4,466	2,126	1,777	9	8	14,333	13,247
Maryland	3,669	3,551	2,814	2,572	294	264	32	38	6,810	6,426
North Carolina	6,897	6,673	4,054	3,989	1,660	1,630	1	1	12,612	12,293
South Carolina	4,037	3,941	2,254	2,157	1,656	1,499	0	0	7,947	7,597
Virginia	5,580	5,543	4,575	4,086	1,280	1,097	15	14	11,450	10,740
West Virginia	1,343	1,284	680	654	885	868	0	0	2,907	2,806
East South Central	14,021	13,189	9,864	9,232	5,928	5,236	0	0	29,812	27,657
Alabama	4,092	3,940	2,587	2,460	2,034	1,807	0	0	8,713	8,207
Kentucky	3,041	2,818	2,009	1,867	1,748	1,477	0	0	6,798	6,163
Mississippi	2,146	2,011	1,479	1,369	939	862	0	0	4,563	4,242
Tennessee	4,742	4,420	3,790	3,535	1,207	1,090	0	0	9,738	9,046
West South Central	26,868	25,487	18,037	15,433	12,813	10,038	13	12	57,730	50,970
Arkansas	2,132	1,871	1,101	957	1,197	987	0	0	4,430	3,816
Louisiana	3,352	2,943	2,298	1,983	2,357	1,770	1	1	8,008	6,697
Oklahoma	2,612	2,350	1,740	1,463	1,143	939	0	0	5,495	4,752
Texas	18,772	18,322	12,898	11,031	8,115	6,342	12	11	39,797	35,706
Mountain	12,996	12,767	9,584	9,010	5,611	5,192	15	15	28,207	26,983
Arizona	4,656	4,751	3,099	2,944	956	857	1	1	8,712	8,553
Colorado	2,696	2,531	2,232	2,063	1,205	1,155	8	8	6,142	5,757
Idaho	945	892	521	489	600	572	0	0	2,065	1,953
Montana	624	605	517	494	280	233	0	0	1,421	1,332
Nevada	1,652	1,624	955	893	744	669	0	0	3,351	3,187
New Mexico	958	942	935	864	594	507	0	0	2,487	2,313
Utah	1,142	1,101	992	943	586	571	5	5	2,726	2,619
Wyoming	324	320	333	321	645	628	0	0	1,302	1,269
Pacific Contiguous	26,756	25,244	24,983	22,612	9,330	8,827	86	73	61,154	56,756
California	20,604	19,413	20,861	18,757	7,050	6,797	73	61	48,589	45,029
Oregon	2,307	2,192	1,503	1,418	1,035	890	2	2	4,847	4,502
Washington	3,844	3,639	2,619	2,436	1,245	1,140	10	10	7,718	7,226
Pacific Noncontiguous	1,416	1,334	1,361	1,257	1,126	1,005	0	0	3,903	3,596
Alaska	470	472	502	494	224	207	0	0	1,195	1,173
Hawaii	946	863	860	763	902	798	0	0	2,708	2,423
U.S. Total	200,834	192,663	149,008	136,372	71,835	63,956	646	648	422,323	393,639

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, 2021 and 2020 (Cents per Kilowatthour)

	Residential		Commercial		Industrial		Transportation		All Sectors	
Census Division and State	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	21.51	21.25	16.34	15.84	12.80	12.89	8.83	8.75	18.03	17.73
Connecticut	21.91	22.71	16.46	16.58	9.63	13.07	12.50	13.34	18.32	19.13
Maine	17.02	16.81	12.90	12.56	9.55	8.86	--	--	13.96	13.54
Massachusetts	22.89	21.97	16.99	16.03	15.18	14.51	6.51	6.24	19.06	18.19
New Hampshire	19.85	19.04	16.13	15.41	13.81	13.11	--	--	17.37	16.63
Rhode Island	22.30	22.01	15.51	15.94	16.06	15.76	19.75	22.23	18.44	18.54
Vermont	19.26	19.54	16.59	16.39	11.38	11.20	--	--	16.34	16.33
Middle Atlantic	16.48	15.93	13.37	12.47	6.87	6.38	11.63	11.42	13.22	12.56
New Jersey	16.35	16.03	12.69	12.35	10.70	10.01	9.24	9.19	14.01	13.63
New York	19.48	18.36	16.07	14.56	6.34	5.54	12.67	12.14	16.11	14.87
Pennsylvania	13.76	13.58	8.91	8.50	6.54	6.16	6.84	8.58	9.97	9.70
East North Central	14.07	13.56	10.66	10.27	7.22	6.78	6.67	6.75	10.69	10.28
Illinois	13.18	13.04	9.65	9.15	7.30	6.70	6.42	6.56	10.14	9.75
Indiana	13.37	12.83	11.58	11.21	7.39	6.98	10.05	10.21	10.36	9.92
Michigan	17.54	16.26	12.31	11.71	7.69	7.24	12.30	11.39	12.93	12.21
Ohio	12.77	12.29	9.75	9.53	6.55	6.16	7.41	6.71	9.76	9.44
Wisconsin	14.52	14.32	10.95	10.75	7.63	7.29	15.12	14.64	11.01	10.82
West North Central	12.19	11.96	9.97	9.65	7.35	7.11	9.36	8.62	9.90	9.69
Iowa	12.73	12.46	10.17	9.96	6.63	6.43	--	--	9.13	8.97
Kansas	12.98	12.85	10.52	10.40	7.38	7.30	--	--	10.47	10.38
Minnesota	13.50	13.17	11.22	10.43	8.29	7.67	10.38	9.40	11.08	10.57
Missouri	11.41	11.22	9.17	8.93	7.11	6.84	8.23	7.84	9.85	9.64
Nebraska	10.75	10.80	8.81	8.89	7.26	7.38	--	--	8.84	8.97
North Dakota	10.85	10.44	9.17	9.02	7.37	7.26	--	--	8.65	8.53
South Dakota	12.22	11.75	10.15	9.65	8.02	7.79	--	--	10.43	10.06
South Atlantic	12.10	11.79	9.41	9.05	6.51	6.25	8.19	8.13	10.12	9.84
Delaware	12.52	12.56	9.48	9.18	7.60	6.70	--	--	10.50	10.24
District of Columbia	13.09	12.63	13.00	11.85	7.87	7.99	9.76	9.60	12.81	11.90
Florida	11.90	11.27	9.51	8.85	7.65	7.15	8.31	7.69	10.67	10.06
Georgia	12.51	12.02	10.61	10.08	6.49	5.77	6.61	5.39	10.43	9.93
Maryland	13.12	13.01	10.26	9.72	8.46	7.81	7.58	7.79	11.48	11.15
North Carolina	11.32	11.38	8.50	8.69	6.14	6.31	7.85	7.67	9.29	9.43
South Carolina	12.86	12.78	10.67	10.35	6.07	5.98	--	--	9.96	9.90
Virginia	11.96	12.03	7.79	7.63	6.49	6.28	8.49	8.77	9.14	9.16
West Virginia	12.15	11.80	9.50	9.40	6.07	6.09	--	--	8.87	8.75
East South Central	11.74	11.34	11.07	10.73	5.97	5.55	--	--	9.69	9.32
Alabama	12.96	12.57	11.84	11.55	6.33	5.87	--	--	10.18	9.84
Kentucky	11.50	10.87	10.75	10.34	5.95	5.31	--	--	9.12	8.58
Mississippi	11.56	11.17	10.81	10.38	5.95	5.63	--	--	9.50	9.13
Tennessee	11.07	10.76	10.87	10.56	5.51	5.33	--	--	9.78	9.52
West South Central	11.78	11.17	8.94	7.82	6.12	5.06	6.81	6.65	9.03	8.17
Arkansas	11.27	10.41	9.56	8.61	6.57	5.89	13.56	13.32	9.10	8.32
Louisiana	11.02	9.67	10.23	8.85	6.21	4.88	10.77	8.77	8.82	7.51
Oklahoma	11.00	10.12	8.70	7.82	5.50	4.61	--	--	8.52	7.63
Texas	12.11	11.71	8.72	7.60	6.12	5.07	6.59	6.52	9.14	8.36
Mountain	12.04	11.76	9.71	9.46	6.68	6.25	9.94	9.33	9.70	9.40
Arizona	12.54	12.27	10.33	10.11	6.79	6.07	9.33	9.38	10.73	10.44
Colorado	13.07	12.36	10.84	10.29	8.01	7.48	9.44	8.64	10.90	10.27
Idaho	10.16	9.95	7.89	7.75	6.39	6.23	--	--	8.17	7.99
Montana	11.22	11.24	10.54	10.51	6.24	5.18	--	--	9.50	9.13
Nevada	11.49	11.34	7.77	7.45	6.02	5.61	7.72	8.84	8.58	8.33
New Mexico	13.52	12.94	10.80	10.28	6.16	5.58	--	--	9.79	9.33
Utah	10.43	10.44	8.13	8.27	6.19	5.90	11.21	10.69	8.34	8.27
Wyoming	11.17	11.11	9.68	9.65	6.83	6.88	--	--	8.25	8.27
Pacific Contiguous	18.01	16.67	16.23	15.07	10.81	10.30	11.47	10.03	15.70	14.63
California	22.82	20.45	19.18	17.53	14.82	14.27	11.79	10.07	19.65	18.00
Oregon	11.37	11.17	9.10	9.00	5.97	5.70	9.71	9.46	8.95	8.82
Washington	10.11	9.87	9.14	8.92	5.81	5.08	9.89	9.93	8.75	8.33
Pacific Noncontiguous	28.85	27.02	25.48	24.13	24.19	22.01	--	--	26.19	24.44
Alaska	22.55	22.57	19.61	19.58	16.85	15.88	--	--	20.02	19.82
Hawaii	33.49	30.28	30.88	28.41	27.12	24.45	--	--	30.31	27.55
U.S. Total	13.66	13.15	11.22	10.59	7.18	6.67	10.20	9.90	11.10	10.59

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, 2020 and 2021

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	**6,496,631**	**6,447,975**	**917,495**	**892,596**	**22,532**	**22,812**	**6**	**6**	**7,436,664**	**7,363,389**
Connecticut	1,530,251	1,521,112	155,791	154,894	4,049	4,130	3	3	1,690,094	1,680,139
Maine	722,038	717,559	98,304	97,575	2,498	2,681	--	--	822,840	817,815
Massachusetts	2,840,311	2,817,549	432,903	411,448	10,907	10,877	2	2	3,284,123	3,239,876
New Hampshire	638,267	633,234	110,003	109,068	3,180	3,180	--	--	751,450	745,482
Rhode Island	446,320	441,573	60,091	60,057	1,650	1,692	1	1	508,062	503,323
Vermont	319,444	316,948	60,403	59,554	248	252	--	--	380,095	376,754
Middle Atlantic	**16,382,493**	**16,305,858**	**2,416,755**	**2,390,991**	**33,822**	**34,626**	**19**	**19**	**18,833,089**	**18,731,494**
New Jersey	3,648,914	3,618,587	529,178	526,725	11,503	11,629	6	6	4,189,601	4,156,947
New York	7,256,212	7,239,162	1,161,852	1,143,347	7,313	7,535	8	8	8,425,385	8,390,052
Pennsylvania	5,477,367	5,448,109	725,725	720,919	15,006	15,462	5	5	6,218,103	6,184,495
East North Central	**20,572,452**	**20,440,854**	**2,549,871**	**2,535,283**	**55,449**	**55,891**	**11**	**11**	**23,177,783**	**23,032,039**
Illinois	5,361,717	5,339,610	633,019	628,868	5,456	5,561	3	3	6,000,195	5,974,042
Indiana	2,948,803	2,920,266	364,549	363,465	19,066	19,383	1	1	3,332,419	3,303,115
Michigan	4,458,038	4,423,595	550,701	546,115	5,706	5,580	2	2	5,014,447	4,975,292
Ohio	5,041,904	5,014,959	640,013	636,519	19,556	19,746	3	3	5,701,476	5,671,227
Wisconsin	2,761,990	2,742,424	361,589	360,316	5,665	5,621	2	2	3,129,246	3,108,363
West North Central	**9,738,760**	**9,644,469**	**1,502,864**	**1,478,118**	**128,943**	**128,394**	**3**	**3**	**11,370,570**	**11,250,984**
Iowa	1,417,424	1,403,386	246,568	243,762	9,479	9,507	--	--	1,673,471	1,656,655
Kansas	1,289,344	1,282,532	245,045	236,430	23,965	23,979	--	--	1,558,354	1,542,941
Minnesota	2,496,406	2,464,753	306,605	303,702	9,130	9,042	1	1	2,812,142	2,777,498
Missouri	2,861,933	2,833,918	395,150	387,872	9,985	10,108	2	2	3,267,070	3,231,900
Nebraska	869,656	864,842	157,335	155,282	63,253	62,716	--	--	1,090,244	1,082,840
North Dakota	391,340	387,506	77,174	76,834	8,980	8,933	--	--	477,494	473,273
South Dakota	412,657	407,532	74,987	74,236	4,151	4,109	--	--	491,795	485,877
South Atlantic	**29,242,289**	**28,773,632**	**3,940,011**	**3,878,717**	**85,352**	**84,927**	**13**	**13**	**33,267,665**	**32,737,289**
Delaware	453,758	446,276	58,353	56,764	864	878	--	--	512,975	503,918
District of Columbia	298,337	290,466	26,783	26,672	1	1	3	3	325,124	317,142
Florida	9,917,113	9,731,237	1,272,939	1,256,569	23,036	22,587	2	2	11,213,090	11,010,395
Georgia	4,560,653	4,487,431	599,964	592,220	24,211	23,822	1	1	5,184,829	5,103,474
Maryland	2,395,954	2,376,983	257,947	256,738	8,991	8,966	5	5	2,662,897	2,642,692
North Carolina	4,774,592	4,695,096	731,526	710,220	9,567	9,822	1	1	5,515,686	5,415,139
South Carolina	2,426,703	2,377,020	402,005	395,288	3,652	3,714	--	--	2,832,360	2,776,022
Virginia	3,551,532	3,506,844	442,263	437,477	3,687	3,693	1	1	3,997,483	3,948,015
West Virginia	863,647	862,279	148,231	146,769	11,343	11,444	--	--	1,023,221	1,020,492
East South Central	**8,679,019**	**8,533,282**	**1,454,293**	**1,422,861**	**24,468**	**24,580**	**--**	**--**	**10,157,780**	**9,980,723**
Alabama	2,308,226	2,280,741	376,180	371,888	7,233	7,240	--	--	2,691,639	2,659,869
Kentucky	2,032,575	2,013,910	316,806	312,014	5,424	5,982	--	--	2,354,805	2,331,906
Mississippi	1,321,576	1,308,149	241,509	237,370	10,795	10,343	--	--	1,573,880	1,555,862
Tennessee	3,016,642	2,930,482	519,798	501,589	1,016	1,015	--	--	3,537,456	3,433,086
West South Central	**17,196,465**	**16,837,380**	**2,348,629**	**2,323,836**	**369,764**	**339,848**	**6**	**6**	**19,914,864**	**19,501,070**
Arkansas	1,436,246	1,413,490	201,408	197,869	36,628	35,978	2	2	1,674,284	1,647,339
Louisiana	2,126,155	2,112,928	297,724	296,222	19,928	19,276	1	1	2,443,808	2,428,427
Oklahoma	1,818,813	1,795,629	296,856	290,192	20,174	20,468	--	--	2,135,843	2,106,289
Texas	11,815,251	11,515,333	1,552,641	1,539,553	293,034	264,126	3	3	13,660,929	13,319,015
Mountain	**10,354,186**	**10,153,253**	**1,469,263**	**1,449,704**	**97,851**	**98,064**	**5**	**5**	**11,921,305**	**11,701,026**
Arizona	2,953,823	2,896,339	335,377	331,229	7,548	7,595	2	2	3,296,750	3,235,165
Colorado	2,443,109	2,400,357	388,601	384,518	15,287	15,209	1	1	2,846,998	2,800,085
Idaho	806,421	782,559	117,323	114,707	28,974	28,759	--	--	952,718	926,025
Montana	531,398	522,382	112,777	110,977	11,670	11,414	--	--	655,845	644,773
Nevada	1,249,392	1,226,566	171,686	169,743	3,303	3,316	1	1	1,424,382	1,399,626
New Mexico	914,495	905,885	146,312	145,459	9,271	9,436	--	--	1,070,078	1,060,780
Utah	1,176,949	1,143,136	139,168	135,113	10,180	11,001	1	1	1,326,298	1,289,251
Wyoming	278,599	276,029	58,019	57,958	11,618	11,334	--	--	348,236	345,321
Pacific Contiguous	**18,910,491**	**18,788,088**	**2,387,183**	**2,354,980**	**202,079**	**201,224**	**19**	**20**	**21,499,772**	**21,344,312**
California	13,883,994	13,834,719	1,750,923	1,725,533	149,389	148,130	12	13	15,784,318	15,708,395
Oregon	1,805,684	1,785,131	242,237	239,645	26,447	26,353	2	2	2,074,370	2,051,131
Washington	3,220,813	3,168,238	394,023	389,802	26,243	26,741	5	5	3,641,084	3,584,786
Pacific Noncontiguous	**735,986**	**757,210**	**115,940**	**121,727**	**1,952**	**1,945**	**--**	**--**	**853,878**	**880,882**
Alaska	292,451	315,208	56,005	61,993	1,135	1,129	--	--	349,591	378,330
Hawaii	443,535	442,002	59,935	59,734	817	816	--	--	504,287	502,552
U.S. Total	**138,308,772**	**136,682,001**	**19,102,304**	**18,848,813**	**1,022,212**	**992,311**	**82**	**83**	**158,433,370**	**156,523,208**

Table 2.12. Electric Power Industry - Electricity Purchases, 2011 through 2021 (Thousand Megawatthours)

Year	Electric Utilities	Energy-Only Providers	Independent Power Producers	Combined Heat and Power	U.S. Total
2012	--	--	17,726	78,965	96,692
2013	2,099,528	2,482,928	16,101	86,420	4,684,977
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

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, 2011 through 2021 (Thousand Megawatthours)

Year	Electric Utilities	Energy-Only Providers	Independent Power Producers	Combined Heat and Power	U.S. Total
2011	1,529,434	2,206,981	1,372,306	34,400	5,143,121
2012	--	--	1,384,156	37,017	1,421,173
2013	1,472,124	2,036,460	1,298,528	35,396	4,842,508
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

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, 2011-2021 (Megawatthours)

	Canada		Mexico		U.S. Total	
Year	Imports from	Exports to	Imports from	Exports to	Imports	Exports
2011	51,075,952	14,398,470	1,223,758	650,082	52,299,710	15,048,552
2012	57,971,110	11,392,267	1,285,959	603,382	59,257,069	11,995,649
2013	62,739,038	10,694,907	6,207,597	678,300	68,946,635	11,373,207
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

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: 2016-2021, 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), 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities												Small Scale Generation	Net Generation From Utility and Small Scale Facilities	
Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other 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															
2011	1,733,430	16,086	14,096	1,013,689	11,566	790,204	319,355	1,818	192,163	-6,421	14,154	4,100,141	N/A	N/A	N/A
2012	1,514,043	13,403	9,787	1,225,894	11,898	769,331	276,240	4,327	214,006	-4,950	13,787	4,047,765	N/A	N/A	N/A
2013	1,581,115	13,820	13,344	1,124,836	12,853	789,016	268,565	9,036	244,472	-4,681	13,588	4,065,964	N/A	N/A	N/A
2014	1,581,710	18,276	11,955	1,126,635	12,022	797,166	259,367	17,691	261,522	-6,174	13,393	4,093,564	11,233	26,482	28,924
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	897,885	11,665	7,511	1,579,361	11,397	778,188	251,585	115,258	448,424	-5,112	12,140	4,108,303	49,164	161,499	164,422
Year 2019															
January	100,905	1,413	800	121,808	1,025	73,701	24,798	3,580	30,829	-323	1,194	359,729	1,903	5,373	5,483
February	79,929	815	692	112,397	948	64,715	22,881	3,836	28,455	-389	1,003	315,282	2,059	5,763	5,895
March	78,352	816	574	116,059	1,086	65,080	26,334	5,899	32,036	-409	1,077	326,903	2,914	8,553	8,813
April	59,922	782	401	104,349	948	60,581	27,820	6,752	34,486	-103	1,015	296,953	3,245	9,672	9,997
May	71,885	937	737	117,297	1,054	67,124	31,982	7,162	31,736	-368	1,117	330,661	3,549	10,375	10,711
June	78,540	957	563	138,087	1,009	68,805	28,078	7,971	28,514	-385	1,101	353,239	3,604	11,136	11,575
July	100,771	1,004	791	172,282	1,185	72,199	24,875	8,133	28,591	-622	1,157	410,365	3,760	11,493	11,893
August	94,040	1,047	684	175,270	1,147	71,911	22,579	7,877	26,546	-579	1,211	401,732	3,611	11,075	11,488
September	85,707	923	581	149,938	1,112	66,064	18,526	6,817	30,622	-671	1,142	360,760	3,205	9,728	10,022
October	66,777	942	200	131,113	924	62,033	18,306	6,093	33,402	-373	1,100	320,518	2,833	8,628	8,926
November	75,549	899	333	117,959	1,047	64,125	20,218	4,364	30,830	-509	1,082	315,897	2,228	6,450	6,592
December	72,581	988	463	131,973	1,107	73,074	21,478	3,453	32,815	-529	1,133	338,536	2,047	5,430	5,500
Year 2020															
January	65,140	915	633	136,084	1,155	74,170	24,498	4,459	34,249	-377	1,093	342,019	2,313	6,665	6,771
February	56,201	749	540	128,018	1,152	65,911	25,868	5,561	34,973	-247	971	319,698	2,623	8,006	8,184
March	50,731	691	704	126,187	1,047	63,997	23,823	6,350	35,602	-353	1,092	309,870	3,424	9,581	9,774
April	40,675	626	614	110,564	802	59,170	23,194	7,921	35,533	-325	1,073	279,846	3,816	11,431	11,736
May	46,527	691	610	117,186	884	64,338	29,976	9,653	34,248	-367	1,090	304,837	4,267	13,508	13,921
June	65,283	818	801	143,055	867	67,205	27,999	9,654	35,766	-499	1,018	351,967	4,269	13,553	13,923
July	89,709	914	837	181,568	937	69,385	26,742	10,610	28,761	-686	1,093	409,871	4,405	14,586	15,015
August	91,145	887	787	173,644	1,094	68,982	23,284	9,315	29,073	-784	1,107	398,536	4,199	13,158	13,514
September	68,407	755	439	141,397	1,013	65,727	18,679	7,732	28,852	-525	1,016	333,493	3,722	11,185	11,454
October	59,805	876	351	131,413	918	59,362	18,810	7,085	34,439	-423	1,067	313,703	3,310	10,137	10,395
November	61,182	800	612	109,811	950	61,760	20,893	5,767	38,932	-369	1,067	301,403	2,687	8,290	8,453
December	78,588	940	751	127,863	999	69,871	21,508	5,091	38,111	-368	1,169	344,523	2,489	7,489	7,580
Year 2021															
January	81,240	933	702	126,563	1,035	71,732	24,560	5,559	36,231	-424	1,109	349,241	2,750	8,229	8,309
February	87,470	1,588	660	111,184	820	62,954	20,137	6,330	32,261	-425	921	323,899	2,939	9,135	9,270
March	61,904	791	645	106,999	860	63,708	21,220	9,296	45,129	-236	1,060	311,377	4,158	13,196	13,454
April	53,956	802	422	107,430	871	57,092	19,389	10,892	41,696	-197	969	293,322	4,610	15,168	15,502
May	63,873	836	534	114,669	914	63,394	23,309	12,457	39,602	-416	1,003	320,174	5,063	17,127	17,520
June	87,265	932	453	149,390	974	66,070	23,454	12,197	32,506	-376	1,006	373,872	5,107	16,983	17,304
July	101,537	883	681	170,214	1,046	68,832	22,098	12,192	27,811	-685	1,041	405,649	5,192	17,127	17,384
August	101,855	1,198	747	172,735	1,031	69,471	20,328	11,967	33,192	-670	1,031	412,886	4,924	16,551	16,891
September	78,877	951	638	138,181	984	64,520	17,022	11,214	34,783	-434	975	347,712	4,370	15,282	15,584
October	62,572	895	655	131,860	1,062	56,945	17,133	9,268	37,809	-427	982	318,754	3,821	12,866	13,089
November	57,313	887	783	122,491	871	62,749	19,373	7,795	41,400	-377	970	314,254	3,259	10,866	11,054
December	60,025	969	591	127,644	930	70,720	23,562	6,091	46,003	-445	1,073	337,162	2,970	8,969	9,061

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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, solar thermal, photovoltaic energy, and wind.
Other includes non-biogenic municipal solid waste, batteries, hydrogen, 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), 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
Period	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													
2011	120,177	1,012	806	37,449	9,044	7,354	2,824	15,316	319,355	513,336	N/A	N/A	N/A
2012	140,822	3,451	876	37,799	9,803	7,320	2,700	15,562	276,240	494,573	N/A	N/A	N/A
2013	167,840	8,121	915	40,028	10,658	7,186	2,986	15,775	268,565	522,073	N/A	N/A	N/A
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	93,365
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
Year 2019													
January	24,301	3,470	111	3,465	930	528	214	1,390	24,798	59,207	1,903	5,373	5,483
February	22,623	3,704	131	3,042	843	464	191	1,293	22,881	55,172	2,059	5,763	5,895
March	25,773	5,639	260	3,217	908	490	227	1,422	26,334	64,269	2,914	8,553	8,813
April	28,915	6,427	325	2,807	833	468	208	1,254	27,820	69,059	3,245	9,672	9,997
May	25,779	6,826	336	3,051	859	526	179	1,342	31,982	70,880	3,549	10,375	10,711
June	22,446	7,532	439	3,159	868	523	191	1,328	28,078	64,563	3,604	11,136	11,575
July	22,101	7,733	400	3,498	884	538	194	1,375	24,875	61,599	3,760	11,493	11,893
August	19,978	7,464	413	3,539	886	546	204	1,393	22,579	57,001	3,611	11,075	11,488
September	24,513	6,523	294	3,211	838	512	179	1,368	18,526	55,965	3,205	9,728	10,022
October	27,625	5,796	298	3,063	868	500	206	1,141	18,306	57,801	2,833	8,628	8,926
November	25,184	4,223	141	3,137	844	484	198	984	20,218	55,412	2,228	6,450	6,592
December	26,644	3,383	70	3,355	908	513	213	1,183	21,478	57,746	2,047	5,430	5,500
Year 2020													
January	28,121	4,353	106	3,326	921	520	213	1,148	24,498	63,206	2,313	6,665	6,771
February	29,110	5,383	178	3,120	855	464	194	1,230	25,868	66,402	2,623	8,006	8,184
March	29,320	6,157	193	3,170	911	535	201	1,465	23,823	65,774	3,424	9,581	9,774
April	29,752	7,615	305	2,844	872	504	182	1,379	23,194	66,648	3,816	11,431	11,736
May	28,378	9,241	413	2,919	882	517	190	1,362	29,976	73,878	4,267	13,508	13,921
June	30,212	9,284	370	2,823	810	473	174	1,274	27,999	73,419	4,269	13,553	13,923
July	22,866	10,181	429	3,022	841	527	173	1,331	26,742	66,113	4,405	14,586	15,015
August	23,029	8,960	356	3,160	852	538	171	1,323	23,284	61,672	4,199	13,158	13,514
September	23,186	7,463	269	2,895	816	492	174	1,288	18,679	55,263	3,722	11,185	11,454
October	28,823	6,827	258	2,840	820	486	183	1,288	18,810	60,335	3,310	10,137	10,395
November	33,129	5,603	164	2,951	796	488	169	1,399	20,893	65,591	2,687	8,290	8,453
December	32,011	5,000	91	3,148	838	535	177	1,403	21,508	64,710	2,489	7,489	7,580
Year 2021													
January	30,060	5,479	80	3,229	860	530	205	1,347	24,560	66,350	2,750	8,229	8,309
February	26,716	6,196	134	2,859	759	457	183	1,287	20,137	58,728	2,939	9,135	9,270
March	39,205	9,038	259	3,108	845	520	209	1,242	21,220	75,646	4,158	13,196	13,454
April	36,158	10,558	334	2,785	779	506	180	1,288	19,389	71,977	4,610	15,168	15,502
May	33,787	12,064	393	2,966	806	517	191	1,335	23,309	75,368	5,063	17,127	17,520
June	26,672	11,876	321	3,088	773	518	179	1,277	23,454	68,157	5,107	16,983	17,304
July	21,716	11,934	257	3,248	792	525	179	1,351	22,098	62,100	5,192	17,127	17,384
August	27,071	11,626	341	3,315	776	519	175	1,337	20,328	65,487	4,924	16,551	16,891
September	28,998	10,912	302	3,005	754	497	185	1,343	17,022	63,020	4,370	15,282	15,584
October	32,215	9,045	223	2,835	751	500	188	1,319	17,133	64,210	3,821	12,866	13,089
November	35,751	7,607	188	2,890	723	480	190	1,366	19,373	68,568	3,259	10,866	11,054
December	39,849	5,999	92	3,134	803	533	201	1,484	23,562	75,656	2,970	8,969	9,061

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. 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 3.2.A. Net Generation by Energy Source: Electric Utilities, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities											
Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other	Total
Annual Totals												
2011	1,301,107	11,688	9,428	414,843	29	415,298	291,413	216	21,717	-5,492	604	2,460,851
2012	1,146,480	9,892	5,664	504,958	0	394,823	252,936	639	27,378	-4,202	603	2,339,172
2013	1,188,452	9,446	9,522	501,427	798	406,114	243,040	943	31,474	-3,773	615	2,388,058
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	998,385	10,386	8,278	619,003	199	416,680	229,640	1,494	35,992	-4,105	558	2,316,508
2016	922,399	9,069	8,881	655,744	154	424,400	247,787	1,995	40,666	-5,629	421	2,305,887
2017	893,639	8,567	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	44,184	-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	2,170,316
2021	674,804	8,791	5,728	777,057	12	429,227	228,689	13,911	75,338	-3,876	508	2,210,187
Year 2019												
January	74,950	884	634	59,441	12	39,806	22,391	379	3,980	-247	42	202,271
February	59,507	580	564	55,808	22	34,243	20,610	403	3,431	-310	30	174,888
March	56,482	616	464	57,390	31	34,213	23,839	598	4,349	-309	31	177,704
April	44,228	545	276	51,906	0	32,063	25,266	667	4,820	-26	35	159,780
May	55,130	685	552	59,841	0	35,416	29,266	689	4,057	-305	41	185,371
June	60,199	723	398	70,711	23	36,847	25,767	662	3,649	-299	39	198,720
July	77,085	713	551	85,338	18	39,023	22,846	673	3,631	-505	36	229,409
August	72,032	802	501	88,047	16	39,218	20,913	640	3,139	-470	66	224,903
September	64,955	694	460	75,153	10	34,770	17,045	641	4,185	-583	59	197,388
October	49,301	701	146	64,703	0	32,289	16,625	574	4,600	-316	58	168,682
November	55,455	638	251	56,556	19	32,923	18,467	464	4,237	-424	56	168,643
December	53,561	730	315	62,852	2	39,861	19,330	395	4,325	-465	57	180,965
Year 2020												
January	48,396	749	493	67,674	0	40,721	22,509	540	4,647	-325	55	185,460
February	41,703	574	366	64,327	8	36,079	23,948	611	5,264	-182	53	172,751
March	38,368	484	521	64,323	19	35,133	21,612	795	5,045	-252	53	166,102
April	29,904	437	455	56,884	6	32,827	20,901	910	4,988	-252	47	147,107
May	34,966	509	436	61,430	8	34,392	27,694	1,086	4,690	-273	52	164,989
June	49,771	612	647	72,469	1	36,388	26,532	1,013	5,087	-420	43	192,144
July	69,484	677	664	89,966	6	37,583	25,226	1,052	3,708	-595	53	227,824
August	71,205	671	607	86,083	0	37,544	21,967	955	4,194	-675	57	222,608
September	53,212	571	289	68,800	0	36,043	17,567	823	4,765	-438	43	181,674
October	44,186	666	169	65,427	0	31,641	17,451	775	5,420	-346	48	165,437
November	43,774	586	438	54,351	-1	32,605	19,456	676	6,231	-281	55	157,891
December	57,404	645	578	63,681	-1	37,995	19,787	710	5,758	-287	59	186,330
Year 2021												
January	60,119	732	538	62,011	-1	39,472	22,459	757	5,644	-333	45	191,445
February	66,231	1,188	537	53,913	5	34,339	18,612	791	5,417	-339	34	180,728
March	46,241	599	505	53,746	9	35,325	18,971	1,152	7,195	-142	43	163,643
April	40,784	611	261	54,243	0	30,126	17,256	1,354	6,927	-102	46	151,506
May	49,417	635	360	57,584	0	33,491	21,178	1,550	6,488	-323	40	170,419
June	66,424	672	340	74,852	0	36,854	21,827	1,293	5,141	-270	43	207,176
July	76,452	652	539	84,947	0	38,371	20,109	1,394	4,414	-551	35	226,361
August	77,465	935	600	85,233	0	38,752	18,598	1,325	5,402	-531	47	227,827
September	60,311	740	482	66,832	0	35,306	15,289	1,265	6,036	-313	45	185,991
October	45,722	690	514	62,206	0	33,066	15,383	1,155	6,505	-333	43	164,951
November	41,646	647	620	58,942	0	34,882	17,373	992	7,861	-302	41	162,702
December	43,993	688	432	62,548	0	39,244	21,635	883	8,309	-338	46	177,439

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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, solar thermal, photovoltaic energy, and wind.
Other includes non-biogenic municipal solid waste, batteries, hydrogen, 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.

Table 3.2.B. Net Generation from Renewable Sources: Electric Utilities, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
Period	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													
2011	17,140	187	29	2,023	957	165	295	1,137	291,413	313,346	N/A	N/A	N/A
2012	22,926	551	89	1,836	1,022	184	265	1,143	252,936	280,953	N/A	N/A	N/A
2013	26,436	841	102	2,534	1,114	197	188	1,005	243,040	275,457	N/A	N/A	N/A
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
Year 2019													
January	3,505	377	2	284	86	13	14	78	22,391	26,750	0	377	379
February	3,034	400	3	229	77	8	15	70	20,610	24,444	0	400	403
March	3,957	594	4	206	86	8	16	76	23,839	28,786	0	594	598
April	4,495	661	6	165	81	12	12	56	25,266	30,753	0	661	667
May	3,659	686	3	234	83	11	10	60	29,266	34,012	0	686	689
June	3,284	661	1	194	79	11	10	72	25,767	30,078	0	661	662
July	3,142	672	1	316	79	10	11	73	22,846	27,150	0	672	673
August	2,630	636	4	329	80	12	14	74	20,913	24,691	0	636	640
September	3,777	639	2	241	76	8	8	74	17,045	21,871	0	639	641
October	4,255	573	2	198	78	12	5	51	16,625	21,800	0	573	574
November	3,965	464	0	142	76	10	3	40	18,467	23,168	0	464	464
December	3,932	395	1	246	82	8	9	48	19,330	24,051	0	395	395
Year 2020													
January	4,261	538	2	225	85	7	9	61	22,509	27,696	0	538	540
February	4,895	609	2	204	80	7	9	68	23,948	29,822	0	609	611
March	4,676	792	3	173	89	12	10	86	21,612	27,453	0	792	795
April	4,689	908	2	125	87	12	9	67	20,901	26,799	0	908	910
May	4,376	1,080	6	125	87	12	10	81	27,694	33,470	0	1,080	1,086
June	4,759	1,009	4	146	81	11	11	79	26,532	32,632	0	1,009	1,013
July	3,316	1,048	4	206	84	11	10	81	25,226	29,985	0	1,048	1,052
August	3,759	951	4	250	83	11	11	79	21,967	27,115	0	951	955
September	4,454	821	2	138	79	10	11	72	17,567	23,155	0	821	823
October	5,111	775	1	129	85	12	10	73	17,451	23,647	0	775	775
November	5,865	676	0	183	81	11	10	81	19,456	26,363	0	676	676
December	5,393	710	1	173	85	11	10	86	19,787	26,255	0	710	710
Year 2021													
January	5,235	756	1	213	91	9	12	84	22,459	28,861	0	756	757
February	5,001	789	2	245	77	4	10	79	18,612	24,819	0	789	791
March	6,812	1,149	3	200	84	7	12	80	18,971	27,318	0	1,149	1,152
April	6,570	1,351	4	172	80	11	8	86	17,256	25,537	0	1,351	1,354
May	6,110	1,545	5	204	84	11	6	73	21,178	29,216	0	1,545	1,550
June	4,718	1,291	2	248	81	10	12	73	21,827	28,261	0	1,291	1,293
July	3,896	1,391	3	334	83	4	9	87	20,109	25,918	0	1,391	1,394
August	4,895	1,323	2	320	82	10	10	85	18,598	25,326	0	1,323	1,325
September	5,638	1,262	3	215	79	10	10	85	15,289	22,590	0	1,262	1,265
October	6,142	1,154	2	182	73	10	9	88	15,383	23,043	0	1,154	1,155
November	7,479	990	1	186	74	11	9	100	17,373	26,225	0	990	992
December	7,842	882	1	276	84	10	9	88	21,635	30,826	0	882	883

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. 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 3.3.A. Net Generation by Energy Source: Independent Power Producers, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities											
Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Nuclear	Hydroelectric Conventional	Solar	Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other	Total
Annual Totals												
2011	416,783	3,655	3,431	511,447	2,911	374,906	26,117	1,511	140,442	-928	7,059	1,487,335
2012	354,076	2,757	1,758	627,833	2,984	374,509	20,923	3,525	156,539	-748	7,030	1,551,186
2013	379,270	3,761	1,780	527,522	3,524	382,902	22,018	7,782	181,263	-908	6,742	1,515,657
2014	395,701	6,789	1,410	531,758	3,246	377,295	19,861	16,086	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	18,539	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	278,668	5,487	1,516	645,616	3,935	382,833	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	19,409	78,567	319,633	-995	6,971	1,683,340
2021	217,522	2,380	1,413	699,717	3,292	348,961	21,702	100,612	344,783	-1,235	6,449	1,745,598
Year 2019												
January	25,344	462	125	52,923	348	33,895	2,266	3,167	24,193	-76	625	143,272
February	19,875	185	91	48,397	329	30,472	2,162	3,395	22,632	-79	544	128,002
March	21,337	155	71	49,981	352	30,867	2,368	5,243	25,078	-100	573	135,927
April	15,198	189	79	44,245	329	28,518	2,429	6,023	27,340	-78	546	124,819
May	16,258	215	145	48,842	325	31,708	2,591	6,406	25,316	-63	623	132,365
June	17,844	196	117	58,469	306	31,958	2,198	7,236	22,392	-86	610	141,240
July	23,140	254	135	77,238	354	33,176	1,942	7,380	22,329	-118	634	166,465
August	21,485	200	134	77,396	361	32,693	1,592	7,163	20,752	-109	638	162,304
September	20,261	186	77	65,571	332	31,294	1,416	6,112	23,996	-88	590	149,747
October	17,011	200	9	57,397	189	29,744	1,607	5,466	26,335	-56	582	138,483
November	19,591	215	41	52,175	307	31,202	1,672	3,859	24,109	-84	572	133,658
December	18,504	213	102	59,480	352	33,212	2,044	3,028	25,871	-64	601	143,343
Year 2020												
January	16,168	121	90	58,750	357	33,448	1,869	3,883	27,010	-52	605	142,251
February	13,962	124	135	54,868	359	29,832	1,794	4,908	27,248	-65	541	133,704
March	11,863	170	143	53,018	274	28,864	2,071	5,502	28,000	-101	617	130,421
April	10,330	137	132	45,761	166	26,343	2,165	6,948	28,162	-73	590	120,661
May	11,124	145	136	47,731	172	29,946	2,158	8,490	27,171	-94	579	127,557
June	15,092	168	111	61,993	156	30,817	1,372	8,563	28,378	-79	534	147,105
July	19,762	197	129	82,313	176	31,802	1,431	9,476	22,691	-91	601	168,487
August	19,491	183	134	78,246	316	31,438	1,237	8,291	22,480	-109	609	162,314
September	14,713	151	105	64,220	296	29,684	1,043	6,850	21,756	-87	562	139,294
October	15,153	168	135	57,833	213	27,721	1,292	6,259	26,636	-77	560	135,894
November	16,974	171	128	47,260	297	29,154	1,355	5,049	30,300	-88	555	131,155
December	20,697	249	126	54,893	347	31,876	1,622	4,348	29,802	-81	617	144,496
Year 2021												
January	20,645	156	124	55,214	337	32,261	1,989	4,766	28,106	-92	586	144,094
February	20,795	330	90	49,942	190	28,615	1,441	5,502	24,726	-86	516	132,062
March	15,206	149	104	45,519	188	28,384	2,124	8,081	35,500	-94	576	135,737
April	12,755	153	131	45,597	270	26,966	2,023	9,464	32,452	-95	519	130,234
May	14,000	162	136	49,077	289	29,903	2,024	10,827	30,751	-93	535	137,611
June	20,363	225	87	65,715	322	29,216	1,544	10,826	25,029	-106	537	153,759
July	24,606	195	114	75,670	312	30,461	1,889	10,720	20,990	-134	546	165,369
August	23,918	222	122	78,000	331	30,719	1,639	10,565	25,329	-139	532	171,238
September	18,077	179	130	63,008	299	29,214	1,640	9,880	26,399	-120	512	149,217
October	16,402	166	112	61,119	343	23,879	1,657	8,055	29,020	-93	535	141,193
November	15,183	203	131	54,828	180	27,867	1,899	6,755	31,239	-76	493	138,701
December	15,573	241	132	56,028	232	31,476	1,834	5,172	35,242	-107	563	146,385

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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, solar thermal, photovoltaic energy, and wind.
Other includes non-biogenic municipal solid waste, batteries, hydrogen, 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.

Table 3.3.B. Net Generation from Renewable Sources: Independent Power Producers, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
Period	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													
2011	102,981	734	777	8,709	7,120	6,217	1,237	14,180	26,117	168,071	N/A	N/A	N/A
2012	117,822	2,737	787	9,214	7,852	6,056	1,176	14,419	20,923	180,987	N/A	N/A	N/A
2013	141,306	6,969	813	9,768	8,442	5,838	1,139	14,770	22,018	211,063	N/A	N/A	N/A
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	1,486	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
Year 2019													
January	20,768	3,059	109	857	770	438	91	1,270	2,266	29,627	0	3,059	3,167
February	19,565	3,266	128	718	700	390	76	1,182	2,162	28,189	0	3,266	3,395
March	21,789	4,987	256	733	749	409	97	1,302	2,368	32,690	0	4,987	5,243
April	24,392	5,704	319	604	699	384	90	1,171	2,429	35,793	0	5,704	6,023
May	22,097	6,073	333	731	729	441	72	1,245	2,591	34,313	0	6,073	6,406
June	19,142	6,798	439	780	727	437	84	1,223	2,198	31,827	0	6,798	7,236
July	18,942	6,982	398	836	740	454	88	1,269	1,942	31,651	0	6,982	7,380
August	17,333	6,754	409	843	739	459	91	1,288	1,592	29,507	0	6,754	7,163
September	20,717	5,821	292	804	696	431	83	1,264	1,416	31,525	0	5,821	6,112
October	23,344	5,170	296	701	725	419	95	1,052	1,607	33,407	0	5,170	5,466
November	21,194	3,718	141	815	705	406	87	901	1,672	29,640	0	3,718	3,859
December	22,684	2,959	70	815	762	430	88	1,093	2,044	30,943	0	2,959	3,028
Year 2020													
January	23,836	3,779	105	828	768	441	86	1,051	1,869	32,763	0	3,779	3,883
February	24,191	4,731	176	760	706	392	78	1,121	1,794	33,949	0	4,731	4,908
March	24,618	5,313	189	766	749	452	79	1,336	2,071	35,573	0	5,313	5,502
April	25,037	6,645	303	641	718	427	66	1,272	2,165	37,275	0	6,645	6,948
May	23,978	8,083	407	714	729	433	74	1,243	2,158	37,818	0	8,083	8,490
June	25,378	8,197	366	709	667	394	67	1,162	1,372	38,313	0	8,197	8,563
July	19,472	9,051	425	803	690	443	64	1,220	1,431	33,598	0	9,051	9,476
August	19,203	7,939	352	847	702	455	59	1,214	1,237	32,007	0	7,939	8,291
September	18,647	6,582	268	768	672	415	72	1,182	1,043	29,650	0	6,582	6,850
October	23,606	6,001	258	709	675	407	64	1,176	1,292	34,187	0	6,001	6,259
November	27,146	4,885	163	758	652	407	60	1,277	1,355	36,703	0	4,885	5,049
December	26,486	4,257	91	832	689	452	70	1,273	1,622	35,772	0	4,257	4,348
Year 2021													
January	24,803	4,687	79	865	701	433	86	1,218	1,989	34,862	0	4,687	4,766
February	21,692	5,370	132	783	619	386	77	1,169	1,441	31,669	0	5,370	5,502
March	32,361	7,826	255	782	693	436	83	1,145	2,124	45,705	0	7,826	8,081
April	29,561	9,133	330	608	638	413	67	1,165	2,023	43,938	0	9,133	9,464
May	27,654	10,439	388	717	662	426	82	1,210	2,024	43,602	0	10,439	10,827
June	21,934	10,506	320	794	632	429	77	1,164	1,544	37,399	0	10,506	10,826
July	17,806	10,466	254	808	648	434	70	1,225	1,889	33,599	0	10,466	10,720
August	22,159	10,227	338	838	636	420	66	1,211	1,639	37,533	0	10,227	10,565
September	23,338	9,581	299	750	618	402	77	1,215	1,640	37,919	0	9,581	9,880
October	26,049	7,834	221	680	620	417	70	1,183	1,657	38,732	0	7,834	8,055
November	28,244	6,567	187	728	590	386	69	1,221	1,899	39,893	0	6,567	6,755
December	31,979	5,080	91	748	662	438	76	1,340	1,834	42,248	0	5,080	5,172

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. 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 3.4.A. Net Generation by Energy Source: Commercial Sector, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities												Small Scale Generation	Net Generation From Utility and Small Scale Facilities	
Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other 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															
2011	1,049	86	3	5,487	3	0	26	84	2,392	0	950	10,080	N/A	N/A	N/A
2012	883	191	6	6,603	0	0	28	148	2,397	0	1,046	11,301	N/A	N/A	N/A
2013	839	118	5	7,154	0	0	44	294	2,662	0	1,118	12,234	N/A	N/A	N/A
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	1,088	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
Year 2019															
January	29	19	1	706	0	0	16	30	263	0	95	1,160	629	659	659
February	27	9	1	654	0	0	15	34	236	0	81	1,057	676	710	710
March	33	8	1	711	0	0	19	50	262	0	90	1,173	933	983	983
April	22	7	1	646	0	0	19	54	216	0	88	1,053	1,032	1,086	1,086
May	18	7	0	663	0	0	22	58	213	0	91	1,072	1,110	1,168	1,168
June	13	6	0	711	0	0	18	63	229	0	93	1,133	1,118	1,181	1,181
July	18	9	0	869	0	0	16	69	240	0	92	1,313	1,171	1,241	1,241
August	17	12	0	852	0	0	15	64	235	0	94	1,290	1,116	1,181	1,181
September	21	10	0	731	0	0	12	55	230	0	91	1,150	994	1,049	1,049
October	21	9	0	666	0	0	11	46	235	0	84	1,072	881	927	927
November	23	9	0	667	0	0	12	36	235	0	84	1,066	683	719	719
December	27	10	1	735	0	0	14	26	246	0	93	1,151	657	684	684
Year 2020															
January	25	10	2	731	0	0	18	32	238	0	90	1,145	736	767	767
February	31	6	1	669	0	0	18	37	231	0	80	1,074	833	871	871
March	24	7	0	623	0	0	17	46	246	0	88	1,050	1,082	1,128	1,128
April	13	5	0	546	0	0	17	54	226	0	81	943	1,189	1,244	1,244
May	14	9	0	578	0	0	23	66	234	0	89	1,012	1,309	1,375	1,375
June	17	7	0	685	0	0	22	66	222	0	84	1,103	1,305	1,371	1,371
July	16	10	0	855	0	0	21	69	231	0	91	1,293	1,355	1,424	1,424
August	15	10	0	819	0	0	18	59	232	0	90	1,241	1,301	1,360	1,360
September	23	8	0	695	0	0	14	50	223	0	83	1,097	1,159	1,209	1,209
October	17	8	0	638	0	0	14	43	227	0	84	1,032	1,011	1,055	1,055
November	20	8	0	596	0	0	15	36	227	0	85	987	804	840	840
December	26	10	0	675	0	0	16	28	224	0	90	1,069	774	802	802
Year 2021															
January	26	10	0	638	0	0	25	30	258	0	109	1,096	865	895	895
February	34	9	1	561	0	0	22	31	230	0	85	973	935	965	965
March	25	8	0	557	0	0	23	53	227	0	96	988	1,280	1,332	1,332
April	19	9	0	484	0	0	21	61	240	0	104	938	1,416	1,477	1,477
May	13	9	0	506	0	0	23	66	249	0	100	966	1,534	1,600	1,600
June	19	7	0	647	0	0	24	64	242	0	97	1,101	1,551	1,615	1,615
July	20	8	0	729	0	0	23	65	253	0	107	1,204	1,599	1,664	1,664
August	23	7	0	764	0	0	21	61	257	0	109	1,242	1,538	1,599	1,599
September	25	6	0	651	0	0	19	55	254	0	105	1,115	1,373	1,428	1,428
October	29	7	1	603	0	0	17	45	247	0	90	1,040	1,194	1,239	1,239
November	26	7	1	587	0	0	18	38	253	0	102	1,031	945	983	983
December	21	9	1	619	0	0	22	29	268	0	105	1,074	895	924	924

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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, solar thermal, photovoltaic energy, and wind.
Other includes non-biogenic municipal solid waste, batteries, hydrogen, 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 3.4.B. Net Generation from Renewable Sources: Commercial Sector, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
Period	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													
2011	51	84	0	26	952	971	393	0	26	2,502	N/A	N/A	N/A
2012	54	148	0	24	848	1,070	402	0	28	2,573	N/A	N/A	N/A
2013	61	294	0	34	925	1,149	493	0	44	3,000	N/A	N/A	N/A
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	168	586	0	91	657	832	565	449	214	3,561	12,859	13,445	13,445
2021	168	598	0	153	612	973	571	502	258	3,834	15,124	15,722	15,722
Year 2019													
January	17	30	0	8	62	78	55	42	16	310	629	659	659
February	15	34	0	9	55	66	50	41	15	284	676	710	710
March	17	50	0	11	61	73	55	44	19	330	933	983	983
April	17	54	0	4	42	72	53	27	19	289	1,032	1,086	1,086
May	14	58	0	2	35	74	51	37	22	292	1,110	1,168	1,168
June	12	63	0	4	52	75	52	34	18	310	1,118	1,181	1,181
July	11	69	0	16	54	73	52	33	16	325	1,171	1,241	1,241
August	9	64	0	9	56	75	54	31	15	315	1,116	1,181	1,181
September	14	55	0	8	55	73	51	30	12	297	994	1,049	1,049
October	17	46	0	7	53	67	52	38	11	292	881	927	927
November	17	36	0	6	51	67	53	42	12	283	683	719	719
December	17	26	0	5	50	75	56	43	14	286	657	684	684
Year 2020													
January	15	32	0	7	55	73	52	35	18	287	736	767	767
February	16	37	0	6	56	64	48	41	18	287	833	871	871
March	17	46	0	4	60	71	51	43	17	309	1,082	1,128	1,128
April	18	54	0	1	56	65	48	39	17	298	1,189	1,244	1,244
May	15	66	0	4	55	71	50	39	23	323	1,309	1,375	1,375
June	15	66	0	8	52	68	46	34	22	310	1,305	1,371	1,371
July	10	69	0	13	57	73	47	30	21	321	1,355	1,424	1,424
August	11	59	0	14	56	72	48	30	18	308	1,301	1,360	1,360
September	12	50	0	7	56	67	47	34	14	288	1,159	1,209	1,209
October	12	43	0	10	51	67	48	38	14	284	1,011	1,055	1,055
November	14	36	0	8	52	69	44	41	15	278	804	840	840
December	12	28	0	10	52	72	34	44	16	268	774	802	802
Year 2021													
January	14	30	0	10	56	88	47	44	25	313	865	895	895
February	13	31	0	15	50	68	45	39	22	282	935	965	965
March	19	53	0	8	54	78	49	17	23	302	1,280	1,332	1,332
April	16	61	0	8	49	84	46	37	21	323	1,416	1,477	1,477
May	14	66	0	6	50	80	48	51	23	338	1,534	1,600	1,600
June	11	64	0	15	51	78	47	40	24	330	1,551	1,615	1,615
July	8	65	0	18	52	86	49	39	23	340	1,599	1,664	1,664
August	12	61	0	17	51	87	49	41	21	340	1,538	1,599	1,599
September	13	55	0	15	51	84	48	43	19	328	1,373	1,428	1,428
October	15	45	0	12	51	73	48	48	17	309	1,194	1,239	1,239
November	17	38	0	11	50	82	48	44	18	309	945	983	983
December	16	29	0	17	47	85	46	57	22	319	895	924	924

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. 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.A. Net Generation by Energy Source: Industrial Sector, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities												Small Scale Generation	Net Generation From Utility and Small Scale Facilities	
Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other 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															
2011	14,490	657	1,234	81,911	8,624	0	1,799	7	27,612	0	5,541	141,875	N/A	N/A	N/A
2012	12,603	563	2,359	86,500	8,913	0	2,353	14	27,693	0	5,108	146,107	N/A	N/A	N/A
2013	12,554	495	2,036	88,733	8,531	0	3,463	17	29,074	0	5,113	150,015	N/A	N/A	N/A
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	88,355	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
Year 2019															
January	581	48	40	8,739	664	0	124	4	2,393	0	432	13,025	168	172	172
February	521	40	36	7,538	597	0	94	5	2,156	0	348	11,335	178	182	182
March	500	37	37	7,978	702	0	108	7	2,348	0	384	12,099	254	261	261
April	475	40	45	7,552	619	0	106	8	2,110	0	346	11,301	278	286	286
May	479	30	41	7,951	730	0	104	9	2,150	0	361	11,854	309	317	317
June	484	31	47	8,196	680	0	95	10	2,244	0	360	12,147	311	320	320
July	528	28	105	8,837	813	0	71	10	2,391	0	394	13,178	321	331	331
August	506	33	50	8,976	770	0	59	9	2,419	0	413	13,236	311	320	320
September	470	34	44	8,483	770	0	52	8	2,211	0	402	12,474	281	289	289
October	445	32	44	8,348	735	0	63	7	2,233	0	375	12,281	255	262	262
November	480	36	41	8,561	721	0	67	5	2,249	0	371	12,531	198	204	204
December	489	35	45	8,906	753	0	91	4	2,372	0	382	13,077	179	183	183
Year 2020															
January	551	35	48	8,928	799	0	102	4	2,354	0	343	13,164	192	196	196
February	506	45	39	8,154	784	0	108	6	2,230	0	297	12,169	212	218	218
March	476	31	40	8,222	755	0	123	7	2,310	0	333	12,297	292	299	299
April	429	47	26	7,373	631	0	111	8	2,156	0	355	11,136	316	324	324
May	422	28	39	7,447	705	0	102	12	2,152	0	371	11,278	349	361	361
June	403	30	42	7,909	710	0	73	12	2,079	0	357	11,615	354	367	367
July	447	30	44	8,433	755	0	64	13	2,132	0	348	12,267	370	383	383
August	435	23	47	8,497	777	0	62	11	2,168	0	352	12,372	358	369	369
September	459	25	45	7,683	718	0	54	9	2,108	0	327	11,427	321	330	330
October	449	34	47	7,515	705	0	53	8	2,157	0	375	11,341	291	299	299
November	414	34	46	7,604	654	0	67	6	2,174	0	370	11,370	226	232	232
December	461	36	46	8,614	653	0	83	5	2,328	0	403	12,628	203	208	208
Year 2021															
January	449	36	39	8,701	698	0	86	6	2,222	0	369	12,606	216	222	222
February	410	60	33	6,767	624	0	62	7	1,888	0	286	10,136	230	237	237
March	432	35	36	7,177	663	0	103	11	2,208	0	344	11,010	330	340	340
April	399	30	30	7,107	601	0	89	12	2,077	0	300	10,645	357	370	370
May	443	30	38	7,501	626	0	84	14	2,114	0	329	11,179	394	408	408
June	459	28	26	8,176	652	0	60	13	2,093	0	329	11,837	396	409	409
July	458	29	28	8,868	735	0	76	13	2,154	0	354	12,715	405	419	419
August	449	33	25	8,739	700	0	70	15	2,204	0	344	12,579	392	407	407
September	464	26	26	7,691	686	0	75	15	2,094	0	313	11,389	354	369	369
October	419	32	29	7,933	719	0	76	12	2,038	0	313	11,571	319	331	331
November	459	30	31	8,134	691	0	83	11	2,047	0	334	11,820	246	257	257
December	438	31	26	8,448	697	0	70	8	2,185	0	359	12,264	219	226	226

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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, solar thermal, photovoltaic energy, and wind.
Other includes non-biogenic municipal solid waste, batteries, hydrogen, 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, 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
Period	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													
2011	5	7	0	26,691	15	2	900	0	1,799	29,418	N/A	N/A	N/A
2012	19	14	0	26,725	81	10	857	0	2,353	30,060	N/A	N/A	N/A
2013	37	17	0	27,691	178	2	1,166	0	3,463	32,554	N/A	N/A	N/A
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
Year 2019													
January	11	4	0	2,317	12	0	53	0	124	2,520	168	172	172
February	9	5	0	2,086	11	0	50	0	94	2,255	178	182	182
March	10	7	0	2,267	12	0	59	0	108	2,462	254	261	261
April	10	8	0	2,034	12	1	53	0	106	2,224	278	286	286
May	8	9	0	2,084	12	0	46	0	104	2,263	309	317	317
June	8	10	0	2,179	11	0	46	0	95	2,349	311	320	320
July	6	10	0	2,331	11	1	43	0	71	2,473	321	331	331
August	5	9	0	2,357	11	0	45	0	59	2,488	311	320	320
September	5	8	0	2,157	11	0	37	0	52	2,271	281	289	289
October	9	7	0	2,157	12	1	53	0	63	2,302	255	262	262
November	8	5	0	2,174	12	0	55	0	67	2,321	198	204	204
December	11	4	0	2,289	13	1	59	0	91	2,466	179	183	183
Year 2020													
January	9	4	0	2,265	13	0	67	0	102	2,460	192	196	196
February	9	6	0	2,150	13	0	59	0	108	2,344	212	218	218
March	9	7	0	2,227	13	0	61	0	123	2,440	292	299	299
April	8	8	0	2,077	12	0	59	0	111	2,275	316	324	324
May	9	12	0	2,077	10	1	56	0	102	2,267	349	361	361
June	60	12	0	1,960	10	1	49	0	73	2,164	354	367	367
July	69	13	0	2,000	11	0	52	0	64	2,208	370	383	383
August	56	11	0	2,049	10	1	52	0	62	2,241	358	369	369
September	72	9	0	1,983	10	1	43	0	54	2,171	321	330	330
October	94	8	0	1,992	10	0	61	0	53	2,217	291	299	299
November	105	6	0	2,003	11	0	55	0	67	2,247	226	232	232
December	119	5	0	2,134	12	0	62	0	83	2,415	203	208	208
Year 2021													
January	9	6	0	2,141	12	0	61	0	86	2,315	216	222	222
February	10	7	0	1,816	12	-1	51	0	62	1,957	230	237	237
March	13	11	0	2,118	14	-1	65	0	103	2,322	330	340	340
April	10	12	0	1,996	12	-1	59	0	89	2,178	357	370	370
May	8	14	0	2,039	11	0	55	0	84	2,212	394	408	408
June	9	13	0	2,031	10	1	43	0	60	2,167	396	409	409
July	6	13	0	2,088	9	1	50	0	76	2,244	405	419	419
August	5	15	0	2,140	8	1	50	0	70	2,289	392	407	407
September	9	15	0	2,026	7	1	51	0	75	2,184	354	369	369
October	9	12	0	1,960	7	0	61	0	76	2,126	319	331	331
November	11	11	0	1,964	8	0	63	0	83	2,141	246	257	257
December	13	8	0	2,092	10	0	70	0	70	2,263	219	226	226

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. 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 3.6. Net Generation by Energy Source: Residential Sector, 2014 - 2021
(Thousand Megawatthours)

	Small Scale Generation
Period	**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
Year 2019	
January	1,107
February	1,205
March	1,727
April	1,935
May	2,130
June	2,175
July	2,268
August	2,184
September	1,930
October	1,697
November	1,346
December	1,210
Year 2020	
January	1,385
February	1,578
March	2,049
April	2,310
May	2,610
June	2,610
July	2,680
August	2,540
September	2,241
October	2,008
November	1,657
December	1,512
Year 2021	
January	1,669
February	1,774
March	2,549
April	2,837
May	3,135
June	3,161
July	3,188
August	2,994
September	2,642
October	2,308
November	2,068
December	1,857

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, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	103,089	96,809	6.5%	1,535	1,986	97,816	91,020	1,133	1,136	2,606	2,667
Connecticut	44,080	41,191	7.0%	113	96	43,008	40,150	314	330	645	614
Maine	10,908	10,002	9.1%	2	3	9,236	8,220	98	110	1,573	1,669
Massachusetts	19,477	18,214	6.9%	510	488	18,167	16,936	598	576	203	215
New Hampshire	17,193	16,351	5.2%	12	499	17,088	15,765	65	59	29	28
Rhode Island	9,322	8,895	4.8%	0	0	9,111	8,696	56	57	155	142
Vermont	2,108	2,156	-2.3%	899	900	1,205	1,254	3	3	0	0
Middle Atlantic	427,710	420,680	1.7%	37,096	37,408	384,474	376,907	2,065	2,248	4,076	4,117
New Jersey	61,434	61,106	0.5%	212	84	60,127	59,694	627	612	468	717
New York	124,945	129,430	-3.5%	36,775	37,232	86,307	90,111	1,059	1,267	805	819
Pennsylvania	241,331	230,143	4.9%	109	91	238,040	227,102	379	369	2,803	2,581
East North Central	581,427	554,079	4.9%	211,244	192,726	357,489	348,692	1,830	1,708	10,864	10,953
Illinois	181,524	173,395	4.7%	4,200	4,377	174,268	165,839	501	431	2,555	2,748
Indiana	94,165	90,073	4.5%	60,648	57,441	28,622	27,729	252	255	4,643	4,648
Michigan	115,513	106,625	8.3%	81,452	69,821	31,986	34,988	677	662	1,399	1,154
Ohio	125,948	122,538	2.8%	14,318	13,713	110,654	107,855	252	220	724	750
Wisconsin	64,276	61,449	4.6%	50,625	47,374	11,959	12,282	148	140	1,544	1,653
West North Central	358,241	336,428	6.5%	272,683	255,069	80,995	77,142	676	601	3,887	3,616
Iowa	67,207	59,637	12.7%	56,115	45,457	8,895	12,006	145	186	2,052	1,988
Kansas	56,631	54,542	3.8%	32,726	32,082	23,656	22,257	16	16	234	188
Minnesota	59,196	56,510	4.8%	42,497	40,271	15,390	15,052	301	209	1,007	978
Missouri	76,941	72,568	6.0%	70,529	66,734	6,174	5,620	195	174	44	40
Nebraska	37,911	36,849	2.9%	28,008	27,757	9,555	8,837	18	16	331	239
North Dakota	43,032	42,176	2.0%	33,386	33,529	9,480	8,493	1	0	166	154
South Dakota	17,322	14,147	22.4%	9,422	9,239	7,846	4,878	0	NM	54	29
South Atlantic	801,031	795,002	0.8%	657,504	653,283	124,201	121,581	1,579	1,942	17,747	18,197
Delaware	4,305	5,205	-17.3%	28	34	3,360	4,004	6	6	911	1,162
District of Columbia	211	201	5.0%	0	0	18	13	193	188	0	0
Florida	246,450	250,828	-1.7%	229,657	234,442	11,625	11,511	437	96	4,730	4,779
Georgia	124,201	120,129	3.4%	103,521	96,526	15,541	18,348	3	4	5,136	5,251
Maryland	38,236	36,029	6.1%	3,470	3,030	34,470	32,017	247	935	48	47
North Carolina	129,923	124,363	4.5%	108,153	104,613	19,659	17,683	362	345	1,750	1,722
South Carolina	98,390	98,529	-0.1%	92,974	93,611	3,828	3,306	2	3	1,587	1,609
Virginia	93,478	103,056	-9.3%	72,449	80,244	18,385	20,105	328	364	2,316	2,343
West Virginia	65,836	56,662	16.2%	47,252	40,783	17,315	14,594	0	0	1,269	1,285
East South Central	359,422	348,235	3.2%	313,416	304,374	36,148	34,124	201	220	9,658	9,517
Alabama	142,733	137,547	3.8%	106,804	102,357	30,973	30,402	0	0	4,956	4,788
Kentucky	69,908	63,540	10.0%	68,762	62,569	594	502	0	0	553	469
Mississippi	67,723	66,582	1.7%	62,630	61,841	3,196	2,767	0	0	1,898	1,974
Tennessee	79,057	80,566	-1.9%	75,221	77,608	1,385	452	201	220	2,251	2,286
West South Central	722,414	712,298	1.4%	235,985	230,792	414,192	407,017	894	859	71,343	73,630
Arkansas	61,100	54,641	11.8%	54,354	48,635	5,597	4,818	65	65	1,084	1,123
Louisiana	98,715	100,774	-2.0%	63,845	65,841	6,913	5,135	184	187	27,773	29,611
Oklahoma	80,755	83,368	-3.1%	37,602	38,640	42,314	43,805	0	0	839	922
Texas	481,844	473,515	1.8%	80,184	77,676	359,368	353,259	645	606	41,647	41,974
Mountain	370,201	358,058	3.4%	272,129	271,008	93,891	82,368	1,110	1,035	3,071	3,648
Arizona	108,605	109,305	-0.6%	86,412	91,617	22,041	17,539	151	149	0	0
Colorado	56,838	54,115	5.0%	41,492	38,880	15,079	14,933	27	38	241	264
Idaho	16,836	17,686	-4.8%	10,457	11,278	5,760	5,755	69	69	550	584
Montana	24,948	23,353	6.8%	10,545	11,347	14,367	11,970	0	0	35	36
Nevada	41,755	40,425	3.3%	27,234	27,246	13,567	12,277	615	573	339	329
New Mexico	35,192	34,076	3.3%	21,859	21,419	13,151	12,518	134	121	48	17
Utah	42,566	37,087	14.8%	36,931	32,526	5,104	4,065	114	85	417	411
Wyoming	43,461	42,011	3.5%	37,198	36,693	4,821	3,310	0	0	1,441	2,007
Pacific Contiguous	368,990	372,823	-1.0%	197,960	213,223	152,306	140,642	2,564	2,610	16,160	16,348
California	197,165	193,084	2.1%	62,190	67,891	119,127	108,973	2,458	2,506	13,389	13,714
Oregon	61,017	63,625	-4.1%	40,153	44,679	20,199	18,309	82	80	583	557
Washington	110,808	116,114	-4.6%	95,617	100,653	12,980	13,360	24	24	2,188	2,077
Pacific Noncontiguous	15,778	15,355	2.7%	10,636	10,448	4,087	3,848	716	687	338	373
Alaska	6,596	6,276	5.1%	5,911	5,597	223	242	352	320	110	118
Hawaii	9,182	9,079	1.1%	4,725	4,851	3,864	3,605	364	367	228	255
U.S. Total	4,108,303	4,009,767	2.5%	2,210,187	2,170,316	1,745,598	1,683,340	12,768	13,046	139,750	143,064

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, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	579	165	251.0%	0	128	579	28	0	0	0	9
Connecticut	245	-19	NM	0	0	245	-19	0	0	0	0
Maine	50	55	-9.9%	0	0	50	47	0	0	0	9
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	284	128	121.2%	0	128	284	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	30,324	24,519	23.7%	0	0	30,246	24,455	0	0	78	64
New Jersey	1,026	917	12.0%	0	0	1,026	917	0	0	0	0
New York	0	144	-100.0%	0	0	0	144	0	0	0	0
Pennsylvania	29,297	23,458	24.9%	0	0	29,219	23,395	0	0	78	64
East North Central	207,790	175,741	18.2%	120,608	100,494	85,669	73,230	40	33	1,473	1,985
Illinois	43,185	31,238	38.2%	1,841	1,654	40,072	27,859	9	12	1,263	1,712
Indiana	54,448	47,773	14.0%	49,724	43,049	4,693	4,703	31	21	0	0
Michigan	37,054	27,961	32.5%	36,710	27,589	341	370	0	0	2	2
Ohio	45,662	45,009	1.5%	5,099	4,711	40,563	40,297	0	0	0	0
Wisconsin	27,442	23,761	15.5%	27,233	23,490	0	0	0	0	208	271
West North Central	160,100	141,834	12.9%	158,040	140,010	0	0	67	57	1,993	1,767
Iowa	22,107	14,147	56.3%	20,641	12,786	0	0	48	51	1,418	1,310
Kansas	19,396	16,960	14.4%	19,396	16,960	0	0	0	0	0	0
Minnesota	15,764	14,038	12.3%	15,621	13,915	0	0	9	1	134	121
Missouri	57,858	51,756	11.8%	57,848	51,751	0	0	10	4	0	0
Nebraska	18,934	18,789	0.8%	18,603	18,549	0	0	0	0	331	239
North Dakota	24,403	24,497	-0.4%	24,293	24,400	0	0	0	0	110	96
South Dakota	1,638	1,648	-0.6%	1,638	1,648	0	0	0	0	0	0
South Atlantic	141,421	121,205	16.7%	121,434	106,522	19,430	14,176	29	34	528	474
Delaware	277	102	170.6%	0	0	277	102	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	18,385	16,598	10.8%	18,338	16,562	0	0	0	0	46	35
Georgia	19,076	13,914	37.1%	18,895	13,745	0	0	0	0	181	169
Maryland	5,174	3,360	54.0%	0	0	5,174	3,360	0	0	0	0
North Carolina	20,405	20,793	-1.9%	20,220	20,534	16	97	29	32	140	130
South Carolina	15,188	12,459	21.9%	15,014	12,268	150	175	0	0	25	17
Virginia	3,248	3,763	-13.7%	3,023	3,563	90	76	0	1	136	123
West Virginia	59,668	50,216	18.8%	45,944	39,849	13,724	10,367	0	0	0	0
East South Central	100,554	84,207	19.4%	97,376	81,480	2,753	2,321	0	0	425	406
Alabama	26,901	21,730	23.8%	26,901	21,730	0	0	0	0	0	0
Kentucky	49,863	43,638	14.3%	49,863	43,638	0	0	0	0	0	0
Mississippi	5,531	4,594	20.4%	2,778	2,273	2,753	2,321	0	0	0	0
Tennessee	18,260	14,245	28.2%	17,835	13,839	0	0	0	0	425	406
West South Central	129,356	104,102	24.3%	67,717	49,671	61,564	54,332	0	0	75	99
Arkansas	21,419	15,421	38.9%	17,350	12,160	4,034	3,228	0	0	34	33
Louisiana	7,873	3,918	100.9%	5,454	3,626	2,419	292	0	0	0	0
Oklahoma	11,246	5,938	89.4%	11,205	5,871	0	0	0	0	41	67
Texas	88,818	78,825	12.7%	33,708	28,013	55,110	50,812	0	0	0	0
Mountain	122,498	112,642	8.7%	109,197	102,022	12,913	10,290	0	0	387	331
Arizona	14,301	13,747	4.0%	14,301	13,747	0	0	0	0	0	0
Colorado	23,602	19,478	21.2%	23,602	19,478	0	0	0	0	0	0
Idaho	16	20	-19.6%	0	0	0	0	0	0	16	20
Montana	10,876	8,490	28.1%	64	232	10,803	8,247	0	0	9	11
Nevada	2,752	1,953	40.9%	1,562	928	1,190	1,025	0	0	0	0
New Mexico	12,536	12,788	-2.0%	12,536	12,788	0	0	0	0	0	0
Utah	26,376	22,806	15.7%	25,976	22,486	399	320	0	0	0	0
Wyoming	32,038	33,359	-4.0%	31,156	32,362	520	698	0	0	362	300
Pacific Contiguous	3,427	7,091	-51.7%	0	1,630	3,107	5,143	0	0	319	317
California	294	290	1.3%	0	0	0	0	0	0	294	290
Oregon	0	1,630	-100.0%	0	1,630	0	0	0	0	0	0
Washington	3,133	5,170	-39.4%	0	0	3,107	5,143	0	0	25	27
Pacific Noncontiguous	1,837	1,887	-2.6%	431	417	1,262	1,353	144	116	0	0
Alaska	753	722	4.3%	431	417	177	188	144	116	0	0
Hawaii	1,085	1,165	-6.9%	0	0	1,085	1,165	0	0	0	0
U.S. Total	897,885	773,393	16.1%	674,804	582,374	217,522	185,328	280	240	5,278	5,451

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 3.9. Utility Scale Facility Net Generation from Petroleum Liquids by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	244	154	59.0%	21	22	188	100	24	20	11	12
Connecticut	46	33	41.0%	5	7	37	24	1	1	3	1
Maine	32	37	-14.4%	0	0	23	26	NM	1	7	10
Massachusetts	81	36	124.7%	14	7	60	22	7	6	1	1
New Hampshire	70	42	67.8%	0	6	59	24	11	11	0	0
Rhode Island	13	4	180.5%	0	0	10	4	NM	1	0	0
Vermont	3	2	64.2%	3	2	0	0	0	0	0	0
Middle Atlantic	852	439	94.2%	552	180	279	226	8	17	13	16
New Jersey	37	24	54.5%	0	0	36	23	1	0	0	0
New York	690	350	97.5%	552	179	127	147	4	12	8	11
Pennsylvania	124	65	91.1%	0	0	116	56	3	4	4	5
East North Central	620	367	68.8%	434	239	171	119	4	3	11	7
Illinois	54	30	78.9%	18	7	35	23	0	0	0	0
Indiana	128	113	12.6%	123	112	4	0	1	0	1	2
Michigan	117	87	35.3%	111	82	0	0	2	1	4	3
Ohio	154	117	31.2%	21	20	131	95	0	0	2	2
Wisconsin	167	19	757.8%	161	17	1	1	1	0	4	1
West North Central	742	275	170.2%	726	266	11	4	3	3	2	1
Iowa	103	37	178.3%	100	34	3	3	0	0	0	0
Kansas	149	75	99.3%	149	75	0	0	0	0	0	0
Minnesota	105	30	250.9%	93	24	8	1	2	3	2	1
Missouri	259	81	220.2%	258	81	0	0	0	0	0	0
Nebraska	55	14	292.8%	55	14	0	0	0	0	0	0
North Dakota	33	31	7.8%	33	31	0	0	0	0	0	0
South Dakota	38	7	416.6%	38	7	0	0	0	NM	0	0
South Atlantic	1,313	931	41.0%	956	655	210	133	51	45	96	97
Delaware	17	8	107.7%	2	1	15	7	0	0	0	0
District of Columbia	0	0	86.1%	0	0	0	0	0	0	0	0
Florida	353	231	52.7%	312	208	22	5	0	0	20	18
Georgia	81	67	21.4%	19	5	16	2	1	1	45	59
Maryland	73	70	3.3%	0	-1	72	70	1	0	0	0
North Carolina	195	117	67.0%	170	101	6	4	0	0	18	11
South Carolina	86	64	34.3%	73	56	4	2	0	0	9	6
Virginia	341	231	47.6%	217	142	71	42	48	44	4	3
West Virginia	167	142	17.4%	163	142	5	0	0	0	0	0
East South Central	199	186	6.9%	177	171	12	3	0	0	10	13
Alabama	22	13	70.6%	4	3	12	3	0	0	6	7
Kentucky	66	57	15.5%	66	57	0	0	0	0	0	0
Mississippi	8	8	-1.8%	6	5	0	0	0	0	2	3
Tennessee	103	108	-4.5%	101	106	0	0	0	0	2	2
West South Central	308	126	144.9%	209	98	94	24	0	0	4	3
Arkansas	56	44	25.7%	43	33	12	11	0	0	0	0
Louisiana	14	7	103.7%	14	7	0	0	0	0	0	0
Oklahoma	35	26	33.0%	34	25	0	0	0	0	1	1
Texas	204	48	320.5%	117	33	82	14	0	0	4	2
Mountain	220	-15	NM	207	-30	13	14	0	0	0	0
Arizona	44	40	7.7%	44	40	0	0	0	0	0	0
Colorado	28	-189	-114.7%	28	-189	0	0	0	0	0	0
Idaho	0	0	346.8%	0	0	0	0	0	0	0	0
Montana	9	10	-8.5%	0	0	9	10	0	0	0	0
Nevada	8	6	27.9%	6	4	2	2	0	0	0	0
New Mexico	33	33	2.0%	33	33	0	0	0	0	0	0
Utah	38	40	-3.6%	37	37	2	2	0	0	0	0
Wyoming	60	45	34.9%	60	45	0	0	0	0	0	0
Pacific Contiguous	109	65	69.0%	38	38	19	13	1	1	52	13
California	77	44	75.3%	34	32	10	7	1	0	33	5
Oregon	0	2	-82.1%	0	2	0	0	0	0	0	0
Washington	32	19	73.0%	4	4	9	6	0	0	19	8
Pacific Noncontiguous	7,058	7,135	-1.1%	5,469	5,542	1,383	1,349	4	8	202	236
Alaska	902	986	-8.5%	856	928	0	2	1	2	45	53
Hawaii	6,155	6,149	0.1%	4,613	4,615	1,383	1,347	3	6	156	182
U.S. Total	11,665	9,662	20.7%	8,791	7,182	2,380	1,984	94	97	400	398

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 3.10. Utility Scale Facility Net Generation from Petroleum Coke by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
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	43	-100.0%	0	0	0	0	0	0	0	43
New Jersey	0	43	-100.0%	0	0	0	0	0	0	0	43
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	2,157	1,990	8.4%	1,037	771	971	1,057	0	0	149	162
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	1,032	847	21.9%	883	685	0	0	0	0	149	162
Ohio	971	1,057	-8.1%	0	0	971	1,057	0	0	0	0
Wisconsin	154	86	79.1%	154	86	0	0	0	0	0	0
West North Central	29	74	-60.3%	0	0	0	0	4	2	26	72
Iowa	29	74	-60.3%	0	0	0	0	4	2	26	72
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	907	1,610	-43.7%	809	1,471	0	0	0	0	98	140
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	809	1,471	-45.0%	809	1,471	0	0	0	0	0	0
Georgia	98	140	-29.9%	0	0	0	0	0	0	98	140
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	3,976	3,515	13.1%	3,882	3,422	0	0	0	0	94	93
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	3,882	3,422	13.4%	3,882	3,422	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	94	93	1.0%	0	0	0	0	0	0	94	93
Mountain	442	447	-1.3%	0	0	442	447	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	442	447	-1.3%	0	0	442	447	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	7,511	7,679	-2.2%	5,728	5,663	1,413	1,504	4	2	367	510

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 3.11. Utility Scale Facility Net Generation from Natural Gas by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	55,956	51,531	8.6%	142	237	53,285	48,861	931	927	1,599	1,506
Connecticut	24,489	23,537	4.0%	62	57	23,476	22,541	309	325	642	613
Maine	3,348	1,904	75.8%	0	0	2,741	1,358	31	32	575	515
Massachusetts	15,010	14,177	5.9%	79	164	14,203	13,294	530	510	198	208
New Hampshire	4,466	3,638	22.8%	0	14	4,425	3,586	12	10	29	28
Rhode Island	8,641	8,272	4.5%	0	0	8,439	8,081	47	49	155	142
Vermont	2	2	1.6%	1	1	0	0	1	1	0	0
Middle Atlantic	212,720	204,363	4.1%	12,422	11,795	196,726	188,939	913	1,074	2,659	2,555
New Jersey	29,543	30,631	-3.6%	97	117	28,924	29,922	177	164	344	429
New York	56,513	52,966	6.7%	12,311	11,674	43,032	39,915	607	789	563	588
Pennsylvania	126,665	120,767	4.9%	14	5	124,770	119,103	130	121	1,751	1,538
East North Central	156,500	168,964	-7.4%	51,944	57,703	98,603	105,921	1,542	1,433	4,412	3,906
Illinois	20,665	24,516	-15.7%	2,101	2,526	17,289	21,091	486	411	788	488
Indiana	27,600	32,085	-14.0%	9,755	13,509	15,807	16,519	176	188	1,863	1,869
Michigan	30,513	36,434	-16.3%	11,772	13,147	17,570	22,309	573	560	598	417
Ohio	56,381	53,927	4.6%	8,814	8,717	47,069	44,707	235	207	263	296
Wisconsin	21,342	22,002	-3.0%	19,502	19,803	867	1,295	72	67	901	837
West North Central	32,038	33,014	-3.0%	24,646	25,601	6,068	6,151	334	332	991	931
Iowa	6,464	7,037	-8.1%	5,837	6,378	0	0	81	104	545	555
Kansas	2,662	2,802	-5.0%	2,436	2,620	0	0	0	0	226	183
Minnesota	12,791	11,815	8.3%	8,300	7,654	4,252	3,945	107	97	131	119
Missouri	6,059	7,561	-19.9%	4,059	5,191	1,816	2,206	143	126	41	37
Nebraska	1,173	1,209	-2.9%	1,171	1,205	0	0	3	4	0	0
North Dakota	1,578	1,488	6.0%	1,562	1,469	0	0	0	0	15	20
South Dakota	1,312	1,102	19.0%	1,280	1,085	0	0	0	0	32	18
South Atlantic	384,066	398,671	-3.7%	322,881	329,529	55,406	62,682	574	1,244	5,205	5,215
Delaware	3,734	4,818	-22.5%	20	28	2,956	3,787	0	0	758	1,004
District of Columbia	137	134	2.6%	0	0	0	0	137	134	0	0
Florida	182,620	189,420	-3.6%	173,101	180,323	7,674	7,398	69	72	1,777	1,628
Georgia	56,673	59,178	-4.2%	46,566	45,342	9,335	13,137	0	0	772	698
Maryland	13,978	14,092	-0.8%	3,462	3,023	10,246	10,119	221	903	48	46
North Carolina	47,445	41,401	14.6%	38,977	33,246	8,150	7,880	151	130	166	146
South Carolina	23,242	24,228	-4.1%	22,358	23,377	723	663	0	0	161	188
Virginia	53,611	62,623	-14.4%	38,048	44,065	14,745	17,720	-4	6	823	832
West Virginia	2,626	2,777	-5.4%	349	125	1,577	1,979	0	0	700	673
East South Central	131,627	138,944	-5.3%	96,747	104,706	31,034	30,518	196	215	3,649	3,505
Alabama	54,448	55,230	-1.4%	22,318	23,698	30,448	30,020	0	0	1,683	1,511
Kentucky	14,572	14,384	1.3%	13,757	13,673	562	476	0	0	253	236
Mississippi	48,621	53,662	-9.4%	48,074	53,092	7	5	0	0	540	564
Tennessee	13,986	15,668	-10.7%	12,599	14,243	18	17	196	215	1,173	1,193
West South Central	351,568	380,547	-7.6%	123,203	135,364	163,741	178,759	817	785	63,808	65,639
Arkansas	20,629	18,307	12.7%	19,347	16,835	999	1,198	42	43	241	231
Louisiana	63,961	70,782	-9.6%	37,006	41,653	3,190	3,547	184	187	23,582	25,395
Oklahoma	33,857	44,829	-24.5%	21,925	28,611	11,436	15,703	0	0	496	515
Texas	233,121	246,630	-5.5%	44,925	48,265	148,116	158,311	591	555	39,489	39,498
Mountain	116,487	123,034	-5.3%	90,270	98,818	24,170	22,037	432	436	1,614	1,743
Arizona	48,053	50,778	-5.4%	33,643	39,079	14,278	11,562	132	136	0	0
Colorado	14,560	18,171	-19.9%	12,201	15,393	2,173	2,578	3	6	184	194
Idaho	4,935	4,157	18.7%	2,948	2,277	1,823	1,689	39	40	126	151
Montana	528	291	81.7%	402	228	123	60	0	0	4	3
Nevada	26,130	26,801	-2.5%	23,547	24,227	2,186	2,189	62	61	335	325
New Mexico	10,093	12,002	-15.9%	6,440	7,999	3,473	3,865	133	120	48	17
Utah	10,686	9,460	13.0%	10,225	8,967	115	93	65	72	282	327
Wyoming	1,501	1,374	9.2%	865	647	1	1	0	0	635	725
Pacific Contiguous	135,313	125,081	8.2%	51,782	49,084	70,684	63,015	1,606	1,664	11,240	11,317
California	97,427	92,047	5.8%	29,983	29,301	55,545	50,611	1,550	1,610	10,349	10,525
Oregon	21,297	19,020	12.0%	10,875	9,826	10,308	9,084	43	44	70	66
Washington	16,589	14,014	18.4%	10,924	9,956	4,831	3,321	13	11	822	727
Pacific Noncontiguous	3,085	2,641	16.8%	3,020	2,577	0	0	0	0	65	64
Alaska	3,085	2,641	16.8%	3,020	2,577	0	0	0	0	65	64
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	1,579,361	1,626,790	-2.9%	777,057	815,414	699,717	706,885	7,346	8,110	95,240	96,381

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 Gases by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
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	643	773	-16.9%	0	0	2	26	0	0	641	747
New Jersey	92	197	-53.3%	0	0	0	0	0	0	92	197
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	551	576	-4.4%	0	0	2	26	0	0	549	550
East North Central	4,510	4,197	7.5%	12	45	1,862	1,499	0	0	2,637	2,653
Illinois	242	285	-15.2%	0	0	0	0	0	0	242	285
Indiana	2,254	2,240	0.6%	0	0	0	0	0	0	2,254	2,240
Michigan	1,202	969	24.1%	12	45	1,190	923	0	0	0	0
Ohio	813	704	15.5%	0	0	672	576	0	0	141	128
Wisconsin	0	0	--	0	0	0	0	0	0	0	0
West North Central	38	38	1.6%	0	0	0	0	0	0	38	38
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	38	38	1.6%	0	0	0	0	0	0	38	38
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	195	192	1.4%	0	0	0	0	0	0	195	192
Delaware	142	146	-2.6%	0	0	0	0	0	0	142	146
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	48.9%	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	53	47	13.8%	0	0	0	0	0	0	53	47
East South Central	11	12	-8.3%	0	0	0	0	0	0	11	12
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	11	11	-5.5%	0	0	0	0	0	0	11	11
West South Central	4,009	4,342	-7.7%	0	0	1,417	1,592	0	0	2,591	2,750
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,791	1,731	3.4%	0	0	0	0	0	0	1,791	1,731
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	2,218	2,611	-15.1%	0	0	1,417	1,592	0	0	801	1,019
Mountain	385	431	-10.6%	0	0	12	12	0	0	373	419
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	6	21	-69.3%	0	0	0	0	0	0	6	21
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	13	12	11.5%	0	0	12	12	0	0	1	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	5	7	-28.6%	0	0	0	0	0	0	5	7
Wyoming	360	391	-7.8%	0	0	0	0	0	0	360	391
Pacific Contiguous	1,607	1,830	-12.2%	0	0	0	0	0	0	1,607	1,830
California	1,369	1,538	-11.0%	0	0	0	0	0	0	1,369	1,538
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	238	292	-18.7%	0	0	0	0	0	0	238	292
Pacific Noncontiguous	0	3	-100.0%	0	0	0	0	0	0	0	3
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	0	3	-100.0%	0	0	0	0	0	0	0	3
U.S. Total	11,397	11,818	-3.6%	12	45	3,292	3,129	0	0	8,093	8,644

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 3.13. Utility Scale Facility Net Generation from Nuclear Energy by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	27,073	25,580	5.8%	0	0	27,073	25,580	0	0	0	0
Connecticut	17,217	15,715	9.6%	0	0	17,217	15,715	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	9,856	9,865	-0.1%	0	0	9,856	9,865	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	135,221	141,690	-4.6%	0	0	135,221	141,690	0	0	0	0
New Jersey	28,142	26,738	5.3%	0	0	28,142	26,738	0	0	0	0
New York	31,177	38,430	-18.9%	0	0	31,177	38,430	0	0	0	0
Pennsylvania	75,903	76,521	-0.8%	0	0	75,903	76,521	0	0	0	0
East North Central	158,786	158,569	0.1%	27,324	24,337	131,462	134,232	0	0	0	0
Illinois	96,994	100,246	-3.2%	0	0	96,994	100,246	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	34,338	30,333	13.2%	27,324	24,337	7,015	5,995	0	0	0	0
Ohio	17,483	18,219	-4.0%	0	0	17,483	18,219	0	0	0	0
Wisconsin	9,970	9,771	2.0%	0	0	9,970	9,771	0	0	0	0
West North Central	33,871	42,095	-19.5%	33,871	39,190	0	2,905	0	0	0	0
Iowa	0	2,905	-100.0%	0	0	0	2,905	0	0	0	0
Kansas	8,575	10,582	-19.0%	8,575	10,582	0	0	0	0	0	0
Minnesota	14,123	14,677	-3.8%	14,123	14,677	0	0	0	0	0	0
Missouri	4,292	7,742	-44.6%	4,292	7,742	0	0	0	0	0	0
Nebraska	6,881	6,189	11.2%	6,881	6,189	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	202,465	204,546	-1.0%	187,471	189,465	14,994	15,081	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	28,058	29,419	-4.6%	28,058	29,419	0	0	0	0	0	0
Georgia	33,952	32,826	3.4%	33,952	32,826	0	0	0	0	0	0
Maryland	14,994	15,081	-0.6%	0	0	14,994	15,081	0	0	0	0
North Carolina	43,118	42,329	1.9%	43,118	42,329	0	0	0	0	0	0
South Carolina	53,771	54,751	-1.8%	53,771	54,751	0	0	0	0	0	0
Virginia	28,572	30,140	-5.2%	28,572	30,140	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	93,139	86,710	7.4%	93,139	86,710	0	0	0	0	0	0
Alabama	46,036	43,551	5.7%	46,036	43,551	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	11,772	6,471	81.9%	11,772	6,471	0	0	0	0	0	0
Tennessee	35,330	36,688	-3.7%	35,330	36,688	0	0	0	0	0	0
West South Central	71,016	73,451	-3.3%	30,804	32,013	40,211	41,439	0	0	0	0
Arkansas	13,556	15,063	-10.0%	13,556	15,063	0	0	0	0	0	0
Louisiana	17,249	16,950	1.8%	17,249	16,950	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	40,211	41,439	-3.0%	0	0	40,211	41,439	0	0	0	0
Mountain	31,630	31,552	0.2%	31,630	31,552	0	0	0	0	0	0
Arizona	31,630	31,552	0.2%	31,630	31,552	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	24,989	25,686	-2.7%	24,989	25,686	0	0	0	0	0	0
California	16,477	16,259	1.3%	16,477	16,259	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	8,511	9,427	-9.7%	8,511	9,427	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	778,188	789,879	-1.5%	429,227	428,953	348,961	360,925	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 3.14. Utility Scale Facility Net Generation from Hydroelectric (Conventional) Power by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	6,258	6,689	-6.4%	684	888	5,488	5,713	6	5	80	83
Connecticut	478	326	46.5%	44	29	434	297	0	0	0	0
Maine	2,541	3,158	-19.5%	2	3	2,459	3,072	0	0	80	83
Massachusetts	1,118	844	32.5%	278	157	834	682	6	5	0	0
New Hampshire	1,025	1,228	-16.5%	12	329	1,013	899	0	0	0	0
Rhode Island	4	4	25.3%	0	0	4	4	0	0	0	0
Vermont	1,093	1,130	-3.3%	349	370	744	759	0	0	0	0
Middle Atlantic	31,919	32,238	-1.0%	24,388	25,794	7,459	6,381	8	6	64	57
New Jersey	18	15	18.7%	0	0	18	15	0	0	0	0
New York	28,765	29,550	-2.7%	24,293	25,708	4,401	3,780	8	6	64	57
Pennsylvania	3,135	2,672	17.3%	95	86	3,040	2,586	0	0	0	0
East North Central	4,579	5,281	-13.3%	3,991	4,687	454	457	1	1	132	136
Illinois	129	135	-4.8%	67	52	61	82	1	1	0	0
Indiana	387	271	43.0%	387	271	0	0	0	0	0	0
Michigan	1,340	1,713	-21.8%	1,262	1,614	67	90	0	0	11	9
Ohio	578	374	54.5%	370	250	208	125	0	0	0	0
Wisconsin	2,145	2,788	-23.1%	1,905	2,501	119	160	0	0	122	127
West North Central	11,481	13,610	-15.6%	11,196	13,241	234	300	0	0	51	68
Iowa	980	1,025	-4.4%	974	1,017	6	8	0	0	0	0
Kansas	30	32	-7.6%	0	0	30	32	0	0	0	0
Minnesota	679	1,002	-32.2%	430	674	198	260	0	0	51	68
Missouri	1,697	1,879	-9.7%	1,697	1,879	0	0	0	0	0	0
Nebraska	1,123	1,390	-19.2%	1,123	1,390	0	0	0	0	0	0
North Dakota	1,989	2,450	-18.8%	1,989	2,450	0	0	0	0	0	0
South Dakota	4,983	5,831	-14.5%	4,983	5,831	0	0	0	0	0	0
South Atlantic	17,397	22,034	-21.0%	13,242	19,059	3,602	2,370	16	18	537	586
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	252	232	8.6%	252	232	0	0	0	0	0	0
Georgia	3,661	4,663	-21.5%	3,633	4,631	8	11	0	0	20	21
Maryland	2,117	1,697	24.8%	0	0	2,117	1,697	0	0	0	0
North Carolina	5,813	7,957	-27.0%	4,907	7,829	891	114	14	15	0	0
South Carolina	2,544	3,863	-34.1%	2,460	3,759	82	100	2	3	0	0
Virginia	1,306	2,030	-35.7%	1,194	1,941	111	89	0	0	0	0
West Virginia	1,705	1,592	7.1%	796	668	392	359	0	0	516	565
East South Central	27,269	31,807	-14.3%	26,311	31,797	957	10	0	0	0	0
Alabama	11,521	13,349	-13.7%	11,521	13,349	0	0	0	0	0	0
Kentucky	4,876	5,005	-2.6%	4,861	4,996	16	10	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	10,871	13,452	-19.2%	9,930	13,452	942	0	0	0	0	0
West South Central	8,987	9,668	-7.1%	7,780	8,377	1,206	1,290	1	1	0	0
Arkansas	4,029	4,531	-11.1%	3,968	4,476	60	55	0	0	0	0
Louisiana	1,109	1,204	-7.9%	0	0	1,109	1,204	0	0	0	0
Oklahoma	2,766	2,854	-3.1%	2,766	2,854	0	0	0	0	0	0
Texas	1,082	1,079	0.3%	1,045	1,047	37	31	1	1	0	0
Mountain	28,176	32,377	-13.0%	27,113	31,167	1,014	1,195	49	15	0	0
Arizona	5,973	6,424	-7.0%	5,973	6,424	0	0	0	0	0	0
Colorado	1,598	1,669	-4.2%	1,411	1,401	173	253	14	15	0	0
Idaho	7,995	9,508	-15.9%	7,321	8,800	675	708	0	0	0	0
Montana	9,258	10,748	-13.9%	9,149	10,591	110	157	0	0	0	0
Nevada	1,944	1,923	1.1%	1,905	1,867	39	56	0	0	0	0
New Mexico	123	203	-39.4%	123	203	0	0	0	0	0	0
Utah	494	817	-39.6%	450	807	9	10	35	0	0	0
Wyoming	790	1,086	-27.2%	781	1,076	9	10	0	0	0	0
Pacific Contiguous	113,717	129,708	-12.3%	112,455	128,033	1,253	1,669	9	6	0	0
California	14,678	21,377	-31.3%	13,873	20,271	796	1,100	9	6	0	0
Oregon	27,660	31,921	-13.3%	27,461	31,668	199	253	0	0	0	0
Washington	71,379	76,410	-6.6%	71,121	76,093	259	316	0	0	0	0
Pacific Noncontiguous	1,804	1,863	-3.2%	1,529	1,607	34	23	169	162	72	70
Alaska	1,689	1,764	-4.3%	1,520	1,602	0	0	169	162	0	0
Hawaii	115	99	16.3%	9	5	34	23	0	0	72	70
U.S. Total	251,585	285,274	-11.8%	228,689	264,650	21,702	19,409	258	214	936	1,001

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 3.15. Utility Scale Facility Net Generation from Renewable Sources Excluding Hydroelectric by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	11,583	11,206	3.4%	686	712	9,973	9,425	137	142	786	927
Connecticut	1,035	1,008	2.7%	2	3	1,029	1,000	3	4	0	0
Maine	4,671	4,517	3.4%	0	0	3,860	3,561	29	35	782	921
Massachusetts	2,769	2,649	4.5%	139	160	2,570	2,428	55	55	5	5
New Hampshire	1,437	1,393	3.1%	0	21	1,395	1,334	42	38	0	0
Rhode Island	664	615	8.1%	0	0	658	607	7	7	0	0
Vermont	1,008	1,026	-1.7%	544	529	462	495	2	2	0	0
Middle Atlantic	14,768	15,182	-2.7%	115	77	13,438	13,875	618	636	597	595
New Jersey	2,105	2,061	2.1%	115	77	1,706	1,693	278	284	7	8
New York	7,219	7,322	-1.4%	0	0	6,843	6,945	206	215	170	163
Pennsylvania	5,444	5,799	-6.1%	0	0	4,889	5,238	135	136	420	425
East North Central	46,293	38,900	19.0%	6,587	5,278	38,245	32,130	163	159	1,297	1,334
Illinois	20,011	16,696	19.9%	173	138	19,833	16,552	5	6	0	0
Indiana	8,859	7,094	24.9%	660	501	8,118	6,507	21	22	60	64
Michigan	10,489	8,992	16.7%	4,093	3,166	5,731	5,234	46	46	620	547
Ohio	3,902	3,127	24.8%	14	16	3,561	2,783	17	13	310	314
Wisconsin	3,032	2,992	1.3%	1,648	1,457	1,002	1,055	76	72	307	409
West North Central	119,566	105,140	13.7%	44,032	36,604	74,524	67,658	229	168	782	710
Iowa	37,525	34,412	9.0%	28,563	25,242	8,886	9,090	12	28	63	52
Kansas	25,813	24,085	7.2%	2,170	1,845	23,626	22,225	16	16	3	0
Minnesota	15,421	14,621	5.5%	3,814	3,186	10,773	10,721	144	70	690	644
Missouri	6,774	3,571	89.7%	2,372	112	4,358	3,414	41	43	3	3
Nebraska	9,745	9,259	5.3%	175	410	9,555	8,837	15	12	0	0
North Dakota	14,937	13,634	9.6%	5,455	5,141	9,480	8,493	0	0	2	1
South Dakota	9,351	5,558	68.3%	1,483	668	7,846	4,878	0	0	23	12
South Atlantic	51,215	43,553	17.6%	12,654	8,720	28,319	24,535	570	437	9,672	9,861
Delaware	136	131	3.2%	6	6	112	108	6	6	11	12
District of Columbia	74	68	9.5%	0	0	18	13	56	55	0	0
Florida	13,277	10,535	26.0%	8,790	6,229	2,488	2,498	178	25	1,820	1,783
Georgia	10,714	9,635	11.2%	589	353	6,182	5,197	2	3	3,940	4,081
Maryland	1,524	1,410	8.1%	8	8	1,491	1,371	25	32	0	0
North Carolina	12,660	11,281	12.2%	762	574	10,543	9,301	167	167	1,189	1,238
South Carolina	4,284	3,797	12.8%	66	78	2,860	2,358	0	0	1,358	1,361
Virginia	6,912	4,791	44.2%	2,434	1,472	2,989	1,785	135	150	1,353	1,385
West Virginia	1,634	1,904	-14.2%	0	0	1,634	1,904	0	0	0	0
East South Central	7,124	7,017	1.5%	172	168	1,391	1,272	4	5	5,557	5,572
Alabama	3,805	3,675	3.5%	24	27	514	379	0	0	3,267	3,269
Kentucky	461	390	18.1%	145	141	16	17	0	0	300	233
Mississippi	1,791	1,847	-3.0%	0	0	436	441	0	0	1,356	1,406
Tennessee	1,066	1,104	-3.4%	3	0	426	435	4	5	634	664
West South Central	152,219	135,547	12.3%	2,189	1,721	145,938	129,520	76	74	4,016	4,232
Arkansas	1,321	1,205	9.6%	6	2	491	326	23	23	800	854
Louisiana	2,286	2,155	6.1%	35	4	195	92	0	0	2,056	2,059
Oklahoma	32,935	29,833	10.4%	1,758	1,397	30,878	28,102	0	0	299	334
Texas	115,677	102,353	13.0%	390	318	114,374	101,000	53	51	859	985
Mountain	69,644	57,105	22.0%	13,598	7,489	55,044	48,131	629	585	373	901
Arizona	8,521	6,704	27.1%	732	713	7,770	5,979	19	12	0	0
Colorado	17,025	15,056	13.1%	4,286	2,948	12,726	12,089	10	17	3	3
Idaho	3,828	3,948	-3.0%	189	201	3,263	3,358	31	29	345	360
Montana	3,538	3,125	13.2%	931	297	2,587	2,806	0	0	21	21
Nevada	10,893	9,715	12.1%	185	194	10,151	9,004	553	512	4	4
New Mexico	12,407	9,051	37.1%	2,727	397	9,678	8,653	2	1	0	0
Utah	4,805	3,828	25.5%	211	176	4,579	3,639	14	13	0	0
Wyoming	8,627	5,678	51.9%	4,337	2,564	4,290	2,601	0	0	0	513
Pacific Contiguous	89,468	82,578	8.3%	9,026	8,788	77,112	70,532	949	941	2,382	2,318
California	66,585	60,871	9.4%	2,153	2,078	62,747	57,098	899	891	785	804
Oregon	12,025	11,008	9.2%	1,817	1,552	9,656	8,928	39	36	513	491
Washington	10,859	10,700	1.5%	5,056	5,158	4,709	4,505	11	13	1,084	1,023
Pacific Noncontiguous	1,801	1,510	19.3%	191	186	1,410	1,122	201	202	0	0
Alaska	170	168	1.6%	87	77	45	51	38	39	0	0
Hawaii	1,631	1,342	21.5%	104	109	1,365	1,071	163	163	0	0
U.S. Total	563,682	497,738	13.2%	89,249	69,742	445,396	398,200	3,576	3,347	25,461	26,449

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, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	-424	-401	5.6%	0	0	-424	-401	0	0	0	0
Connecticut	0	1	-67.2%	0	0	0	1	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	-424	-403	5.4%	0	0	-424	-403	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	-1,193	-1,032	15.6%	-382	-438	-812	-594	0	0	0	0
New Jersey	-120	-110	9.3%	0	-110	-120	0	0	0	0	0
New York	-382	-328	16.3%	-382	-328	0	0	0	0	0	0
Pennsylvania	-692	-594	16.4%	0	0	-692	-594	0	0	0	0
East North Central	-715	-845	-15.4%	-715	-845	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	-715	-845	-15.4%	-715	-845	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	1	-22	-106.7%	1	-22	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	1	-22	-106.7%	1	-22	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	-1,941	-2,135	-9.1%	-1,941	-2,135	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	-134	-376	-64.5%	-134	-376	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	-768	-679	13.2%	-768	-679	0	0	0	0	0	0
Virginia	-1,039	-1,080	-3.8%	-1,039	-1,080	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	-577	-721	-19.9%	-577	-721	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	-577	-721	-19.9%	-577	-721	0	0	0	0	0	0
West South Central	-3	-52	-93.8%	-3	-52	0	0	0	0	0	0
Arkansas	84	66	27.6%	84	66	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	-87	-118	-26.2%	-87	-118	0	0	0	0	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	55	-89	-162.1%	55	-89	0	0	0	0	0	0
Arizona	91	62	46.0%	91	62	0	0	0	0	0	0
Colorado	-36	-151	-76.6%	-36	-151	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	-315	-23	NM	-315	-23	0	0	0	0	0	0
California	-317	-37	755.0%	-317	-37	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	2	14	-85.5%	2	14	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	-5,112	-5,321	-3.9%	-3,876	-4,326	-1,235	-995	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, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	1,820	1,885	-3.4%	2	-2	1,653	1,715	35	42	129	130
Connecticut	571	591	-3.3%	0	0	571	591	0	0	0	0
Maine	267	330	-19.0%	0	0	103	157	35	42	129	131
Massachusetts	924	911	1.4%	-1	0	924	912	0	0	0	0
New Hampshire	55	56	-0.5%	0	0	55	56	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	2	-3	-185.7%	3	-2	0	0	0	0	0	0
Middle Atlantic	2,457	2,466	-0.4%	0	0	1,914	1,909	518	516	25	41
New Jersey	590	590	0.0%	0	0	394	386	171	163	25	41
New York	963	997	-3.5%	0	0	728	752	235	246	0	0
Pennsylvania	904	879	2.9%	0	0	793	772	111	107	0	0
East North Central	907	915	-0.9%	22	18	51	48	80	79	753	770
Illinois	246	249	-1.1%	0	0	-16	-14	0	0	262	263
Indiana	489	498	-1.6%	0	0	0	0	24	24	465	473
Michigan	143	135	5.7%	0	0	72	66	56	55	16	15
Ohio	3	5	-28.9%	-1	-2	-4	-4	0	0	8	10
Wisconsin	25	29	-12.3%	23	20	0	0	0	0	2	9
West North Central	373	371	0.5%	170	178	159	125	39	38	5	29
Iowa	0	0	26.7%	0	0	0	0	0	0	0	0
Kansas	5	5	0.1%	0	0	0	0	0	0	5	5
Minnesota	313	328	-4.4%	116	140	159	125	39	38	0	24
Missouri	0	0	-97.2%	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	54	38	43.2%	54	38	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	3,994	4,396	-9.1%	-2	-2	2,240	2,603	339	163	1,417	1,631
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	2,697	2,921	-7.7%	-2	-2	1,441	1,610	190	0	1,067	1,314
Georgia	79	83	-5.2%	0	0	0	0	0	0	79	83
Maryland	376	320	17.6%	0	0	376	320	0	0	0	0
North Carolina	289	485	-40.5%	0	0	52	287	0	0	237	198
South Carolina	42	46	-7.8%	0	0	9	9	0	0	33	37
Virginia	528	557	-5.3%	0	0	379	394	149	163	0	0
West Virginia	-16	-17	-3.1%	0	0	-16	-17	0	0	0	0
East South Central	77	74	4.4%	70	64	0	0	0	0	7	10
Alabama	0	0	-166.7%	0	0	0	0	0	0	0	0
Kentucky	70	64	9.8%	70	64	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	7	10	-31.9%	0	0	0	0	0	0	7	10
West South Central	979	1,051	-6.8%	205	179	20	60	0	-1	755	813
Arkansas	8	4	70.8%	0	0	0	0	0	-1	8	5
Louisiana	550	605	-9.1%	206	180	0	0	0	0	344	426
Oklahoma	2	5	-67.5%	0	0	0	-1	0	0	2	6
Texas	420	436	-3.8%	-1	-1	20	60	0	0	401	377
Mountain	665	574	15.9%	58	78	283	241	0	0	324	254
Arizona	-8	-3	160.8%	-1	0	-6	-3	0	0	0	0
Colorado	55	59	-7.6%	0	0	7	13	0	0	48	46
Idaho	62	53	17.2%	0	0	0	0	0	0	62	53
Montana	283	231	22.3%	0	0	283	231	0	0	0	0
Nevada	27	26	6.0%	28	26	-1	0	0	0	0	0
New Mexico	0	-1	-54.6%	0	-1	0	0	0	0	0	0
Utah	162	130	24.9%	32	53	0	0	0	0	130	76
Wyoming	84	79	6.7%	0	0	0	0	0	0	84	79
Pacific Contiguous	677	807	-16.2%	-14	-13	131	270	0	-2	560	552
California	576	695	-17.1%	-13	-12	29	157	0	-2	560	552
Oregon	35	44	-19.2%	0	0	36	44	0	0	0	0
Washington	66	69	-4.8%	0	0	66	69	0	0	0	0
Pacific Noncontiguous	192	317	-39.6%	-4	119	-2	0	198	199	0	0
Alaska	-4	-3	19.9%	-4	-3	0	0	0	0	0	0
Hawaii	196	321	-38.9%	0	122	-2	0	198	199	0	0
U.S. Total	12,140	12,855	-5.6%	508	618	6,449	6,971	1,209	1,035	3,975	4,231

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, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	3,780	3,769	0.3%	215	248	3,535	3,489	30	31	0	0
Connecticut	13	12	4.7%	0	0	13	12	0	0	0	0
Maine	2,544	2,395	6.2%	0	0	2,544	2,395	0	0	0	0
Massachusetts	209	238	-12.4%	53	67	133	147	23	24	0	0
New Hampshire	504	525	-3.9%	0	0	504	525	0	0	0	0
Rhode Island	172	215	-19.8%	0	0	165	207	7	7	0	0
Vermont	338	384	-11.8%	162	181	176	203	0	0	0	0
Middle Atlantic	7,631	8,290	-7.9%	0	0	7,626	8,285	3	3	2	2
New Jersey	20	20	-1.4%	0	0	20	20	0	0	0	0
New York	4,156	4,522	-8.1%	0	0	4,151	4,516	3	3	2	2
Pennsylvania	3,455	3,748	-7.8%	0	0	3,455	3,748	0	0	0	0
East North Central	38,867	33,301	16.7%	5,032	4,229	33,712	28,957	29	29	94	86
Illinois	19,133	16,226	17.9%	11	11	19,117	16,211	5	4	0	0
Indiana	7,857	6,288	25.0%	0	0	7,857	6,288	0	0	0	0
Michigan	7,697	6,735	14.3%	4,007	3,077	3,690	3,658	0	0	0	0
Ohio	2,587	2,289	13.0%	7	9	2,489	2,198	3	3	88	79
Wisconsin	1,593	1,763	-9.6%	1,007	1,132	559	603	21	21	7	7
West North Central	115,451	101,616	13.6%	43,675	36,257	71,731	65,313	43	45	3	0
Iowa	37,098	34,182	8.5%	28,529	25,208	8,566	8,970	3	4	0	0
Kansas	25,694	23,964	7.2%	2,167	1,842	23,509	22,106	16	16	3	0
Minnesota	12,271	11,831	3.7%	3,640	3,013	8,608	8,792	24	25	0	0
Missouri	6,534	3,345	95.3%	2,312	60	4,223	3,285	0	0	0	0
Nebraska	9,592	9,115	5.2%	90	324	9,502	8,791	0	0	0	0
North Dakota	14,935	13,634	9.5%	5,455	5,141	9,480	8,493	0	0	0	0
South Dakota	9,327	5,544	68.2%	1,483	668	7,844	4,876	0	0	0	0
South Atlantic	2,711	2,995	-9.5%	50	0	2,656	2,990	5	5	0	0
Delaware	5	5	-6.4%	0	0	0	0	5	5	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	517	546	-5.2%	0	0	517	546	0	0	0	0
North Carolina	515	546	-5.8%	0	0	515	546	0	0	0	0
South Carolina	0	0	--	0	0	0	0	0	0	0	0
Virginia	50	0	--	50	0	0	0	0	0	0	0
West Virginia	1,624	1,898	-14.4%	0	0	1,624	1,898	0	0	0	0
East South Central	28	39	-28.1%	0	0	28	39	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	28	39	-28.1%	0	0	28	39	0	0	0	0
West South Central	132,015	121,858	8.3%	1,887	1,578	130,073	120,225	50	48	4	8
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	32,540	29,417	10.6%	1,685	1,333	30,855	28,083	0	0	0	0
Texas	99,474	92,441	7.6%	202	244	99,218	92,141	50	48	4	8
Mountain	43,073	33,724	27.7%	12,041	5,971	31,027	27,236	2	1	3	516
Arizona	1,600	644	148.4%	0	0	1,600	644	0	0	0	0
Colorado	15,126	13,386	13.0%	4,272	2,939	10,851	10,445	0	0	3	3
Idaho	2,680	2,771	-3.3%	175	183	2,505	2,587	0	0	0	0
Montana	3,473	3,059	13.5%	919	285	2,553	2,774	0	0	0	0
Nevada	340	325	4.7%	0	0	340	325	0	0	0	0
New Mexico	10,581	7,224	46.5%	2,338	0	8,241	7,223	2	1	0	0
Utah	825	803	2.8%	0	0	825	803	0	0	0	0
Wyoming	8,448	5,513	53.2%	4,337	2,564	4,111	2,436	0	0	0	513
Pacific Contiguous	33,851	31,626	7.0%	7,351	7,194	26,487	24,421	6	6	6	5
California	15,177	13,583	11.7%	873	816	14,292	12,756	6	6	6	5
Oregon	9,376	8,777	6.8%	1,751	1,485	7,624	7,293	0	0	0	0
Washington	9,298	9,266	0.3%	4,726	4,893	4,571	4,373	0	0	0	0
Pacific Noncontiguous	790	721	9.6%	87	77	703	644	0	0	0	0
Alaska	132	129	2.9%	87	77	45	51	0	0	0	0
Hawaii	658	592	11.1%	0	0	658	592	0	0	0	0
U.S. Total	378,197	337,938	11.9%	70,338	55,554	307,579	281,599	168	168	112	617

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, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	5,332	5,411	-1.5%	326	308	4,126	4,082	98	100	782	921
Connecticut	757	782	-3.2%	0	0	757	782	0	0	0	0
Maine	1,969	2,094	-6.0%	0	0	1,158	1,138	29	35	782	921
Massachusetts	973	1,006	-3.3%	0	0	947	981	26	25	0	0
New Hampshire	929	865	7.4%	0	21	887	805	42	38	0	0
Rhode Island	208	205	1.5%	0	0	208	205	0	0	0	0
Vermont	496	459	8.1%	326	287	168	170	2	2	0	0
Middle Atlantic	4,377	4,608	-5.0%	0	0	3,330	3,559	473	479	574	570
New Jersey	708	736	-3.9%	0	0	558	591	149	145	0	0
New York	1,903	1,961	-2.9%	0	0	1,549	1,606	193	201	162	153
Pennsylvania	1,766	1,911	-7.6%	0	0	1,222	1,362	131	132	413	417
East North Central	4,877	4,749	2.7%	836	746	2,717	2,637	123	121	1,201	1,246
Illinois	364	391	-6.8%	159	124	205	267	0	0	0	0
Indiana	429	448	-4.1%	288	314	62	50	19	20	60	64
Michigan	2,369	2,102	12.7%	0	0	1,703	1,510	45	45	620	547
Ohio	643	674	-4.6%	0	0	414	432	8	8	221	233
Wisconsin	1,072	1,136	-5.6%	388	308	333	378	51	48	300	402
West North Central	1,757	1,654	6.2%	287	294	505	528	185	122	780	710
Iowa	201	208	-2.9%	25	24	105	108	9	23	63	52
Kansas	59	64	-7.8%	0	0	59	64	0	0	0	0
Minnesota	1,256	1,156	8.7%	142	154	304	314	120	44	690	644
Missouri	124	125	-1.3%	42	39	38	42	41	42	3	3
Nebraska	92	90	3.1%	77	78	0	0	15	12	0	0
North Dakota	2	1	239.9%	0	0	0	0	0	0	2	1
South Dakota	23	12	96.1%	0	0	0	0	0	0	23	12
South Atlantic	18,209	18,308	-0.5%	1,769	1,372	6,352	6,782	424	301	9,665	9,854
Delaware	74	72	2.2%	0	0	62	60	0	0	11	12
District of Columbia	56	55	1.6%	0	0	0	0	56	55	0	0
Florida	4,228	4,025	5.0%	685	495	1,555	1,734	171	16	1,817	1,780
Georgia	5,846	5,855	-0.2%	0	0	1,905	1,774	0	0	3,940	4,081
Maryland	375	337	11.1%	0	0	366	322	9	15	0	0
North Carolina	2,023	2,461	-17.8%	0	0	779	1,156	55	67	1,189	1,238
South Carolina	2,005	2,075	-3.4%	58	71	593	647	0	0	1,354	1,357
Virginia	3,594	3,420	5.1%	1,026	806	1,081	1,082	134	148	1,353	1,385
West Virginia	10	6	57.4%	0	0	10	6	0	0	0	0
East South Central	5,792	5,811	-0.3%	100	99	141	146	0	0	5,551	5,566
Alabama	3,311	3,306	0.1%	0	0	44	37	0	0	3,267	3,269
Kentucky	415	347	19.4%	100	99	15	15	0	0	300	233
Mississippi	1,367	1,417	-3.6%	0	0	11	11	0	0	1,356	1,406
Tennessee	700	740	-5.5%	0	0	72	82	0	0	628	658
West South Central	4,598	4,777	-3.7%	173	53	412	495	4	4	4,009	4,224
Arkansas	859	933	-8.0%	0	0	57	75	4	4	797	854
Louisiana	2,140	2,116	1.2%	0	0	84	57	0	0	2,056	2,059
Oklahoma	318	353	-9.8%	0	0	19	19	0	0	299	334
Texas	1,281	1,376	-6.8%	173	53	253	345	0	0	856	977
Mountain	1,057	1,101	-3.9%	25	30	624	651	45	42	364	378
Arizona	210	223	-5.7%	0	0	210	223	0	0	0	0
Colorado	169	166	1.6%	0	0	169	166	0	0	0	0
Idaho	490	521	-6.1%	14	18	103	118	31	29	343	357
Montana	32	33	-3.1%	12	12	0	0	0	0	21	21
Nevada	50	54	-7.9%	0	0	50	54	0	0	0	0
New Mexico	26	25	2.8%	0	0	26	25	0	0	0	0
Utah	81	78	4.1%	0	0	66	65	14	13	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	7,932	7,998	-0.8%	452	398	4,435	4,565	756	775	2,289	2,261
California	5,416	5,649	-4.1%	70	71	3,948	4,106	706	725	692	747
Oregon	1,005	961	4.6%	60	62	393	371	39	36	513	491
Washington	1,511	1,388	8.8%	322	265	94	88	11	13	1,084	1,023
Pacific Noncontiguous	321	295	8.6%	24	28	96	65	200	202	0	0
Alaska	38	39	-2.5%	0	0	0	0	38	39	0	0
Hawaii	283	256	10.3%	24	28	96	65	162	163	0	0
U.S. Total	54,252	54,712	-0.8%	3,993	3,328	22,738	23,508	2,309	2,144	25,213	25,730

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 3.20. Utility Scale Facility Net Generation from Geothermal by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
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	4,481	4,321	3.7%	211	176	3,768	3,697	502	449	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	93	91	2.6%	0	0	93	91	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	3,917	3,801	3.1%	0	0	3,416	3,352	502	449	0	0
New Mexico	51	53	-4.4%	0	0	51	53	0	0	0	0
Utah	420	377	11.4%	211	176	208	201	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	11,310	11,559	-2.1%	796	739	10,514	10,820	0	0	0	0
California	11,128	11,367	-2.1%	796	739	10,331	10,628	0	0	0	0
Oregon	183	192	-4.8%	0	0	183	192	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	183	10	NM	0	0	183	10	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	183	10	NM	0	0	183	10	0	0	0	0
U.S. Total	15,975	15,890	0.5%	1,007	915	14,466	14,526	502	449	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 3.21. Net Generation from Solar Photovoltaic by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	All Sectors							Electric Power Sector										Commercial Sector						Industrial Sector						Residential Sector	
								Electric Utilities		Independent Power Producers																					
	Estimated Generation From Utility and Small Scale Facilities			Generation at Utility Scale Facilities		Estimated Small Scale Generation		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		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		Estimated Small Scale Generation	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	6,769	5,803	16.6%	2,471	2,027	4,298	3,776	144	156	2,312	1,854	2,411	2,041	10	11	2,401	2,030	160	150	5	5	155	145	1,742	1,602
Connecticut	1,129	949	19.0%	265	214	863	735	2	3	259	206	342	279	3	4	339	275	46	42	0	0	46	42	479	418
Maine	293	117	151.1%	158	28	136	89	0	0	158	28	68	32	0	0	68	32	0	0	0	0	0	0	67	57
Massachusetts	4,120	3,726	10.6%	1,587	1,404	2,533	2,322	86	92	1,490	1,300	1,572	1,390	7	7	1,565	1,383	100	96	5	5	95	91	873	847
New Hampshire	197	161	22.4%	4	4	193	157	0	0	4	4	73	53	0	0	73	53	11	9	0	0	11	9	110	95
Rhode Island	671	494	35.8%	284	195	387	299	0	0	284	195	286	220	0	0	286	220	1	0	0	0	1	0	99	79
Vermont	360	357	0.8%	173	183	186	174	56	61	118	122	70	66	0	0	70	66	2	2	0	0	2	2	114	106
Middle Atlantic	8,786	7,668	14.6%	2,760	2,284	6,025	5,384	115	77	2,483	2,031	3,052	2,644	142	154	2,910	2,490	310	306	21	22	289	283	2,826	2,610
New Jersey	4,043	3,809	6.1%	1,378	1,305	2,665	2,504	115	77	1,128	1,082	1,373	1,301	128	139	1,245	1,162	209	206	7	8	202	198	1,218	1,143
New York	3,861	3,130	23.3%	1,159	840	2,702	2,290	0	0	1,143	822	1,465	1,148	10	11	1,455	1,138	24	24	6	7	17	17	1,230	1,136
Pennsylvania	882	729	20.9%	224	139	658	590	0	0	212	128	214	195	4	4	210	191	77	75	7	8	69	68	379	331
East North Central	4,344	1,965	121.1%	2,549	849	1,795	1,116	720	302	1,816	536	979	582	12	9	967	573	73	60	2	2	71	58	757	484
Illinois	1,438	506	184.2%	513	79	925	427	2	2	511	75	573	243	0	2	573	241	2	1	0	0	2	1	350	185
Indiana	791	526	50.4%	573	359	218	167	372	187	199	170	108	90	2	2	106	88	8	6	0	0	8	6	104	73
Michigan	616	310	98.7%	424	155	192	155	85	89	338	65	79	68	0	1	79	67	4	3	0	0	4	3	109	85
Ohio	950	400	137.3%	673	164	278	237	8	7	658	153	133	128	6	2	127	127	35	29	2	2	33	27	118	83
Wisconsin	549	223	146.7%	367	93	182	129	253	17	110	73	85	53	4	3	81	51	24	21	0	0	24	21	76	58
West North Central	3,310	2,650	24.9%	2,358	1,870	952	780	71	52	2,287	1,817	402	358	0	1	402	358	44	32	0	0	44	32	507	391
Iowa	472	232	103.3%	225	22	247	210	9	10	216	12	146	129	0	0	146	129	9	8	0	0	9	8	91	73
Kansas	122	106	15.3%	61	58	61	48	3	3	58	55	22	19	0	0	22	19	0	0	0	0	0	0	38	29
Minnesota	2,077	1,773	17.1%	1,893	1,634	183	140	33	19	1,861	1,614	52	44	0	0	52	44	21	17	0	0	21	17	110	79
Missouri	549	461	19.1%	116	101	433	360	18	13	98	87	172	158	0	1	172	158	10	7	0	0	10	7	251	195
Nebraska	86	74	15.6%	61	54	25	20	8	8	53	46	8	8	0	0	8	8	3	1	0	0	3	1	15	12
North Dakota	1	1	50.6%	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0
South Dakota	4	4	6.1%	2	2	2	2	0	0	2	2	1	1	0	0	1	1	0	0	0	0	0	0	1	1
South Atlantic	34,880	25,868	34.8%	30,266	22,220	4,614	3,648	10,807	7,318	19,311	14,764	1,103	950	141	131	962	819	378	372	7	7	371	364	3,282	2,464
Delaware	196	183	7.3%	57	54	139	128	6	6	50	48	31	32	2	0	30	31	12	11	0	0	12	11	97	86
District of Columbia	166	131	26.6%	18	13	148	119	0	0	18	13	61	56	0	0	61	56	0	0	0	0	0	0	87	63
Florida	10,725	7,597	41.2%	9,020	6,480	1,705	1,117	8,076	5,704	934	764	212	163	7	8	205	155	19	19	3	3	16	16	1,484	947
Georgia	5,241	4,109	27.5%	4,868	3,780	372	329	589	353	4,277	3,423	63	51	2	3	61	48	254	251	0	0	254	251	57	30
Maryland	1,657	1,522	8.9%	632	527	1,025	994	8	8	608	503	308	271	17	17	292	254	28	30	0	0	28	30	705	710
North Carolina	10,578	8,633	22.5%	10,123	8,274	455	360	762	574	9,249	7,599	254	232	112	101	141	131	15	14	0	0	15	14	299	214
South Carolina	2,707	2,092	29.4%	2,280	1,722	428	371	8	7	2,267	1,711	84	76	0	0	84	76	47	44	4	4	43	40	301	255
Virginia	3,588	1,585	126.4%	3,267	1,371	320	214	1,358	666	1,908	703	83	65	2	2	81	63	3	3	0	0	3	3	236	148
West Virginia	22	15	43.3%	0	0	22	15	0	0	0	0	6	5	0	0	6	5	0	0	0	0	0	0	15	11
East South Central	1,497	1,336	12.0%	1,303	1,166	193	169	72	68	1,222	1,087	114	109	4	5	110	103	9	8	6	6	3	3	80	63
Alabama	513	384	33.6%	494	369	19	15	24	27	470	342	13	10	0	0	13	10	1	1	0	0	1	1	4	3
Kentucky	115	94	23.1%	46	43	69	51	45	41	1	1	28	23	0	0	28	23	2	1	0	0	2	1	40	26
Mississippi	441	445	-0.9%	425	430	16	15	0	0	425	430	7	8	0	0	7	8	1	0	0	0	1	0	8	7
Tennessee	427	413	3.4%	339	325	89	89	3	0	326	314	65	67	4	5	61	62	6	6	6	6	0	0	28	27
West South Central	18,372	10,899	68.6%	15,606	8,912	2,765	1,987	129	89	15,453	8,800	508	389	21	22	486	367	34	31	3	0	31	31	2,248	1,589
Arkansas	631	358	76.1%	462	272	169	86	6	2	434	252	81	41	19	19	62	22	30	26	3	0	27	26	80	38
Louisiana	407	296	37.4%	146	39	261	257	35	4	111	35	18	19	0	0	18	19	0	0	0	0	0	0	242	238
Oklahoma	128	93	37.9%	77	63	52	30	73	63	4	0	8	6	0	0	8	6	1	1	0	0	1	1	43	23
Texas	17,205	10,151	69.5%	14,921	8,537	2,284	1,614	15	21	14,903	8,513	400	323	2	3	397	320	3	4	0	0	3	4	1,884	1,290
Mountain	26,964	22,607	19.3%	20,168	17,076	6,797	5,530	1,321	1,313	18,761	15,664	1,681	1,500	80	92	1,601	1,408	107	79	6	7	100	72	5,096	4,050
Arizona	9,387	7,974	17.7%	6,016	5,062	3,371	2,912	732	713	5,265	4,337	953	862	19	12	934	850	14	14	0	0	14	14	2,423	2,048
Colorado	2,786	2,204	26.4%	1,730	1,504	1,056	701	13	9	1,707	1,478	297	241	10	17	287	224	19	3	0	0	19	3	750	473
Idaho	684	653	4.8%	565	566	119	87	0	0	562	563	10	8	0	0	10	8	15	8	3	3	12	5	97	74
Montana	76	67	14.4%	33	33	43	34	0	0	33	33	12	10	0	0	12	10	0	0	0	0	0	0	30	24
Nevada	7,485	6,300	18.8%	6,415	5,427	1,071	872	185	194	6,175	5,166	173	180	51	63	122	117	45	42	4	4	42	38	907	717
New Mexico	2,212	2,114	4.7%	1,750	1,749	462	365	390	397	1,360	1,351	120	96	0	0	120	96	1	1	0	0	1	1	342	268
Utah	4,137	3,117	32.7%	3,479	2,571	657	546	0	0	3,479	2,571	114	101	0	0	114	101	11	10	0	0	11	10	532	436
Wyoming	197	178	10.4%	179	165	18	13	0	0	179	165	3	2	0	0	3	2	0	0	0	0	0	0	15	10
Pacific Contiguous	54,807	47,091	16.4%	34,345	29,176	20,462	17,915	426	458	33,646	28,506	4,993	4,405	187	160	4,806	4,245	2,877	2,544	87	52	2,790	2,492	12,866	11,178
California	52,682	45,460	15.9%	32,834	28,053	19,849	17,407	414	452	32,146	27,389	4,840	4,271	187	160	4,653	4,111	2,860	2,527	87	52	2,773	2,475	12,422	10,821
Oregon	1,766	1,335	32.3%	1,461	1,078	305	257	5	5	1,456	1,073	108	99	0	0	108	99	16	16	0	0	16	16	180	143
Washington	359	296	21.2%	50	46	308	250	7	0	43	45	44	36	0	0	44	36	1	1	0	0	1	1	264	213
Pacific Noncontiguous	1,770	1,701	4.0%	507	484	1,263	1,217	79	81	427	403	481	466	0	0	480	466	4	4	0	0	4	4	779	748
Alaska	12	7	82.2%	0	0	12	7	0	0	0	0	4	2	0	0	4	2	0	0	0	0	0	0	8	5
Hawaii	1,758	1,695	3.7%	507	484	1,251	1,211	79	81	427	403	476	464	0	0	476	464	4	4	0	0	4	4	771	743
U.S. Total	161,499	127,588	26.6%	112,335	86,066	49,164	41,522	13,883	9,915	97,717	75,464	15,722	13,445	598	586	15,124	12,859	3,994	3,586	137	101	3,858	3,484	30,182	25,179

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.
Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report;
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 3.22. Utility Scale Facility Net Generation from Solar Thermal by State, by Sector, 2021 and 2020 (Thousand Megawatthours)

	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	
Census Division and State	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
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	29	30	-3.9%	29	30	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	29	30	-3.9%	29	30	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	865	883	-2.0%	0	0	865	883	0	0	0	0
Arizona	695	776	-10.5%	0	0	695	776	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	170	107	58.7%	0	0	170	107	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	2,030	2,220	-8.6%	0	0	2,030	2,220	0	0	0	0
California	2,030	2,220	-8.6%	0	0	2,030	2,220	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	2,924	3,133	-6.7%	29	30	2,895	3,103	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), 2011 - 2021
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2011	286,210	15,230	21,552	535,150	103,615	586,299	31,067	1,579,124
2012	252,605	12,452	24,419	556,945	113,147	580,513	24,571	1,564,653
2013	243,043	12,828	25,224	553,696	103,719	611,443	22,171	1,572,124
2014	232,509	11,990	23,457	545,624	104,868	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	818,853	135,509	609,495	19,596	1,753,394
Year 2019								
January	17,187	1,511	1,276	72,612	12,164	58,244	2,116	165,110
February	15,124	734	1,182	64,964	11,146	52,831	1,957	147,938
March	14,793	609	1,273	68,303	12,304	55,403	1,998	154,682
April	13,488	529	1,257	61,359	12,016	51,489	1,759	141,898
May	12,639	864	1,243	63,354	11,527	52,084	1,647	143,357
June	12,452	409	1,224	64,013	11,309	51,440	1,833	142,681
July	12,106	376	1,204	68,751	12,492	53,785	1,830	150,545
August	12,265	450	1,146	69,982	12,002	54,256	1,915	152,017
September	11,754	468	1,284	65,274	11,652	50,594	1,683	142,709
October	12,909	507	1,055	65,018	11,765	53,397	1,765	146,417
November	13,417	957	950	67,055	11,641	54,062	1,991	150,074
December	13,973	576	1,183	71,467	12,211	55,962	1,936	157,309
Year 2020								
January	14,223	537	1,205	79,227	12,634	55,761	1,802	165,390
February	12,903	666	782	72,512	12,266	52,121	1,812	153,063
March	11,772	453	624	73,085	12,642	53,110	1,753	153,439
April	10,321	936	477	68,293	10,215	49,909	1,806	141,958
May	10,169	371	994	64,264	10,791	50,049	1,615	138,252
June	10,054	430	1,160	65,419	10,655	46,834	1,648	136,200
July	11,352	432	1,206	71,798	11,071	48,571	1,694	146,123
August	11,028	462	1,241	70,526	11,354	47,815	1,721	144,146
September	10,676	442	1,169	65,054	9,828	46,229	1,720	135,119
October	12,138	509	1,142	66,947	11,186	49,237	1,719	142,878
November	11,473	550	1,096	65,000	10,947	49,683	1,689	140,440
December	13,313	676	1,262	73,540	11,460	52,714	1,919	154,885
Year 2021								
January	13,508	901	1,195	75,026	12,146	52,978	1,876	157,631
February	13,008	1,211	1,127	63,858	9,824	46,856	1,639	137,523
March	12,848	661	1,160	66,602	11,328	51,663	1,807	146,070
April	11,665	536	1,054	64,929	10,872	50,772	1,478	141,307
May	11,625	474	1,172	64,871	11,001	51,349	1,433	141,924
June	11,957	431	940	68,154	11,219	48,992	1,597	143,289
July	12,845	474	1,001	71,676	11,510	51,742	1,659	150,906
August	12,307	531	920	71,372	11,790	51,703	1,591	150,214
September	12,528	513	990	65,464	11,246	49,478	1,565	141,784
October	11,819	633	931	66,499	11,244	48,954	1,575	141,655
November	12,965	606	935	68,710	11,670	50,301	1,586	146,773
December	12,874	633	965	71,693	11,658	54,707	1,788	154,318

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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 non-biogenic municipal solid waste, batteries, hydrogen, 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 seperating 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, 2011 - 2021
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2011	35,209	4,484	1,231	190,712	20,435	16,029	6,044	274,143
2012	26,093	4,405	1,246	200,294	20,948	16,369	5,545	274,900
2013	21,306	4,614	993	188,094	10,303	16,225	4,966	246,501
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	191,326	16,931	22,963	5,547	245,631
Year 2019								
January	1,756	131	85	18,139	1,736	2,518	643	25,008
February	1,186	58	89	15,487	1,764	2,366	595	21,547
March	1,241	58	95	17,184	1,790	2,422	622	23,412
April	1,166	46	98	15,213	1,699	2,226	610	21,057
May	1,089	41	94	14,942	1,511	2,078	690	20,445
June	1,051	42	79	15,814	1,424	1,971	672	21,052
July	995	33	84	16,967	1,643	1,874	661	22,257
August	968	29	91	17,942	1,552	1,970	637	23,188
September	782	63	79	15,907	1,519	1,794	525	20,669
October	901	54	23	15,836	1,721	2,051	551	21,137
November	828	51	100	16,240	1,629	2,367	656	21,871
December	795	50	102	17,435	1,697	2,420	680	23,179
Year 2020								
January	753	32	114	17,876	1,623	2,538	661	23,597
February	686	33	125	16,663	1,697	2,413	634	22,251
March	586	37	114	16,995	1,788	2,447	646	22,613
April	607	40	100	15,526	1,365	1,851	666	20,154
May	504	35	103	16,158	1,308	1,947	548	20,604
June	545	32	88	16,788	1,188	1,937	630	21,208
July	599	39	99	18,126	1,192	1,889	617	22,561
August	584	43	118	18,321	1,508	1,854	583	23,010
September	538	46	122	17,061	1,141	1,716	567	21,190
October	619	57	104	16,363	1,279	1,782	573	20,778
November	665	53	99	15,739	1,560	2,132	534	20,782
December	724	83	113	17,489	1,668	2,310	664	23,052
Year 2021								
January	641	79	128	17,272	1,613	2,373	624	22,729
February	730	230	104	15,263	857	2,094	530	19,808
March	665	72	117	15,591	906	2,242	572	20,164
April	489	66	104	15,640	1,377	1,980	364	20,021
May	489	45	96	15,212	1,282	1,699	421	19,244
June	515	34	99	15,662	1,554	1,768	443	20,075
July	584	53	108	16,255	1,570	1,703	435	20,708
August	550	54	103	16,918	1,605	1,777	425	21,432
September	657	42	94	15,425	1,446	1,655	384	19,702
October	330	59	53	15,687	1,790	1,443	386	19,748
November	495	91	85	16,115	1,569	2,112	455	20,922
December	649	67	89	16,285	1,363	2,117	509	21,078

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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 non-biogenic municipal solid waste, batteries, hydrogen, 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 seperating 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 3.25. Useful Thermal Output by Energy Source: Commercial Sector Combined Heat and Power, 2011 - 2021
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2011	17,234	687	111	24,848	14	7,433	5,988	56,314
2012	13,992	523	229	27,922	0	7,970	6,426	57,063
2013	10,942	1,017	222	27,562	0	7,054	5,693	52,489
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
Year 2019								
January	724	200	28	5,239	0	966	482	7,639
February	678	111	16	4,804	0	824	411	6,843
March	691	101	22	4,740	0	816	357	6,728
April	481	52	19	4,242	0	577	178	5,549
May	451	467	0	4,067	0	582	222	5,790
June	305	28	0	4,308	0	613	242	5,497
July	409	48	0	5,172	0	605	213	6,447
August	440	77	0	4,892	0	671	257	6,337
September	474	51	0	4,494	0	647	223	5,888
October	435	55	0	4,370	0	691	242	5,794
November	524	82	0	4,692	0	675	251	6,224
December	599	72	11	5,335	0	640	257	6,914
Year 2020								
January	615	75	31	5,237	0	707	245	6,911
February	607	53	19	4,911	0	681	225	6,496
March	504	48	0	4,547	0	636	258	5,992
April	335	31	0	3,977	0	541	243	5,127
May	345	70	0	3,823	0	586	244	5,067
June	362	37	0	4,351	0	600	201	5,550
July	387	64	0	5,290	0	548	247	6,536
August	403	84	0	4,994	0	555	259	6,296
September	453	46	0	4,446	0	472	220	5,637
October	373	53	0	4,585	0	523	246	5,779
November	439	56	0	4,436	0	511	232	5,675
December	622	76	0	4,911	0	569	244	6,422
Year 2021								
January	615	89	0	4,917	0	566	255	6,442
February	723	177	14	4,406	0	538	180	6,038
March	576	71	1	4,208	0	542	224	5,622
April	435	53	0	3,528	0	445	225	4,686
May	370	68	0	3,432	0	408	241	4,518
June	371	41	0	3,989	0	531	225	5,156
July	393	51	0	4,422	0	601	286	5,754
August	436	44	0	4,698	0	611	268	6,056
September	487	42	0	3,932	0	594	252	5,307
October	491	47	18	4,003	0	475	219	5,253
November	538	58	28	4,096	0	476	198	5,394
December	539	81	27	4,417	0	589	251	5,906

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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 non-biogenic municipal solid waste, batteries, hydrogen, 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 seperating 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 3.26. Useful Thermal Output by Energy Source: Industrial Sector Combined Heat and Power, 2011 - 2021
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2011	233,767	10,059	20,209	319,590	83,167	562,838	19,035	1,248,666
2012	212,520	7,524	22,944	328,729	92,199	556,174	12,599	1,232,689
2013	210,795	7,196	24,009	338,041	93,416	588,165	11,512	1,273,134
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
Year 2019								
January	13,124	1,129	1,151	46,960	10,428	54,504	990	128,286
February	11,791	540	1,065	42,487	9,382	49,408	950	115,622
March	11,431	434	1,148	44,198	10,513	51,928	1,018	120,672
April	10,724	421	1,118	40,351	10,317	48,442	970	112,343
May	10,189	342	1,143	42,727	10,016	49,351	731	114,500
June	9,849	330	1,137	42,011	9,886	48,749	919	112,879
July	9,400	285	1,097	44,343	10,848	51,142	955	118,071
August	9,396	329	1,053	44,741	10,450	51,506	1,019	118,495
September	9,268	340	1,185	42,651	10,133	48,088	933	112,599
October	10,273	385	1,026	43,037	10,045	50,520	972	116,257
November	10,745	812	836	44,067	10,012	50,820	1,082	118,376
December	11,220	440	1,052	46,346	10,514	52,680	996	123,248
Year 2020								
January	11,613	410	1,049	53,564	11,011	52,304	895	130,845
February	10,446	564	625	48,560	10,569	48,816	952	120,532
March	9,803	359	500	48,935	10,854	49,812	849	121,112
April	8,708	848	351	46,461	8,850	47,362	897	113,477
May	8,527	257	861	41,960	9,483	47,446	821	109,355
June	8,206	347	1,066	41,985	9,467	44,209	817	106,097
July	9,042	317	1,101	45,718	9,879	46,032	829	112,918
August	8,776	322	1,115	44,711	9,846	45,313	878	110,960
September	8,672	342	1,038	41,420	8,687	43,924	932	105,016
October	10,036	384	1,035	44,075	9,906	46,724	899	113,060
November	9,440	428	981	43,044	9,387	46,851	923	111,055
December	10,763	502	1,140	48,503	9,792	49,744	1,010	121,453
Year 2021								
January	10,838	722	1,058	50,096	10,534	49,825	996	124,069
February	10,131	722	996	41,711	8,967	44,032	927	107,485
March	10,322	506	1,038	44,341	10,422	48,684	1,009	116,323
April	9,656	403	950	43,491	9,496	48,164	887	113,046
May	9,753	352	1,075	44,129	9,719	49,122	771	114,921
June	9,594	344	831	45,796	9,665	46,541	929	113,701
July	10,240	360	880	48,293	9,939	49,214	936	119,864
August	9,572	421	753	46,961	10,185	49,142	896	117,930
September	9,878	412	888	43,708	9,801	47,222	928	112,837
October	9,706	508	849	44,942	9,454	46,934	969	113,361
November	10,558	442	804	45,894	10,101	47,494	932	116,225
December	10,086	467	810	48,355	10,295	51,775	1,027	122,816

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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
Other Gas includes blast furnace gas and other manufactured and waste gases derived from fossil fuels. Prior to 2011, Other 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 non-biogenic municipal solid waste, batteries, hydrogen, 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 seperating 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 3.27 Gross/Net Generation by Energy Storage Technology: Total (All Sectors), 2011 - 2021
(Thousand Megawatthours)

	Generation at Utility Scale Facilities									
	Gross Generation					Net Generation				
Period	Battery	Compressed Air	Flywheels	Hydroelectric Pumped Storage	Total	Battery	Compressed Air	Flywheels	Hydroelectric Pumped Storage	Total
Annual Totals										
2011	0	0	0	22,828	22,828	0	0	0	-6,421	-6,421
2012	0	0	0	19,776	19,776	0	0	0	-4,950	-4,950
2013	9	0	25	19,257	19,290	-3	0	-8	-4,681	-4,692
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	-5,261	-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
Year 2019										
January	35	0	5	1,574	1,615	-8	-1	-2	-323	-333
February	37	0	5	1,401	1,443	-8	-1	-2	-389	-399
March	44	1	4	1,409	1,457	-9	-1	-2	-409	-420
April	39	0	4	1,664	1,708	-8	0	-2	-103	-114
May	41	1	5	2,003	2,049	-8	-1	-2	-368	-379
June	35	1	5	1,919	1,960	-8	-1	-2	-385	-396
July	37	1	5	2,558	2,601	-8	-1	-2	-622	-634
August	37	1	5	2,319	2,361	-8	-1	-2	-579	-590
September	42	1	5	2,029	2,076	-10	-1	-2	-671	-684
October	34	1	5	1,402	1,441	-6	-1	-2	-373	-381
November	37	0	5	1,176	1,219	-8	-1	-2	-509	-519
December	37	0	5	1,320	1,363	-9	-1	-2	-529	-542
Year 2020										
January	41	0	4	1,530	1,575	-11	0	-2	-377	-390
February	42	0	4	1,445	1,491	-10	0	-2	-247	-259
March	50	0	4	1,347	1,402	-10	0	-2	-353	-366
April	44	0	4	1,348	1,396	-9	0	-2	-325	-337
May	43	0	4	1,839	1,887	-10	0	-2	-367	-379
June	43	1	4	2,213	2,260	-9	-1	-2	-499	-511
July	45	1	5	2,718	2,769	-11	-1	-2	-686	-700
August	48	1	5	2,553	2,606	-12	-1	-2	-784	-799
September	50	1	4	1,919	1,973	-12	0	-2	-525	-539
October	50	0	4	1,430	1,484	-10	0	-2	-423	-435
November	52	0	4	1,263	1,320	-13	0	-2	-369	-384
December	50	0	5	1,470	1,525	-13	0	-2	-368	-383
Year 2021										
January	59	1	4	1,381	1,445	-14	0	-2	-424	-440
February	62	1	3	1,396	1,462	-13	0	-2	-425	-440
March	67	0	4	1,269	1,340	-13	0	-2	-236	-250
April	70	1	4	1,186	1,261	-16	0	-2	-197	-215
May	90	1	4	1,482	1,577	-18	0	-2	-416	-436
June	130	3	4	2,052	2,189	-23	-1	-2	-376	-401
July	157	3	4	2,596	2,760	-29	-1	-2	-685	-717
August	172	4	4	2,726	2,906	-31	-1	-2	-670	-704
September	161	2	4	2,113	2,280	-26	-1	-2	-434	-462
October	160	4	4	1,667	1,835	-23	-1	-2	-427	-453
November	182	1	4	1,281	1,467	-31	0	-2	-377	-411
December	196	2	4	1,469	1,671	-28	0	-2	-445	-476

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.

Chapter 4

Generation Capacity

Table 4.1. Count of Electric Power Industry Power Plants, by Sector, by Predominant Energy Sources within Plant, 2011 through 2021

Year	Coal	Petroleum	Natural Gas	Other Gases	Nuclear	Hydroelectric Conventional	Other Renewables	Hydroelectric Pumped Storage	Other Energy Sources
Total (All Sectors)									
2011	589	1,146	1,646	41	66	1,434	1,582	40	54
2012	557	1,129	1,714	44	66	1,426	1,956	41	64
2013	518	1,101	1,725	44	63	1,435	2,299	41	78
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
Electric Utilities									
2011	332	829	777	--	34	884	189	35	1
2012	315	815	797	--	34	875	238	36	5
2013	300	795	787	1	32	873	253	36	15
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
Independent Power Producers, Non-Combined Heat and Power Plants									
2011	98	166	373	--	32	490	1,106	5	12
2012	88	150	368	--	32	494	1,388	5	16
2013	86	147	384	1	31	505	1,670	5	15
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
Independent Power Producers, Combined Heat and Power Plants									
2011	45	11	156	1	--	--	38	--	1
2012	42	12	157	2	--	--	47	--	--
2013	35	11	152	2	--	1	51	--	5
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
Commercial Sector									
2011	22	80	118	--	--	10	105	--	2
2012	22	89	153	--	--	9	129	--	2
2013	19	92	164	--	--	9	160	--	3
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
Industrial Sector									
2011	92	60	222	40	--	50	144	--	38
2012	90	63	239	42	--	48	154	--	41
2013	78	56	238	40	--	47	165	--	40
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

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.

Table 4.2.A. Existing Net Summer Capacity by Energy Source and Producer Type, 2011 through 2021 (Megawatts)

	Utility Scale Capacity										Small Scale Capacity
Year	Coal	Petroleum	Natural Gas	Other Gases	Nuclear	Hydroelectric Conventional	Other Renewable Sources	Hydroelectric Pumped Storage	Other Energy Sources	Utility Total	Estimated Photovoltaic
Total (All Sectors)											
2011	317,640.3	51,481.6	415,191.3	1,934.2	101,418.8	78,651.6	61,221.0	22,292.6	1,419.6	1,051,251.0	--
2012	309,680.4	47,167.2	422,364.4	1,945.6	101,885.0	78,738.0	77,155.2	22,368.3	1,728.9	1,063,033.0	--
2013	303,306.3	43,523.0	425,389.7	2,107.8	99,240.3	79,200.0	82,600.1	22,389.3	2,307.0	1,060,063.5	--
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
Electric Utilities											
2011	236,391.7	27,669.9	193,630.5	--	54,351.6	72,182.4	7,811.1	19,062.2	5.3	611,104.7	--
2012	232,078.5	26,731.8	206,774.4	--	54,716.7	72,505.1	9,823.8	19,093.9	60.7	621,784.9	--
2013	228,478.0	24,648.8	208,485.7	12.0	52,399.1	72,755.2	10,118.4	19,114.9	787.3	616,799.4	--
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	604,121.4	--
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	19,666.8	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	--
Independent Power Producers, Non-Combined Heat and Power Plants											
2011	72,119.5	22,398.8	176,516.5	--	47,067.2	5,539.0	46,698.4	3,230.4	169.2	373,739.0	--
2012	69,068.4	18,643.9	170,653.8	--	47,168.3	5,568.6	60,116.8	3,274.4	470.2	374,964.4	--
2013	67,153.5	17,444.7	171,653.6	47.0	46,841.2	5,762.2	64,890.5	3,274.4	231.2	377,298.3	--
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	173,455.8	--	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	--
Independent Power Producers, Combined Heat and Power Plants											
2011	5,146.0	317.0	29,372.6	30.0	--	--	792.9	--	53.0	35,711.5	--
2012	4,755.9	317.2	29,128.6	83.0	--	--	981.2	--	--	35,265.9	--
2013	4,313.7	322.2	29,081.2	83.0	--	4.3	945.1	--	121.8	34,871.3	--
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	--
Commercial Sector											
2011	435.7	406.3	1,282.6	--	--	233.5	694.1	--	4.2	3,056.4	--
2012	435.6	442.7	1,544.9	--	--	18.4	776.8	--	4.2	3,222.6	--
2013	341.9	455.7	1,778.9	--	--	17.8	947.6	--	9.1	3,551.0	--
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
Industrial Sector											
2011	3,547.4	689.6	14,389.1	1,904.2	--	696.7	5,224.5	--	1,187.9	27,639.4	--
2012	3,342.0	1,031.6	14,262.7	1,862.6	--	645.9	5,456.6	--	1,193.8	27,795.2	--
2013	3,019.2	651.6	14,390.3	1,965.8	--	660.5	5,698.5	--	1,157.6	27,543.5	--
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	1,555.4
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
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

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 Gases.
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 Gases.
Other Gases also includes blast furnace gas. Prior to 2011, waste heat was included in Natural Gas.
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 batteries, hydrogen, purchased steam, sulfur, tire-derived fuels 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, 2011 through 2021 (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)										
2011	45,675.9	1,052.0	471.5	7,076.5	2,409.2	4,535.9	61,221.0	--	1,052.0	1,523.5
2012	59,074.8	2,694.1	476.0	7,507.6	2,592.1	4,810.6	77,155.2	--	2,694.1	3,170.1
2013	59,973.4	5,336.1	1,286.4	8,354.2	2,607.0	5,043.0	82,600.1	--	5,336.1	6,622.5
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
Electric Utilities										
2011	6,735.2	201.4	1.0	359.1	158.9	355.5	7,811.1	--	201.4	202.4
2012	8,488.7	331.2	1.0	364.1	162.1	476.7	9,823.8	--	331.2	332.2
2013	8,424.7	487.9	--	564.3	164.1	477.4	10,118.4	--	487.9	487.9
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
Independent Power Producers, Non-Combined Heat and Power Plants										
2011	38,911.8	792.1	470.5	1,312.5	2,250.3	2,961.2	46,698.4	--	792.1	1,262.6
2012	50,547.6	2,255.7	475.0	1,398.8	2,384.2	3,055.5	60,116.8	--	2,255.7	2,730.7
2013	51,497.8	4,647.6	1,286.4	1,845.4	2,401.1	3,212.2	64,890.5	--	4,647.6	5,934.0
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

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, 2011 through 2021 (Megawatts) (Page 2)

	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
Independent Power Producers, Combined Heat and Power Plants										
2011	--	--	--	356.3	--	436.6	792.9	--	--	--
2012	--	--	--	489.8	45.8	445.6	981.2	--	--	--
2013	--	--	--	469.2	41.8	434.1	945.1	--	--	--
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
Commercial Sector										
2011	24.6	54.1	--	7.6	--	607.8	694.1	--	54.1	54.1
2012	29.8	99.9	--	7.6	--	639.5	776.8	--	99.9	99.9
2013	33.2	192.9	--	8.4	--	713.1	947.6	--	192.9	192.9
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
Industrial Sector										
2011	4.3	4.4	--	5,041.0	--	174.8	5,224.5	--	4.4	4.4
2012	8.7	7.3	--	5,247.3	--	193.3	5,456.6	--	7.3	7.3
2013	17.7	7.7	--	5,466.9	--	206.2	5,698.5	--	7.7	7.7
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
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

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, 2021 (Megawatts)

Energy Source	Facility Type	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	Utility Scale	569	227,981.5	209,825.7	211,074.6
Petroleum	Utility Scale	3,992	32,523.0	28,204.5	30,922.2
Natural Gas	Utility Scale	6,312	557,106.4	491,870.2	526,376.3
Other Gases	Utility Scale	79	2,164.4	1,888.0	1,922.7
Nuclear	Utility Scale	93	99,960.3	95,546.4	97,865.6
Hydroelectric Conventional	Utility Scale	4,017	79,981.5	79,909.7	79,399.7
Wind	Utility Scale	1,485	133,460.1	132,753.4	132,665.6
Solar Photovoltaic	Utility Scale	5,257	60,393.0	60,070.1	59,533.3
Solar Thermal	Utility Scale	13	1,497.0	1,480.0	1,352.5
Wood and Wood-Derived Fuels	Utility Scale	319	9,013.9	7,923.2	8,038.5
Geothermal	Utility Scale	171	3,889.4	2,596.7	3,011.9
Other Biomass	Utility Scale	1,769	5,078.9	4,469.2	4,526.6
Hydroelectric Pumped Storage	Utility Scale	152	22,008.1	23,007.7	22,988.7
Other Energy Sources	Utility Scale	417	6,520.6	6,311.3	6,370.0
Total	Utility Scale	24,645	1,241,578.1	1,145,856.1	1,186,048.2
Small Scale Photovoltaic	Small Scale	--	--	33,081.0	--
Estimated Total Photovoltaic	Utility and Small Scale	--	--	93,151.1	--
Estimated Total Solar	Utility and Small Scale	--	--	94,631.1	--

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 Gases.
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 Gases.
Other Gases includes blast furnace gas. 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 batteries, hydrogen, purchased steam, sulfur, tire-derived fuels 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, 2021 (Megawatts)

Producer Type	Facility Type	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Electric Power Sector					
Electric Utilities	Utility Scale	9,580	666,177.6	611,779.7	632,466.8
Independent Power Producers, Non-Combined Heat and Power Plants	Utility Scale	11,280	507,425.0	474,210.1	489,586.0
Independent Power Producers, Combined Heat and Power Plants	Utility Scale	453	31,733.2	28,317.7	30,437.8
Total	Utility Scale	21,313	1,205,335.8	1,114,307.5	1,152,490.6
Commercial and Industrial Sectors					
Commercial Sector	Utility Scale	1,819	5,200.0	4,771.7	4,899.7
Industrial Sector	Utility Scale	1,513	31,042.3	26,776.9	28,657.9
Total	Utility Scale	3,332	36,242.3	31,548.6	33,557.6
All Sectors					
Total	**Utility Scale**	**24,645**	**1,241,578.1**	**1,145,856.1**	**1,186,048.2**
Small Scale					
Estimated Solar Photovoltaic	Small Scale	--	--	33,081.0	--

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, 2022-2026 (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 2022						
U.S. Total	846	43,442.1	150	14,592.8	696	28,849.3
Coal	--	--	34	11,505.6	-34	-11,505.6
Petroleum	13	25.4	32	342.2	-19	-316.8
Natural Gas	99	9,342.2	31	1,675.9	68	7,666.3
Other Gases	--	--	1	5.3	-1	-5.3
Nuclear	--	--	1	795.8	-1	-795.8
Hydroelectric Conventional	2	3.5	1	0.5	1	3.0
Wind	57	11,748.6	4	115.0	53	11,633.6
Solar Thermal and Photovoltaic	485	16,217.7	--	--	485	16,217.7
Wood and Wood-Derived Fuels	1	8.0	1	7.8	--	0.2
Geothermal	7	68.5	--	--	7	68.5
Other Biomass	8	11.6	43	105.1	-35	-93.5
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	174	6,016.6	2	39.6	172	5,977.0
Year 2023						
U.S. Total	516	48,754.6	136	16,176.7	380	32,577.9
Coal	--	--	23	8,901.8	-23	-8,901.8
Petroleum	2	6.0	30	1,312.1	-28	-1,306.1
Natural Gas	41	5,283.3	68	5,909.4	-27	-626.1
Other Gases	--	--	--	--	--	--
Nuclear	2	2,228.0	--	--	2	2,228.0
Hydroelectric Conventional	15	68.5	10	26.9	5	41.6
Wind	29	4,383.7	--	--	29	4,383.7
Solar Thermal and Photovoltaic	312	28,663.0	--	--	312	28,663.0
Wood and Wood-Derived Fuels	--	--	3	24.2	-3	-24.2
Geothermal	1	25.0	--	--	1	25.0
Other Biomass	4	39.2	2	2.3	2	36.9
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	110	8,057.9	--	--	110	8,057.9
Year 2024						
U.S. Total	247	40,897.3	59	10,067.1	188	30,830.2
Coal	--	--	10	3,189.5	-10	-3,189.5
Petroleum	--	--	5	34.4	-5	-34.4
Natural Gas	29	1,797.8	40	5,719.8	-11	-3,922.0
Other Gases	--	--	--	--	--	--
Nuclear	--	--	1	1,122.0	-1	-1,122.0
Hydroelectric Conventional	9	5.2	3	1.4	6	3.8
Wind	22	5,809.0	--	--	22	5,809.0
Solar Thermal and Photovoltaic	133	24,063.6	--	--	133	24,063.6
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	--	--	--	--	--	--
Other Biomass	2	19.0	--	--	2	19.0
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	52	9,202.7	--	--	52	9,202.7

Notes: These data reflect plans as of December 31, 2021
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 Gases also includes blast furnace 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 batteries, hydrogen, purchased steam, sulfur, tire-derived fuels 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, 2022-2026 (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 2025						
U.S. Total	107	18,550.5	63	11,172.2	44	7,378.3
Coal	--	--	20	8,542.2	-20	-8,542.2
Petroleum	--	--	1	48.0	-1	-48.0
Natural Gas	27	6,788.6	27	1,460.4	--	5,328.2
Other Gases	--	--	--	--	--	--
Nuclear	--	--	1	1,118.0	-1	-1,118.0
Hydroelectric Conventional	12	50.5	4	1.1	8	49.4
Wind	22	5,388.5	9	1.5	13	5,387.0
Solar Thermal and Photovoltaic	37	4,559.5	--	--	37	4,559.5
Wood and Wood-Derived Fuels	1	20.0	--	--	1	20.0
Geothermal	--	--	--	--	--	--
Other Biomass	--	--	1	1.0	-1	-1.0
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	8	1,743.4	--	--	8	1,743.4
Year 2026						
U.S. Total	110	7,947.0	40	5,856.0	70	2,091.0
Coal	--	--	5	2,163.0	-5	-2,163.0
Petroleum	--	--	2	3.6	-2	-3.6
Natural Gas	12	3,228.9	30	3,679.8	-18	-450.9
Other Gases	--	--	--	--	--	--
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	48	120.8	1	3.8	47	117.0
Wind	7	2,799.4	--	--	7	2,799.4
Solar Thermal and Photovoltaic	42	1,747.9	1	0.8	41	1,747.1
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	--	--	--	--	--	--
Other Biomass	--	--	--	--	--	--
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	1	50.0	1	5.0	--	45.0
Years 2022-2026						
U.S. Total	1,826	159,591.5	448	57,864.8	1,378	101,726.7
Coal	--	--	92	34,302.1	-92	-34,302.1
Petroleum	15	31.4	70	1,740.3	-55	-1,708.9
Natural Gas	208	26,440.8	196	18,445.3	12	7,995.5
Other Gases	--	--	1	5.3	-1	-5.3
Nuclear	2	2,228.0	3	3,035.8	-1	-807.8
Hydroelectric Conventional	86	248.5	19	33.7	67	214.8
Wind	137	30,129.2	13	116.5	124	30,012.7
Solar Thermal and Photovoltaic	1,009	75,251.7	1	0.8	1,008	75,250.9
Wood and Wood-Derived Fuels	2	28.0	4	32.0	-2	-4.0
Geothermal	8	93.5	--	--	8	93.5
Other Biomass	14	69.8	46	108.4	-32	-38.6
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	345	25,070.6	3	44.6	342	25,026.0

Notes: These data reflect plans as of December 31, 2021
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 Gases also includes blast furnace 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 batteries, hydrogen, purchased steam, sulfur, tire-derived fuels 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, 2021 (Count, Megawatts)

	Generator Additions				Generator Retirements			
Energy Source	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	--	--	--	--	24	6,398.0	5,561.8	5,699.9
Petroleum	22	35.4	34.5	34.6	58	838.5	695.7	761.6
Natural Gas	197	7,297.5	6,613.1	6,870.5	57	1,083.4	933.8	972.5
Other Gases	--	--	--	--	2	25.0	25.0	25.0
Nuclear	--	--	--	--	1	1,012.0	1,039.4	1,038.3
Hydroelectric Conventional	10	65.1	64.9	64.9	10	9.0	8.8	8.8
Wind	80	14,961.8	14,931.4	14,764.4	6	234.3	234.3	234.3
Solar Thermal and Photovoltaic	563	13,467.9	13,418.3	13,311.0	7	274.6	270.0	246.0
Wood and Wood-Derived Fuels	1	5.0	5.0	5.0	6	228.5	167.9	167.9
Geothermal	1	24.8	24.8	24.8	--	--	--	--
Other Biomass	6	8.8	8.6	8.6	50	102.5	86.2	87.7
Hydroelectric Pumped Storage	--	--	--	--	--	--	--	--
Other Energy Sources	115	3,252.4	3,253.1	3,252.7	5	12.0	12.0	12.0
Total	995	39,118.7	38,353.7	38,336.5	226	10,217.8	9,034.9	9,254.0

	Other Changes to Existing Capacity			
Energy Source		Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal		-256.8	-621.1	-788.1
Petroleum		-2,749.2	-2,313.1	-2,481.3
Natural Gas		-2,188.4	-961.9	-421.2
Other Gases		-429.0	-362.2	-349.7
Nuclear		73.5	85.2	184.9
Hydroelectric Conventional		-68.3	-168.8	-124.6
Wind		-120.8	-421.4	-344.5
Solar Thermal and Photovoltaic		200.5	193.1	252.9
Wood and Wood-Derived Fuels		-253.9	-240.4	-244.7
Geothermal		--	--	--
Other Biomass		-92.9	-81.3	-81.1
Hydroelectric Pumped Storage		38.8	-8.5	152.6
Other Energy Sources		-46.0	-39.6	-39.0
Total		-5,892.5	-4,940.0	-4,283.8

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 Gases also includes blast furnace gas and other manufactured and waste gases derived from fossil fuels.
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 batteries, hydrogen, purchased steam, sulfur, tire-derived fuels 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, 2021 and 2020 (Megawatts)

Census Division and State	Renewable Sources		Fossil Fuels		Hydroelectric Pumped Storage		Other Energy Storage		Nuclear		All Other Sources		All Sources	
	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	6,843.1	6,419.6	23,029.7	23,903.7	1,830.4	1,797.4	241.5	124.9	3,345.4	3,320.9	22.0	22.0	35,312.1	35,588.5
Connecticut	571.0	483.3	7,412.3	7,688.8	29.4	29.4	1.6	1.6	2,097.3	2,073.1	0.0	0.0	10,111.6	10,276.2
Maine	2,425.2	2,359.3	2,532.0	2,452.0	0.0	0.0	46.3	41.4	0.0	0.0	22.0	22.0	5,025.5	4,874.7
Massachusetts	1,854.8	1,636.6	8,908.9	9,526.8	1,801.0	1,768.0	182.7	71.0	0.0	0.0	0.0	0.0	12,747.4	13,002.4
New Hampshire	944.1	959.3	2,270.4	2,270.4	0.0	0.0	0.0	0.0	1,248.1	1,247.8	0.0	0.0	4,462.6	4,477.5
Rhode Island	351.0	294.1	1,780.1	1,835.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,131.1	2,129.2
Vermont	697.0	687.0	126.0	130.6	0.0	0.0	10.9	10.9	0.0	0.0	0.0	0.0	833.9	828.5
Middle Atlantic	12,371.0	11,798.9	75,322.8	74,385.2	3,348.8	3,379.1	182.1	158.6	15,891.2	16,789.2	11.2	11.2	107,127.1	106,522.2
New Jersey	1,237.7	1,166.9	12,302.8	12,327.2	420.0	420.0	42.7	42.1	3,456.7	3,456.7	11.2	11.2	17,471.1	17,424.1
New York	8,139.2	7,673.4	26,917.5	26,854.9	1,406.8	1,407.1	84.8	68.1	3,341.3	4,239.3	0.0	0.0	39,889.6	40,242.8
Pennsylvania	2,994.1	2,958.6	36,102.5	35,203.1	1,522.0	1,552.0	54.6	48.4	9,093.2	9,093.2	0.0	0.0	49,766.4	48,855.3
East North Central	20,212.0	16,420.2	106,827.5	106,900.1	2,143.8	2,235.0	199.8	204.7	19,022.9	19,000.0	166.0	174.6	148,572.0	144,934.6
Illinois	7,926.2	6,534.5	26,156.6	26,114.7	0.0	0.0	135.7	132.7	11,582.4	11,582.4	78.0	78.0	45,878.9	44,442.3
Indiana	4,201.0	3,357.0	22,516.5	23,831.1	0.0	0.0	36.0	38.0	0.0	0.0	88.0	88.0	26,841.5	27,314.1
Michigan	4,284.6	3,631.7	19,597.2	19,648.6	2,143.8	2,235.0	1.3	1.0	4,113.8	4,086.5	0.0	0.0	30,140.7	29,602.8
Ohio	1,816.1	1,204.2	25,305.7	23,660.4	0.0	0.0	26.8	33.0	2,134.0	2,134.0	0.0	0.0	29,282.6	27,031.6
Wisconsin	1,984.1	1,692.8	13,251.5	13,645.3	0.0	0.0	0.0	0.0	1,192.7	1,197.1	0.0	8.6	16,428.3	16,543.8
West North Central	41,956.5	38,061.1	58,812.5	59,047.7	657.0	657.0	24.8	20.4	4,899.0	4,899.0	12.2	22.8	106,362.0	102,708.0
Iowa	12,084.3	11,511.5	9,682.4	9,820.3	0.0	0.0	3.9	1.4	0.0	0.0	0.0	0.0	21,770.6	21,333.2
Kansas	8,284.3	6,864.8	8,922.2	8,890.6	0.0	0.0	0.0	0.0	1,225.0	1,225.0	0.8	0.8	18,432.3	16,981.2
Minnesota	6,326.4	5,865.9	10,281.4	10,388.2	0.0	0.0	15.0	16.0	1,657.0	1,657.0	6.1	16.7	18,285.9	17,943.8
Missouri	2,760.5	2,608.5	17,168.0	17,479.2	657.0	657.0	2.2	2.2	1,247.0	1,247.0	0.0	0.0	21,834.7	21,993.9
Nebraska	3,282.9	2,898.7	6,199.8	6,177.7	0.0	0.0	2.9	0.0	770.0	770.0	0.0	0.0	10,255.6	9,846.4
North Dakota	4,846.5	4,547.7	4,650.9	4,634.3	0.0	0.0	0.0	0.0	0.0	0.0	5.3	5.3	9,502.7	9,187.3
South Dakota	4,371.6	3,764.0	1,907.8	1,657.4	0.0	0.0	0.8	0.8	0.0	0.0	0.0	0.0	6,280.2	5,422.2
South Atlantic	29,910.9	26,380.7	157,995.8	158,727.1	8,100.4	8,020.4	629.3	99.5	24,752.8	24,764.6	506.9	468.9	221,896.1	218,461.2
Delaware	54.2	50.9	3,218.4	3,321.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3,272.6	3,372.4
District of Columbia	27.3	21.3	20.6	20.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.9	41.9
Florida	6,148.8	4,992.4	53,973.0	52,832.6	0.0	0.0	509.0	29.0	3,666.0	3,666.0	312.9	312.9	64,609.7	61,832.9
Georgia	6,064.8	5,233.9	26,140.7	26,084.4	1,897.4	1,897.4	42.2	2.2	4,061.0	4,061.0	44.0	0.0	38,250.1	37,278.9
Maryland	1,321.3	1,278.6	9,971.7	10,793.2	0.0	0.0	5.0	5.0	1,707.8	1,725.8	0.0	6.0	13,005.8	13,808.6
North Carolina	8,391.0	7,846.8	21,318.2	21,995.2	86.0	86.0	21.6	9.8	5,149.6	5,149.6	54.0	54.0	35,020.4	35,141.4
South Carolina	2,999.9	2,964.4	11,787.5	11,763.8	2,876.0	2,796.0	4.0	4.0	6,600.4	6,594.2	0.0	0.0	24,267.8	24,122.4
Virginia	3,818.6	2,905.9	17,791.7	18,131.7	3,241.0	3,241.0	0.0	0.0	3,568.0	3,568.0	96.0	96.0	28,515.3	27,942.6
West Virginia	1,085.0	1,086.5	13,774.0	13,784.1	0.0	0.0	47.5	49.5	0.0	0.0	0.0	0.0	14,906.5	14,920.1
East South Central	9,036.7	8,876.6	60,468.4	60,375.0	1,616.3	1,616.3	1.0	1.0	11,376.4	11,468.2	1.4	1.4	82,500.2	82,338.5
Alabama	4,332.2	4,104.5	19,125.1	19,088.9	0.0	0.0	1.0	1.0	5,452.7	5,544.5	0.0	0.0	28,911.0	28,738.9
Kentucky	1,239.3	1,235.5	16,343.5	16,363.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17,582.8	17,599.0
Mississippi	440.2	520.5	12,762.5	12,680.3	0.0	0.0	0.0	0.0	1,401.0	1,401.0	1.4	1.4	14,605.1	14,603.2
Tennessee	3,025.0	3,016.1	12,237.3	12,242.3	1,616.3	1,616.3	0.0	0.0	4,522.7	4,522.7	0.0	0.0	21,401.3	21,397.4
West South Central	58,065.5	48,772.1	140,620.8	139,227.9	288.0	288.0	819.4	250.6	8,930.7	8,930.7	549.1	548.7	209,273.5	198,018.0
Arkansas	1,716.5	1,714.5	11,256.0	11,261.0	30.0	30.0	12.0	12.0	1,817.8	1,817.8	0.0	0.0	14,832.3	14,835.3
Louisiana	688.6	688.6	21,714.0	22,426.9	0.0	0.0	0.5	0.5	2,132.9	2,132.9	330.1	329.7	24,866.1	25,578.6
Oklahoma	11,371.1	10,287.4	18,184.7	18,101.9	258.0	258.0	10.0	10.0	0.0	0.0	0.0	0.0	29,823.8	28,657.3
Texas	44,289.3	36,081.6	89,466.1	87,438.1	0.0	0.0	796.9	228.1	4,980.0	4,980.0	219.0	219.0	139,751.3	128,946.8
Mountain	36,412.6	32,168.6	58,812.6	58,808.6	797.1	797.1	234.0	53.0	3,937.0	3,937.0	123.7	123.7	100,317.0	95,888.0
Arizona	6,148.7	5,784.7	17,197.0	17,134.7	216.3	216.3	97.0	42.0	3,937.0	3,937.0	0.0	0.0	27,596.0	27,114.7
Colorado	6,770.5	6,111.4	10,925.0	10,921.5	580.8	580.8	10.2	9.2	0.0	0.0	9.1	9.1	18,295.6	17,632.0
Idaho	3,932.5	4,076.1	1,128.3	1,121.8	0.0	0.0	0.0	0.0	0.0	0.0	14.8	14.8	5,075.6	5,212.7
Montana	3,954.8	3,700.9	2,072.0	2,125.1	0.0	0.0	0.0	0.0	0.0	0.0	40.0	40.0	6,066.8	5,866.0
Nevada	4,910.1	4,274.6	7,821.6	7,821.6	0.0	0.0	125.0	0.0	0.0	0.0	6.5	6.5	12,863.2	12,102.7
New Mexico	5,101.3	3,388.4	5,702.1	5,707.1	0.0	0.0	1.8	1.8	0.0	0.0	0.7	0.7	10,805.9	9,098.0
Utah	2,188.7	1,928.5	7,289.3	7,294.5	0.0	0.0	0.0	0.0	0.0	0.0	40.2	40.2	9,518.2	9,263.2
Wyoming	3,406.0	2,904.0	6,677.3	6,682.3	0.0	0.0	0.0	0.0	0.0	0.0	12.4	12.4	10,095.7	9,598.7
Pacific Contiguous	73,101.0	71,697.6	45,528.1	45,489.8	4,225.9	4,225.9	2,338.7	534.3	3,391.0	3,391.0	125.1	124.2	128,709.8	125,462.8
California	34,868.5	33,590.1	37,710.5	37,664.8	3,911.9	3,911.9	2,327.7	524.3	2,240.0	2,240.0	125.1	124.2	81,183.7	78,055.3
Oregon	13,157.4	12,980.2	3,755.0	3,753.4	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	16,917.4	16,738.6
Washington	25,075.1	25,127.3	4,062.6	4,071.6	314.0	314.0	6.0	5.0	1,151.0	1,151.0	0.0	0.0	30,608.7	30,668.9
Pacific Noncontiguous	1,293.0	1,283.4	4,371.2	4,341.8	0.0	0.0	123.1	108.2	0.0	0.0	0.0	26.6	5,787.3	5,760.0
Alaska	542.4	537.4	2,184.7	2,181.9	0.0	0.0	47.2	47.2	0.0	0.0	0.0	0.0	2,774.3	2,766.5
Hawaii	750.6	746.0	2,186.5	2,159.9	0.0	0.0	75.9	61.0	0.0	0.0	0.0	26.6	3,013.0	2,993.5
U.S. Total	289,202.3	261,878.8	731,789.4	731,206.9	23,007.7	23,016.2	4,793.7	1,555.2	95,546.4	96,500.6	1,517.6	1,524.1	1,145,857.1	1,115,681.8

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, 2021 and 2020 (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 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	1,559.6	1,535.8	2,013.0	1,512.9	0.0	0.0	1,950.9	1,953.5	1,319.6	1,417.4	0.0	0.0	6,843.1	6,419.6	3,346.0	2,893.4	5,359.0	4,406.3	5,359.0	4,406.3
Connecticut	5.0	1.0	247.5	163.0	0.0	0.0	119.4	119.4	199.1	199.9	0.0	0.0	571.0	483.3	708.7	605.6	956.2	768.6	956.2	768.6
Maine	1,009.5	994.2	201.3	64.9	0.0	0.0	725.8	729.8	488.6	570.4	0.0	0.0	2,425.2	2,359.3	116.0	67.3	317.3	132.2	317.3	132.2
Massachusetts	105.7	105.7	1,197.2	980.4	0.0	0.0	267.7	266.3	284.2	284.2	0.0	0.0	1,854.8	1,636.6	1,907.1	1,747.6	3,104.3	2,728.0	3,104.3	2,728.0
New Hampshire	211.9	211.9	2.4	2.4	0.0	0.0	504.0	504.0	225.8	241.0	0.0	0.0	944.1	959.3	149.9	120.8	152.3	123.2	152.3	123.2
Rhode Island	77.3	72.8	230.9	178.5	0.0	0.0	2.7	2.7	40.1	40.1	0.0	0.0	351.0	294.1	317.7	229.7	548.6	408.2	548.6	408.2
Vermont	150.2	150.2	133.7	123.7	0.0	0.0	331.3	331.3	81.8	81.8	0.0	0.0	697.0	687.0	146.7	122.4	280.4	246.1	280.4	246.1
Middle Atlantic	3,657.4	3,453.7	2,103.0	1,768.5	0.0	0.0	5,507.7	5,470.2	1,102.9	1,106.5	0.0	0.0	12,371.0	11,798.9	4,750.6	4,132.1	6,853.6	5,900.6	6,853.6	5,900.6
New Jersey	7.6	7.6	1,024.0	949.9	0.0	0.0	12.3	12.3	193.8	197.1	0.0	0.0	1,237.7	1,166.9	2,022.8	1,861.5	3,046.8	2,811.4	3,046.8	2,811.4
New York	2,189.8	1,986.1	924.3	669.7	0.0	0.0	4,565.8	4,558.3	459.3	459.3	0.0	0.0	8,139.2	7,673.4	2,207.9	1,811.6	3,132.2	2,481.3	3,132.2	2,481.3
Pennsylvania	1,460.0	1,460.0	154.7	148.9	0.0	0.0	929.6	899.6	449.8	450.1	0.0	0.0	2,994.1	2,958.6	519.9	458.9	674.6	607.8	674.6	607.8
East North Central	15,615.6	13,452.2	2,589.4	942.5	0.0	0.0	876.9	877.2	1,130.1	1,148.3	0.0	0.0	20,212.0	16,420.2	1,445.4	1,040.1	4,034.8	1,982.6	4,034.8	1,982.6
Illinois	7,173.1	6,300.6	647.0	119.6	0.0	0.0	32.9	34.1	73.2	80.2	0.0	0.0	7,926.2	6,534.5	770.1	488.0	1,417.1	607.6	1,417.1	607.6
Indiana	3,453.1	2,940.4	606.7	278.2	0.0	0.0	69.1	66.2	72.1	72.2	0.0	0.0	4,201.0	3,357.0	162.1	126.0	768.8	404.2	768.8	404.2
Michigan	3,167.8	2,634.3	353.3	225.0	0.0	0.0	263.5	264.4	500.0	508.0	0.0	0.0	4,284.6	3,631.7	152.5	125.8	505.8	350.8	505.8	350.8
Ohio	1,097.3	852.5	479.8	111.5	0.0	0.0	101.9	101.9	137.1	138.3	0.0	0.0	1,816.1	1,204.2	219.4	191.8	699.2	303.3	699.2	303.3
Wisconsin	724.3	724.4	502.6	208.2	0.0	0.0	409.5	410.6	347.7	349.6	0.0	0.0	1,984.1	1,692.8	141.2	108.6	643.8	316.8	643.8	316.8
West North Central	36,843.9	33,194.9	1,350.8	1,159.4	0.0	0.0	3,363.1	3,308.1	398.7	398.7	0.0	0.0	41,956.5	38,061.1	673.7	507.7	2,024.5	1,667.1	2,024.5	1,667.1
Iowa	11,740.3	11,322.5	118.0	18.0	0.0	0.0	205.4	150.4	20.6	20.6	0.0	0.0	12,084.3	11,511.5	177.0	139.9	295.0	157.9	295.0	157.9
Kansas	8,238.1	6,818.6	30.2	30.2	0.0	0.0	7.0	7.0	9.0	9.0	0.0	0.0	8,284.3	6,864.8	43.5	25.8	73.7	56.0	73.7	56.0
Minnesota	4,694.1	4,308.3	1,093.5	1,018.8	0.0	0.0	214.5	214.5	324.3	324.3	0.0	0.0	6,326.4	5,865.9	142.5	101.1	1,236.0	1,119.9	1,236.0	1,119.9
Missouri	2,121.9	1,982.2	76.0	63.7	0.0	0.0	548.5	548.5	14.1	14.1	0.0	0.0	2,760.5	2,608.5	291.3	229.0	367.3	292.7	367.3	292.7
Nebraska	2,955.6	2,575.8	32.1	27.7	0.0	0.0	279.7	279.7	15.5	15.5	0.0	0.0	3,282.9	2,898.7	17.1	10.3	49.2	38.0	49.2	38.0
North Dakota	4,326.7	4,027.9	0.0	0.0	0.0	0.0	510.0	510.0	9.8	9.8	0.0	0.0	4,846.5	4,547.7	1.0	0.7	1.0	0.7	1.0	0.7
South Dakota	2,767.2	2,159.6	1.0	1.0	0.0	0.0	1,598.0	1,598.0	5.4	5.4	0.0	0.0	4,371.6	3,764.0	1.2	0.9	2.2	1.9	2.2	1.9
South Atlantic	1,153.0	1,142.5	17,480.6	13,741.5	0.0	0.0	7,142.9	7,147.2	4,134.4	4,349.5	0.0	0.0	29,910.9	26,380.7	3,354.2	2,644.7	20,834.8	16,386.2	20,834.8	16,386.2
Delaware	2.0	2.0	38.0	36.7	0.0	0.0	0.0	0.0	14.2	12.2	0.0	0.0	54.2	50.9	99.4	87.3	137.4	124.0	137.4	124.0
District of Columbia	0.0	0.0	15.3	9.3	0.0	0.0	0.0	0.0	12.0	12.0	0.0	0.0	27.3	21.3	100.5	82.6	115.8	91.9	115.8	91.9
Florida	0.0	0.0	4,951.8	3,788.3	0.0	0.0	43.5	43.5	1,153.5	1,160.6	0.0	0.0	6,148.8	4,992.4	1,187.1	777.1	6,138.9	4,565.4	6,138.9	4,565.4
Georgia	0.0	0.0	3,068.4	2,195.7	0.0	0.0	1,985.0	1,985.0	1,011.4	1,053.2	0.0	0.0	6,064.8	5,233.9	234.1	NM	3,302.5	NM	3,302.5	NM
Maryland	190.0	190.0	402.7	357.7	0.0	0.0	590.0	590.0	138.6	140.9	0.0	0.0	1,321.3	1,278.6	883.6	823.4	1,286.3	1,181.1	1,286.3	1,181.1
North Carolina	208.0	208.0	5,733.0	5,021.8	0.0	0.0	2,005.7	2,009.0	444.3	608.0	0.0	0.0	8,391.0	7,846.8	306.3	237.8	6,039.3	5,259.6	6,039.3	5,259.6
South Carolina	0.0	0.0	1,134.3	1,097.0	0.0	0.0	1,311.9	1,312.9	553.7	554.5	0.0	0.0	2,999.9	2,964.4	299.6	264.1	1,433.9	1,361.1	1,433.9	1,361.1
Virginia	12.0	0.0	2,137.1	1,235.0	0.0	0.0	866.0	866.0	803.5	804.9	0.0	0.0	3,818.6	2,905.9	225.9	161.3	2,363.0	1,396.3	2,363.0	1,396.3
West Virginia	741.0	742.5	0.0	0.0	0.0	0.0	340.8	340.8	3.2	3.2	0.0	0.0	1,085.0	1,086.5	17.7	11.1	17.7	11.1	17.7	11.1
East South Central	29.1	29.1	858.9	620.5	0.0	0.0	7,037.8	7,035.3	1,110.9	1,191.7	0.0	0.0	9,036.7	8,876.6	139.6	109.3	998.5	729.8	998.5	729.8
Alabama	0.0	0.0	421.1	194.1	0.0	0.0	3,291.8	3,291.8	619.3	618.6	0.0	0.0	4,332.2	4,104.5	14.4	NM	435.5	NM	435.5	NM
Kentucky	0.0	0.0	27.4	26.1	0.0	0.0	1,137.4	1,134.9	74.5	74.5	0.0	0.0	1,239.3	1,235.5	57.5	35.5	84.9	61.6	84.9	61.6
Mississippi	0.0	0.0	219.3	218.1	0.0	0.0	0.0	0.0	220.9	302.4	0.0	0.0	440.2	520.5	11.7	9.0	231.0	227.1	231.0	227.1
Tennessee	29.1	29.1	191.1	182.2	0.0	0.0	2,608.6	2,608.6	196.2	196.2	0.0	0.0	3,025.0	3,016.1	56.1	55.4	247.2	237.6	247.2	237.6
West South Central	44,782.1	39,426.5	9,178.7	5,211.4	0.0	0.0	3,004.5	3,013.7	1,100.2	1,120.5	0.0	0.0	58,065.5	48,772.1	1,841.6	1,338.1	11,020.3	6,549.5	11,020.3	6,549.5
Arkansas	0.0	0.0	223.7	213.7	0.0	0.0	1,265.8	1,265.8	227.0	235.0	0.0	0.0	1,716.5	1,714.5	112.8	58.7	336.5	272.4	336.5	272.4
Louisiana	0.0	0.0	74.5	74.5	0.0	0.0	192.0	192.0	422.1	422.1	0.0	0.0	688.6	688.6	155.5	154.4	230.0	228.9	230.0	228.9
Oklahoma	10,411.8	9,319.5	42.5	40.5	0.0	0.0	840.6	849.8	76.2	77.6	0.0	0.0	11,371.1	10,287.4	37.2	20.7	79.7	61.2	79.7	61.2
Texas	34,370.3	30,107.0	8,838.0	4,882.7	0.0	0.0	706.1	706.1	374.9	385.8	0.0	0.0	44,289.3	36,081.6	1,536.0	1,104.3	10,374.0	5,987.0	10,374.0	5,987.0
Mountain	15,504.1	12,773.9	9,017.1	7,398.8	474.2	474.1	10,557.4	10,686.8	175.5	175.5	684.3	659.5	36,412.6	32,168.6	4,101.8	3,243.0	13,118.9	10,641.8	13,593.1	11,115.9
Arizona	617.3	617.3	2,487.0	2,123.0	295.6	295.6	2,720.9	2,720.9	27.9	27.9	0.0	0.0	6,148.7	5,784.7	1,959.7	1,648.8	4,446.7	3,771.8	4,742.3	4,067.4
Colorado	4,991.2	4,710.8	1,059.6	680.9	0.0	0.0	691.0	691.0	28.7	28.7	0.0	0.0	6,770.5	6,111.4	722.0	456.1	1,781.6	1,137.0	1,781.6	1,137.0
Idaho	970.4	970.4	242.0	242.0	0.0	0.0	2,623.8	2,767.4	86.3	86.3	10.0	10.0	3,932.5	4,076.1	90.0	60.7	332.0	302.7	332.0	302.7
Montana	1,112.7	872.9	17.0	17.0	0.0	0.0	2,820.5	2,806.4	4.6	4.6	0.0	0.0	3,954.8	3,700.9	30.1	23.4	47.1	40.4	47.1	40.4
Nevada	150.0	150.0	2,925.1	2,314.4	178.5	178.5	1,051.7	1,051.7	9.8	9.8	595.0	570.2	4,910.1	4,274.6	637.2	516.9	3,562.3	2,831.3	3,740.8	3,009.8
New Mexico	4,265.9	2,557.9	738.7	733.8	0.0	0.0	82.7	82.7	5.4	5.4	8.6	8.6	5,101.3	3,388.4	262.3	206.5	1,001.0	940.3	1,001.0	940.3
Utah	389.7	389.7	1,455.7	1,195.7	0.1	0.0	259.7	259.6	12.8	12.8	70.7	70.7	2,188.7	1,928.5	388.6	322.4	1,844.3	1,518.1	1,844.4	1,518.1
Wyoming	3,006.9	2,504.9	92.0	92.0	0.0	0.0	307.1	307.1	0.0	0.0	0.0	0.0	3,406.0	2,904.0	11.9	8.2	103.9	100.2	103.9	100.2
Pacific Contiguous	13,316.4	13,077.1	15,189.7	13,667.2	1,005.8	1,273.8	39,960.5	39,929.3	1,759.2	1,880.8	1,869.4	1,869.4	73,101.0	71,697.6	12,663.8	10,943.0	27,853.5	24,610.2	28,859.3	25,884.0
California	6,175.7	5,948.7	14,439.9	13,069.7	1,005.8	1,273.8	10,267.5	10,267.7	1,129.7	1,180.3	1,849.9	1,849.9	34,868.5	33,590.1	12,166.4	10,546.4	26,606.3	23,616.1	27,612.1	24,889.9
Oregon	3,765.8	3,753.5	726.4	574.1	0.0	0.0	8,334.4	8,317.0	311.3	316.1	19.5	19.5	13,157.4	12,980.2	239.5	195.3	965.9	769.4	965.9	769.4
Washington	3,374.9	3,374.9	23.4	23.4	0.0	0.0	21,358.6	21,344.6	318.2	384.4	0.0	0.0	25,075.1	25,127.3	257.9	201.2	281.3	224.6	281.3	224.6
Pacific Noncontiguous	292.2	293.0	288.9	283.5	0.0	0.0	508.0	503.0	160.9	160.9	43.0	43.0	1,293.0	1,283.4	764.3	733.6	1,053.2	1,017.1	1,053.2	1,017.1
Alaska	59.0	59.8	0.8	0.0	0.0	0.0	475.6	470.6	7.0	7.0	0.0	0.0	542.4	537.4	13.8	8.2	14.6	8.2	14.6	8.2
Hawaii	233.2	233.2	288.1	283.5	0.0	0.0	32.4	32.4	153.9	153.9	43.0	43.0	750.6	746.0	750.5	725.3	1,038.6	1,008.8	1,038.6	1,008.8
U.S. Total	132,753.4	118,378.7	60,070.1	46,306.2	1,480.0	1,747.9	79,909.7	79,924.3	12,392.4	12,949.8	2,596.7	2,571.9	289,202.3	261,878.8	33,081.0	27,584.8	93,151.1	73,891.0	94,631.1	75,638.9

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

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

Table 4.7.C. Net Summer Capacity of Utility Scale Units Using Primarily Fossil Fuels and by State, 2021 and 2020 (Megawatts)

Census Division and State	Natural Gas Fired Combined Cycle		Natural Gas Fired Combustion Turbine		Other Natural Gas		Coal		Petroleum Coke		Petroleum Liquids		Other Gases		Total Fossil Fuels	
	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	14,357.3	14,397.7	1,765.6	1,757.8	1,572.7	1,566.1	533.9	791.5	0.0	0.0	4,800.2	5,390.6	0.0	0.0	23,029.7	23,903.7
Connecticut	3,932.6	3,942.1	579.8	571.7	960.0	955.1	0.0	257.6	0.0	0.0	1,939.9	1,962.3	0.0	0.0	7,412.3	7,688.8
Maine	1,282.8	1,282.8	312.0	312.0	92.5	12.5	0.0	0.0	0.0	0.0	844.7	844.7	0.0	0.0	2,532.0	2,452.0
Massachusetts	6,168.2	6,144.1	857.6	857.9	94.6	172.9	0.0	0.0	0.0	0.0	1,788.5	2,351.9	0.0	0.0	8,908.9	9,526.8
New Hampshire	1,238.5	1,238.5	3.8	3.8	400.2	400.2	533.9	533.9	0.0	0.0	94.0	94.0	0.0	0.0	2,270.4	2,270.4
Rhode Island	1,735.2	1,790.2	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	1,835.1
Vermont	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	126.0	130.6	0.0	0.0	126.0	130.6
Middle Atlantic	37,332.0	36,579.9	8,081.7	7,828.0	13,677.3	15,001.0	10,907.6	9,576.0	11.6	11.6	5,197.7	5,273.8	114.9	114.9	75,322.8	74,385.2
New Jersey	8,588.4	8,650.1	3,039.0	2,805.7	75.7	71.7	463.0	463.0	11.6	11.6	96.1	296.1	29.0	29.0	12,302.8	12,327.2
New York	9,946.9	9,924.9	3,089.5	3,090.5	9,882.9	9,851.0	445.0	520.0	0.0	0.0	3,553.2	3,468.5	0.0	0.0	26,917.5	26,854.9
Pennsylvania	18,796.7	18,004.9	1,953.2	1,931.8	3,718.7	5,078.3	9,999.6	8,593.0	0.0	0.0	1,548.4	1,509.2	85.9	85.9	36,102.5	35,203.1
East North Central	24,158.8	22,486.5	26,541.7	26,466.6	5,694.9	5,493.4	46,699.5	48,810.9	250.6	247.6	2,397.1	2,310.2	1,084.9	1,084.9	106,827.5	106,900.1
Illinois	3,561.8	3,577.7	10,512.0	10,557.2	1,724.6	1,626.7	9,547.8	9,652.0	0.0	0.0	773.9	664.6	36.5	36.5	26,156.6	26,114.7
Indiana	3,875.0	3,875.0	3,338.3	3,243.7	752.9	752.9	13,835.2	15,241.9	0.0	0.0	95.8	98.3	619.3	619.3	22,516.5	23,831.1
Michigan	4,442.6	4,453.6	3,848.4	3,846.9	2,530.5	2,262.8	8,034.9	8,329.3	47.2	47.2	443.6	458.8	250.0	250.0	19,597.2	19,648.6
Ohio	8,765.2	7,041.3	5,596.2	5,574.4	103.0	216.0	10,011.5	10,000.5	145.0	142.0	505.7	507.1	179.1	179.1	25,305.7	23,660.4
Wisconsin	3,514.2	3,538.9	3,246.8	3,244.4	583.9	635.0	5,270.1	5,587.2	58.4	58.4	578.1	581.4	0.0	0.0	13,251.5	13,645.3
West North Central	7,064.1	7,020.9	11,725.5	11,495.5	3,540.9	3,897.1	32,402.9	32,730.5	32.0	32.0	4,038.7	3,863.3	8.4	8.4	58,812.5	59,047.7
Iowa	1,732.7	1,816.2	1,193.0	1,228.4	584.3	650.1	5,267.5	5,284.0	32.0	32.0	872.9	809.6	0.0	0.0	9,682.4	9,820.3
Kansas	266.0	266.0	2,197.1	2,176.0	1,338.7	1,376.8	4,524.6	4,521.6	0.0	0.0	595.8	550.2	0.0	0.0	8,922.2	8,890.6
Minnesota	2,532.9	2,483.0	2,551.4	2,558.5	419.0	420.5	4,009.1	4,147.1	0.0	0.0	769.0	779.1	0.0	0.0	10,281.4	10,388.2
Missouri	1,899.0	1,822.2	3,344.9	3,352.0	568.5	722.4	10,242.2	10,488.0	0.0	0.0	1,113.4	1,094.6	0.0	0.0	17,168.0	17,479.2
Nebraska	338.5	338.5	1,077.6	1,105.6	507.4	515.1	3,867.0	3,867.0	0.0	0.0	409.3	351.5	0.0	0.0	6,199.8	6,177.7
North Dakota	0.0	0.0	454.0	414.0	106.8	199.9	4,018.5	3,948.8	0.0	0.0	63.2	63.2	8.4	8.4	4,650.9	4,634.3
South Dakota	295.0	295.0	907.5	661.0	16.2	12.3	474.0	474.0	0.0	0.0	215.1	215.1	0.0	0.0	1,907.8	1,657.4
South Atlantic	61,922.8	61,647.5	33,411.8	31,596.5	10,384.0	10,359.9	45,674.7	49,245.4	142.8	142.8	6,324.7	5,600.0	135.0	135.0	157,995.8	158,727.1
Delaware	1,504.0	1,504.0	316.4	316.4	738.9	842.0	410.0	410.0	0.0	0.0	114.1	114.1	135.0	135.0	3,218.4	3,321.5
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	31,987.3	31,808.2	9,553.6	7,889.3	5,936.9	4,813.5	4,776.0	6,635.0	59.0	59.0	1,660.2	1,627.6	0.0	0.0	53,973.0	52,832.6
Georgia	8,076.7	7,998.3	7,800.1	7,790.2	850.1	850.1	8,384.0	8,416.0	83.8	83.8	946.0	946.0	0.0	0.0	26,140.7	26,084.4
Maryland	2,726.0	2,720.9	1,758.9	1,851.7	1,209.5	1,418.1	2,963.0	3,633.0	0.0	0.0	1,314.3	1,169.5	0.0	0.0	9,971.7	10,793.2
North Carolina	5,554.0	5,554.0	6,002.5	6,002.5	1.0	1.0	9,258.7	9,935.7	0.0	0.0	502.0	502.0	0.0	0.0	21,318.2	21,995.2
South Carolina	3,196.0	3,185.0	2,624.9	2,390.9	950.0	950.0	4,789.0	4,769.0	0.0	0.0	227.6	468.9	0.0	0.0	11,787.5	11,763.8
Virginia	8,878.8	8,877.1	4,245.3	4,245.3	582.1	1,369.7	2,536.0	2,878.7	0.0	0.0	1,549.5	760.9	0.0	0.0	17,791.7	18,131.7
West Virginia	0.0	0.0	1,089.5	1,089.6	115.5	115.5	12,558.0	12,568.0	0.0	0.0	11.0	11.0	0.0	0.0	13,774.0	13,784.1
East South Central	21,868.4	21,828.8	12,680.5	12,702.4	4,393.7	4,297.0	21,415.3	21,420.3	0.0	0.0	106.7	106.7	3.8	19.8	60,468.4	60,375.0
Alabama	9,795.3	9,755.3	2,572.8	2,575.8	1,982.6	1,967.4	4,728.0	4,728.0	0.0	0.0	42.6	42.6	3.8	19.8	19,125.1	19,088.9
Kentucky	1,763.0	1,763.0	4,905.6	4,925.6	260.0	260.0	9,403.0	9,403.0	0.0	0.0	11.9	11.9	0.0	0.0	16,343.5	16,363.5
Mississippi	7,855.0	7,855.4	1,369.6	1,368.5	2,084.9	2,003.4	1,444.0	1,444.0	0.0	0.0	9.0	9.0	0.0	0.0	12,762.5	12,680.3
Tennessee	2,455.1	2,455.1	3,832.5	3,832.5	66.2	66.2	5,840.3	5,845.3	0.0	0.0	43.2	43.2	0.0	0.0	12,237.3	12,242.3
West South Central	63,824.3	62,756.2	16,218.5	15,226.4	30,416.3	30,208.7	28,631.0	29,288.7	879.0	876.8	312.4	174.3	339.3	696.8	140,620.8	139,227.9
Arkansas	4,592.1	4,597.1	702.8	702.8	824.0	824.0	5,128.1	5,128.1	0.0	0.0	9.0	9.0	0.0	0.0	11,256.0	11,261.0
Louisiana	9,630.2	9,638.3	2,985.7	2,726.3	5,959.4	6,003.7	2,114.3	2,764.0	815.2	813.0	49.7	42.7	159.5	438.9	21,714.0	22,426.9
Oklahoma	7,339.9	7,334.8	1,636.3	1,631.6	5,887.1	5,800.7	3,247.0	3,255.0	0.0	0.0	74.4	79.8	0.0	0.0	18,184.7	18,101.9
Texas	42,262.1	41,186.0	10,893.7	10,165.7	17,745.8	17,580.3	18,141.6	18,141.6	63.8	63.8	179.3	42.8	179.8	257.9	89,466.1	87,438.1
Mountain	22,645.8	22,568.9	9,081.8	9,230.3	4,070.6	4,001.1	22,484.9	22,615.0	52.0	52.0	469.7	333.5	7.8	7.8	58,812.6	58,808.6
Arizona	9,988.9	9,918.6	2,899.0	2,899.0	1,278.6	1,283.6	2,943.0	2,943.0	0.0	0.0	87.5	90.5	0.0	0.0	17,197.0	17,134.7
Colorado	3,254.5	3,249.5	2,538.0	2,538.0	850.0	773.0	4,129.0	4,206.0	0.0	0.0	150.5	152.0	3.0	3.0	10,925.0	10,921.5
Idaho	549.3	547.7	556.9	552.0	11.7	11.7	5.0	5.0	0.0	0.0	5.4	5.4	0.0	0.0	1,128.3	1,121.8
Montana	0.0	0.0	315.8	315.8	72.2	72.2	1,630.5	1,683.6	52.0	52.0	0.0	0.0	1.5	1.5	2,072.0	2,125.1
Nevada	5,445.0	5,445.0	1,185.6	1,185.6	444.6	444.6	740.4	740.4	0.0	0.0	6.0	6.0	0.0	0.0	7,821.6	7,821.6
New Mexico	1,484.1	1,484.1	804.6	950.3	839.7	839.7	2,387.0	2,387.0	0.0	0.0	186.7	46.0	0.0	0.0	5,702.1	5,707.1
Utah	1,830.0	1,830.0	534.6	537.3	315.9	318.4	4,581.0	4,581.0	0.0	0.0	27.8	27.8	0.0	0.0	7,289.3	7,294.5
Wyoming	94.0	94.0	247.3	252.3	257.9	257.9	6,069.0	6,069.0	0.0	0.0	5.8	5.8	3.3	3.3	6,677.3	6,682.3
Pacific Contiguous	26,499.4	26,473.4	12,178.2	12,198.9	5,488.5	5,447.6	727.0	727.0	20.0	20.0	421.1	415.3	193.9	207.6	45,528.1	45,489.8
California	20,477.6	20,442.6	11,335.0	11,345.9	5,227.7	5,191.6	57.0	57.0	20.0	20.0	399.3	400.1	193.9	207.6	37,710.5	37,664.8
Oregon	3,395.2	3,395.2	124.0	133.8	229.2	224.4	0.0	0.0	0.0	0.0	6.6	0.0	0.0	0.0	3,755.0	3,753.4
Washington	2,626.6	2,635.6	719.2	719.2	31.6	31.6	670.0	670.0	0.0	0.0	15.2	15.2	0.0	0.0	4,062.6	4,071.6
Pacific Noncontiguous	374.6	477.2	721.1	618.5	177.4	177.4	348.9	348.9	0.0	0.0	2,749.2	2,719.8	0.0	0.0	4,371.2	4,341.8
Alaska	374.6	477.2	721.1	618.5	177.4	177.4	168.9	168.9	0.0	0.0	742.7	739.9	0.0	0.0	2,184.7	2,181.9
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0	180.0	180.0	0.0	0.0	2,006.5	1,979.9	0.0	0.0	2,186.5	2,159.9
U.S. Total	280,047.5	276,237.0	132,406.4	129,120.9	79,416.3	80,449.3	209,825.7	215,554.2	1,388.0	1,382.8	26,817.5	26,187.5	1,888.0	2,275.2	731,789.4	731,206.9

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 existing or planned capacity for some technologies such as solar photovoltaic generation.

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 4.08.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	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor
Annual Data																
2011	314,056.1	62.8%	210,518.7	44.3%	119,144.1	7.9%	78,898.6	11.7%	2,822.5	8.4%	26,683.0	12.6%	18,397.7	1.3%	4,986.0	2.2%
2012	304,974.9	56.2%	217,938.2	52.2%	119,319.4	8.9%	74,200.2	13.3%	2,988.8	7.3%	22,483.7	13.7%	17,773.5	1.3%	4,942.5	2.0%
2013	302,604.4	59.4%	219,902.9	48.8%	123,025.6	8.3%	75,810.5	11.2%	2,996.2	8.8%	20,022.9	12.6%	17,224.1	0.9%	4,999.4	2.1%
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	57.3%	128,832.5	11.3%	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%
Year 2019																
January	241,507.5	56.6%	261,918.1	54.6%	128,218.2	9.6%	73,728.3	8.4%	4,620.8	12.9%	11,347.1	12.8%	14,037.5	1.4%	5,285.8	2.0%
February	239,252.5	50.4%	261,918.1	55.8%	128,218.2	9.9%	73,730.3	6.9%	4,695.3	14.2%	11,347.1	12.5%	14,037.5	0.9%	5,287.8	1.9%
March	238,021.5	45.0%	261,601.1	51.0%	128,164.0	9.3%	73,188.3	9.3%	4,695.3	12.8%	11,347.1	11.8%	14,018.5	0.6%	5,287.4	1.7%
April	236,625.1	35.7%	264,436.4	45.8%	128,276.4	9.7%	73,191.0	10.9%	4,878.7	12.5%	11,201.1	10.9%	14,018.5	0.8%	5,283.2	1.7%
May	235,815.1	41.7%	265,631.1	49.2%	128,705.3	10.2%	73,191.0	13.7%	4,881.2	12.4%	11,201.1	16.4%	14,018.5	1.0%	5,290.0	1.9%
June	235,767.5	46.9%	268,823.5	59.9%	128,828.7	11.2%	72,899.9	16.7%	4,881.2	14.4%	11,201.1	15.6%	14,008.2	1.1%	5,289.2	1.9%
July	234,785.0	58.3%	269,658.1	70.5%	129,173.4	15.0%	72,853.9	24.9%	4,903.2	20.1%	11,201.1	17.5%	14,008.2	1.1%	5,293.9	2.1%
August	234,785.0	54.6%	269,658.1	71.6%	129,318.4	14.9%	72,853.9	26.1%	4,903.2	20.4%	11,201.1	16.7%	14,002.5	1.3%	5,292.1	2.2%
September	233,847.0	51.4%	269,658.1	64.2%	129,278.4	12.9%	72,853.9	19.8%	4,903.2	17.4%	11,134.1	14.4%	14,002.5	1.2%	5,292.6	2.4%
October	233,086.4	39.3%	269,110.5	54.5%	129,348.4	11.6%	72,211.9	14.6%	4,903.2	15.5%	11,134.1	8.8%	14,002.5	1.2%	5,292.1	2.3%
November	229,164.4	46.0%	269,670.1	52.2%	129,314.4	10.9%	72,038.9	8.7%	4,903.2	16.1%	11,134.1	7.6%	14,002.5	0.8%	5,292.9	2.0%
December	228,657.4	43.3%	269,766.0	57.4%	129,098.3	10.2%	70,909.4	8.4%	5,001.6	14.1%	11,134.1	8.6%	13,962.5	0.8%	5,267.4	2.1%
Year 2020																
January	224,000.9	39.4%	270,457.6	58.9%	129,134.8	10.8%	75,759.1	9.4%	5,022.2	14.8%	8,509.9	13.7%	14,106.6	1.3%	5,302.8	2.1%
February	223,958.4	36.8%	270,600.6	59.1%	129,212.5	11.1%	75,759.1	9.4%	5,021.6	14.0%	8,509.9	10.7%	14,082.6	1.1%	5,304.8	1.9%
March	223,101.0	31.2%	271,881.9	53.0%	129,140.8	10.8%	75,735.3	10.7%	5,024.6	14.9%	8,509.9	14.7%	13,850.6	1.1%	5,309.8	1.7%
April	223,121.0	25.8%	272,881.9	48.0%	129,138.0	9.4%	75,735.3	10.2%	5,122.3	12.9%	8,509.9	13.6%	13,850.6	0.8%	5,302.3	1.6%
May	222,401.0	28.8%	274,126.1	48.4%	129,126.0	9.9%	75,597.3	11.9%	5,160.7	12.3%	8,509.9	13.0%	13,850.6	1.0%	5,302.7	1.5%
June	221,034.1	41.8%	275,883.2	60.0%	128,925.2	12.7%	75,478.8	18.3%	5,153.4	14.9%	8,509.9	15.6%	13,850.6	1.2%	5,295.2	1.7%
July	221,034.1	55.3%	275,883.2	71.6%	129,015.4	16.8%	75,461.0	28.4%	5,155.8	18.3%	8,509.9	16.2%	13,850.6	1.7%	5,301.2	1.9%
August	219,894.1	56.5%	275,897.3	69.9%	129,136.8	14.5%	75,449.0	24.1%	5,157.0	18.7%	8,509.9	16.3%	13,850.6	1.4%	5,309.1	1.9%
September	218,736.1	44.1%	275,939.6	60.5%	129,076.1	11.4%	75,449.0	15.2%	5,158.2	16.0%	8,509.9	11.4%	13,850.6	1.1%	5,295.0	1.8%
October	217,597.1	37.7%	275,952.2	53.5%	129,035.1	11.4%	75,111.0	14.8%	5,161.4	15.8%	8,509.9	9.2%	13,826.6	1.1%	5,295.0	1.9%
November	217,184.1	39.6%	275,967.2	47.6%	128,966.1	9.4%	75,111.0	9.0%	5,163.0	14.5%	8,509.9	15.0%	13,826.6	1.0%	5,296.4	1.5%
December	215,554.2	49.1%	276,007.2	54.3%	129,120.9	10.3%	74,918.0	8.4%	5,172.7	13.9%	7,723.9	17.4%	13,721.9	1.2%	5,294.2	1.8%
Year 2021																
January	214,601.5	51.5%	275,710.6	54.7%	129,543.1	8.2%	74,184.1	7.8%	5,121.3	15.1%	8,685.9	15.9%	13,743.2	1.0%	5,537.5	1.4%
February	214,601.5	61.1%	276,710.6	51.3%	129,522.1	10.3%	74,184.7	11.9%	5,119.0	17.1%	8,685.9	15.0%	13,743.2	2.2%	5,533.6	2.0%
March	214,052.7	39.5%	276,584.0	45.3%	129,522.1	8.0%	74,184.7	7.6%	5,120.3	15.9%	8,685.9	13.7%	13,743.2	1.3%	5,539.0	1.8%
April	213,710.7	35.7%	276,614.0	45.5%	129,755.4	10.4%	74,184.7	10.0%	5,120.3	16.8%	8,685.9	9.0%	13,743.2	1.4%	5,536.4	1.7%
May	213,152.2	40.9%	276,682.0	47.6%	130,036.3	9.7%	74,081.6	10.1%	5,180.3	14.4%	8,685.9	11.9%	13,743.2	1.3%	5,535.9	1.2%
June	212,180.1	58.1%	277,202.0	61.8%	130,036.3	15.0%	74,081.1	18.0%	5,171.9	20.0%	8,173.5	10.5%	13,734.1	2.0%	5,530.7	1.6%
July	212,180.1	65.4%	277,202.0	67.9%	130,070.3	16.4%	73,989.3	20.0%	5,169.6	22.6%	8,173.5	16.2%	13,734.1	1.8%	5,512.6	1.4%
August	212,180.1	65.6%	277,971.5	68.4%	130,410.4	17.0%	73,989.3	21.3%	5,194.0	23.0%	8,173.5	17.5%	13,734.1	2.3%	5,517.4	1.8%
September	212,180.1	52.8%	278,530.7	58.5%	130,499.4	11.1%	73,840.3	14.5%	5,199.4	20.3%	8,173.5	15.8%	13,734.1	1.5%	5,512.0	2.2%
October	211,277.1	40.7%	278,545.7	53.2%	130,499.4	12.4%	73,775.5	12.7%	5,212.2	18.3%	8,173.5	16.0%	13,717.5	1.6%	5,511.2	2.2%
November	211,264.5	39.1%	279,817.8	51.6%	130,663.1	11.6%	73,779.4	9.1%	5,221.7	17.3%	8,173.5	15.9%	13,700.1	1.5%	5,508.5	2.0%
December	209,825.7	39.6%	279,817.8	53.6%	130,644.1	9.6%	73,779.4	7.5%	5,227.7	17.1%	8,173.5	13.8%	13,689.1	1.2%	5,498.2	2.0%

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 Gas		Solar				Wind		Wood	
											Photovoltaic		Thermal					
	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor	Time Adjusted Capacity	Capacity Factor
Annual Data																		
2011	2,407.9	71.5%	78,564.7	45.8%	101,265.1	89.1%	4,469.8	64.2%	1,902.7	54.1%	537.0	19.0%	485.3	23.9%	42,019.2	32.1%	7,000.3	59.6%
2012	2,531.8	68.3%	78,296.6	39.6%	101,166.0	86.6%	4,639.7	63.3%	1,802.8	59.6%	1,527.1	20.4%	476.0	23.6%	49,458.0	31.8%	7,089.1	61.3%
2013	2,509.5	71.8%	78,873.5	38.8%	99,006.8	90.8%	4,949.7	62.3%	2,171.6	55.9%	3,525.2	24.5%	552.1	17.4%	59,175.6	32.4%	7,887.9	59.0%
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	60.8%	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%	79,698.8	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	92.7%	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%
Year 2019																		
January	2,527.5	73.9%	79,881.1	41.7%	99,440.4	99.6%	4,894.7	63.2%	2,509.0	68.2%	30,238.8	15.2%	1,758.1	8.4%	94,361.8	34.4%	8,716.6	62.0%
February	2,527.5	76.1%	79,883.6	42.6%	99,440.4	96.8%	4,894.7	62.3%	2,509.0	64.8%	30,911.4	17.7%	1,758.1	10.9%	95,284.6	35.3%	8,716.6	60.7%
March	2,527.5	75.6%	79,897.2	44.3%	99,440.4	88.0%	4,796.3	61.4%	2,509.0	61.6%	31,124.1	24.1%	1,758.1	19.8%	95,776.4	36.0%	8,565.9	57.6%
April	2,535.4	68.7%	79,897.2	48.4%	99,595.4	84.5%	4,785.1	59.9%	2,514.0	62.1%	31,355.0	28.4%	1,758.1	25.5%	96,608.9	41.6%	8,553.5	52.8%
May	2,535.4	71.1%	79,874.5	53.8%	98,921.8	90.8%	4,783.7	61.5%	2,514.0	67.6%	31,466.6	29.1%	1,758.1	25.7%	96,610.5	35.7%	8,538.5	54.1%
June	2,535.4	72.8%	79,878.4	48.8%	98,921.8	96.6%	4,764.2	64.2%	2,499.2	67.5%	31,528.4	32.9%	1,758.1	35.5%	96,840.0	31.9%	8,469.0	58.2%
July	2,535.4	72.9%	79,879.9	41.9%	98,921.8	98.1%	4,765.8	63.8%	2,499.2	68.5%	31,803.5	32.4%	1,758.1	31.4%	98,084.1	30.1%	8,498.4	61.4%
August	2,535.4	73.9%	79,776.1	38.0%	98,921.8	97.7%	4,765.9	64.4%	2,499.2	68.0%	32,079.8	31.0%	1,758.1	32.0%	98,359.7	27.1%	8,498.4	62.7%
September	2,535.4	74.9%	79,775.9	32.3%	98,119.0	93.1%	4,754.4	62.6%	2,499.2	72.4%	32,302.5	27.4%	1,758.1	24.3%	98,668.1	34.1%	8,409.1	59.2%
October	2,535.4	60.5%	79,772.0	30.8%	98,119.0	85.0%	4,754.4	61.5%	2,499.2	64.4%	32,556.1	23.3%	1,758.1	23.0%	99,662.8	37.2%	8,305.5	57.0%
November	2,535.4	53.3%	79,772.0	35.2%	98,119.0	90.8%	4,751.2	61.5%	2,499.2	71.6%	33,001.5	17.4%	1,758.1	11.3%	99,618.3	34.9%	8,305.5	60.2%
December	2,555.4	61.5%	79,772.0	36.2%	98,119.0	100.1%	4,735.4	63.7%	2,499.2	72.2%	33,658.4	12.8%	1,758.1	5.4%	100,729.8	34.9%	8,258.5	62.7%
Year 2020																		
January	2,554.7	59.0%	79,765.8	41.3%	98,093.5	101.6%	4,700.3	64.5%	2,275.2	69.7%	35,875.0	15.7%	1,747.9	8.2%	103,858.1	36.2%	8,351.2	62.7%
February	2,554.7	67.7%	79,765.8	46.6%	98,093.5	96.5%	4,700.9	62.6%	2,275.2	67.2%	37,077.5	20.6%	1,747.9	14.6%	104,551.4	39.9%	8,321.7	63.0%
March	2,554.7	75.5%	79,765.8	40.1%	98,093.5	87.7%	4,700.0	65.0%	2,275.2	57.9%	37,500.2	21.8%	1,747.9	14.7%	104,636.5	37.5%	8,321.7	59.2%
April	2,540.1	72.8%	79,765.8	40.4%	97,082.0	83.9%	4,700.0	63.4%	2,275.2	60.6%	37,735.2	27.5%	1,747.9	24.3%	106,196.7	38.6%	8,321.7	56.2%
May	2,550.8	69.9%	79,769.8	50.5%	97,082.0	89.1%	4,698.0	62.9%	2,275.2	62.6%	38,408.7	31.4%	1,747.9	31.7%	106,475.5	35.4%	8,321.7	54.7%
June	2,550.8	67.6%	79,769.8	48.8%	97,082.0	96.2%	4,622.3	60.0%	2,275.2	64.1%	38,802.8	32.1%	1,747.9	29.9%	107,334.9	38.7%	8,308.0	55.2%
July	2,571.9	68.3%	79,771.8	45.1%	97,082.0	96.1%	4,619.2	63.0%	2,275.2	65.7%	39,865.9	33.3%	1,747.9	33.3%	107,951.1	28.2%	8,308.0	56.0%
August	2,571.9	68.0%	79,793.0	39.2%	97,082.0	95.5%	4,619.2	63.7%	2,275.2	66.9%	40,454.3	29.0%	1,747.9	28.2%	108,153.1	28.4%	8,308.0	58.5%
September	2,571.9	68.3%	79,793.0	32.5%	97,082.0	94.0%	4,618.4	61.6%	2,275.2	68.3%	41,058.4	24.8%	1,747.9	22.5%	108,677.1	29.3%	8,346.0	56.5%
October	2,571.9	65.9%	79,919.7	31.6%	97,102.0	82.2%	4,617.1	59.5%	2,275.2	60.5%	41,672.4	21.7%	1,747.9	20.0%	109,470.5	34.9%	8,346.0	54.3%
November	2,571.9	74.0%	79,919.7	36.3%	96,500.6	88.9%	4,629.9	60.7%	2,275.2	64.4%	42,042.0	17.9%	1,747.9	13.0%	109,794.4	41.1%	8,346.0	57.5%
December	2,571.9	71.8%	79,921.7	36.2%	96,500.6	97.3%	4,621.9	63.5%	2,275.2	67.9%	42,910.0	14.9%	1,747.9	7.1%	111,449.8	36.5%	8,326.5	60.5%
Year 2021																		
January	2,571.9	69.8%	79,835.5	41.3%	96,585.8	99.9%	4,515.4	65.5%	1,913.0	65.8%	46,650.9	15.5%	1,739.9	6.3%	117,890.3	33.6%	8,086.1	63.0%
February	2,571.9	73.8%	79,840.5	37.5%	96,585.8	97.0%	4,516.0	63.4%	1,913.0	62.0%	46,958.5	19.2%	1,739.9	11.5%	118,996.4	32.8%	8,086.1	61.4%
March	2,571.9	64.2%	79,839.3	35.7%	96,585.8	88.7%	4,506.4	64.6%	1,913.0	62.7%	47,653.4	25.0%	1,739.9	19.9%	119,963.2	43.0%	7,943.1	60.6%
April	2,571.9	68.3%	79,840.2	33.7%	95,546.4	82.1%	4,506.4	63.5%	1,913.0	55.7%	49,269.7	29.4%	1,739.9	26.7%	121,112.1	40.7%	7,943.1	56.7%
May	2,596.7	68.5%	79,845.4	39.2%	95,546.4	89.2%	4,495.2	63.3%	1,913.0	57.9%	49,785.1	31.8%	1,739.9	30.2%	121,846.4	36.5%	7,943.1	57.4%
June	2,596.7	67.9%	79,882.3	40.8%	95,546.4	96.0%	4,484.2	64.1%	1,913.0	64.4%	50,448.9	31.9%	1,739.9	25.8%	123,202.6	29.5%	7,943.1	61.2%
July	2,596.7	69.5%	79,909.8	37.2%	95,546.4	96.8%	4,485.3	63.5%	1,913.0	65.2%	51,174.9	30.5%	1,559.9	22.3%	124,851.0	23.1%	7,927.9	61.5%
August	2,596.7	68.8%	79,907.4	34.3%	95,546.4	97.7%	4,484.7	62.2%	1,888.0	63.1%	52,136.1	29.0%	1,559.9	29.6%	126,118.8	28.8%	7,927.9	62.7%
September	2,596.7	71.4%	79,907.4	29.6%	95,546.4	93.8%	4,473.4	62.1%	1,888.0	60.7%	53,619.6	27.5%	1,559.9	26.8%	126,457.2	31.7%	7,927.9	60.2%
October	2,596.7	67.7%	79,909.9	28.8%	95,546.4	80.1%	4,481.4	60.8%	1,888.0	62.5%	54,659.6	21.6%	1,479.9	19.9%	126,805.4	33.8%	7,932.9	54.8%
November	2,596.7	72.4%	79,909.9	33.7%	95,546.4	91.2%	4,470.5	60.2%	1,888.0	53.6%	55,488.0	18.5%	1,479.9	17.9%	128,224.4	38.2%	7,932.9	58.4%
December	2,596.7	76.2%	79,909.8	39.6%	95,546.4	99.5%	4,467.3	64.8%	1,888.0	56.8%	56,506.2	13.4%	1,479.9	8.5%	129,285.2	40.8%	7,923.2	61.2%

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

	Battery		Pumped Storage	
Year/Month	Time Adjusted Capacity	Usage Factor	Time Adjusted Capacity	Usage Factor
Annual Data				
2013	126.7	0.7%	22,389.3	9.8%
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%	22,939.6	10.5%
2021	2,627.6	6.1%	23,007.7	10.2%
Year 2019				
January	864.8	5.5%	22,721.3	9.3%
February	877.1	5.7%	22,721.3	9.2%
March	901.9	6.3%	22,721.3	8.3%
April	931.0	5.9%	22,721.3	10.2%
May	934.7	5.9%	22,721.3	11.8%
June	939.7	5.2%	22,778.3	11.7%
July	962.9	5.2%	22,778.3	15.1%
August	983.9	5.0%	22,778.3	13.7%
September	990.8	5.8%	22,778.3	12.4%
October	998.7	4.5%	22,778.3	8.3%
November	1,001.2	5.2%	22,778.3	7.2%
December	1,006.2	5.0%	22,778.3	7.8%
Year 2020				
January	1,023.4	5.3%	22,917.9	9.0%
February	1,038.8	5.7%	22,917.9	9.1%
March	1,052.5	6.3%	22,917.9	7.9%
April	1,077.2	5.6%	22,917.9	8.2%
May	1,093.1	5.3%	22,917.9	10.8%
June	1,106.9	5.4%	22,917.9	13.4%
July	1,110.5	5.3%	22,917.9	15.9%
August	1,363.8	4.7%	22,917.9	15.0%
September	1,395.5	5.0%	22,917.9	11.6%
October	1,395.5	4.8%	22,997.9	8.4%
November	1,419.8	5.0%	22,997.9	7.6%
December	1,440.6	4.6%	23,016.2	8.6%
Year 2021				
January	1,505.6	4.2%	23,007.7	8.1%
February	1,640.0	5.6%	23,007.7	9.0%
March	1,653.0	5.5%	23,007.7	7.4%
April	1,780.4	5.1%	23,007.7	7.2%
May	1,958.8	6.1%	23,007.7	8.7%
June	2,499.4	6.4%	23,007.7	12.4%
July	2,777.0	6.5%	23,007.7	15.2%
August	3,043.5	7.4%	23,007.7	15.9%
September	3,110.9	7.1%	23,007.7	12.8%
October	3,304.5	6.0%	23,007.7	9.7%
November	3,765.6	6.2%	23,007.7	7.7%
December	4,418.2	5.8%	23,007.7	8.6%

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-860M, 'Monthly Update to the Annual Electric Generator Report.'

Table 4.9.A. Total Capacity of Distributed and Dispersed Generators by Technology Type, 2011 through 2015 (Table Discontinued)

	Capacity (MW)										
Year	Internal Combustion	Combustion Turbine	Steam Turbine	Hydro	Wind	Photovoltaic	Storage	Other	Wind and Other	Total	Number of Generators
Distributed Generators											
2011	791.1	115.5	64.9	97.9	36.7	314.8	0.2	264.3	--	1,685.4	20,941
2012	756.1	105.8	60.2	119.9	252.9	543.7	15.2	324.4	--	1,990.6	28,252
2013	981.3	106.4	31.1	103.9	78.3	556.0	2.0	89.0	--	1,947.4	196,141
2014	813.8	81.3	12.9	108.2	33.7	692.0	7.2	101.0	--	1,855.5	203,099
2015	797.6	49.3	10.5	121.2	26.7	876.4	24.4	88.4	--	1,994.6	215,825
Dispersed Generators											
2011	2,916.9	40.3	14.6	6.0	3.2	2.7	8.0	7.9	--	2,999.6	14,123
2012	3,180.9	49.8	--	2.2	3.1	8.5	7.7	13.5	--	3,265.5	14,557
2013	3,249.7	159.8	17.0	1.9	4.5	21.6	8.7	25.8	--	3,489.0	17,929
2014	3,479.3	169.7	16.7	0.7	3.7	14.3	6.6	5.7	--	3,696.8	22,599
2015	3,160.9	199.1	16.7	0.7	4.7	17.6	7.2	5.7	--	3,412.6	23,665
Distributed and Dispersed Generators											
2011	3,708.0	155.8	79.5	103.9	39.9	317.5	8.2	272.2	--	4,685.0	35,064
2012	3,937.0	155.6	60.2	122.1	256.0	552.2	22.9	337.9	--	5,256.1	42,809
2013	4,231.0	266.2	48.1	105.8	82.8	577.6	10.7	114.8	--	5,436.4	214,070
2014	4,293.1	251.0	29.6	108.9	37.5	706.3	13.8	106.7	--	5,552.2	225,698
2015	3,958.5	248.5	27.2	121.9	31.4	893.9	31.6	94.1	--	5,407.1	239,490

Starting in 2013, the residential sector is now included and all net metering units are excluded.
Distributed and Dispersed generator data in 2005 include a significant number of generators reported by one respondent, which may be for residential applications.
Prior to 2010, data contains generators over and under 1 MW, from 2010 forward, data contains only generators under 1 MW.
Distributed generators are commercial and industrial generators which are connected to the grid. Dispersed generators are commercial and industrial generators which are not connected to the grid. Both types 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 EIA-861, "Annual Electric Power Industry Report."

Table 4.9.B Total Capacity of Non Net Metered Distributed Generators by Technology Type and Sector, 2011 through 2021

Generators by Technology and Sector						
Year	Residential	Commercial	Industrial	Transportation	Direct Connected	Total
Internal Combustion						
2011	--	--	--	--	--	791.100
2012	--	--	--	--	--	756.100
2013	--	--	--	--	--	981.311
2014	--	--	--	--	--	813.847
2015	--	--	--	--	--	797.595
2016	46.974	679.239	223.037	--	69.217	1,018.467
2017	86.766	851.363	306.305	--	78.180	1,322.614
2018	69.428	909.278	336.970	--	91.159	1,406.835
2019	76.934	955.455	263.507	0.275	111.981	1,408.152
2020	56.878	862.233	299.805	--	81.835	1,300.751
2021	70.081	906.179	345.146	--	78.941	1,400.347
Combustion Turbine						
2011	--	--	--	--	--	115.500
2012	--	--	--	--	--	105.800
2013	--	--	--	--	--	106.385
2014	--	--	--	--	--	81.325
2015	--	--	--	--	--	49.329
2016	0.233	62.127	24.415	--	2.728	89.503
2017	11.750	56.187	25.069	--	5.893	98.899
2018	0.070	75.151	24.568	--	3.488	103.277
2019	0.077	76.695	22.128	--	4.488	103.388
2020	0.077	94.906	21.828	--	3.488	120.299
2021	0.197	102.084	22.333	--	1.253	125.867
Steam Turbine						
2011	--	--	--	--	--	64.900
2012	--	--	--	--	--	60.200
2013	--	--	--	--	--	31.050
2014	--	--	--	--	--	12.925
2015	--	--	--	--	--	10.531
2016	--	2.995	0.524	--	0.431	3.950
2017	1.250	1.920	1.254	--	0.431	4.855
2018	--	4.626	0.539	--	2.581	7.746
2019	--	8.439	0.539	--	2.581	11.559
2020	--	7.464	0.539	--	2.581	10.584
2021	--	7.589	0.539	--	2.581	10.709
Hydroelectric						
2011	--	--	--	--	--	97.900
2012	--	--	--	--	--	119.900
2013	--	--	--	--	--	103.935
2014	--	--	--	--	--	108.235
2015	--	--	--	--	--	121.234
2016	6.140	39.930	8.533	--	101.146	155.749
2017	5.915	30.763	8.033	--	103.607	148.318
2018	5.422	36.048	5.503	--	113.592	160.565
2019	7.482	37.818	5.503	--	113.910	164.713
2020	2.822	39.539	2.793	--	104.293	149.447
2021	2.529	43.226	6.053	--	102.912	154.720
Wind						
2011	--	--	--	--	--	36.700
2012	--	--	--	--	--	252.900
2013	--	--	--	--	--	78.299
2014	--	--	--	--	--	33.727
2015	--	--	--	--	--	26.658
2016	2.616	15.742	1.366	--	8.828	28.552
2017	2.632	16.453	1.044	--	8.988	29.117
2018	2.579	15.527	1.441	--	9.071	28.618
2019	2.437	15.707	1.452	--	9.918	29.514
2020	2.104	13.947	1.249	--	9.523	26.823
2021	2.000	15.108	1.153	--	9.571	27.832
Photovoltaic						
2011	--	--	--	--	--	314.800
2012	--	--	--	--	--	543.700
2013	--	--	--	--	--	555.965
2014	--	--	--	--	--	692.034
2015	--	--	--	--	--	876.351
2016	80.577	388.911	132.970	--	112.922	715.380
2017	186.910	513.251	177.192	--	120.946	998.299
2018	289.151	594.877	188.874	--	126.793	1,199.698
2019	437.911	688.600	202.899	--	131.391	1,460.800
2020	655.125	872.946	211.173	--	138.251	1,877.496
2021	981.281	1,035.068	214.531	--	148.136	2,379.018
Storage						
2011	--	--	--	--	--	0.200
2012	--	--	--	--	--	15.200
2013	--	--	--	--	--	1.950
2014	--	--	--	--	--	7.227
2015	--	--	--	--	--	24.443
2016	0.070	32.678	8.714	--	1.246	42.708
2017	3.916	42.884	12.271	--	1.444	60.515
2018	6.935	79.042	10.674	--	7.276	103.927
2019	14.308	113.788	15.519	--	15.929	159.544
2020	26.048	136.448	16.876	--	17.245	196.617
2021	108.876	166.042	16.733	--	20.719	312.370
Fuel Cell						
2011	--	--	--	--	--	--
2012	--	--	--	--	--	--
2013	--	--	--	--	--	--
2014	--	--	--	--	--	--
2015	--	--	--	--	--	--
2016	0.161	6.229	3.700	--	0.225	10.315
2017	0.167	7.953	6.336	--	0.625	15.081
2018	0.150	12.793	3.959	--	0.625	17.527
2019	0.150	19.943	3.601	--	0.625	24.319
2020	1.133	18.599	4.599	--	0.625	24.956
2021	0.133	20.608	5.564	--	0.625	26.930
Other						
2011	--	--	--	--	--	264.300
2012	--	--	--	--	--	324.400
2013	--	--	--	--	--	89.000
2014	--	--	--	--	--	100.995
2015	--	--	--	--	--	88.423
2016	0.753	34.050	10.389	--	6.050	51.242
2017	1.139	33.093	12.729	--	4.950	51.911
2018	0.629	36.452	16.209	--	3.310	56.600
2019	0.464	37.306	14.954	--	3.579	56.303
2020	0.117	38.842	16.249	--	2.979	58.187
2021	0.841	46.050	15.564	--	2.019	64.474
Total						
2011	--	--	--	--	--	1,685.400
2012	--	--	--	--	--	2,178.200
2013	--	--	--	--	--	1,947.394
2014	--	--	--	--	--	1,855.455
2015	--	--	--	--	--	1,994.564
2016	137.524	1,261.901	413.648	--	302.793	2,115.866
2017	300.445	1,553.867	550.233	--	325.064	2,729.609
2018	374.368	1,763.792	588.737	--	357.895	3,084.792
2019	539.763	1,953.751	530.102	0.275	394.402	3,418.292
2020	744.304	2,084.924	575.111	--	360.820	3,765.160
2021	1,165.938	2,341.954	627.616	--	366.757	4,502.267
Total Number of Generators						
2011	--	--	--	--	--	20,941
2012	--	--	--	--	--	28,252
2013	--	--	--	--	--	196,141
2014	--	--	--	--	--	203,099
2015	--	--	--	--	--	215,825
2016	--	--	--	--	--	195,703
2017	--	--	--	--	--	215,889
2018	--	--	--	--	--	231,220
2019	--	--	--	--	--	251,357
2020	--	--	--	--	--	279,730
2021	--	--	--	--	--	323,085

Starting in 2018, PV Capacities have 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 EIA-861, "Annual Electric Power Industry Report."

Table 4.10. Net Metering Customers and Capacity by Technology Type, by End Use Sector, 2011 through 2021

	Capacity (MW)					Customers				
Year	Residential	Commercial	Industrial	Transportation	Total	Residential	Commercial	Industrial	Transportation	Total
Historical Data										
2011	1,057.232	1,182.658	448.283	--	2,688.173	203,518	19,492	2,568	--	225,578
2012	1,583.249	1,882.262	495.993	--	3,961.504	300,095	29,068	1,487	--	330,650
2013	2,332.339	2,468.054	661.209	--	5,461.602	448,058	37,018	2,741	--	487,817
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
Photovoltaic										
2011	1,024.139	1,089.275	381.670	--	2,495.410	198,255	18,345	2,418	--	219,018
2012	1,542.226	1,741.821	395.328	--	3,679.630	294,437	27,611	1,317	--	323,365
2013	2,286.567	2,294.831	565.982	--	5,147.380	442,195	35,379	2,480	--	480,054
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
Storage										
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
Virtual PV (1 MW and over)										
2016	15.171	194.318	--	--	209.489	5,193	322	--	--	5,515
2017	11.115	287.440	2.000	--	300.555	3,611	535	2	--	4,148
2018	19.719	360.749	2.603	--	383.071	6,045	2,037	17	--	8,099
2019	19.883	401.179	4.212	--	425.274	5,939	2,164	22	--	8,125
2020	22.989	571.974	5.123	--	600.086	6,983	2,544	27	--	9,554
2021	27.123	779.409	4.444	--	810.976	6,362	5,399	27	--	11,788
Virtual PV (under 1 MW)										
2016	27.482	73.116	3.168	--	103.766	8,705	1,506	11	--	10,222
2017	42.005	129.547	5.136	--	176.689	11,337	2,372	17	--	13,726
2018	49.232	163.228	5.466	--	217.926	13,071	2,959	16	--	16,046
2019	57.609	223.409	6.472	--	287.489	14,814	3,744	18	--	18,576
2020	85.477	246.525	6.722	--	338.724	16,428	3,973	19	--	20,420
2021	129.669	302.048	7.798	--	439.516	22,518	5,816	22	--	28,356
Wind										
2011	28.063	44.373	9.932	--	82.368	4,456	905	50	--	5,411
2012	33.484	74.620	17.495	--	125.599	4,796	1,143	48	--	5,987
2013	38.987	92.818	14.659	--	146.464	5,265	1,308	92	--	6,665
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
Other										
2011	5.030	49.010	56.681	--	110.721	807	242	100	--	1,149
2012	7.539	65.821	83.170	--	156.530	862	314	122	--	1,298
2013	6.785	80.405	80.568	--	167.758	598	331	169	--	1,098
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
All Technologies										
2011	1,057.232	1,182.658	448.283	--	2,688.173	203,518	19,492	2,568	--	225,578
2012	1,583.249	1,882.262	495.993	--	3,961.504	300,095	29,068	1,487	--	330,650
2013	2,332.339	2,468.054	661.209	--	5,461.602	448,058	37,018	2,741	--	487,817
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

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, 2021
(Megawatts, Percent)

		Fuel-Switchable Part of Total			
Producer Type	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	257,969.4	82,915.0	32.1%	78,423.4	18,501.4
Independent Power Producers, Non-Combined Heat and Power Plants	190,877.6	42,978.0	22.5%	40,105.7	7,534.5
Independent Power Producers, Combined Heat and Power Plants	24,611.8	3,950.0	16.0%	3,787.2	299.8
Electric Power Sector Subtotal	473,458.8	129,843.0	27.4%	122,316.2	26,335.7
Commercial Sector	2,272.7	912.8	40.2%	863.0	139.6
Industrial Sector	16,138.7	912.6	5.7%	889.1	89.8
All Sectors	491,870.2	131,668.4	26.8%	124,068.3	26,565.1

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, 2021 (Megawatts, Percent)

		Fuel-Switchable Part of Total		
Producer Type	Total Net Summer Capacity of All Generators Reporting Petroleum Liquids as the Primary Fuel	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	14,728.0	886.2	6.0%	859.5
Independent Power Producers, Non-Combined Heat and Power Plants	10,672.5	2,172.6	20.4%	1,314.9
Independent Power Producers, Combined Heat and Power Plants	261.2	--	0.0%	--
Electric Power Sector Subtotal	25,661.7	3,058.8	11.9%	2,174.4
Commercial Sector	912.5	3.8	0.4%	3.8
Industrial Sector	242.3	29.0	12.0%	25.0
All Sectors	26,816.5	3,091.6	11.5%	2,203.2

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, 2021 (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	171	25,370.4	8,770.1
Combined Cycle	370	47,260.4	5,360.3
Internal Combustion	273	1,118.9	329.6
Gas Turbine	866	57,918.7	12,105.1
All Fuel Switchable Prime Movers	1,680	131,668.4	26,565.1

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, 2021 (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	234	9,696.4	3,112.5
1970-1974	238	12,682.6	4,171.1
1975-1979	90	11,429.2	3,948.3
1980-1984	38	1,033.9	210.3
1985-1989	81	2,648.2	197.4
1990-1994	191	11,454.3	1,329.5
1995-1999	123	8,899.7	1,657.9
2000-2004	391	37,211.1	6,362.4
2005-2009	115	15,187.0	1,715.5
2010-2014	100	11,457.1	246.4
2015-2019	65	8,627.5	2,679.0
2020-2021	14	1,341.4	934.8
Total	1,680	131,668.4	26,565.1

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, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	934,938	689,316	239,541	347	5,735
2012	825,734	615,467	205,295	307	4,665
2013	860,729	638,327	217,219	513	4,670
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	500,298	372,694	125,851	87	1,666
Year 2019					
January	55,834	41,306	14,305	8	214
February	45,025	33,349	11,471	8	197
March	43,976	31,666	12,133	9	168
April	33,353	24,495	8,691	6	161
May	40,015	30,285	9,547	6	178
June	44,218	33,558	10,482	4	174
July	55,863	42,319	13,345	5	193
August	52,349	39,741	12,412	5	190
September	47,188	35,453	11,554	6	175
October	37,431	27,150	10,119	6	157
November	41,907	30,453	11,274	6	173
December	40,461	29,769	10,505	7	180
Year 2020					
January	36,810	27,330	9,285	7	189
February	32,074	23,698	8,192	9	175
March	29,028	21,713	7,145	7	163
April	23,654	17,026	6,481	4	143
May	26,801	19,829	6,829	4	139
June	36,589	27,777	8,677	5	129
July	49,751	38,259	11,347	5	141
August	50,406	38,919	11,340	4	142
September	38,685	29,643	8,884	7	151
October	33,823	24,914	8,758	6	145
November	34,271	24,622	9,506	6	137
December	43,459	31,623	11,680	8	149
Year 2021					
January	45,095	33,198	11,750	8	139
February	47,821	36,196	11,485	11	128
March	34,416	25,651	8,631	7	127
April	29,995	22,448	7,420	6	121
May	35,613	26,977	8,492	4	140
June	47,913	36,142	11,622	6	144
July	56,262	42,104	14,007	7	145
August	56,131	42,391	13,587	7	145
September	44,291	33,553	10,578	8	153
October	35,574	25,681	9,746	9	138
November	32,719	23,460	9,102	8	149
December	34,469	24,894	9,431	7	138

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 Gases.
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, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	21,532	0	3,628	1,321	16,584
2012	19,333	0	2,790	1,143	15,400
2013	18,350	0	2,416	843	15,090
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
Year 2019					
January	1,312	198	158	51	905
February	1,158	189	114	47	808
March	1,112	189	110	49	764
April	1,009	141	102	34	732
May	941	123	90	33	695
June	950	161	95	23	671
July	950	171	97	30	653
August	974	190	88	32	664
September	914	168	73	34	640
October	985	174	81	31	699
November	1,019	174	76	38	731
December	1,072	184	76	42	770
Year 2020					
January	1,057	167	69	43	778
February	974	146	64	44	719
March	864	111	56	38	660
April	763	93	58	26	586
May	758	112	49	26	571
June	743	122	48	27	546
July	850	162	52	27	609
August	837	158	57	30	592
September	813	131	55	33	594
October	904	148	67	29	661
November	846	124	65	33	624
December	993	162	74	45	712
Year 2021					
January	1,027	183	64	45	735
February	994	185	72	55	683
March	949	166	67	43	674
April	858	143	45	33	637
May	835	130	51	27	627
June	896	187	52	28	630
July	993	211	54	29	700
August	955	220	57	32	646
September	962	200	59	36	667
October	889	152	37	37	663
November	976	168	50	42	716
December	967	209	60	42	656

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 Gases.
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, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	956,470	689,316	243,168	1,668	22,319
2012	845,066	615,467	208,085	1,450	20,065
2013	879,078	638,327	219,635	1,356	19,761
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	511,600	374,848	126,518	534	9,700
Year 2019					
January	57,146	41,504	14,463	59	1,119
February	46,183	33,539	11,586	54	1,005
March	45,088	31,855	12,243	58	932
April	34,362	24,636	8,793	40	893
May	40,956	30,408	9,637	38	873
June	45,168	33,720	10,577	27	844
July	56,813	42,490	13,442	35	846
August	53,323	39,931	12,500	37	854
September	48,103	35,621	11,628	40	814
October	38,417	27,323	10,200	37	856
November	42,926	30,628	11,350	44	904
December	41,533	29,953	10,581	49	950
Year 2020					
January	37,867	27,497	9,354	50	967
February	33,048	23,845	8,256	54	894
March	29,892	21,823	7,201	45	823
April	24,417	17,118	6,539	30	729
May	27,559	19,941	6,878	30	709
June	37,331	27,899	8,725	32	676
July	50,601	38,421	11,400	31	749
August	51,243	39,078	11,397	34	734
September	39,498	29,774	8,939	40	745
October	34,727	25,061	8,825	34	806
November	35,117	24,746	9,572	39	761
December	44,452	31,784	11,754	53	861
Year 2021					
January	46,122	33,381	11,814	52	874
February	48,815	36,381	11,557	65	811
March	35,365	25,817	8,698	50	801
April	30,852	22,591	7,465	39	758
May	36,448	27,108	8,543	31	767
June	48,810	36,328	11,674	34	774
July	57,256	42,314	14,060	35	845
August	57,086	42,612	13,644	40	791
September	45,253	33,753	10,637	43	820
October	36,462	25,833	9,783	46	800
November	33,695	23,627	9,152	50	865
December	35,436	25,103	9,490	49	795

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 Gases.
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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	18,074,298	13,551,416	4,399,144	7,263	116,475
2012	15,867,141	11,995,971	3,767,011	6,383	97,775
2013	16,509,468	12,421,537	3,981,216	9,444	97,270
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	9,481,752	7,124,244	2,322,528	1,577	33,403
Year 2019					
January	1,058,823	786,243	268,166	166	4,248
February	838,849	624,443	210,371	154	3,881
March	828,164	600,433	224,131	185	3,415
April	629,315	466,253	159,689	123	3,250
May	763,488	588,629	171,298	105	3,456
June	829,510	636,160	189,866	74	3,409
July	1,063,468	810,341	249,251	98	3,778
August	991,865	759,041	229,009	98	3,717
September	901,139	683,373	214,211	117	3,439
October	705,106	520,520	181,422	118	3,046
November	792,714	583,352	205,856	126	3,380
December	763,869	564,494	195,673	146	3,556
Year 2020					
January	691,080	516,320	170,867	136	3,758
February	596,761	445,631	147,505	170	3,454
March	539,584	408,658	127,523	132	3,270
April	436,881	322,899	111,046	70	2,866
May	501,143	377,476	120,834	77	2,755
June	701,329	536,117	162,548	95	2,569
July	954,198	737,509	213,761	91	2,837
August	963,558	752,136	208,476	83	2,863
September	730,081	566,209	160,768	130	2,975
October	634,124	471,096	160,027	95	2,905
November	647,729	466,121	178,744	108	2,757
December	827,694	605,981	218,562	143	3,008
Year 2021					
January	856,498	635,221	218,299	145	2,833
February	921,283	698,252	220,193	200	2,639
March	654,880	489,859	162,265	137	2,618
April	572,136	432,925	136,645	104	2,461
May	678,641	524,567	151,194	73	2,808
June	916,891	696,483	217,435	109	2,864
July	1,068,689	803,634	262,079	116	2,860
August	1,071,933	814,490	254,468	130	2,845
September	832,295	635,534	193,593	141	3,026
October	661,627	483,344	175,406	164	2,713
November	606,613	440,656	162,846	140	2,971
December	640,266	469,279	168,105	118	2,765

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 Gases.
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.E. Coal: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	479,822	0	84,855	28,056	366,911
2012	420,923	0	58,275	23,673	338,975
2013	401,108	0	47,677	18,535	334,897
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
Year 2019					
January	26,507	3,253	3,590	997	18,667
February	23,132	3,102	2,419	931	16,680
March	22,498	3,035	2,448	976	16,039
April	20,420	2,310	2,280	666	15,164
May	18,923	2,002	2,074	622	14,226
June	18,934	2,665	2,087	418	13,763
July	18,828	2,837	2,047	572	13,372
August	19,330	3,116	1,994	610	13,610
September	18,125	2,675	1,600	658	13,192
October	19,298	2,778	1,830	593	14,097
November	20,082	2,812	1,672	716	14,882
December	21,177	2,974	1,646	813	15,744
Year 2020					
January	21,198	2,704	1,515	832	16,148
February	19,437	2,445	1,392	838	14,762
March	17,475	1,898	1,238	692	13,648
April	15,396	1,556	1,244	442	12,154
May	15,145	1,875	1,038	466	11,767
June	14,851	2,053	1,106	496	11,195
July	17,040	2,704	1,223	530	12,583
August	16,739	2,657	1,210	555	12,317
September	16,052	2,125	1,129	626	12,171
October	17,981	2,356	1,371	503	13,751
November	16,891	1,951	1,378	592	12,970
December	19,848	2,629	1,530	852	14,837
Year 2021					
January	20,602	3,015	1,380	838	15,369
February	19,865	2,977	1,524	1,028	14,336
March	19,120	2,723	1,419	788	14,191
April	17,265	2,354	1,002	582	13,327
May	16,859	2,168	1,050	496	13,145
June	17,798	3,141	1,076	507	13,075
July	19,609	3,558	1,206	544	14,301
August	18,694	3,710	1,152	603	13,228
September	19,075	3,281	1,300	672	13,821
October	17,514	2,459	758	680	13,617
November	19,339	2,694	1,046	736	14,862
December	19,100	3,317	1,332	738	13,714

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 Gases.
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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	18,554,120	13,551,416	4,483,999	35,319	483,385
2012	16,288,063	11,995,971	3,825,286	30,056	436,750
2013	16,910,576	12,421,537	4,028,894	27,979	432,167
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	9,706,593	7,159,642	2,336,774	9,788	200,389
Year 2019					
January	1,085,331	789,496	271,757	1,163	22,915
February	861,980	627,545	212,790	1,085	20,561
March	850,662	603,468	226,579	1,161	19,453
April	649,735	468,563	161,969	788	18,414
May	782,411	590,631	173,372	726	17,682
June	848,443	638,825	191,954	492	17,173
July	1,082,295	813,178	251,298	669	17,150
August	1,011,195	762,157	231,002	708	17,327
September	919,264	686,047	215,811	775	16,631
October	724,403	523,298	183,252	710	17,143
November	812,796	586,163	207,528	842	18,263
December	785,046	567,469	197,319	959	19,299
Year 2020					
January	712,278	519,024	172,382	967	19,905
February	616,198	448,076	148,898	1,009	18,216
March	557,059	410,556	128,761	824	16,918
April	452,277	324,455	112,291	512	15,020
May	516,288	379,351	121,872	544	14,522
June	716,179	538,170	163,654	591	13,764
July	971,238	740,212	214,984	621	15,420
August	980,297	754,793	209,686	638	15,180
September	746,133	568,333	161,897	756	15,146
October	652,104	473,452	161,398	598	16,656
November	664,620	468,072	180,122	699	15,727
December	847,542	608,610	220,092	996	17,844
Year 2021					
January	877,101	638,237	219,679	983	18,202
February	941,148	701,229	221,717	1,228	16,975
March	674,000	492,582	163,684	925	16,809
April	589,401	435,279	137,648	686	15,789
May	695,500	526,735	152,244	569	15,953
June	934,689	699,624	218,511	616	15,939
July	1,088,298	807,192	263,285	661	17,161
August	1,090,627	818,200	255,620	733	16,073
September	851,369	638,816	194,894	813	16,847
October	679,141	485,804	176,164	844	16,330
November	625,952	443,350	163,892	876	17,833
December	659,367	472,596	169,437	856	16,479

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 Gases.
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, 2011 - 2021 (Thousand Barrels)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	27,326	20,844	5,633	133	716
2012	22,604	17,521	4,110	272	702
2013	23,231	16,827	5,494	328	582
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	21,634	16,850	4,102	250	432
Year 2019					
January	2,506	1,672	755	32	46
February	1,482	1,099	327	15	42
March	1,476	1,159	263	16	38
April	1,417	1,046	313	15	44
May	1,702	1,305	346	17	33
June	1,747	1,369	328	17	33
July	1,818	1,328	436	24	30
August	1,868	1,473	340	21	34
September	1,669	1,305	302	27	35
October	1,709	1,305	347	23	34
November	1,626	1,228	339	23	37
December	1,816	1,388	369	22	37
Year 2020					
January	1,741	1,438	244	23	37
February	1,446	1,146	243	13	45
March	1,292	962	280	17	33
April	1,169	878	235	13	44
May	1,323	1,015	254	22	31
June	1,536	1,189	293	20	34
July	1,700	1,296	345	25	33
August	1,648	1,285	314	24	25
September	1,405	1,106	250	23	26
October	1,580	1,257	272	17	34
November	1,461	1,116	290	21	34
December	1,708	1,225	427	21	35
Year 2021					
January	1,720	1,376	287	22	35
February	2,986	2,295	605	20	67
March	1,489	1,179	250	23	38
April	1,501	1,190	255	24	32
May	1,526	1,204	268	20	34
June	1,727	1,290	386	20	30
July	1,633	1,243	337	23	30
August	2,196	1,752	387	20	36
September	1,741	1,396	300	16	29
October	1,655	1,317	280	23	34
November	1,649	1,260	340	17	32
December	1,811	1,349	407	21	34

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 Gases.
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, 2011 - 2021 (Thousand Barrels)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	3,826	0	1,004	168	2,654
2012	3,097	0	992	122	1,984
2013	3,456	0	1,050	498	1,908
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	331	1,384
Year 2019					
January	404	18	42	58	287
February	195	9	22	30	135
March	160	5	18	29	108
April	143	4	16	17	106
May	228	5	16	120	86
June	115	3	16	12	83
July	110	3	12	24	71
August	124	5	11	23	84
September	138	5	20	28	86
October	140	5	18	21	96
November	249	4	17	32	195
December	157	5	16	26	109
Year 2020					
January	145	7	9	26	103
February	168	6	10	17	135
March	124	3	12	20	89
April	219	6	14	12	188
May	114	4	13	29	68
June	124	5	12	17	89
July	124	5	15	25	79
August	125	5	15	32	74
September	121	3	16	23	80
October	134	5	19	17	92
November	154	5	19	25	106
December	178	6	26	27	119
Year 2021					
January	231	4	25	34	168
February	317	26	59	51	182
March	189	5	22	33	129
April	151	5	20	28	97
May	137	3	16	28	90
June	120	4	13	19	83
July	135	3	18	25	89
August	150	5	19	21	105
September	135	6	15	17	96
October	174	7	19	25	124
November	161	5	27	20	108
December	173	6	24	30	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.
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 Gases.
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, 2011 - 2021 (Thousand Barrels)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	31,152	20,844	6,637	301	3,370
2012	25,702	17,521	5,102	394	2,685
2013	26,687	16,827	6,544	826	2,490
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	23,706	16,929	4,380	580	1,816
Year 2019					
January	2,911	1,691	797	90	333
February	1,678	1,108	349	44	177
March	1,635	1,164	281	44	145
April	1,560	1,049	329	32	150
May	1,929	1,311	362	137	119
June	1,862	1,372	344	29	117
July	1,928	1,332	448	48	101
August	1,992	1,478	352	44	118
September	1,807	1,310	321	54	121
October	1,848	1,309	365	44	130
November	1,875	1,231	356	55	232
December	1,972	1,393	385	48	146
Year 2020					
January	1,886	1,445	253	49	140
February	1,614	1,151	252	30	180
March	1,416	965	292	37	122
April	1,388	883	249	24	232
May	1,437	1,019	267	52	99
June	1,660	1,194	306	37	123
July	1,824	1,301	360	50	113
August	1,773	1,290	329	55	99
September	1,526	1,109	266	46	106
October	1,714	1,263	291	34	126
November	1,616	1,121	309	46	140
December	1,886	1,231	453	48	154
Year 2021					
January	1,952	1,380	312	56	203
February	3,303	2,320	663	71	249
March	1,678	1,183	272	56	167
April	1,652	1,195	276	52	129
May	1,663	1,207	284	48	124
June	1,846	1,295	399	39	114
July	1,768	1,246	356	47	119
August	2,346	1,757	406	41	142
September	1,877	1,402	316	34	125
October	1,828	1,323	299	48	158
November	1,809	1,266	367	37	140
December	1,984	1,355	431	51	147

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 Gases.
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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	163,954	125,755	33,166	801	4,233
2012	134,956	105,179	24,081	1,618	4,078
2013	139,139	101,217	32,504	2,038	3,380
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	126,806	99,374	23,655	1,466	2,312
Year 2019					
January	14,739	9,930	4,366	187	256
February	8,675	6,498	1,866	86	225
March	8,661	6,854	1,510	91	205
April	8,308	6,209	1,785	86	228
May	9,986	7,741	1,975	100	169
June	10,289	8,141	1,876	99	173
July	10,743	7,908	2,538	139	158
August	11,039	8,791	1,945	121	183
September	9,817	7,760	1,716	156	186
October	10,036	7,746	1,972	136	182
November	9,666	7,293	2,041	135	197
December	10,630	8,215	2,088	129	198
Year 2020					
January	10,242	8,523	1,391	131	196
February	8,502	6,788	1,394	76	245
March	7,557	5,659	1,624	102	172
April	6,835	5,189	1,334	74	239
May	7,761	6,026	1,443	131	160
June	9,022	7,033	1,689	116	183
July	9,982	7,645	2,002	145	190
August	9,675	7,577	1,817	140	141
September	8,261	6,555	1,425	135	145
October	9,307	7,466	1,554	98	189
November	8,557	6,575	1,671	124	187
December	10,035	7,240	2,477	124	195
Year 2021					
January	10,170	8,173	1,668	130	198
February	17,428	13,478	3,495	118	337
March	8,708	6,929	1,446	133	201
April	8,760	6,977	1,473	142	168
May	8,981	7,141	1,547	120	173
June	10,116	7,596	2,245	117	158
July	9,603	7,374	1,937	133	159
August	13,004	10,440	2,251	119	194
September	10,232	8,275	1,698	96	162
October	9,674	7,739	1,607	137	192
November	9,600	7,378	1,945	99	179
December	10,530	7,874	2,343	122	191

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 Gases.
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.E. Petroleum Liquids: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	22,799	0	5,927	1,039	15,833
2012	18,233	0	5,871	746	11,616
2013	20,717	0	6,176	3,292	11,248
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
Year 2019					
January	2,342	107	229	341	1,664
February	1,123	50	130	179	764
March	923	28	109	171	614
April	806	20	97	100	589
May	1,299	31	95	700	473
June	649	17	95	74	462
July	626	18	70	142	396
August	699	30	67	134	467
September	786	26	117	164	479
October	800	25	109	121	544
November	1,432	22	103	187	1,121
December	899	29	97	158	615
Year 2020					
January	823	38	55	157	572
February	965	30	59	104	772
March	707	17	71	118	502
April	1,254	31	81	70	1,072
May	638	22	74	171	370
June	713	27	71	103	511
July	716	24	85	148	459
August	730	25	87	182	436
September	710	16	93	133	469
October	770	29	112	100	529
November	895	26	110	149	609
December	1,041	31	157	160	693
Year 2021					
January	1,348	22	146	206	973
February	1,810	148	330	303	1,029
March	1,093	26	132	198	736
April	867	30	121	165	552
May	773	18	95	161	499
June	684	25	76	110	473
July	775	19	108	144	503
August	864	26	113	123	601
September	795	35	90	103	567
October	1,026	37	112	147	730
November	942	31	162	124	625
December	1,011	36	139	179	658

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 Gases.
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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	186,753	125,755	39,093	1,840	20,066
2012	153,189	105,179	29,952	2,364	15,695
2013	159,855	101,217	38,681	5,330	14,628
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	138,795	99,827	25,278	3,430	10,259
Year 2019					
January	17,081	10,038	4,595	527	1,921
February	9,798	6,549	1,996	265	988
March	9,584	6,883	1,619	263	819
April	9,114	6,229	1,883	186	816
May	11,285	7,772	2,070	801	643
June	10,938	8,159	1,971	173	635
July	11,369	7,926	2,609	281	554
August	11,738	8,821	2,011	255	650
September	10,603	7,786	1,833	319	665
October	10,836	7,772	2,082	257	725
November	11,099	7,315	2,144	322	1,318
December	11,529	8,244	2,185	286	813
Year 2020					
January	11,064	8,561	1,447	288	768
February	9,467	6,818	1,453	180	1,017
March	8,264	5,676	1,694	220	674
April	8,089	5,220	1,415	144	1,311
May	8,398	6,048	1,517	302	531
June	9,735	7,061	1,761	219	694
July	10,698	7,669	2,087	293	649
August	10,405	7,602	1,905	321	577
September	8,971	6,571	1,518	268	614
October	10,077	7,495	1,666	198	717
November	9,452	6,602	1,781	272	797
December	11,076	7,270	2,633	284	888
Year 2021					
January	11,518	8,195	1,814	337	1,172
February	19,239	13,626	3,825	421	1,366
March	9,801	6,956	1,577	331	937
April	9,627	7,007	1,594	306	720
May	9,753	7,159	1,642	280	672
June	10,800	7,621	2,321	227	631
July	10,378	7,393	2,046	277	663
August	13,868	10,466	2,364	242	795
September	11,027	8,310	1,788	200	729
October	10,701	7,776	1,719	284	922
November	10,542	7,409	2,107	223	804
December	11,541	7,909	2,481	301	849

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 Gases.
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, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	5,012	3,449	1,277	1	286
2012	3,675	2,105	756	1	812
2013	4,852	3,409	779	1	662
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
Year 2019					
January	326	258	54	0	13
February	272	222	39	0	11
March	235	193	28	0	13
April	155	107	32	0	16
May	294	219	60	0	14
June	216	151	51	0	14
July	309	227	58	0	24
August	276	203	58	0	15
September	231	183	33	0	15
October	83	64	3	0	15
November	129	101	15	0	14
December	197	137	46	0	14
Year 2020					
January	257	204	38	0	15
February	217	147	58	0	12
March	285	210	63	0	13
April	245	179	57	0	9
May	256	183	59	0	14
June	323	258	52	0	13
July	332	261	58	0	13
August	308	236	57	0	14
September	175	116	46	0	13
October	155	82	59	0	14
November	226	157	55	0	14
December	297	227	56	0	14
Year 2021					
January	282	211	59	0	12
February	274	223	41	0	9
March	260	203	44	0	12
April	173	107	56	0	10
May	220	148	59	0	12
June	195	148	37	0	11
July	278	219	48	0	10
August	299	238	52	0	9
September	255	190	56	0	9
October	262	202	49	0	10
November	325	256	57	0	11
December	247	178	58	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 Gases.
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, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	1,080	0	112	6	962
2012	1,346	0	113	11	1,222
2013	1,486	0	96	11	1,379
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
Year 2019					
January	73	1	8	2	62
February	66	1	8	1	55
March	73	1	9	1	62
April	71	2	9	1	59
May	70	1	9	0	61
June	70	1	7	0	62
July	76	2	8	0	65
August	69	0	8	0	61
September	79	2	7	0	69
October	64	1	2	0	61
November	57	2	9	0	46
December	72	2	9	1	60
Year 2020					
January	74	1	11	2	60
February	56	1	12	1	41
March	46	1	11	0	34
April	39	3	9	0	26
May	62	3	10	0	49
June	73	1	9	0	64
July	73	1	10	0	63
August	75	1	11	0	63
September	72	1	12	0	60
October	67	0	9	0	57
November	67	2	9	0	56
December	76	1	11	0	65
Year 2021					
January	74	1	15	0	58
February	65	1	10	1	52
March	67	0	11	0	55
April	62	0	10	0	52
May	68	0	9	0	59
June	59	1	9	0	49
July	63	1	10	0	52
August	61	7	9	0	45
September	62	1	9	0	52
October	58	1	5	1	51
November	57	2	8	2	46
December	65	4	9	2	50

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 Gases.
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, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	6,092	3,449	1,388	6	1,248
2012	5,021	2,105	869	13	2,034
2013	6,338	3,409	875	12	2,041
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
Year 2019					
January	399	260	62	2	75
February	338	224	47	1	66
March	308	194	37	2	75
April	227	110	41	1	74
May	364	220	69	0	75
June	287	152	58	0	76
July	385	230	66	0	89
August	346	203	66	0	76
September	310	185	40	0	84
October	146	65	5	0	76
November	186	102	24	0	60
December	269	139	55	1	74
Year 2020					
January	331	205	49	2	75
February	273	148	70	1	53
March	331	211	74	0	46
April	284	182	67	0	35
May	318	187	69	0	63
June	396	258	61	0	78
July	405	261	68	0	76
August	384	237	69	0	77
September	247	117	58	0	73
October	222	83	68	0	70
November	293	159	64	0	70
December	373	228	67	0	78
Year 2021					
January	356	212	74	0	69
February	339	224	51	1	62
March	326	204	55	0	67
April	235	107	66	0	63
May	288	148	68	0	71
June	254	149	46	0	59
July	341	220	58	0	62
August	360	245	61	0	54
September	317	190	65	0	62
October	321	204	54	1	62
November	382	258	65	2	57
December	311	183	67	2	60

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 Gases.
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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	144,406	99,257	36,923	20	8,206
2012	105,488	60,862	21,643	39	22,944
2013	138,774	97,626	22,052	38	19,058
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
Year 2019					
January	8,808	6,917	1,522	10	359
February	7,433	6,030	1,079	7	316
March	6,367	5,167	810	8	382
April	4,444	3,063	904	7	469
May	8,002	5,898	1,688	0	416
June	6,199	4,342	1,448	0	409
July	8,365	6,078	1,623	0	664
August	7,657	5,605	1,626	0	427
September	6,427	5,076	941	0	411
October	2,236	1,716	98	0	422
November	3,682	2,867	433	0	382
December	5,350	3,653	1,299	4	394
Year 2020					
January	7,023	5,522	1,073	11	417
February	5,979	4,008	1,615	7	350
March	7,817	5,727	1,739	0	350
April	6,837	4,958	1,615	0	264
May	6,885	4,846	1,655	0	383
June	8,833	6,972	1,462	0	398
July	9,159	7,123	1,638	0	398
August	8,456	6,394	1,632	0	431
September	4,790	3,109	1,290	0	391
October	4,139	2,094	1,642	0	402
November	6,334	4,385	1,527	0	422
December	8,175	6,204	1,558	0	413
Year 2021					
January	7,859	5,987	1,528	0	344
February	7,364	5,937	1,145	5	278
March	7,136	5,509	1,270	0	357
April	4,805	2,913	1,588	0	303
May	6,157	4,131	1,655	0	371
June	5,239	3,871	1,049	0	318
July	7,680	5,986	1,383	0	311
August	8,288	6,546	1,462	0	280
September	6,995	5,110	1,602	0	284
October	7,104	5,406	1,380	7	311
November	8,433	6,512	1,564	10	348
December	6,719	4,806	1,607	10	296

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 Gases.
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.E. Petroleum Coke: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	31,943	0	3,244	153	28,546
2012	38,777	0	3,281	315	35,181
2013	40,846	0	2,769	305	37,772
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
Year 2019					
January	2,121	33	224	48	1,815
February	1,906	37	235	27	1,607
March	2,129	27	249	37	1,817
April	2,108	73	257	33	1,746
May	2,059	15	248	0	1,796
June	2,056	24	209	0	1,822
July	2,178	72	221	0	1,885
August	1,985	6	239	0	1,740
September	2,277	64	208	0	2,005
October	1,842	17	61	0	1,764
November	1,641	43	263	0	1,335
December	2,045	60	268	18	1,699
Year 2020					
January	2,096	33	307	54	1,702
February	1,521	36	346	33	1,107
March	1,240	28	314	0	898
April	1,097	89	273	0	736
May	1,802	98	283	0	1,422
June	2,147	15	246	0	1,885
July	2,135	17	279	0	1,839
August	2,225	23	332	0	1,870
September	2,132	26	338	0	1,768
October	1,973	9	275	0	1,690
November	2,002	53	260	0	1,689
December	2,252	26	310	0	1,916
Year 2021					
January	2,098	27	356	0	1,715
February	1,902	38	282	24	1,557
March	2,003	12	320	2	1,670
April	1,885	0	283	0	1,602
May	2,054	2	261	0	1,791
June	1,786	28	266	0	1,492
July	1,908	37	293	0	1,578
August	1,850	210	270	0	1,370
September	1,870	24	248	0	1,598
October	1,754	33	139	31	1,551
November	1,727	60	223	48	1,396
December	1,935	124	239	47	1,524

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 Gases.
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.F. Petroleum Coke: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	176,349	99,257	40,167	173	36,752
2012	144,266	60,862	24,925	353	58,126
2013	179,621	97,626	24,821	343	56,831
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
Year 2019					
January	10,929	6,950	1,746	59	2,174
February	9,339	6,067	1,315	34	1,924
March	8,496	5,194	1,058	46	2,198
April	6,552	3,136	1,161	41	2,215
May	10,060	5,913	1,936	0	2,211
June	8,255	4,366	1,657	0	2,232
July	10,543	6,150	1,844	0	2,549
August	9,642	5,611	1,864	0	2,167
September	8,704	5,139	1,148	0	2,416
October	4,078	1,733	159	0	2,187
November	5,323	2,910	696	0	1,717
December	7,395	3,712	1,567	23	2,093
Year 2020					
January	9,119	5,556	1,380	65	2,118
February	7,501	4,044	1,960	40	1,456
March	9,057	5,755	2,053	0	1,248
April	7,934	5,047	1,887	0	1,000
May	8,687	4,944	1,938	0	1,805
June	10,980	6,988	1,709	0	2,283
July	11,295	7,140	1,918	0	2,237
August	10,681	6,417	1,964	0	2,301
September	6,922	3,135	1,627	0	2,159
October	6,112	2,103	1,917	0	2,091
November	8,336	4,437	1,787	0	2,111
December	10,427	6,231	1,867	0	2,329
Year 2021					
January	9,957	6,014	1,884	0	2,059
February	9,266	5,974	1,428	29	1,835
March	9,139	5,520	1,590	2	2,027
April	6,690	2,913	1,871	0	1,905
May	8,211	4,133	1,916	0	2,162
June	7,025	3,899	1,315	0	1,810
July	9,588	6,023	1,676	0	1,888
August	10,138	6,756	1,733	0	1,650
September	8,865	5,134	1,850	0	1,882
October	8,858	5,439	1,520	38	1,861
November	10,160	6,571	1,787	58	1,744
December	8,654	4,930	1,846	57	1,820

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 Gases.
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, 2011 - 2021 (Million Cubic Feet)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	7,883,865	3,446,087	3,819,107	47,170	571,501
2012	9,484,710	4,101,927	4,686,260	63,116	633,407
2013	8,596,299	3,970,447	3,917,131	66,570	642,152
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	11,503,839	5,876,442	4,996,517	45,536	585,344
Year 2019					
January	874,064	442,413	373,529	4,566	53,555
February	802,067	412,852	338,638	4,217	46,359
March	836,443	432,314	350,686	4,516	48,926
April	763,709	400,078	313,343	4,173	46,115
May	864,321	459,911	350,386	4,217	49,806
June	1,017,450	539,802	422,755	4,619	50,274
July	1,284,934	658,672	566,007	5,625	54,630
August	1,307,234	677,539	568,683	5,493	55,519
September	1,109,834	573,542	478,814	4,824	52,654
October	965,470	494,735	414,452	4,356	51,926
November	847,088	423,567	366,212	4,253	53,057
December	940,243	465,255	415,293	4,715	54,981
Year 2020					
January	976,483	504,731	411,105	4,616	56,032
February	917,866	478,737	383,490	4,211	51,428
March	915,706	486,128	373,112	3,944	52,521
April	799,298	428,329	320,603	3,491	46,874
May	858,837	465,031	342,427	3,664	47,715
June	1,065,962	559,710	450,418	4,366	51,468
July	1,372,851	704,273	607,755	5,434	55,389
August	1,302,728	665,889	576,428	5,247	55,165
September	1,038,152	525,453	459,392	4,433	48,874
October	971,619	502,114	416,665	4,222	48,618
November	796,405	407,055	336,578	3,818	48,953
December	912,197	468,702	383,595	4,381	55,518
Year 2021					
January	889,328	451,377	380,904	3,963	53,084
February	801,334	404,132	351,952	3,475	41,775
March	760,939	396,874	315,896	3,483	44,686
April	779,169	408,210	324,185	2,985	43,789
May	834,557	433,323	352,342	3,101	45,791
June	1,111,189	575,818	481,523	3,987	49,861
July	1,267,045	654,378	553,520	4,490	54,657
August	1,288,925	657,226	573,094	4,712	53,891
September	1,011,076	508,790	450,940	4,075	47,271
October	962,806	474,461	436,157	3,768	48,420
November	892,515	451,592	387,287	3,668	49,969
December	904,955	460,260	388,717	3,828	52,149

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, 2011 - 2021 (Million Cubic Feet)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	839,681	0	308,669	39,856	491,155
2012	886,103	0	322,607	47,883	515,613
2013	882,385	0	303,177	51,057	528,151
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	1,222,267	49,103	308,223	71,093	793,848
Year 2019					
January	108,272	3,951	29,369	7,409	67,543
February	97,224	3,804	24,972	6,793	61,656
March	101,583	3,690	27,549	6,684	63,661
April	91,878	2,748	24,623	6,027	58,480
May	94,224	2,863	24,079	5,727	61,556
June	95,837	3,342	25,592	6,130	60,772
July	102,404	3,983	27,280	7,354	63,786
August	104,051	4,098	28,829	6,950	64,175
September	97,399	3,762	25,526	6,377	61,734
October	96,976	2,931	25,473	6,171	62,402
November	100,030	3,527	26,036	6,628	63,839
December	106,147	3,946	27,902	7,486	66,812
Year 2020					
January	129,482	4,242	28,854	7,419	88,968
February	118,342	3,980	26,837	6,952	80,572
March	118,437	4,270	27,273	6,437	80,457
April	110,653	3,892	24,979	5,617	76,165
May	96,238	3,816	25,835	5,410	61,178
June	98,513	3,863	27,110	6,221	61,318
July	107,695	4,465	29,304	7,589	66,337
August	106,062	4,198	29,533	7,184	65,147
September	97,666	3,544	27,518	6,366	60,238
October	102,031	3,214	26,299	6,455	66,063
November	97,482	3,022	25,404	6,268	62,788
December	110,021	4,518	28,032	6,926	70,546
Year 2021					
January	111,467	4,510	27,691	6,922	72,344
February	94,906	4,137	24,326	6,195	60,249
March	99,171	3,987	24,875	5,970	64,339
April	97,170	3,686	25,289	4,965	63,229
May	97,010	3,481	24,595	4,875	64,059
June	101,830	4,490	25,251	5,711	66,378
July	106,945	4,447	26,238	6,334	69,926
August	106,859	4,617	27,372	6,749	68,121
September	97,826	3,921	24,871	5,631	63,403
October	99,445	3,156	25,485	5,702	65,102
November	102,482	4,273	25,885	5,798	66,526
December	107,155	4,397	26,346	6,241	70,171

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.C. Natural Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Million Cubic Feet)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	8,723,546	3,446,087	4,127,777	87,026	1,062,657
2012	10,370,812	4,101,927	5,008,867	110,999	1,149,020
2013	9,478,685	3,970,447	4,220,309	117,626	1,170,303
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	12,726,106	5,925,545	5,304,740	116,628	1,379,192
Year 2019					
January	982,335	446,364	402,898	11,975	121,099
February	899,291	416,656	363,610	11,010	108,015
March	938,027	436,004	378,235	11,200	112,587
April	855,587	402,826	337,966	10,200	104,595
May	958,545	462,774	374,465	9,944	111,362
June	1,113,286	543,144	448,347	10,749	111,046
July	1,387,338	662,656	593,287	12,979	118,416
August	1,411,286	681,637	597,512	12,443	119,694
September	1,207,233	577,303	504,340	11,201	114,389
October	1,062,447	497,666	439,925	10,527	114,328
November	947,119	427,094	392,248	10,881	116,896
December	1,046,390	469,200	443,195	12,201	121,793
Year 2020					
January	1,105,965	508,973	439,958	12,034	145,000
February	1,036,208	482,717	410,328	11,163	132,001
March	1,034,143	490,399	400,385	10,381	132,978
April	909,952	432,222	345,582	9,108	123,040
May	955,075	468,847	368,261	9,074	108,893
June	1,164,475	563,573	477,528	10,587	112,787
July	1,480,547	708,738	637,059	13,023	121,727
August	1,408,790	670,087	605,961	12,431	120,311
September	1,135,818	528,997	486,910	10,799	109,112
October	1,073,650	505,328	442,965	10,677	114,681
November	893,886	410,077	361,982	10,086	111,741
December	1,022,219	473,220	411,627	11,308	126,064
Year 2021					
January	1,000,795	455,887	408,595	10,885	125,428
February	896,240	408,270	376,278	9,669	102,023
March	860,111	400,861	340,771	9,453	109,025
April	876,339	411,897	349,474	7,950	107,019
May	931,567	436,804	376,936	7,976	109,851
June	1,213,019	580,307	506,774	9,698	116,240
July	1,373,990	658,825	579,758	10,824	124,583
August	1,395,784	661,843	600,467	11,461	122,013
September	1,108,902	512,711	475,811	9,706	110,674
October	1,062,252	477,617	461,642	9,471	113,522
November	994,997	455,865	413,171	9,466	116,495
December	1,012,109	464,658	415,062	10,069	122,320

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.D. Natural Gas: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	8,052,309	3,511,732	3,906,484	48,509	585,584
2012	9,696,575	4,179,725	4,802,741	64,987	649,122
2013	8,813,288	4,059,838	4,026,793	67,918	658,740
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	11,893,883	6,071,668	5,174,335	46,895	600,985
Year 2019					
January	902,655	455,800	387,180	4,684	54,991
February	828,388	425,532	350,869	4,326	47,662
March	863,515	445,567	363,075	4,635	50,238
April	788,839	413,335	323,855	4,288	47,361
May	891,407	473,836	362,071	4,323	51,176
June	1,050,793	556,997	437,389	4,738	51,668
July	1,329,996	681,661	586,332	5,762	56,242
August	1,354,492	701,801	589,832	5,629	57,230
September	1,148,597	592,858	496,535	4,954	54,249
October	998,690	511,295	429,551	4,473	53,371
November	877,095	438,080	380,018	4,370	54,627
December	973,968	481,423	431,121	4,845	56,579
Year 2020					
January	1,011,544	522,536	426,723	4,736	57,549
February	949,941	494,950	397,868	4,323	52,799
March	948,033	503,000	387,055	4,045	53,933
April	828,199	443,644	332,835	3,579	48,141
May	886,047	479,695	353,936	3,768	48,648
June	1,098,382	576,128	465,080	4,479	52,696
July	1,415,363	725,475	627,718	5,567	56,604
August	1,344,082	686,935	595,290	5,378	56,479
September	1,072,651	542,760	475,247	4,557	50,087
October	1,003,144	518,238	430,726	4,335	49,845
November	822,719	420,145	348,452	3,918	50,204
December	944,744	485,053	398,177	4,492	57,022
Year 2021					
January	920,224	466,675	394,926	4,082	54,541
February	830,262	418,486	365,236	3,578	42,963
March	787,292	410,080	327,690	3,587	45,934
April	804,830	421,193	335,606	3,074	44,958
May	862,056	447,214	364,639	3,191	47,012
June	1,148,191	594,946	497,987	4,107	51,151
July	1,310,714	677,004	573,002	4,621	56,087
August	1,332,215	679,117	592,956	4,849	55,293
September	1,044,855	525,487	466,690	4,201	48,478
October	994,571	489,500	451,480	3,882	49,709
November	922,680	466,297	401,311	3,781	51,291
December	935,993	475,670	402,812	3,941	53,569

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.E. Natural Gas: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	861,006	0	315,411	40,976	504,619
2012	909,087	0	330,354	48,944	529,788
2013	905,583	0	311,058	51,939	542,587
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	1,259,144	50,514	317,135	73,587	817,908
Year 2019					
January	111,586	4,062	30,283	7,654	69,588
February	100,131	3,910	25,665	7,015	63,541
March	104,540	3,780	28,320	6,904	65,536
April	94,549	2,814	25,348	6,231	60,157
May	96,983	2,936	24,765	5,921	63,360
June	98,713	3,437	26,357	6,342	62,577
July	105,625	4,109	28,188	7,602	65,726
August	107,481	4,228	29,837	7,188	66,227
September	100,509	3,875	26,356	6,603	63,675
October	100,070	3,008	26,323	6,391	64,347
November	103,186	3,633	26,907	6,865	65,781
December	109,550	4,069	28,852	7,739	68,889
Year 2020					
January	132,924	4,370	29,791	7,665	91,096
February	121,538	4,100	27,747	7,187	82,505
March	121,655	4,389	28,177	6,657	82,432
April	113,772	4,009	25,887	5,809	78,068
May	99,246	3,922	26,735	5,603	62,987
June	101,332	3,965	27,873	6,427	63,068
July	110,815	4,589	30,155	7,828	68,243
August	109,236	4,318	30,395	7,417	67,105
September	100,534	3,653	28,244	6,575	62,063
October	105,228	3,301	27,020	6,670	68,237
November	100,423	3,107	26,110	6,492	64,715
December	113,521	4,655	28,891	7,160	72,815
Year 2021					
January	114,908	4,638	28,522	7,173	74,575
February	98,031	4,262	25,191	6,408	62,169
March	102,305	4,105	25,656	6,168	66,376
April	99,949	3,781	25,987	5,142	65,039
May	99,836	3,572	25,270	5,047	65,947
June	104,851	4,628	25,955	5,909	68,359
July	110,135	4,582	27,001	6,556	71,995
August	110,043	4,760	28,142	6,982	70,160
September	100,710	4,034	25,558	5,831	65,288
October	102,419	3,246	26,179	5,904	67,090
November	105,557	4,390	26,587	6,008	68,572
December	110,401	4,517	27,089	6,458	72,337

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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	8,913,315	3,511,732	4,221,895	89,485	1,090,203
2012	10,605,661	4,179,725	5,133,095	113,932	1,178,910
2013	9,718,871	4,059,838	4,337,851	119,857	1,201,326
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	13,153,028	6,122,182	5,491,470	120,482	1,418,893
Year 2019					
January	1,014,241	459,861	417,463	12,338	124,578
February	928,520	429,442	376,534	11,341	111,203
March	968,056	449,347	391,394	11,540	115,774
April	883,388	416,149	349,203	10,518	107,518
May	988,389	476,772	386,836	10,244	114,536
June	1,149,505	560,434	463,746	11,080	114,245
July	1,435,622	685,770	614,520	13,363	121,968
August	1,461,973	706,029	619,669	12,817	123,457
September	1,249,106	596,733	522,891	11,557	117,924
October	1,098,760	514,304	455,874	10,864	117,718
November	980,281	441,713	406,924	11,235	120,409
December	1,083,518	485,493	459,973	12,584	125,468
Year 2020					
January	1,144,468	526,907	456,514	12,401	148,646
February	1,071,479	499,050	425,615	11,509	135,304
March	1,069,688	507,390	415,232	10,701	136,366
April	941,971	447,653	358,721	9,388	126,208
May	985,293	483,617	380,670	9,371	111,635
June	1,199,714	580,093	492,952	10,905	115,763
July	1,526,178	730,064	657,873	13,395	124,846
August	1,453,318	691,254	625,686	12,794	123,584
September	1,173,185	546,413	503,490	11,132	112,150
October	1,108,372	521,539	457,746	11,005	118,082
November	923,141	423,251	374,562	10,410	114,919
December	1,058,265	489,708	427,068	11,652	129,837
Year 2021					
January	1,035,132	471,313	423,448	11,255	129,116
February	928,293	422,747	390,427	9,986	105,132
March	889,597	414,185	353,347	9,755	112,310
April	904,779	424,973	361,593	8,216	109,997
May	961,892	450,786	389,909	8,239	112,959
June	1,253,042	599,574	523,942	10,017	119,510
July	1,420,848	681,587	600,002	11,177	128,082
August	1,442,258	683,877	621,097	11,831	125,453
September	1,145,565	529,520	492,247	10,032	113,766
October	1,096,990	492,746	477,659	9,787	116,799
November	1,028,237	470,687	427,898	9,789	119,863
December	1,046,394	480,187	429,901	10,399	125,907

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 5.5.D. Wood / Wood Waste Biomass: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	347,623	35,474	130,108	482	181,559
2012	390,342	32,723	138,217	478	218,924
2013	397,929	43,363	143,721	536	210,308
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
Year 2019					
January	31,330	4,132	12,533	52	14,613
February	26,761	3,408	10,117	57	13,179
March	28,083	3,232	10,362	72	14,418
April	23,804	2,677	8,499	24	12,604
May	26,723	3,451	10,257	18	12,997
June	27,518	2,894	10,815	31	13,778
July	31,373	4,740	11,694	101	14,838
August	31,913	5,205	11,694	63	14,951
September	28,163	3,594	11,078	51	13,440
October	26,246	2,962	9,729	42	13,513
November	26,964	2,194	11,052	35	13,684
December	29,438	3,751	11,151	37	14,500
Year 2020					
January	29,263	3,341	11,363	49	14,510
February	27,502	3,095	10,658	41	13,708
March	27,511	2,644	10,423	32	14,412
April	23,851	1,872	8,674	8	13,298
May	25,105	1,918	9,789	30	13,367
June	24,647	2,209	9,540	54	12,844
July	27,217	3,084	10,984	89	13,060
August	28,930	3,838	11,730	90	13,272
September	25,307	2,138	10,529	45	12,595
October	24,776	2,099	9,962	58	12,656
November	26,008	2,737	10,309	49	12,913
December	28,265	2,629	11,734	64	13,838
Year 2021					
January	29,254	3,269	12,084	64	13,836
February	26,391	3,483	11,297	95	11,516
March	27,443	3,036	11,103	55	13,247
April	24,196	2,702	8,785	56	12,654
May	26,614	3,087	10,162	44	13,321
June	27,589	3,594	10,874	96	13,026
July	30,352	5,009	11,638	118	13,587
August	29,979	4,653	11,800	108	13,418
September	27,359	3,659	10,765	97	12,838
October	25,444	2,696	9,910	79	12,760
November	25,753	2,681	10,495	75	12,501
December	27,880	4,000	10,641	110	13,129

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 5.5.E. Wood / Wood Waste Biomass: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	893,314	0	16,577	1,022	875,716
2012	883,158	0	19,251	949	862,958
2013	919,631	0	20,342	950	898,339
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
Year 2019					
January	81,039	449	2,361	544	77,685
February	73,341	412	2,142	478	70,309
March	77,242	410	2,134	436	74,262
April	72,647	421	2,095	344	69,788
May	74,589	127	2,256	356	71,850
June	73,406	186	2,365	342	70,512
July	76,941	286	2,031	403	74,220
August	77,355	190	2,179	398	74,588
September	72,370	117	2,067	394	69,791
October	74,506	233	1,711	423	72,140
November	75,571	346	2,122	442	72,662
December	78,415	386	2,277	410	75,342
Year 2020					
January	77,620	368	2,309	483	74,460
February	73,345	368	2,284	453	70,240
March	75,205	368	2,277	353	72,207
April	70,552	262	1,929	238	68,122
May	72,051	123	2,109	321	69,497
June	67,936	155	2,099	394	65,288
July	68,586	179	2,086	250	66,072
August	69,298	167	1,994	244	66,893
September	67,269	208	1,902	166	64,993
October	70,984	362	1,726	191	68,704
November	71,706	328	2,103	233	69,042
December	75,513	165	2,205	269	72,875
Year 2021					
January	75,180	377	2,146	229	72,427
February	66,581	341	1,876	315	64,049
March	72,900	336	1,945	227	70,391
April	72,574	312	1,696	153	70,412
May	73,777	208	1,349	125	72,095
June	71,452	268	1,956	276	68,952
July	75,597	390	1,840	300	73,068
August	74,458	304	1,955	316	71,882
September	71,697	17	1,817	308	69,555
October	71,228	177	1,507	213	69,330
November	69,883	378	1,922	207	67,376
December	75,661	411	1,794	290	73,166

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 5.5.F. Wood / Wood Waste Biomass: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	1,240,937	35,474	146,684	1,504	1,057,275
2012	1,273,500	32,723	157,468	1,427	1,081,882
2013	1,317,560	43,363	164,063	1,486	1,108,647
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
Year 2019					
January	112,369	4,581	14,894	596	92,297
February	100,102	3,820	12,259	535	83,488
March	105,325	3,641	12,496	508	88,680
April	96,451	3,098	10,594	368	82,392
May	101,311	3,578	12,513	374	84,847
June	100,924	3,081	13,179	373	84,291
July	108,314	5,026	13,725	505	89,058
August	109,267	5,395	13,873	461	89,539
September	100,533	3,712	13,145	446	83,230
October	100,752	3,195	11,441	464	85,652
November	102,536	2,540	13,174	477	86,345
December	107,853	4,138	13,428	447	89,841
Year 2020					
January	106,883	3,709	13,672	532	88,970
February	100,847	3,462	12,942	495	83,948
March	102,716	3,012	12,700	385	86,619
April	94,403	2,134	10,603	246	81,420
May	97,155	2,041	11,899	351	82,864
June	92,583	2,364	11,640	448	78,132
July	95,803	3,263	13,069	339	79,132
August	98,227	4,005	13,723	334	80,165
September	92,575	2,346	12,430	210	77,589
October	95,760	2,462	11,688	249	81,361
November	97,713	3,064	12,412	282	81,955
December	103,779	2,794	13,939	333	86,713
Year 2021					
January	104,434	3,646	14,231	294	86,264
February	92,972	3,824	13,173	410	75,565
March	100,342	3,373	13,049	282	83,639
April	96,770	3,014	10,481	210	83,066
May	100,391	3,295	11,512	169	85,416
June	99,041	3,862	12,830	372	81,978
July	105,948	5,398	13,478	418	86,655
August	104,437	4,958	13,755	424	85,300
September	99,055	3,676	12,582	404	82,393
October	96,672	2,873	11,417	292	82,090
November	95,636	3,059	12,417	282	79,878
December	103,541	4,411	12,434	400	86,295

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.A. Landfill Gas: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Million Cubic Feet)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	232,795	22,086	180,856	29,469	384
2012	256,376	25,193	201,965	26,672	2,545
2013	271,967	27,259	211,942	28,143	4,623
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
Year 2019					
January	22,792	2,043	18,790	1,704	255
February	20,542	1,803	16,998	1,508	233
March	22,380	2,008	18,459	1,642	271
April	20,457	1,890	17,249	1,057	261
May	20,947	1,952	17,959	778	258
June	21,359	1,857	17,889	1,360	254
July	21,932	1,873	18,326	1,493	240
August	21,963	1,898	18,295	1,518	253
September	20,789	1,811	17,246	1,477	256
October	21,252	1,843	17,705	1,436	268
November	20,712	1,807	17,237	1,419	248
December	22,369	1,942	18,665	1,482	280
Year 2020					
January	22,731	1,990	18,938	1,537	267
February	21,038	1,879	17,436	1,476	247
March	22,584	2,089	18,650	1,595	250
April	21,604	2,037	17,837	1,504	226
May	21,856	2,046	18,033	1,575	203
June	20,106	1,892	16,567	1,449	198
July	20,832	1,966	17,074	1,582	210
August	21,086	1,959	17,368	1,563	196
September	20,174	1,864	16,589	1,535	185
October	20,164	1,979	16,617	1,385	182
November	19,682	1,892	16,114	1,474	203
December	20,645	1,981	16,973	1,461	231
Year 2021					
January	21,051	2,121	17,209	1,469	252
February	18,681	1,812	15,289	1,324	254
March	20,782	1,976	17,070	1,446	291
April	19,174	1,885	15,713	1,319	258
May	19,935	1,982	16,398	1,327	229
June	19,143	1,893	15,658	1,381	210
July	19,628	1,946	16,084	1,396	203
August	19,148	1,917	15,679	1,374	178
September	18,571	1,841	15,217	1,365	148
October	18,409	1,732	15,133	1,383	161
November	17,677	1,746	14,414	1,352	165
December	19,678	1,981	16,167	1,337	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.
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.B. Landfill Gas: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Million Cubic Feet)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	3,195	0	2,753	351	91
2012	3,189	0	2,788	340	61
2013	831	0	261	423	147
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
Year 2019					
January	331	0	181	84	66
February	301	0	175	67	58
March	357	0	203	80	73
April	362	0	184	102	75
May	250	0	112	64	74
June	283	0	146	77	59
July	282	0	166	42	73
August	267	0	128	73	65
September	264	0	125	74	65
October	317	0	168	77	71
November	284	0	155	59	70
December	273	0	190	21	62
Year 2020					
January	343	0	211	36	95
February	352	0	196	65	91
March	331	0	167	73	91
April	270	0	111	70	89
May	324	0	188	54	83
June	322	0	177	65	80
July	352	0	197	76	79
August	347	0	196	74	76
September	345	0	197	74	74
October	372	0	195	106	72
November	309	0	167	61	81
December	343	0	186	67	90
Year 2021					
January	376	1	192	73	111
February	332	0	168	55	109
March	388	1	196	72	120
April	355	0	186	48	120
May	292	0	121	59	111
June	339	1	192	47	99
July	283	0	139	65	78
August	340	0	209	57	73
September	332	0	197	70	63
October	312	0	190	56	65
November	279	0	137	66	76
December	403	0	227	73	102

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, 2011 - 2021 (Million Cubic Feet)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	235,990	22,086	183,609	29,820	474
2012	259,564	25,193	204,753	27,012	2,606
2013	272,798	27,259	212,203	28,566	4,770
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
Year 2019					
January	23,123	2,043	18,971	1,788	321
February	20,843	1,804	17,173	1,576	291
March	22,737	2,008	18,662	1,722	344
April	20,819	1,891	17,433	1,159	336
May	21,197	1,952	18,072	842	332
June	21,642	1,857	18,035	1,438	313
July	22,214	1,874	18,492	1,535	313
August	22,230	1,898	18,423	1,591	317
September	21,053	1,811	17,371	1,550	321
October	21,569	1,843	17,873	1,514	339
November	20,996	1,807	17,392	1,478	319
December	22,642	1,942	18,855	1,503	342
Year 2020					
January	23,074	1,990	19,149	1,573	362
February	21,390	1,879	17,632	1,541	338
March	22,915	2,089	18,817	1,667	342
April	21,874	2,037	17,948	1,574	315
May	22,181	2,046	18,221	1,628	286
June	20,428	1,892	16,743	1,515	278
July	21,184	1,966	17,271	1,659	289
August	21,433	1,959	17,564	1,637	272
September	20,519	1,864	16,786	1,609	259
October	20,536	1,979	16,812	1,491	254
November	19,991	1,892	16,281	1,534	284
December	20,988	1,981	17,159	1,528	320
Year 2021					
January	21,427	2,121	17,401	1,541	363
February	19,013	1,813	15,457	1,379	363
March	21,170	1,976	17,266	1,518	411
April	19,529	1,885	15,899	1,367	377
May	20,227	1,982	16,518	1,386	340
June	19,482	1,894	15,851	1,427	310
July	19,911	1,946	16,223	1,461	281
August	19,488	1,917	15,888	1,431	251
September	18,903	1,842	15,414	1,435	212
October	18,720	1,732	15,323	1,439	226
November	17,956	1,746	14,551	1,418	241
December	20,082	1,981	16,395	1,410	296

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.D. Landfill Gas: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	112,538	11,146	89,857	11,332	203
2012	124,297	12,721	99,938	10,356	1,282
2013	132,766	13,819	105,330	11,290	2,327
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
Year 2019					
January	11,250	1,062	9,360	697	130
February	10,167	936	8,493	620	118
March	11,055	1,043	9,204	671	137
April	10,195	982	8,612	469	132
May	10,504	1,017	8,987	371	129
June	10,673	964	8,953	629	127
July	10,857	971	9,141	621	124
August	10,838	984	9,092	633	129
September	10,247	939	8,571	608	129
October	10,514	956	8,839	585	135
November	10,218	934	8,577	579	128
December	11,022	1,006	9,273	600	143
Year 2020					
January	11,222	1,040	9,405	639	138
February	10,389	983	8,653	626	127
March	11,158	1,094	9,259	675	130
April	10,666	1,069	8,850	631	117
May	10,761	1,072	8,940	644	106
June	9,919	990	8,228	599	102
July	10,280	1,027	8,492	651	110
August	10,420	1,023	8,654	641	103
September	9,950	976	8,247	631	96
October	9,967	1,037	8,261	575	95
November	9,708	990	8,015	598	105
December	10,206	1,037	8,449	600	119
Year 2021					
January	10,306	1,105	8,466	608	127
February	9,139	944	7,518	549	129
March	10,177	1,029	8,398	603	148
April	9,412	979	7,760	543	130
May	9,780	1,034	8,079	551	116
June	9,395	988	7,728	572	107
July	9,658	1,016	7,958	580	104
August	9,432	1,000	7,767	573	92
September	9,141	960	7,536	568	77
October	9,044	901	7,487	572	84
November	8,700	909	7,138	568	85
December	9,657	1,033	7,985	540	98

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.E. Landfill Gas: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	1,635	0	1,422	165	48
2012	1,630	0	1,441	156	32
2013	414	0	132	206	76
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
Year 2019					
January	184	0	96	56	32
February	165	0	93	44	28
March	194	0	108	52	35
April	197	0	99	62	36
May	137	0	63	39	35
June	158	0	80	50	29
July	151	0	89	24	37
August	150	0	69	49	32
September	150	0	67	51	31
October	176	0	89	52	34
November	160	0	82	42	36
December	138	0	97	10	30
Year 2020					
January	182	0	112	21	49
February	197	0	105	45	47
March	186	0	89	49	48
April	152	0	61	45	46
May	179	0	102	34	43
June	179	0	95	42	41
July	197	0	106	49	41
August	194	0	105	48	41
September	191	0	105	47	38
October	206	0	104	65	38
November	174	0	89	43	42
December	188	0	96	46	46
Year 2021					
January	205	0	102	49	54
February	181	0	90	37	53
March	218	0	105	54	59
April	191	0	100	32	58
May	159	0	66	39	54
June	182	0	103	30	48
July	158	0	76	43	39
August	189	0	112	40	37
September	184	0	105	47	32
October	174	0	102	39	33
November	155	0	74	44	37
December	216	0	117	49	50

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.F. Landfill Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	114,173	11,146	91,279	11,497	251
2012	125,927	12,721	101,379	10,512	1,315
2013	133,180	13,819	105,462	11,497	2,403
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
Year 2019					
January	11,434	1,062	9,456	753	162
February	10,332	936	8,586	664	146
March	11,249	1,043	9,312	723	172
April	10,393	982	8,711	531	168
May	10,641	1,017	9,050	410	164
June	10,832	965	9,033	679	155
July	11,008	972	9,231	645	161
August	10,988	984	9,161	683	160
September	10,396	939	8,638	659	160
October	10,690	956	8,929	637	169
November	10,378	934	8,659	621	164
December	11,159	1,006	9,370	610	173
Year 2020					
January	11,405	1,041	9,518	660	187
February	10,586	983	8,758	671	174
March	11,344	1,094	9,348	724	178
April	10,818	1,069	8,911	675	163
May	10,941	1,072	9,041	679	149
June	10,097	990	8,323	641	144
July	10,477	1,027	8,598	701	151
August	10,614	1,023	8,759	689	143
September	10,140	976	8,352	678	135
October	10,173	1,037	8,365	640	132
November	9,882	990	8,104	641	147
December	10,394	1,037	8,545	647	166
Year 2021					
January	10,510	1,105	8,568	657	181
February	9,320	944	7,608	586	182
March	10,395	1,029	8,502	657	207
April	9,602	979	7,860	575	189
May	9,940	1,034	8,145	590	170
June	9,576	988	7,831	602	155
July	9,816	1,016	8,033	623	143
August	9,620	1,000	7,880	612	128
September	9,325	960	7,641	615	109
October	9,217	901	7,589	611	116
November	8,855	909	7,212	612	122
December	9,873	1,033	8,102	590	148

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.A. Biogenic Municipal Solid Waste: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	16,972	388	14,625	1,955	4
2012	16,968	418	14,235	2,304	12
2013	17,007	456	14,057	2,485	8
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
Year 2019					
January	1,322	30	1,092	199	1
February	1,158	20	961	177	1
March	1,255	20	1,046	188	1
April	1,235	28	1,014	193	1
May	1,337	26	1,112	198	1
June	1,323	25	1,098	200	1
July	1,369	27	1,146	194	1
August	1,396	29	1,167	200	1
September	1,288	21	1,076	191	1
October	1,271	28	1,056	187	1
November	1,270	25	1,062	183	1
December	1,333	20	1,112	201	1
Year 2020					
January	1,323	19	1,107	196	1
February	1,204	14	1,014	175	1
March	1,331	26	1,109	195	1
April	1,266	25	1,061	179	1
May	1,312	24	1,094	192	1
June	1,222	25	1,010	187	1
July	1,355	26	1,130	199	1
August	1,380	26	1,160	194	1
September	1,274	23	1,072	179	1
October	1,259	24	1,052	183	1
November	1,255	24	1,046	184	1
December	1,334	22	1,121	190	1
Year 2021					
January	1,270	20	1,035	214	1
February	1,122	10	937	176	0
March	1,274	17	1,055	202	0
April	1,238	23	1,004	211	0
May	1,245	24	1,018	203	1
June	1,300	26	1,063	211	1
July	1,361	9	1,121	230	1
August	1,350	27	1,093	230	1
September	1,303	23	1,060	219	1
October	1,248	23	1,029	196	1
November	1,216	27	977	212	1
December	1,295	24	1,051	219	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.B. Biogenic Municipal Solid Waste: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	2,044	0	742	1,148	154
2012	1,986	0	522	1,273	190
2013	1,865	0	517	1,160	187
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
Year 2019					
January	173	0	66	92	15
February	155	0	63	77	15
March	153	0	67	70	16
April	115	0	56	43	17
May	127	0	64	52	12
June	137	0	64	59	15
July	136	0	67	53	16
August	139	0	62	56	21
September	124	0	53	56	15
October	130	0	57	58	15
November	139	0	63	61	15
December	139	0	61	62	15
Year 2020					
January	146	0	73	59	13
February	139	0	69	53	16
March	138	0	62	61	15
April	139	0	61	61	16
May	148	0	67	65	16
June	131	0	67	51	13
July	135	0	59	62	15
August	149	0	64	64	21
September	122	0	51	55	15
October	132	0	60	57	14
November	129	0	57	57	16
December	141	0	67	58	16
Year 2021					
January	155	0	75	63	17
February	121	0	70	45	6
March	142	0	71	57	14
April	130	0	57	56	18
May	139	0	71	54	13
June	139	0	71	51	16
July	154	0	75	63	16
August	154	0	76	62	17
September	146	0	71	60	15
October	139	0	71	54	15
November	137	0	80	44	13
December	154	0	85	57	13

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.C. Biogenic Municipal Solid Waste: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Thousand Tons)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	19,016	388	15,367	3,103	158
2012	18,954	418	14,757	3,577	203
2013	18,871	456	14,574	3,646	195
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
Year 2019					
January	1,495	30	1,158	291	16
February	1,313	20	1,024	254	16
March	1,408	20	1,114	258	17
April	1,350	28	1,069	235	18
May	1,465	26	1,176	249	13
June	1,461	25	1,162	258	15
July	1,504	27	1,213	247	17
August	1,535	29	1,229	256	22
September	1,412	21	1,129	246	16
October	1,401	28	1,113	245	16
November	1,409	25	1,125	244	15
December	1,472	20	1,173	263	16
Year 2020					
January	1,469	19	1,180	256	14
February	1,342	14	1,083	228	17
March	1,469	26	1,171	256	16
April	1,405	25	1,122	241	17
May	1,459	24	1,161	257	17
June	1,353	25	1,077	238	14
July	1,491	26	1,188	261	16
August	1,530	26	1,224	258	22
September	1,397	23	1,123	234	16
October	1,391	24	1,112	240	15
November	1,384	24	1,102	241	16
December	1,475	22	1,188	248	17
Year 2021					
January	1,425	20	1,110	277	17
February	1,243	10	1,007	221	6
March	1,415	17	1,126	259	14
April	1,369	23	1,061	267	18
May	1,384	24	1,089	257	14
June	1,439	26	1,134	262	17
July	1,515	9	1,196	294	16
August	1,504	27	1,168	292	18
September	1,449	23	1,130	279	16
October	1,388	23	1,099	249	16
November	1,353	27	1,056	256	14
December	1,449	24	1,136	276	13

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.D. Biogenic Municipal Solid Waste: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	135,241	3,433	115,841	15,933	34
2012	135,735	3,910	113,418	18,307	100
2013	135,764	4,459	111,430	19,811	64
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
Year 2019					
January	9,806	252	8,081	1,468	5
February	8,560	163	7,085	1,306	6
March	9,337	164	7,782	1,385	6
April	9,150	229	7,493	1,421	8
May	9,880	218	8,220	1,437	6
June	9,815	202	8,147	1,459	6
July	10,063	225	8,398	1,432	8
August	10,270	234	8,568	1,462	7
September	9,544	166	7,971	1,403	5
October	9,408	231	7,806	1,365	5
November	9,372	204	7,835	1,326	7
December	9,907	166	8,252	1,482	8
Year 2020					
January	9,839	149	8,235	1,447	8
February	8,926	117	7,527	1,275	6
March	9,960	214	8,289	1,451	5
April	9,340	207	7,828	1,299	7
May	9,720	199	8,118	1,394	9
June	9,032	210	7,452	1,363	7
July	9,994	213	8,333	1,442	6
August	10,167	212	8,532	1,415	8
September	9,376	183	7,873	1,313	7
October	9,342	199	7,792	1,347	5
November	9,176	200	7,629	1,343	4
December	9,943	182	8,334	1,422	5
Year 2021					
January	9,501	163	7,717	1,615	5
February	8,369	77	6,968	1,325	0
March	9,501	137	7,832	1,532	0
April	9,222	183	7,443	1,595	1
May	9,339	190	7,612	1,531	5
June	9,632	210	7,846	1,567	9
July	10,024	70	8,231	1,716	7
August	9,935	212	8,004	1,711	8
September	9,605	189	7,782	1,627	7
October	9,286	185	7,642	1,452	7
November	9,046	215	7,223	1,604	4
December	9,713	198	7,844	1,668	3

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, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	16,766	0	5,807	9,731	1,227
2012	16,310	0	4,180	10,615	1,515
2013	15,168	0	4,145	9,530	1,493
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
Year 2019					
January	1,306	0	476	715	115
February	1,158	0	458	590	111
March	1,136	0	491	529	116
April	842	0	396	318	128
May	914	0	444	380	90
June	994	0	455	430	109
July	974	0	471	385	119
August	1,071	0	454	449	167
September	908	0	385	411	113
October	967	0	428	417	121
November	1,009	0	456	443	110
December	1,028	0	448	460	119
Year 2020					
January	1,078	0	529	445	104
February	1,017	0	507	395	115
March	1,002	0	442	453	107
April	994	0	442	428	123
May	1,023	0	458	444	121
June	927	0	464	367	96
July	972	0	422	438	112
August	1,081	0	453	470	159
September	884	0	367	400	117
October	977	0	439	429	109
November	943	0	408	418	117
December	1,040	0	488	430	121
Year 2021					
January	1,151	0	560	464	126
February	881	0	501	332	48
March	1,044	0	520	419	106
April	974	0	425	415	134
May	1,028	0	524	406	99
June	1,036	0	527	387	122
July	1,180	0	546	517	117
August	1,144	0	540	478	126
September	1,062	0	501	448	113
October	1,024	0	515	393	116
November	1,041	0	592	350	99
December	1,156	0	620	442	95

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.F. Biogenic Municipal Solid Waste: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	152,007	3,433	121,648	25,664	1,262
2012	152,045	3,910	117,598	28,923	1,614
2013	150,932	4,459	115,574	29,342	1,557
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
Year 2019					
January	11,112	252	8,556	2,183	120
February	9,719	163	7,542	1,896	117
March	10,474	164	8,273	1,914	122
April	9,993	229	7,889	1,739	135
May	10,794	218	8,664	1,817	96
June	10,809	202	8,602	1,888	116
July	11,037	225	8,869	1,816	127
August	11,341	234	9,023	1,911	174
September	10,453	166	8,355	1,813	118
October	10,375	231	8,234	1,783	127
November	10,381	204	8,292	1,770	117
December	10,935	166	8,701	1,942	127
Year 2020					
January	10,917	149	8,764	1,892	111
February	9,943	117	8,034	1,670	122
March	10,962	214	8,731	1,904	112
April	10,333	207	8,270	1,727	130
May	10,743	199	8,576	1,838	130
June	9,959	210	7,916	1,730	103
July	10,966	213	8,755	1,880	118
August	11,249	212	8,985	1,885	166
September	10,259	183	8,240	1,713	124
October	10,319	199	8,231	1,776	114
November	10,120	200	8,038	1,761	121
December	10,982	182	8,821	1,853	126
Year 2021					
January	10,652	163	8,278	2,080	131
February	9,251	77	7,469	1,657	48
March	10,546	137	8,351	1,951	106
April	10,196	183	7,868	2,010	135
May	10,367	190	8,136	1,937	104
June	10,668	210	8,373	1,954	131
July	11,203	70	8,777	2,233	124
August	11,079	212	8,544	2,189	133
September	10,667	189	8,283	2,075	120
October	10,310	185	8,157	1,845	122
November	10,087	215	7,815	1,954	103
December	10,869	198	8,463	2,110	98

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 5.8.D. Other Waste Biomass: Consumption for Electricity Generation, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	30,771	4,488	16,115	3,816	6,352
2012	30,342	4,191	15,740	4,016	6,395
2013	29,385	2,432	13,671	4,979	8,303
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
Year 2019					
January	2,131	121	1,085	501	424
February	1,918	142	939	452	386
March	2,174	177	1,064	493	439
April	2,026	101	1,054	475	396
May	1,763	82	877	454	349
June	1,917	84	1,038	459	336
July	2,000	90	1,110	474	326
August	2,076	117	1,140	476	344
September	1,843	73	1,036	459	275
October	1,994	50	1,075	459	410
November	2,010	27	1,098	469	417
December	2,095	69	1,089	498	439
Year 2020					
January	2,189	69	1,157	463	499
February	1,982	80	1,043	419	440
March	2,054	91	1,059	457	447
April	1,827	81	883	429	433
May	1,918	87	979	444	409
June	1,732	93	865	416	358
July	1,750	82	866	424	378
August	1,699	95	796	430	378
September	1,747	96	917	421	313
October	1,798	85	835	426	451
November	1,730	84	835	391	420
December	1,809	82	959	295	473
Year 2021					
January	2,072	100	1,089	413	469
February	1,878	83	1,019	393	384
March	2,110	104	1,103	442	461
April	1,808	74	885	413	436
May	1,950	57	1,041	436	415
June	1,770	108	927	420	314
July	1,796	74	911	438	373
August	1,737	89	839	440	369
September	1,845	88	960	427	369
October	1,842	74	886	439	443
November	1,833	78	886	410	460
December	1,984	77	990	405	512

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 5.8.E. Other Waste Biomass: Consumption for Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	43,483	0	6,460	1,566	35,458
2012	46,863	0	6,914	1,796	38,153
2013	62,445	0	6,768	1,259	54,418
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
Year 2019					
January	4,576	12	1,166	288	3,109
February	4,339	11	1,149	238	2,941
March	4,299	6	1,178	335	2,780
April	3,245	7	945	268	2,024
May	2,579	0	630	252	1,697
June	2,729	1	510	262	1,957
July	2,259	0	519	253	1,486
August	2,361	0	552	278	1,532
September	2,009	0	451	275	1,283
October	3,987	0	1,092	300	2,595
November	4,289	0	1,151	256	2,883
December	4,413	0	1,109	278	3,026
Year 2020					
January	4,944	0	1,211	294	3,438
February	4,380	0	1,108	282	2,990
March	4,458	8	1,208	272	2,970
April	3,656	8	622	268	2,759
May	3,428	1	560	260	2,607
June	2,615	0	552	264	1,799
July	2,507	0	467	260	1,780
August	2,665	0	541	257	1,866
September	2,228	0	453	257	1,518
October	3,827	0	666	254	2,907
November	4,122	0	902	230	2,990
December	4,553	0	1,068	267	3,217
Year 2021					
January	4,904	1	1,088	277	3,538
February	4,172	1	1,001	259	2,912
March	4,571	2	1,059	269	3,241
April	4,005	4	996	226	2,779
May	3,913	0	929	187	2,797
June	2,320	0	380	244	1,696
July	2,620	0	523	226	1,870
August	2,603	0	467	246	1,890
September	2,739	0	494	246	1,999
October	3,772	0	435	218	3,119
November	4,556	0	983	242	3,330
December	5,035	1	1,144	268	3,622

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 5.8.F. Other Waste Biomass: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2011 - 2021 (Billion Btus)

		Electric Power Sector			
Period	Total (all sectors)	Electric Utilities	Independent Power Producers	Commercial Sector	Industrial Sector
Annual Totals					
2011	74,255	4,488	22,574	5,382	41,810
2012	77,205	4,191	22,654	5,812	44,548
2013	91,830	2,432	20,439	6,238	62,721
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
Year 2019					
January	6,706	133	2,251	788	3,533
February	6,257	153	2,088	689	3,327
March	6,473	183	2,242	828	3,219
April	5,270	108	1,999	743	2,420
May	4,343	83	1,508	707	2,046
June	4,646	85	1,548	721	2,293
July	4,258	90	1,629	727	1,812
August	4,438	117	1,691	753	1,876
September	3,852	73	1,487	734	1,558
October	5,981	51	2,166	759	3,005
November	6,300	27	2,249	724	3,299
December	6,508	69	2,198	776	3,465
Year 2020					
January	7,133	70	2,368	757	3,938
February	6,362	80	2,151	701	3,430
March	6,512	99	2,267	729	3,417
April	5,483	89	1,505	697	3,192
May	5,347	88	1,539	703	3,017
June	4,347	93	1,417	680	2,157
July	4,258	82	1,333	685	2,158
August	4,363	95	1,337	687	2,244
September	3,975	96	1,370	678	1,831
October	5,625	85	1,501	680	3,358
November	5,852	84	1,737	621	3,410
December	6,362	82	2,028	562	3,690
Year 2021					
January	6,976	101	2,177	690	4,007
February	6,050	84	2,020	651	3,296
March	6,681	106	2,162	711	3,702
April	5,813	78	1,881	639	3,215
May	5,862	57	1,970	622	3,213
June	4,090	108	1,307	664	2,010
July	4,416	74	1,434	664	2,243
August	4,339	89	1,306	686	2,259
September	4,584	88	1,454	673	2,368
October	5,613	74	1,321	656	3,562
November	6,389	78	1,869	652	3,790
December	7,019	78	2,133	674	4,134

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 5.9. Consumption of Coal for Electricity Generation by State by Sector, 2021 and 2020 (Thousand Tons)

Census Division and State	All Sectors			Electric Power Sector							
				Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	294	75	292.0%	0	58	294	15	0	0	0	3
Connecticut	158	4	NM	0	0	158	4	0	0	0	0
Maine	12	14	-10.0%	0	0	12	11	0	0	0	3
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	123	58	115.0%	0	58	123	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	16,642	14,028	19.0%	0	0	16,625	14,014	0	0	17	14
New Jersey	444	402	10.0%	0	0	444	402	0	0	0	0
New York	0	64	-100.0%	0	0	0	64	0	0	0	0
Pennsylvania	16,198	13,562	19.0%	0	0	16,181	13,548	0	0	17	14
East North Central	108,864	90,199	21.0%	64,620	53,672	43,793	35,932	11	9	440	586
Illinois	26,011	18,290	42.0%	1,060	948	24,601	16,852	3	4	347	486
Indiana	27,631	23,921	16.0%	25,399	21,679	2,226	2,237	7	5	0	0
Michigan	20,693	15,891	30.0%	20,539	15,710	154	180	0	0	1	1
Ohio	19,030	18,761	1.4%	2,218	2,098	16,812	16,663	0	0	0	0
Wisconsin	15,498	13,337	16.0%	15,406	13,237	0	0	0	0	93	100
West North Central	101,042	91,121	11.0%	100,228	90,305	0	0	18	14	796	801
Iowa	12,673	8,161	55.0%	12,195	7,701	0	0	12	13	465	447
Kansas	12,595	11,263	12.0%	12,595	11,263	0	0	0	0	0	0
Minnesota	9,222	8,281	11.0%	9,176	8,244	0	0	4	1	42	37
Missouri	33,737	30,424	11.0%	33,734	30,423	0	0	3	1	0	0
Nebraska	11,882	11,875	0.1%	11,626	11,587	0	0	0	0	256	288
North Dakota	19,911	20,074	-0.8%	19,878	20,045	0	0	0	0	33	29
South Dakota	1,024	1,042	-1.8%	1,024	1,042	0	0	0	0	0	0
South Atlantic	61,394	52,920	16.0%	53,117	46,752	8,129	6,030	7	8	141	130
Delaware	172	76	127.0%	0	0	172	76	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	8,313	7,503	11.0%	8,304	7,496	0	0	0	0	9	7
Georgia	9,968	7,377	35.0%	9,930	7,340	0	0	0	0	38	37
Maryland	2,264	1,528	48.0%	0	0	2,264	1,528	0	0	0	0
North Carolina	8,479	8,580	-1.2%	8,438	8,509	7	38	7	8	28	25
South Carolina	6,404	5,410	18.0%	6,365	5,368	33	39	0	0	5	3
Virginia	1,544	1,872	-18.0%	1,441	1,774	41	40	0	0	62	58
West Virginia	24,250	20,573	18.0%	18,639	16,265	5,611	4,309	0	0	0	0
East South Central	51,951	43,476	19.0%	48,812	40,853	3,050	2,537	0	0	90	86
Alabama	14,588	11,896	23.0%	14,588	11,896	0	0	0	0	0	0
Kentucky	23,584	20,637	14.0%	23,584	20,637	0	0	0	0	0	0
Mississippi	4,774	3,989	20.0%	1,724	1,451	3,050	2,537	0	0	0	0
Tennessee	9,005	6,955	29.0%	8,915	6,869	0	0	0	0	90	86
West South Central	87,034	72,014	21.0%	44,249	33,524	42,760	38,453	0	0	25	38
Arkansas	12,284	9,207	33.0%	9,965	7,300	2,313	1,900	0	0	6	6
Louisiana	5,535	2,736	102.0%	3,741	2,505	1,794	231	0	0	0	0
Oklahoma	7,453	4,002	86.0%	7,435	3,970	0	0	0	0	19	32
Texas	61,762	56,069	10.0%	23,108	19,748	38,654	36,321	0	0	0	0
Mountain	69,672	65,735	6.0%	61,277	58,814	8,304	6,842	0	0	91	79
Arizona	8,419	8,274	1.8%	8,419	8,274	0	0	0	0	0	0
Colorado	13,400	11,477	17.0%	13,400	11,477	0	0	0	0	0	0
Idaho	3	4	-20.0%	0	0	0	0	0	0	3	4
Montana	6,913	5,630	23.0%	64	229	6,844	5,394	0	0	5	6
Nevada	1,490	1,105	35.0%	825	507	665	598	0	0	0	0
New Mexico	7,075	7,443	-4.9%	7,075	7,443	0	0	0	0	0	0
Utah	12,274	10,866	13.0%	11,871	10,544	403	322	0	0	0	0
Wyoming	20,096	20,936	-4.0%	19,622	20,339	392	527	0	0	82	69
Pacific Contiguous	2,185	4,527	-52.0%	0	985	2,120	3,476	0	0	65	65
California	58	58	1.1%	0	0	0	0	0	0	58	58
Oregon	0	985	-100.0%	0	985	0	0	0	0	0	0
Washington	2,126	3,484	-39.0%	0	0	2,120	3,476	0	0	7	7
Pacific Noncontiguous	1,220	1,256	-2.8%	392	389	777	826	51	41	0	0
Alaska	591	588	0.5%	392	389	147	158	51	41	0	0
Hawaii	630	668	-5.7%	0	0	630	668	0	0	0	0
U.S. Total	500,298	435,351	15.0%	372,694	325,352	125,851	108,125	87	72	1,666	1,802

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,. 2021 and 2020 (Thousand Barrels)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	496	347	43.0%	45	49	414	266	29	22	9	10
Connecticut	155	129	20.0%	9	12	142	116	2	1	2	1
Maine	58	61	-4.7%	0	0	43	47	NM	5	5	8
Massachusetts	150	84	79.0%	25	14	118	64	6	5	1	1
New Hampshire	104	61	71.0%	0	17	94	34	11	11	0	0
Rhode Island	19	6	229.0%	0	0	16	5	2	1	1	0
Vermont	10	6	89.0%	10	6	0	0	0	0	0	0
Middle Atlantic	1,633	1,001	63.0%	1,013	405	573	537	16	30	30	30
New Jersey	62	42	47.0%	1	0	60	41	1	1	0	0
New York	1,289	751	72.0%	1,012	404	263	318	7	19	8	11
Pennsylvania	282	208	35.0%	1	0	251	179	8	11	23	19
East North Central	1,440	783	84.0%	1,098	532	329	242	5	3	8	6
Illinois	113	76	49.0%	37	15	76	61	0	0	0	0
Indiana	257	230	12.0%	249	228	7	0	1	0	1	2
Michigan	285	200	43.0%	281	197	0	0	2	1	2	2
Ohio	319	227	40.0%	72	47	245	178	0	0	1	1
Wisconsin	466	50	829.0%	458	45	2	3	2	1	4	1
West North Central	1,695	660	157.0%	1,671	648	18	7	3	4	2	1
Iowa	240	127	89.0%	234	122	5	5	0	0	0	0
Kansas	363	177	105.0%	363	177	0	0	0	0	0	0
Minnesota	215	55	294.0%	198	48	13	2	3	4	2	1
Missouri	589	184	220.0%	588	184	0	0	0	0	0	0
Nebraska	136	38	260.0%	136	38	0	0	0	0	0	0
North Dakota	67	61	9.7%	67	61	0	0	0	0	0	0
South Dakota	84	19	353.0%	84	19	0	0	0	NM	0	0
South Atlantic	2,594	1,904	36.0%	1,870	1,361	456	304	182	154	87	85
Delaware	42	22	89.0%	4	1	38	21	0	0	0	0
District of Columbia	0	0	94.0%	0	0	0	0	0	0	0	0
Florida	622	398	56.0%	559	367	45	14	0	0	18	17
Georgia	186	149	24.0%	115	98	32	4	3	2	35	45
Maryland	194	177	9.4%	6	4	186	172	1	1	0	0
North Carolina	376	242	55.0%	346	223	12	8	1	1	17	10
South Carolina	158	133	19.0%	143	123	7	3	0	0	9	7
Virginia	714	526	36.0%	403	288	127	81	176	151	7	6
West Virginia	303	257	18.0%	294	257	9	0	0	0	0	0
East South Central	468	414	13.0%	431	394	28	6	0	0	9	14
Alabama	43	23	86.0%	9	7	27	6	0	0	6	10
Kentucky	156	166	-5.6%	156	166	0	0	0	0	0	0
Mississippi	13	14	-4.1%	12	11	0	0	0	0	2	3
Tennessee	256	211	21.0%	254	209	1	1	0	0	2	1
West South Central	595	250	138.0%	380	199	210	47	1	0	5	4
Arkansas	95	91	4.9%	75	72	20	19	0	0	0	0
Louisiana	26	14	92.0%	26	14	0	0	0	0	0	0
Oklahoma	67	52	29.0%	66	51	0	0	0	0	1	2
Texas	406	93	337.0%	213	63	189	28	1	0	3	2
Mountain	436	354	23.0%	411	325	24	28	0	0	1	0
Arizona	86	79	8.3%	85	79	0	0	0	0	0	0
Colorado	66	20	236.0%	66	20	0	0	0	0	0	0
Idaho	0	0	153.0%	0	0	0	0	0	0	0	0
Montana	17	20	-17.0%	1	1	16	20	0	0	0	0
Nevada	16	13	22.0%	12	10	4	3	0	0	0	0
New Mexico	67	67	-1.0%	67	67	0	0	0	0	0	0
Utah	68	71	-3.2%	65	65	3	5	0	0	0	0
Wyoming	117	84	39.0%	116	84	0	0	0	0	1	0
Pacific Contiguous	178	124	43.0%	71	74	45	34	2	2	60	15
California	137	89	54.0%	66	61	29	21	1	1	42	6
Oregon	1	4	-88.0%	0	4	0	0	0	0	0	0
Washington	41	31	31.0%	5	9	16	14	0	0	19	8
Pacific Noncontiguous	12,099	12,170	-0.6%	9,860	9,926	2,006	1,975	11	23	221	245
Alaska	1,594	1,784	-11.0%	1,526	1,703	0	5	1	4	66	72
Hawaii	10,505	10,387	1.1%	8,334	8,223	2,006	1,971	10	20	155	173
U.S. Total	21,634	18,008	20.0%	16,850	13,913	4,102	3,447	250	238	432	410

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 5.11. Consumption of Petroleum Coke for Electricity Generation by State, by Sector, 2021 and 2020 (Thousand Tons)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
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	6	-100.0%	0	0	0	0	0	0	0	6
New Jersey	0	6	-100.0%	0	0	0	0	0	0	0	6
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	1,027	960	6.9%	516	401	450	492	0	0	60	68
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	512	430	19.0%	452	362	0	0	0	0	60	68
Ohio	450	492	-8.5%	0	0	450	492	0	0	0	0
Wisconsin	64	38	67.0%	64	38	0	0	0	0	0	0
West North Central	5	11	-56.0%	0	0	0	0	1	1	4	11
Iowa	5	11	-56.0%	0	0	0	0	1	1	4	11
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	338	577	-41.0%	315	544	0	0	0	0	23	33
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	315	544	-42.0%	315	544	0	0	0	0	0	0
Georgia	23	33	-30.0%	0	0	0	0	0	0	23	33
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	1,533	1,357	13.0%	1,493	1,315	0	0	0	0	40	42
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,493	1,315	14.0%	1,493	1,315	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	40	42	-4.7%	0	0	0	0	0	0	40	42
Mountain	168	165	1.5%	0	0	168	165	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	168	165	1.5%	0	0	168	165	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	3,070	3,077	-0.2%	2,323	2,260	618	658	1	1	127	158

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 5.12. Consumption of Nautral Gas for Electricity Generation by State, by Sector, 2021 and 2020 (Million Cubic Feet)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	396,619	364,792	8.7%	1,329	2,348	380,835	348,370	5,413	5,361	9,042	8,713
Connecticut	168,273	162,634	3.5%	536	473	162,176	156,675	1,806	1,928	3,755	3,558
Maine	22,079	12,304	79.0%	0	0	19,309	9,756	153	156	2,616	2,393
Massachusetts	110,245	103,485	6.5%	785	1,651	105,328	97,667	3,168	2,993	964	1,174
New Hampshire	32,336	26,277	23.0%	0	210	32,104	25,853	49	40	183	174
Rhode Island	63,671	60,071	6.0%	0	0	61,918	58,419	230	239	1,523	1,413
Vermont	15	19	-23.0%	8	14	0	0	7	5	0	0
Middle Atlantic	1,496,683	1,450,940	3.2%	112,679	106,359	1,361,173	1,322,588	6,772	7,460	16,059	14,534
New Jersey	205,766	211,483	-2.7%	985	1,175	201,617	206,798	1,345	1,230	1,818	2,280
New York	435,241	409,352	6.3%	111,570	105,138	315,156	294,912	4,792	5,590	3,723	3,712
Pennsylvania	855,677	830,105	3.1%	123	47	844,400	820,878	636	640	10,518	8,541
East North Central	1,161,269	1,283,829	-9.5%	409,304	486,134	711,994	760,535	8,185	7,691	31,785	29,469
Illinois	175,880	235,955	-25.0%	18,681	55,415	148,896	174,794	2,577	2,177	5,725	3,570
Indiana	211,215	236,178	-11.0%	87,551	109,486	108,304	111,299	900	965	14,460	14,429
Michigan	234,659	278,119	-16.0%	101,110	115,843	127,125	155,991	2,990	2,946	3,434	3,339
Ohio	388,926	373,280	4.2%	64,058	62,341	321,994	308,073	1,184	1,056	1,689	1,810
Wisconsin	150,588	160,297	-6.1%	137,904	143,049	5,674	10,379	534	547	6,476	6,322
West North Central	248,752	248,317	0.2%	197,732	199,243	43,863	42,237	1,705	1,703	5,451	5,133
Iowa	45,271	46,732	-3.1%	42,024	43,290	0	1	443	555	2,803	2,885
Kansas	23,997	25,410	-5.6%	22,668	24,305	0	0	0	0	1,329	1,105
Minnesota	92,297	80,617	14.0%	60,624	53,880	30,558	25,743	499	447	616	546
Missouri	49,711	61,981	-20.0%	35,519	44,690	13,305	16,492	735	658	152	141
Nebraska	11,304	10,880	3.9%	11,276	10,837	0	0	28	43	0	0
North Dakota	14,641	13,793	6.1%	14,441	13,537	0	0	0	0	199	256
South Dakota	11,532	8,904	30.0%	11,180	8,704	0	0	0	0	352	200
South Atlantic	2,806,650	2,897,877	-3.1%	2,344,711	2,376,975	424,985	477,796	6,022	11,810	30,932	31,296
Delaware	27,687	34,353	-19.0%	232	308	23,545	28,860	0	0	3,910	5,185
District of Columbia	1,465	1,422	3.0%	0	0	0	0	1,465	1,422	0	0
Florida	1,324,799	1,366,201	-3.0%	1,251,996	1,298,470	63,098	58,877	332	336	9,373	8,518
Georgia	407,901	430,705	-5.3%	334,250	329,533	68,968	96,867	0	0	4,683	4,305
Maryland	100,485	103,245	-2.7%	23,472	20,323	74,192	74,059	2,596	8,646	224	217
North Carolina	363,318	305,495	19.0%	301,722	247,829	59,082	55,533	1,628	1,363	886	771
South Carolina	174,408	179,934	-3.1%	166,884	172,779	6,495	5,914	1	0	1,029	1,241
Virginia	384,287	452,603	-15.0%	262,268	306,343	113,949	137,803	0	43	8,071	8,415
West Virginia	22,300	23,919	-6.8%	3,887	1,390	15,656	19,885	0	0	2,756	2,645
East South Central	952,120	1,001,275	-4.9%	712,653	763,972	216,615	214,734	908	1,015	21,945	21,553
Alabama	381,952	390,869	-2.3%	162,547	172,838	209,502	208,645	0	0	9,902	9,386
Kentucky	109,022	103,772	5.1%	101,115	96,948	6,862	5,861	0	0	1,046	963
Mississippi	353,612	392,569	-9.9%	350,577	389,358	87	72	0	0	2,948	3,139
Tennessee	107,534	114,064	-5.7%	98,414	104,828	164	156	908	1,015	8,049	8,065
West South Central	2,563,876	2,812,457	-8.8%	1,003,404	1,116,774	1,171,052	1,270,129	4,505	4,334	384,915	421,221
Arkansas	146,707	131,199	12.0%	139,489	122,918	5,497	6,603	479	477	1,242	1,201
Louisiana	451,466	509,199	-11.0%	289,353	323,353	22,709	27,871	813	826	138,591	157,149
Oklahoma	268,342	349,764	-23.0%	182,126	234,012	82,396	111,704	0	0	3,820	4,048
Texas	1,697,362	1,822,295	-6.9%	392,436	436,491	1,060,451	1,123,951	3,213	3,030	241,262	258,822
Mountain	889,043	949,707	-6.4%	695,835	769,161	178,686	164,878	2,225	2,338	12,297	13,330
Arizona	358,191	389,011	-7.9%	254,535	303,841	103,080	84,570	576	600	0	0
Colorado	117,513	141,499	-17.0%	96,637	117,073	19,646	23,129	15	35	1,214	1,261
Idaho	38,025	31,341	21.0%	24,976	19,030	12,310	11,461	166	172	573	678
Montana	5,744	3,445	67.0%	4,586	2,878	1,107	548	0	0	51	20
Nevada	194,865	201,712	-3.4%	176,499	183,380	15,290	15,338	256	251	2,819	2,742
New Mexico	83,186	100,630	-17.0%	55,940	70,813	26,036	29,025	644	589	567	204
Utah	79,440	71,656	11.0%	74,754	66,435	1,202	791	567	691	2,916	3,739
Wyoming	12,078	10,413	16.0%	7,909	5,710	13	16	0	0	4,156	4,686
Pacific Contiguous	963,043	895,800	7.5%	373,284	352,345	507,313	460,303	9,801	10,113	72,645	73,040
California	700,138	667,754	4.8%	221,343	216,736	401,692	372,664	9,535	9,855	67,568	68,499
Oregon	147,409	130,410	13.0%	74,478	65,996	72,225	63,713	213	212	493	489
Washington	115,496	97,636	18.0%	77,463	69,613	33,396	23,926	53	45	4,585	4,052
Pacific Noncontiguous	25,782	23,110	12.0%	25,510	22,841	0	0	0	0	272	268
Alaska	25,782	23,110	12.0%	25,510	22,841	0	0	0	0	272	268
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	11,503,839	11,928,104	-3.6%	5,876,442	6,196,152	4,996,517	5,061,569	45,536	51,827	585,344	618,556

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, 2021 and 2020 (Million Cubic Feet)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	11,536	12,051	-4.3%	1,201	1,231	10,109	10,613	226	208	0	0
Connecticut	142	146	-2.7%	0	0	142	146	0	0	0	0
Maine	474	646	-27.0%	0	0	474	646	0	0	0	0
Massachusetts	3,284	3,614	-9.1%	0	0	3,284	3,614	0	0	0	0
New Hampshire	2,159	1,947	11.0%	0	0	1,933	1,740	226	208	0	0
Rhode Island	4,058	4,216	-3.7%	0	0	4,058	4,216	0	0	0	0
Vermont	1,419	1,482	-4.3%	1,201	1,231	217	251	0	0	0	0
Middle Atlantic	36,218	41,942	-14.0%	0	0	34,801	40,414	479	708	937	819
New Jersey	4,423	5,030	-12.0%	0	0	4,315	4,892	108	138	0	0
New York	15,348	16,092	-4.6%	0	0	15,348	16,092	0	0	0	0
Pennsylvania	16,447	20,820	-21.0%	0	0	15,139	19,430	371	571	937	819
East North Central	57,258	63,087	-9.2%	10,387	10,283	46,502	52,283	236	285	133	236
Illinois	10,201	10,998	-7.2%	4,179	3,456	6,022	7,541	0	0	0	0
Indiana	7,667	8,049	-4.8%	6,207	6,827	1,460	1,223	0	0	0	0
Michigan	20,454	24,179	-15.0%	0	0	20,454	24,179	0	0	0	0
Ohio	10,040	10,334	-2.8%	0	0	10,040	10,334	0	0	0	0
Wisconsin	8,895	9,527	-6.6%	0	0	8,526	9,006	236	285	133	236
West North Central	7,908	9,310	-15.0%	3,369	3,426	4,512	5,871	0	0	27	13
Iowa	2,191	2,353	-6.9%	0	0	2,191	2,353	0	0	0	0
Kansas	1,281	1,432	-11.0%	0	0	1,281	1,432	0	0	0	0
Minnesota	1,127	1,879	-40.0%	739	720	387	1,159	0	0	0	0
Missouri	1,593	1,943	-18.0%	940	1,015	653	928	0	0	0	0
Nebraska	1,689	1,691	-0.1%	1,689	1,691	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	27	13	103.0%	0	0	0	0	0	0	27	13
South Atlantic	46,375	49,719	-6.7%	3,302	3,974	40,950	42,599	1,007	1,964	1,116	1,182
Delaware	1,512	1,435	5.4%	0	0	1,411	1,328	0	0	101	107
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	10,478	10,677	-1.9%	1,545	1,890	8,933	8,786	0	0	0	0
Georgia	6,154	6,238	-1.3%	0	0	6,080	6,132	0	0	74	106
Maryland	1,486	2,371	-37.0%	0	0	1,467	1,622	19	749	0	0
North Carolina	9,856	11,013	-11.0%	0	0	9,115	10,085	740	928	0	0
South Carolina	2,985	3,228	-7.5%	1,757	2,025	286	234	0	0	941	969
Virginia	13,785	14,681	-6.1%	0	58	13,537	14,336	247	287	0	0
West Virginia	120	77	56.0%	0	0	120	77	0	0	0	0
East South Central	5,582	5,738	-2.7%	2,412	2,429	3,170	3,309	0	0	0	0
Alabama	1,090	995	9.5%	0	0	1,090	995	0	0	0	0
Kentucky	2,756	2,806	-1.8%	2,412	2,429	344	377	0	0	0	0
Mississippi	200	207	-3.5%	0	0	200	207	0	0	0	0
Tennessee	1,536	1,729	-11.0%	0	0	1,536	1,729	0	0	0	0
West South Central	8,121	10,128	-20.0%	0	0	8,121	10,128	0	0	0	0
Arkansas	1,327	1,433	-7.4%	0	0	1,327	1,433	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	513	420	22.0%	0	0	513	420	0	0	0	0
Texas	6,280	8,275	-24.0%	0	0	6,280	8,275	0	0	0	0
Mountain	6,942	7,444	-6.7%	561	610	5,502	5,960	879	875	0	0
Arizona	429	468	-8.4%	0	0	429	468	0	0	0	0
Colorado	1,165	1,273	-8.5%	0	0	1,165	1,273	0	0	0	0
Idaho	1,402	1,454	-3.6%	337	354	537	545	529	555	0	0
Montana	224	255	-12.0%	224	255	0	0	0	0	0	0
Nevada	1,506	1,679	-10.0%	0	0	1,506	1,679	0	0	0	0
New Mexico	448	463	-3.2%	0	0	448	463	0	0	0	0
Utah	1,769	1,853	-4.6%	0	0	1,418	1,533	350	320	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	51,162	52,305	-2.2%	1,599	1,619	36,364	37,019	12,870	13,319	328	348
California	44,335	45,390	-2.3%	105	112	31,573	32,120	12,329	12,810	328	348
Oregon	5,980	5,906	1.3%	1,495	1,507	3,945	3,889	541	509	0	0
Washington	846	1,010	-16.0%	0	0	846	1,010	0	0	0	0
Pacific Noncontiguous	775	776	-0.2%	0	0	0	0	775	776	0	0
Alaska	775	776	-0.2%	0	0	0	0	775	776	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	231,876	252,501	-8.2%	22,831	23,571	190,031	208,196	16,472	18,136	2,542	2,597

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 5.14. Consumption of Biogenic Municipal Solid Waste for Electricity Generation by State, by Sector, 2021 and 2020 (Thousand Tons)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	3,344,496	3,357,062	-0.4%	0	0	3,244,211	3,235,745	100,285	121,317	0	0
Connecticut	1,148,439	1,174,677	-2.2%	0	0	1,148,439	1,174,677	0	0	0	0
Maine	211,752	230,149	-8.0%	0	0	111,467	108,832	100,285	121,317	0	0
Massachusetts	1,869,241	1,839,047	1.6%	0	0	1,869,241	1,839,047	0	0	0	0
New Hampshire	115,064	113,189	1.7%	0	0	115,064	113,189	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	4,954,537	5,138,118	-3.6%	0	0	3,809,753	3,994,007	1,144,784	1,144,111	0	0
New Jersey	1,271,018	1,275,256	-0.3%	0	0	932,814	943,842	338,204	331,414	0	0
New York	1,789,899	1,958,614	-8.6%	0	0	1,232,967	1,390,247	556,932	568,367	0	0
Pennsylvania	1,893,620	1,904,248	-0.6%	0	0	1,643,972	1,659,918	249,648	244,330	0	0
East North Central	165,759	165,535	0.1%	36,086	31,633	0	0	129,673	133,902	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	17,503	20,046	-13.0%	0	0	0	0	17,503	20,046	0	0
Michigan	112,170	113,856	-1.5%	0	0	0	0	112,170	113,856	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	36,086	31,633	14.0%	36,086	31,633	0	0	0	0	0	0
West North Central	450,830	458,423	-1.7%	216,240	248,167	222,644	200,134	11,946	10,122	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	450,830	458,423	-1.7%	216,240	248,167	222,644	200,134	11,946	10,122	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	5,248,506	5,324,569	-1.4%	0	0	4,524,786	4,905,241	723,720	419,328	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	3,539,384	3,628,428	-2.5%	0	0	3,202,380	3,628,428	337,004	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	606,695	551,109	10.0%	0	0	606,695	551,109	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	1,102,427	1,145,032	-3.7%	0	0	715,711	725,704	386,716	419,328	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	7,394	10,326	-28.0%	0	0	0	0	0	0	7,394	10,326
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	7,394	10,326	-28.0%	0	0	0	0	0	0	7,394	10,326
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	640,719	639,777	0.1%	0	0	640,719	639,777	0	0	0	0
California	377,052	375,623	0.4%	0	0	377,052	375,623	0	0	0	0
Oregon	109,422	113,266	-3.4%	0	0	109,422	113,266	0	0	0	0
Washington	154,245	150,888	2.2%	0	0	154,245	150,888	0	0	0	0
Pacific Noncontiguous	410,448	422,300	-2.8%	0	0	0	0	410,448	422,300	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	410,448	422,300	-2.8%	0	0	0	0	410,448	422,300	0	0
U.S. Total	15,222,689	15,516,110	-1.9%	252,326	279,800	12,442,113	12,974,904	2,520,856	2,251,080	7,394	10,326

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, 2011 - 2021

	Electric Power Sector			Electric Utilities			Independent Power Producers		
Period	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									
2011	172,387	33,742	508	142,103	24,544	404	30,284	9,198	104
2012	185,116	30,862	495	150,942	22,513	414	34,174	8,349	81
2013	147,884	30,387	390	120,792	21,208	303	27,092	9,179	86
2014	151,548	32,322	827	116,684	21,304	686	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	26,003	302	75,231	15,636	290	16,653	10,368	12
Year 2019, End of Month Stocks									
January	99,145	25,791	528	81,550	16,464	518	17,595	9,327	9
February	98,637	26,154	505	81,171	16,781	494	17,467	9,373	11
March	96,932	26,202	503	79,482	16,870	482	17,450	9,332	21
April	108,072	26,330	513	88,197	16,994	500	19,875	9,336	13
May	115,700	26,407	444	93,461	17,063	434	22,239	9,344	10
June	116,875	26,185	388	93,750	16,862	381	23,125	9,323	7
July	110,661	25,827	354	89,490	16,598	347	21,171	9,230	8
August	110,268	25,208	380	89,041	16,128	372	21,227	9,080	8
September	110,615	25,448	292	89,616	16,352	281	20,998	9,096	11
October	118,566	25,413	292	96,194	16,359	277	22,372	9,055	16
November	122,357	25,720	464	99,459	16,480	407	22,898	9,240	57
December	128,102	25,960	471	104,265	16,435	428	23,837	9,525	43
Year 2020, End of Month Stocks									
January	134,134	25,154	562	108,361	16,011	503	25,773	9,144	59
February	139,112	25,101	650	112,119	16,018	584	26,992	9,084	66
March	145,034	25,609	566	116,444	16,448	527	28,590	9,162	39
April	151,534	25,732	549	122,120	16,491	524	29,413	9,240	25
May	153,716	25,937	529	123,725	16,552	518	29,991	9,385	11
June	149,935	26,095	479	120,396	16,530	471	29,539	9,565	9
July	137,149	26,870	455	110,533	16,670	437	26,616	10,200	19
August	128,330	25,881	408	103,893	16,437	402	24,436	9,444	6
September	127,902	26,404	416	103,165	16,229	402	24,736	10,175	15
October	132,058	26,484	457	106,722	16,355	435	25,336	10,129	21
November	134,522	26,224	472	109,153	16,178	452	25,369	10,045	21
December	131,431	26,063	298	107,965	15,941	273	23,466	10,123	25
Year 2021, End of Month Stocks									
January	123,705	25,914	253	101,601	16,111	250	22,104	9,803	3
February	107,698	25,307	207	88,851	15,687	189	18,847	9,620	18
March	109,613	25,251	230	89,317	15,692	211	20,296	9,559	19
April	115,505	24,879	353	94,159	15,268	340	21,345	9,611	14
May	117,932	24,841	397	95,618	15,176	382	22,314	9,666	16
June	108,678	24,584	454	88,047	15,029	429	20,631	9,555	25
July	94,974	24,050	453	78,110	14,808	434	16,864	9,242	19
August	81,762	23,589	360	68,020	14,401	347	13,741	9,188	13
September	77,476	24,101	375	63,541	14,864	359	13,935	9,237	17
October	81,879	24,380	339	68,087	14,890	326	13,792	9,489	13
November	89,268	24,881	340	73,722	14,923	328	15,545	9,958	12
December	91,884	26,003	302	75,231	15,636	290	16,653	10,368	12

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, 2021 and 2020

Census Division and State	Coal (Thousand Tons)			Petroleum Liquids (Thousand Barrels)			Petroleum Coke (Thousand Tons)		
	December 2021	December 2020	Percentage Change	December 2021	December 2020	Percentage Change	December 2021	December 2020	Percentage Change
New England	W	491	W	3,301	3,568	-7.5%	0	0	--
Connecticut	0	W	W	1,323	1,261	4.9%	0	0	--
Maine	0	0	--	256	301	-15.1%	0	0	--
Massachusetts	0	0	--	1,143	1,442	-20.7%	0	0	--
New Hampshire	W	W	W	387	361	7.2%	0	0	--
Rhode Island	0	0	--	166	173	-4.0%	0	0	--
Vermont	0	0	--	28	31	-10.6%	0	0	--
Middle Atlantic	2,949	3,734	-21.0%	5,563	5,406	2.9%	0	0	--
New Jersey	W	W	W	744	767	-2.9%	0	0	--
New York	0	0	--	3,335	3,149	5.9%	0	0	--
Pennsylvania	W	W	W	1,484	1,490	-0.4%	0	0	--
East North Central	18,182	30,027	-39.4%	1,669	1,667	0.1%	W	W	W
Illinois	4,208	6,220	-32.4%	94	71	32.8%	0	0	--
Indiana	5,506	10,635	-48.2%	107	106	0.9%	0	0	--
Michigan	2,371	4,930	-51.9%	225	258	-12.9%	W	W	W
Ohio	3,450	4,693	-26.5%	462	458	0.9%	0	0	--
Wisconsin	2,647	3,549	-25.4%	781	774	0.9%	W	W	W
West North Central	19,903	26,370	-24.5%	1,082	801	35.0%	0	0	--
Iowa	3,680	7,523	-51.1%	127	127	0.2%	0	0	--
Kansas	3,242	3,340	-3.0%	196	127	54.4%	0	0	--
Minnesota	1,925	3,148	-38.8%	125	103	21.8%	0	0	--
Missouri	6,179	7,399	-16.5%	425	262	62.6%	0	0	--
Nebraska	3,067	3,114	-1.5%	116	105	9.8%	0	0	--
North Dakota	W	W	W	33	30	10.0%	0	0	--
South Dakota	W	W	W	61	48	24.8%	0	0	--
South Atlantic	13,623	20,440	-33.4%	9,547	10,372	-7.9%	W	W	W
Delaware	W	W	W	561	561	0.0%	0	0	--
District of Columbia	0	0	--	0	0	--	0	0	--
Florida	1,660	2,049	-19.0%	3,582	3,641	-1.6%	W	W	W
Georgia	2,939	4,839	-39.3%	1,105	1,010	9.4%	0	0	--
Maryland	849	1,427	-40.5%	737	768	-4.0%	0	0	--
North Carolina	3,402	3,527	-3.5%	1,097	1,226	-10.6%	0	0	--
South Carolina	967	1,438	-32.8%	655	669	-2.0%	0	0	--
Virginia	551	W	W	1,653	2,345	-29.5%	0	0	--
West Virginia	W	6,527	W	157	152	2.9%	W	W	W
East South Central	7,696	11,366	-32.3%	1,048	1,164	-9.9%	0	0	--
Alabama	W	2,993	W	211	210	0.6%	0	0	--
Kentucky	3,441	5,600	-38.6%	265	237	11.6%	0	0	--
Mississippi	W	W	W	6	6	2.5%	0	0	--
Tennessee	2,207	W	W	566	710	-20.3%	0	0	--
West South Central	14,740	20,032	-26.4%	1,907	1,194	59.6%	W	W	W
Arkansas	2,946	3,911	-24.7%	172	162	6.2%	0	0	--
Louisiana	2,166	3,810	-43.2%	201	208	-3.3%	W	W	W
Oklahoma	2,025	2,662	-23.9%	20	100	-79.9%	0	0	--
Texas	7,603	9,648	-21.2%	1,514	724	109.0%	0	0	--
Mountain	W	17,985	W	334	360	-7.4%	W	W	W
Arizona	2,150	3,456	-37.8%	105	105	-0.4%	0	0	--
Colorado	2,985	3,662	-18.5%	129	130	-1.1%	0	0	--
Idaho	0	0	--	0	0	181.0%	0	0	--
Montana	W	W	W	17	14	20.6%	W	W	W
Nevada	W	W	W	2	1	171.9%	0	0	--
New Mexico	W	W	W	16	19	-17.5%	0	0	--
Utah	2,884	4,475	-35.5%	36	46	-22.5%	0	0	--
Wyoming	4,300	W	W	29	44	-34.3%	0	0	--
Pacific Contiguous	W	W	W	356	366	-2.9%	0	0	--
California	0	0	--	186	194	-4.1%	0	0	--
Oregon	0	0	--	74	73	0.6%	0	0	--
Washington	W	W	W	95	98	-3.1%	0	0	--
Pacific Noncontiguous	208	W	W	1,197	1,166	2.7%	0	0	--
Alaska	W	W	W	204	241	-15.3%	0	0	--
Hawaii	W	W	W	993	925	7.4%	0	0	--
U.S. Total	91,884	131,431	-30.1%	26,003	26,063	-0.2%	302	298	1.5%

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.
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, 2021 and 2020

	Electric Power Sector			Electric Utilities		Independent Power Producers	
Census Division	December 2021	December 2020	Percentage Change	December 2021	December 2020	December 2021	December 2020
Coal (Thousand Tons)							
New England	W	491	W	0	W	W	W
Middle Atlantic	2,949	3,734	-21.0%	W	W	W	W
East North Central	18,182	30,027	-39.4%	11,625	20,171	6,557	9,856
West North Central	19,903	26,370	-24.5%	19,903	26,370	0	0
South Atlantic	13,623	20,440	-33.4%	12,137	18,367	1,486	2,072
East South Central	7,696	11,366	-32.3%	7,696	11,366	0	0
West South Central	14,740	20,032	-26.4%	10,657	13,969	4,083	6,063
Mountain	W	17,985	W	W	W	W	W
Pacific Contiguous	W	W	W	0	0	W	W
Pacific Noncontiguous	208	W	W	W	W	W	W
U.S. Total	**91,884**	**131,431**	**-30.1%**	**75,231**	**107,965**	**16,653**	**23,466**
Petroleum Liquids (Thousand Barrels)							
New England	3,301	3,568	-7.5%	247	526	3,054	3,042
Middle Atlantic	5,563	5,406	2.9%	2,103	2,000	3,461	3,405
East North Central	1,669	1,667	0.1%	1,299	742	369	925
West North Central	1,082	801	35.0%	1,050	776	31	26
South Atlantic	9,547	10,372	-7.9%	7,273	8,087	2,274	2,285
East South Central	1,048	1,164	-9.9%	948	1,073	100	91
West South Central	1,907	1,194	59.6%	984	999	923	196
Mountain	334	360	-7.4%	305	333	29	27
Pacific Contiguous	356	366	-2.9%	267	269	88	97
Pacific Noncontiguous	1,197	1,166	2.7%	1,159	1,136	38	29
U.S. Total	**26,003**	**26,063**	**-0.2%**	**15,636**	**15,941**	**10,368**	**10,123**
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	**302**	**298**	**1.5%**	**290**	**273**	**12**	**25**

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, 2011 - 2021
(Thousand Tons)

	Electric Power Sector			
Period	Bituminous Coal	Subbituminous Coal	Lignite Coal	Total
End of Year Stocks				
2011	82,056	85,151	5,179	172,387
2012	86,437	93,833	4,846	185,116
2013	73,113	69,720	5,051	147,884
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
Year 2019, End of Month Stocks				
January	39,894	56,367	2,883	99,145
February	41,235	54,664	2,738	98,637
March	44,238	49,467	3,054	96,932
April	48,923	55,805	3,344	108,072
May	51,971	60,325	3,023	115,700
June	53,703	60,294	2,551	116,875
July	50,057	57,593	2,670	110,661
August	49,610	57,934	2,409	110,268
September	48,834	59,057	2,395	110,615
October	51,573	64,046	2,590	118,566
November	52,621	66,446	2,959	122,357
December	54,769	69,942	3,124	128,102
Year 2020, End of Month Stocks				
January	56,091	74,481	3,307	134,134
February	57,076	78,570	3,235	139,112
March	59,686	81,468	3,624	145,034
April	61,656	85,644	3,947	151,534
May	61,180	88,062	4,117	153,716
June	58,888	86,582	4,140	149,935
July	52,910	79,680	4,245	137,149
August	49,667	74,075	4,338	128,330
September	49,058	74,579	4,070	127,902
October	52,037	76,055	3,772	132,058
November	53,051	77,576	3,702	134,522
December	50,649	77,033	3,556	131,431
Year 2021, End of Month Stocks				
January	47,703	73,083	2,778	123,705
February	41,919	62,968	2,701	107,698
March	41,984	64,597	2,885	109,613
April	44,213	68,094	3,028	115,505
May	44,529	69,949	3,230	117,932
June	40,652	64,802	2,999	108,678
July	35,174	56,830	2,782	94,974
August	30,154	48,768	2,684	81,762
September	28,442	46,257	2,776	77,476
October	31,560	47,363	2,956	81,879
November	34,389	51,600	3,279	89,268
December	34,560	54,726	2,598	91,884

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, 2011 through 2021

	Coal				Petroleum				Natural Gas		All Fossil Fuels
			Average Cost				Average Cost			Average Cost	Average Cost
Period	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	(Dollars per MMBtu)	(Dollars per Ton)	Receipts (Thousand Barrels)	Average Sulfur Percent by Weight	(Dollars per MMBtu)	(Dollars per Barrel)	Receipts (Thousand Mcf)	(Dollars per MMBtu)	(Dollars per MMBtu)
2011	956,538	1.19	2.39	46.65	66,058	2.49	12.48	73.29	9,056,164	4.72	3.29
2012	841,183	1.25	2.38	46.09	40,364	3.61	12.48	73.30	9,531,389	3.42	2.83
2013	823,222	1.29	2.34	45.33	43,714	3.54	11.57	68.09	8,503,424	4.33	3.09
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	461,277	1.30	1.98	37.48	27,776	3.11	10.08	58.92	11,566,909	5.20	3.82

* = 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, 2011 through 2021

	Bituminous			Subbituminous			Lignite		
Period	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
2011	380,184	2.01	10.5	488,366	0.33	5.8	75,675	0.90	14.4
2012	317,398	2.23	10.6	442,674	0.32	5.8	71,848	0.93	14.6
2013	312,821	2.33	10.5	429,283	0.32	5.8	71,191	0.92	14.3
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	262,570	0.31	5.6	43,229	0.86	13.3

* = 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:
Bituminous coal includes anthracite and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in 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 7.3. Average Quality of Fossil Fuel Receipts for the Electric Power Industry, 2011 through 2021

	Coal			Petroleum			Natural Gas
Period	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
2011	9,762	1.19	8.8	139,795	2.49	0.4	1,021
2012	9,668	1.25	8.8	139,567	3.61	0.5	1,023
2013	9,661	1.29	8.7	139,671	3.54	0.5	1,026
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

* = 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 7.4. Weighted Average Cost of Fossil Fuels for the Electric Power Industry, 2011 through 2021

	Coal								Petroleum		Natural Gas		Total Fossil	
	Bituminous		Subbituminous		Lignite		All Coal Ranks							
Period	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)
2011	9,040	2.94	8,498	1.91	986	1.62	18,676	2.39	388	12.48	9,251	4.72	28,314	3.29
2012	7,502	2.89	7,722	1.97	931	1.80	16,266	2.38	237	12.48	9,747	3.42	26,249	2.83
2013	7,351	2.77	7,511	2.00	927	1.78	15,907	2.34	256	11.57	8,721	4.33	24,884	3.09
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	4,607	1.85	555	2.09	8,750	1.98	162	10.08	11,955	5.20	20,868	3.82

* = 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 - 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, 2011 - 2021

	Coal						Petroleum Liquids					
	Receipts		Average Cost				Receipts		Average Cost			
Period	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)	Average Sulfur Percent by Weight	Percentage of Consumption
Annual Totals												
2011	13,871,559	699,353	2.40	47.67	1.16	101.5	144,255	23,859	20.30	122.72	0.53	114.5
2012	11,939,543	609,445	2.43	47.51	1.18	99.0	86,030	14,252	22.11	133.44	0.41	81.3
2013	11,595,328	592,772	2.38	46.51	1.23	92.9	78,101	12,814	21.09	128.57	0.43	76.2
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
Year 2019												
January	738,951	38,447	2.16	41.50	1.17	92.6	6,257	1,035	12.58	76.07	0.42	61.2
February	631,870	33,072	2.14	40.80	1.15	98.6	6,768	1,106	13.06	79.89	0.46	99.9
March	588,088	30,001	2.14	41.91	1.36	94.2	6,258	1,034	14.36	86.91	0.42	88.8
April	646,989	33,355	2.13	41.31	1.20	135.4	5,460	901	14.73	89.26	0.47	85.9
May	664,887	34,246	2.12	41.12	1.21	112.6	5,038	832	14.15	85.71	0.48	63.5
June	651,381	33,621	2.10	40.75	1.19	99.7	5,247	869	13.31	80.39	0.47	63.3
July	723,359	37,713	2.08	39.90	1.15	88.8	4,455	740	13.30	80.10	0.46	55.6
August	746,495	38,909	2.06	39.56	1.14	97.4	3,921	656	13.65	81.53	0.48	44.4
September	676,927	35,149	2.01	38.79	1.17	98.7	6,831	1,119	12.41	75.70	0.45	85.5
October	643,227	33,488	2.01	38.57	1.13	122.6	4,958	815	13.28	80.79	0.47	62.2
November	624,023	32,728	2.01	38.36	1.14	106.9	6,206	1,013	12.83	78.61	0.48	82.2
December	633,871	33,185	1.95	37.30	1.12	110.8	5,390	891	13.65	82.59	0.47	63.9
Year 2020												
January	607,032	31,970	1.97	37.43	1.11	116.3	4,738	793	13.76	82.24	0.48	54.9
February	514,565	27,219	1.94	36.69	1.11	114.2	5,900	976	12.90	77.97	0.46	84.8
March	493,867	25,974	1.96	37.29	1.13	119.0	5,397	890	10.39	62.96	0.47	92.2
April	434,599	22,675	1.97	37.73	1.18	132.5	2,763	465	8.47	50.32	0.47	52.7
May	403,390	21,343	1.92	36.34	1.08	107.0	4,283	718	6.79	40.50	0.48	70.4
June	467,961	24,558	1.95	37.21	1.13	88.0	4,390	726	6.78	41.00	0.47	60.8
July	551,833	28,915	1.95	37.25	1.15	75.3	5,830	960	8.50	51.60	0.47	73.8
August	603,152	31,307	1.99	38.37	1.16	80.1	3,924	651	10.21	61.56	0.47	50.4
September	554,014	28,885	2.00	38.29	1.12	97.0	3,475	573	9.75	59.06	0.46	51.7
October	535,411	27,744	1.96	37.82	1.23	110.7	5,944	979	9.32	56.60	0.46	77.5
November	527,752	27,451	1.96	37.63	1.21	110.9	4,108	680	9.44	57.04	0.48	60.7
December	563,234	29,446	1.96	37.41	1.16	92.6	5,778	959	10.23	61.60	0.48	77.9
Year 2021												
January	524,855	27,416	1.97	37.77	1.16	82.1	6,079	994	10.94	66.90	0.47	72.1
February	432,895	22,506	1.97	37.91	1.23	61.9	7,142	1,193	12.72	76.15	0.47	51.4
March	502,746	26,282	1.95	37.28	1.17	101.8	5,440	894	13.23	80.48	0.48	75.6
April	506,346	26,292	1.94	37.28	1.20	116.4	4,447	734	13.61	82.52	0.47	61.4
May	539,795	28,011	1.95	37.57	1.17	103.3	4,906	816	13.99	84.17	0.47	67.6
June	571,750	29,803	2.01	38.49	1.18	82.0	5,792	961	14.57	87.79	0.47	74.3
July	597,304	31,627	2.07	39.08	1.08	74.7	5,254	879	15.06	90.05	0.53	70.5
August	603,863	31,668	2.12	40.51	1.16	74.3	5,319	886	15.30	91.91	0.44	50.4
September	556,784	29,410	2.07	39.21	1.08	87.1	8,318	1,359	14.50	88.77	0.46	96.9
October	533,631	28,034	2.08	39.62	1.13	108.5	5,386	893	16.27	98.09	0.44	67.5
November	535,618	28,455	2.06	38.79	1.07	120.4	5,026	845	17.72	105.34	0.48	66.8
December	543,259	28,701	2.11	39.93	1.08	114.3	6,002	1,013	17.21	101.92	0.47	74.8

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.
- 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 7.6. Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities, 2011 - 2021 (continued)

	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
Period	(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												
2011	99,208	3,445	3.08	88.73	5.17	99.9	3,571,348	3,507,613	5.00	5.09	101.8	3.08
2012	72,782	2,521	2.30	66.40	5.46	119.8	4,083,579	4,003,457	3.74	3.81	97.6	2.86
2013	99,088	3,463	2.11	60.30	5.34	101.6	3,939,408	3,851,241	4.49	4.59	97.0	2.99
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
Year 2019												
January	5,447	192	2.08	59.13	5.93	73.8	447,336	433,482	4.12	4.25	97.1	2.94
February	4,486	155	2.27	65.75	5.78	69.4	415,339	399,738	3.76	3.90	95.9	2.84
March	3,725	130	2.43	69.63	6.15	66.9	433,483	420,028	3.62	3.74	96.3	2.84
April	3,159	111	2.71	76.93	5.65	101.5	402,457	389,643	3.05	3.15	96.7	2.55
May	4,631	162	2.24	63.78	5.41	73.8	472,585	458,543	2.92	3.01	99.1	2.50
June	3,740	130	2.18	62.61	5.15	85.7	547,294	530,276	2.73	2.81	97.6	2.43
July	5,723	199	2.01	57.76	5.22	86.8	663,907	641,742	2.63	2.72	96.8	2.38
August	6,693	235	1.72	48.82	5.15	115.7	681,370	658,397	2.52	2.61	96.6	2.31
September	3,034	105	1.68	48.71	5.58	56.6	578,866	560,076	2.75	2.84	97.0	2.40
October	1,738	60	1.51	43.76	5.45	92.3	497,544	481,352	2.69	2.78	96.7	2.35
November	6,654	232	1.46	41.78	5.38	227.7	428,240	414,451	3.13	3.24	97.0	2.52
December	5,236	183	1.14	32.50	5.44	132.2	470,013	454,665	3.12	3.22	96.9	2.49
Year 2020												
January	8,421	295	1.53	43.68	5.34	144.1	494,557	478,242	2.85	2.95	94.0	2.41
February	6,913	244	1.47	41.75	4.99	164.5	480,707	465,156	2.64	2.73	96.4	2.33
March	4,942	174	1.36	38.61	5.46	82.4	489,559	473,210	2.34	2.42	96.5	2.19
April	5,150	180	1.38	39.50	5.35	98.8	432,300	416,434	2.33	2.42	96.4	2.16
May	5,495	195	1.61	45.35	5.30	104.2	468,904	454,580	2.43	2.51	97.0	2.21
June	5,648	199	1.46	41.45	6.01	77.0	561,203	545,307	2.26	2.33	96.8	2.14
July	6,801	240	1.53	43.25	5.87	92.0	701,448	681,154	2.23	2.29	96.1	2.13
August	6,229	219	1.89	53.72	5.63	92.4	665,360	644,967	2.59	2.67	96.3	2.33
September	3,305	119	1.97	54.59	5.08	102.2	528,058	511,503	2.70	2.79	96.7	2.36
October	3,340	118	2.12	59.66	4.87	143.2	503,542	487,926	2.74	2.83	96.6	2.38
November	4,711	167	2.25	63.61	4.99	105.0	411,438	398,719	3.38	3.49	97.2	2.61
December	4,729	167	2.33	66.30	5.44	73.1	469,963	454,046	3.40	3.52	96.0	2.65
Year 2021												
January	5,427	190	2.59	73.95	5.38	89.7	457,380	442,433	3.42	3.54	97.1	2.70
February	4,645	164	2.33	66.18	5.37	73.1	404,863	391,435	14.95	15.47	95.9	8.23
March	6,956	247	2.56	72.10	5.28	121.1	400,289	387,315	3.68	3.80	96.6	2.77
April	5,749	206	2.88	80.22	5.16	192.7	412,575	399,946	3.34	3.44	97.1	2.62
May	5,309	185	2.73	78.46	5.43	124.6	442,080	428,517	3.56	3.67	98.1	2.73
June	5,260	184	3.34	95.30	5.13	123.9	575,255	556,914	3.74	3.86	96.0	2.93
July	6,204	219	3.35	94.94	5.15	99.3	655,484	633,900	4.24	4.38	96.2	3.25
August	4,179	147	3.21	91.15	5.43	60.1	656,574	635,636	4.57	4.72	96.0	3.44
September	5,608	203	3.62	100.04	4.77	106.5	508,326	492,286	5.17	5.33	96.0	3.63
October	4,814	170	3.03	85.94	5.27	83.5	478,144	463,507	5.96	6.14	97.1	3.96
November	6,105	218	4.34	121.62	5.04	84.6	451,553	437,703	6.12	6.31	96.0	3.98
December	4,634	163	3.89	110.86	5.60	89.1	458,949	444,263	5.57	5.76	95.6	3.77

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:
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.
- 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 7.7 Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers, 2011 - 2021

	Coal						Petroleum Liquids					
	Receipts		Average Cost				Receipts		Average Cost			
Period	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)	Average Sulfur Percent by Weight	Percentage of Consumption
Annual Totals												
2011	4,292,284	233,295	2.28	41.95	1.25	95.9	41,599	7,096	20.30	119.01	0.50	106.9
2012	4,036,436	218,341	2.21	40.92	1.42	104.9	23,922	4,073	22.34	131.28	0.44	79.8
2013	4,032,431	217,572	2.20	40.95	1.48	99.1	43,432	7,205	19.71	118.88	0.45	110.1
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	2,159,810	116,280	1.79	33.35	1.79	91.9	25,933	4,441	15.38	89.82	0.47	101.4
Year 2019												
January	258,502	13,732	1.91	35.91	1.75	94.9	2,550	426	12.15	72.73	0.50	53.5
February	208,595	11,136	1.83	34.30	1.66	96.1	2,052	344	13.83	82.61	0.46	98.6
March	225,693	11,804	1.88	35.97	1.87	96.4	1,312	223	14.97	88.25	0.54	79.1
April	215,930	11,232	1.84	35.44	1.89	127.7	1,400	238	15.72	92.48	0.51	72.3
May	219,210	11,432	1.83	35.06	1.91	118.6	1,628	278	15.67	91.68	0.49	76.9
June	210,718	11,178	1.76	33.24	1.84	105.7	1,505	255	15.10	89.08	0.48	74.1
July	210,437	11,271	1.79	33.38	1.69	83.9	1,409	240	15.49	90.87	0.48	53.7
August	228,948	12,067	1.78	33.72	1.69	96.5	1,184	203	16.40	95.62	0.49	57.7
September	207,547	11,127	1.75	32.61	1.59	95.7	1,361	232	13.79	81.01	0.56	72.0
October	219,896	11,624	1.77	33.58	1.69	114.0	1,713	292	15.05	88.23	0.52	80.0
November	214,440	11,469	1.77	33.22	1.61	101.1	1,652	281	13.67	80.52	0.49	78.7
December	209,490	11,070	1.75	33.07	1.66	104.6	2,423	414	13.65	79.88	0.50	107.5
Year 2020												
January	204,384	10,993	1.79	33.36	1.63	117.5	767	132	15.20	88.67	0.56	52.0
February	171,467	9,284	1.76	32.52	1.73	112.5	765	130	14.78	86.92	0.57	51.5
March	157,521	8,456	1.78	33.11	1.91	117.4	1,400	238	10.94	64.41	0.52	81.4
April	122,808	7,138	1.72	29.55	1.47	109.2	1,594	273	8.43	49.32	0.52	109.6
May	127,290	7,319	1.75	30.51	1.37	106.4	2,434	416	6.31	36.86	0.50	156.1
June	149,025	8,115	1.72	31.63	1.80	93.0	2,598	437	8.36	49.77	0.48	142.9
July	155,687	8,460	1.72	31.65	1.84	74.2	1,418	243	9.48	55.19	0.48	67.7
August	169,527	9,246	1.71	31.48	1.73	81.1	1,180	201	9.72	56.97	0.50	61.2
September	163,030	8,829	1.72	31.78	1.80	98.8	1,315	226	9.46	55.17	0.52	84.8
October	167,811	8,964	1.71	32.08	1.84	101.6	1,303	222	8.75	51.26	0.52	76.4
November	173,645	9,286	1.72	32.19	1.73	97.0	1,703	285	9.72	58.12	0.39	92.2
December	175,520	9,538	1.74	32.07	1.65	81.1	2,476	414	9.97	59.69	0.48	91.3
Year 2021												
January	185,620	9,964	1.67	31.08	1.80	84.3	1,994	340	11.82	69.33	0.60	109.0
February	154,531	8,265	1.77	33.10	1.84	71.5	2,099	360	11.09	64.63	0.63	54.3
March	176,736	9,439	1.70	31.96	1.81	108.5	1,737	297	13.80	80.67	0.55	109.4
April	158,802	8,408	1.73	32.61	1.89	112.6	1,744	299	14.49	84.66	0.55	108.4
May	172,615	9,414	1.69	31.05	1.79	110.2	2,151	370	15.19	88.44	0.51	130.3
June	185,308	9,823	1.77	33.34	1.83	84.2	2,142	366	15.79	92.49	0.49	91.6
July	186,143	10,139	1.79	32.99	1.78	72.1	1,588	272	15.23	88.76	0.48	76.6
August	191,383	10,378	1.83	33.74	1.77	76.1	1,758	300	15.27	89.45	0.50	73.8
September	184,552	9,982	1.80	33.31	1.74	93.8	1,515	262	15.86	91.81	0.43	82.9
October	185,243	10,015	1.85	34.18	1.74	102.4	2,546	438	17.07	99.17	0.33	146.5
November	192,930	10,399	1.96	36.36	1.81	113.6	3,269	560	17.91	104.61	0.42	152.7
December	185,947	10,053	1.94	35.96	1.74	105.9	3,391	577	17.33	101.93	0.41	133.9

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.
- 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 7.8. Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers, 2011 - 2021 (continued)

	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
Period	(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												
2011	33,643	1,175	2.54	72.85	4.55	84.6	4,252,040	4,158,617	4.62	4.72	100.8	3.52
2012	23,024	801	0.82	23.98	5.49	92.1	4,810,553	4,696,637	3.17	3.25	93.8	2.74
2013	16,150	575	W	W	5.39	65.6	4,025,263	3,917,898	4.25	4.36	92.8	W
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	5,243,722	5,065,664	5.30	5.49	95.5	4.16
Year 2019												
January	0	0	--	--	--	0.0	398,896	385,014	3.88	4.02	95.6	3.05
February	0	0	--	--	--	0.0	357,555	345,530	3.49	3.61	95.0	2.85
March	0	0	--	--	--	0.0	371,920	359,394	3.30	3.41	95.0	2.73
April	0	0	--	--	--	0.0	333,598	322,802	2.65	2.74	95.5	2.33
May	0	0	--	--	--	0.0	372,853	360,800	2.53	2.61	96.4	2.28
June	0	0	--	--	--	0.0	446,512	432,051	2.35	2.43	96.4	2.17
July	0	0	--	--	--	0.0	592,358	572,083	2.43	2.51	96.4	2.26
August	0	0	--	--	--	0.0	597,443	576,291	2.27	2.35	96.5	2.13
September	0	0	--	--	--	0.0	504,061	486,741	2.38	2.47	96.5	2.19
October	0	0	--	--	--	0.0	438,101	422,965	2.22	2.30	96.1	2.09
November	0	0	--	--	--	0.0	388,489	374,471	2.77	2.88	95.5	2.41
December	0	0	--	--	--	0.0	440,761	424,737	2.69	2.79	95.8	2.39
Year 2020												
January	0	0	--	--	--	0.0	439,277	423,067	2.36	2.45	96.2	2.17
February	0	0	--	--	--	0.0	408,600	394,000	2.10	2.18	96.0	2.00
March	0	0	--	--	--	0.0	395,838	381,693	1.87	1.94	95.3	1.87
April	0	0	--	--	--	0.0	343,630	331,126	1.80	1.87	95.8	1.80
May	0	0	--	--	--	0.0	363,766	352,083	1.81	1.88	95.6	1.82
June	0	0	--	--	--	0.0	476,065	460,955	1.72	1.78	96.5	1.75
July	0	0	--	--	--	0.0	636,749	616,411	1.86	1.93	96.8	1.85
August	0	0	--	--	--	0.0	601,965	582,838	2.18	2.25	96.2	2.07
September	0	0	--	--	--	0.0	483,385	467,471	2.02	2.09	96.0	1.95
October	0	0	--	--	--	0.0	439,690	425,470	2.16	2.23	96.1	2.03
November	0	0	--	--	--	0.0	360,175	348,114	2.47	2.56	96.2	2.22
December	0	0	--	--	--	0.0	410,405	395,711	2.89	3.00	96.1	2.53
Year 2021												
January	0	0	--	--	--	0.0	403,952	389,939	2.97	3.08	95.4	2.54
February	0	0	--	--	--	0.0	370,070	356,619	20.72	21.51	94.8	14.36
March	0	0	--	--	--	0.0	335,070	323,216	2.83	2.94	94.9	2.44
April	0	0	--	--	--	0.0	341,985	330,537	2.72	2.82	94.6	2.41
May	0	0	--	--	--	0.0	367,940	355,756	2.86	2.96	94.4	2.49
June	0	0	--	--	--	0.0	511,260	494,627	3.26	3.37	97.6	2.83
July	0	0	--	--	--	0.0	567,736	548,670	3.87	4.01	94.6	3.29
August	0	0	--	--	--	0.0	592,646	572,909	4.26	4.42	95.4	3.59
September	0	0	--	--	--	0.0	469,262	453,561	4.91	5.09	95.3	3.92
October	0	0	--	--	--	0.0	455,974	440,569	5.36	5.55	95.4	4.27
November	0	0	--	--	--	0.0	406,274	392,127	5.34	5.54	94.9	4.20
December	0	0	--	--	--	0.0	421,552	407,135	5.90	6.11	98.1	4.61

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:
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.
- 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 7.9. Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector, 2011 - 2021

	Coal						Petroleum Liquids					
	Receipts		Average Cost				Receipts		Average Cost			
Period	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)	Average Sulfur Percent by Weight	Percentage of Consumption
Annual Totals												
2011	35,892	1,686	2.92	62.24	1.78	101.1	1,959	325	19.67	118.66	0.55	108.0
2012	4,427	192	3.41	78.71	2.75	13.2	247	43	W	W	0.00	11.0
2013	3,507	151	W	W	3.05	11.2	0	0	--	--	--	0.0
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
Year 2019												
January	27	1	2.90	65.89	3.00	2.0	0	0	--	--	--	0.0
February	37	2	2.90	65.51	2.95	3.0	0	0	--	--	--	0.0
March	48	2	2.90	65.86	2.94	3.6	0	0	--	--	--	0.0
April	2	0	2.90	65.28	2.90	0.3	0	0	--	--	--	0.0
May	0	0	--	--	--	0.0	0	0	--	--	--	0.0
June	2	0	2.90	66.38	3.02	0.4	0	0	--	--	--	0.0
July	1	0	2.97	67.69	2.94	0.2	0	0	--	--	--	0.0
August	0	0	--	--	--	0.0	0	0	--	--	--	0.0
September	0	0	--	--	--	0.0	0	0	--	--	--	0.0
October	23	1	2.96	67.99	3.17	2.7	0	0	--	--	--	0.0
November	31	1	2.96	67.99	3.17	3.0	0	0	--	--	--	0.0
December	21	1	2.96	67.34	2.91	1.9	0	0	--	--	--	0.0
Year 2020												
January	26	1	2.96	67.40	2.94	2.3	0	0	--	--	--	0.0
February	58	3	2.96	67.58	2.96	4.7	0	0	--	--	--	0.0
March	0	0	--	--	--	0.0	0	0	--	--	--	0.0
April	0	0	--	--	--	0.0	0	0	--	--	--	0.0
May	0	0	--	--	--	0.0	0	0	--	--	--	0.0
June	0	0	--	--	--	0.0	0	0	--	--	--	0.0
July	0	0	--	--	--	0.0	0	0	--	--	--	0.0
August	0	0	--	--	--	0.0	0	0	--	--	--	0.0
September	0	0	--	--	--	0.0	0	0	--	--	--	0.0
October	0	0	--	--	--	0.0	0	0	--	--	--	0.0
November	24	1	2.98	68.21	2.89	2.7	0	0	--	--	--	0.0
December	24	1	2.96	67.61	2.87	2.0	0	0	--	--	--	0.0
Year 2021												
January	28	1	2.96	68.67	2.86	2.3	0	0	--	--	--	0.0
February	93	4	2.96	67.61	2.82	6.2	0	0	--	--	--	0.0
March	0	0	--	--	--	0.0	0	0	--	--	--	0.0
April	0	0	--	--	--	0.0	0	0	--	--	--	0.0
May	0	0	--	--	--	0.0	0	0	--	--	--	0.0
June	0	0	--	--	--	0.0	0	0	--	--	--	0.0
July	0	0	--	--	--	0.0	0	0	--	--	--	0.0
August	0	0	--	--	--	0.0	0	0	--	--	--	0.0
September	21	1	3.09	71.22	3.05	2.1	0	0	--	--	--	0.0
October	60	3	3.09	71.01	3.01	5.7	0	0	--	--	--	0.0
November	28	1	3.09	71.01	3.01	2.4	0	0	--	--	--	0.0
December	33	1	3.07	70.46	3.08	2.9	0	0	--	--	--	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:
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.
- 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 7.10. Receipts, Average Cost, and Quality of Fossil Fuels: Commerical Sector, 2011 - 2021 (continued)

	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
Period	(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												
2011	268	9	W	W	5.46	147.4	95,287	93,306	5.20	5.31	107.2	W
2012	0	0	--	--	--	0.0	18,315	18,008	5.88	5.98	16.2	W
2013	0	0	--	--	--	0.0	5,497	5,450	W	W	4.6	W
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
Year 2019												
January	0	0	--	--	--	0.0	778	751	3.40	3.52	6.3	3.38
February	0	0	--	--	--	0.0	772	745	3.37	3.50	6.8	3.35
March	0	0	--	--	--	0.0	839	812	3.36	3.47	7.3	3.33
April	0	0	--	--	--	0.0	775	748	3.30	3.41	7.3	3.29
May	0	0	--	--	--	0.0	811	782	3.26	3.38	7.9	3.26
June	0	0	--	--	--	0.0	807	776	3.23	3.36	7.2	3.22
July	0	0	--	--	--	0.0	721	701	3.17	3.26	5.4	3.17
August	0	0	--	--	--	0.0	838	808	3.13	3.25	6.5	3.13
September	0	0	--	--	--	0.0	747	717	3.15	3.28	6.4	3.15
October	0	0	--	--	--	0.0	766	734	3.24	3.38	7.0	3.23
November	0	0	--	--	--	0.0	743	713	3.30	3.43	6.6	3.28
December	0	0	--	--	--	0.0	832	801	3.26	3.39	6.6	3.25
Year 2020												
January	0	0	--	--	--	0.0	795	763	3.09	3.22	6.3	3.09
February	0	0	--	--	--	0.0	693	663	3.12	3.26	5.9	3.11
March	0	0	--	--	--	0.0	751	722	3.10	3.22	7.0	3.10
April	0	0	--	--	--	0.0	661	638	3.09	3.20	7.0	3.09
May	0	0	--	--	--	0.0	657	631	3.09	3.22	7.0	3.09
June	0	0	--	--	--	0.0	626	599	3.09	3.23	5.7	3.09
July	0	0	--	--	--	0.0	624	599	3.11	3.24	4.6	3.11
August	0	0	--	--	--	0.0	775	739	3.03	3.17	5.9	3.03
September	0	0	--	--	--	0.0	780	748	2.98	3.11	6.9	2.98
October	0	0	--	--	--	0.0	769	738	3.03	3.15	6.9	3.03
November	0	0	--	--	--	0.0	698	671	3.09	3.22	6.7	3.09
December	0	0	--	--	--	0.0	704	677	3.10	3.23	6.0	3.10
Year 2021												
January	0	0	--	--	--	0.0	759	729	3.12	3.24	6.7	3.11
February	0	0	--	--	--	0.0	676	650	3.13	3.26	6.7	3.11
March	0	0	--	--	--	0.0	702	676	3.12	3.24	7.2	3.12
April	0	0	--	--	--	0.0	740	716	3.12	3.23	9.0	3.12
May	0	0	--	--	--	0.0	673	647	3.13	3.26	8.1	3.13
June	0	0	--	--	--	0.0	671	645	3.17	3.30	6.7	3.17
July	0	0	--	--	--	0.0	680	653	3.39	3.53	6.0	3.39
August	0	0	--	--	--	0.0	794	760	3.53	3.69	6.6	3.53
September	0	0	--	--	--	0.0	775	743	3.86	4.02	7.7	3.84
October	0	0	--	--	--	0.0	753	724	3.74	3.89	7.7	3.69
November	0	0	--	--	--	0.0	782	754	3.92	4.06	8.0	3.89
December	0	0	--	--	--	0.0	864	830	3.65	3.80	8.3	3.63

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:
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.
- 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 7.11. Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector, 2011 - 2021

	Coal						Petroleum Liquids					
	Receipts		Average Cost				Receipts		Average Cost			
Period	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	Average Sulfur Percent by Weight	Percentage of Consumption	(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)	Average Sulfur Percent by Weight	Percentage of Consumption
Annual Totals												
2011	476,108	22,204	2.93	62.86	1.33	99.5	28,939	4,878	17.67	104.83	1.08	144.8
2012	285,172	13,206	3.02	65.24	1.33	65.8	6,739	1,095	W	W	1.52	40.8
2013	275,543	12,727	W	W	1.32	64.4	2,431	394	18.20	112.29	1.43	15.8
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
Year 2019												
January	12,678	629	2.49	50.14	1.13	56.2	154	25	12.98	80.23	1.24	7.5
February	12,842	617	2.61	54.43	1.16	61.4	199	33	13.77	82.99	1.45	18.7
March	13,424	629	2.68	57.20	1.49	67.5	126	21	13.43	82.27	1.63	14.2
April	11,765	561	2.64	55.30	1.25	62.8	223	36	12.89	79.74	1.54	24.0
May	12,720	623	2.51	51.21	0.97	71.3	92	15	14.12	86.68	1.48	12.6
June	11,705	567	2.49	51.38	1.22	67.2	131	21	13.04	79.96	1.55	18.3
July	11,385	551	2.45	50.57	1.32	65.1	80	13	11.99	74.33	1.41	12.7
August	10,876	530	2.39	49.14	1.23	62.0	112	18	12.56	77.49	1.66	15.4
September	11,131	539	2.48	51.28	1.24	66.3	154	25	13.15	80.17	1.58	20.8
October	11,889	586	2.59	52.47	1.21	68.4	136	22	13.01	79.34	1.42	17.2
November	13,255	645	2.59	53.19	1.05	71.3	137	22	13.67	83.44	1.46	9.7
December	12,654	612	2.67	55.16	1.07	64.4	141	23	13.33	81.47	1.25	15.8
Year 2020												
January	13,104	636	2.52	51.83	1.21	65.8	162	27	13.38	81.13	1.71	19.1
February	11,665	575	2.41	48.84	1.19	64.4	188	31	12.36	76.04	0.93	17.0
March	13,415	639	2.61	54.81	1.33	77.7	192	31	10.77	66.35	1.35	25.5
April	10,044	489	2.48	50.98	1.29	67.1	115	19	10.75	65.79	1.36	8.1
May	10,108	496	2.43	49.59	1.22	70.0	129	21	7.84	48.89	0.84	20.9
June	10,235	507	2.39	48.16	1.28	75.1	95	16	8.89	53.81	1.06	12.8
July	10,373	503	2.44	50.28	1.25	67.1	125	20	9.45	57.95	1.22	18.0
August	9,962	480	2.43	50.45	1.30	65.4	138	22	9.83	61.55	0.75	22.4
September	10,003	495	2.38	48.02	1.18	66.5	166	27	9.38	57.45	1.59	25.6
October	12,211	581	2.57	53.99	1.24	72.1	141	23	10.61	64.14	1.19	18.4
November	11,193	536	2.51	52.50	1.41	70.5	83	14	10.02	61.29	1.30	9.8
December	12,208	577	2.61	55.29	1.30	67.0	166	27	10.92	66.90	1.26	17.6
Year 2021												
January	11,321	541	2.37	49.49	1.14	62.0	226	37	11.25	69.01	1.27	18.1
February	10,691	502	2.41	51.26	1.42	61.9	200	32	11.85	73.29	1.39	13.0
March	10,655	500	2.41	51.35	1.32	62.4	201	33	12.48	75.76	1.50	19.8
April	11,849	562	2.45	51.58	1.20	74.2	236	39	12.63	77.32	1.51	29.9
May	12,886	609	2.23	47.12	1.39	79.5	144	24	12.41	76.01	1.39	18.9
June	12,496	601	2.24	46.46	1.32	77.7	132	22	14.13	86.63	0.82	19.0
July	11,009	539	2.26	46.15	1.26	63.7	206	33	13.90	85.70	1.61	28.1
August	11,465	563	2.28	46.46	1.21	71.2	237	38	12.75	78.57	1.50	27.2
September	12,255	593	2.33	48.06	1.35	72.4	210	34	12.67	78.29	1.56	27.2
October	11,456	547	2.48	51.94	1.21	68.3	197	32	12.68	78.52	1.49	20.2
November	13,407	649	2.21	45.64	1.56	75.0	198	32	14.24	87.87	1.46	23.0
December	12,001	575	2.35	49.10	1.56	72.3	192	31	14.41	89.71	1.59	21.0

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:
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.
- 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 7.12. Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector, 2011 - 2021 (continued)

	Petroleum Coke						Natural Gas					All Fossil Fuels
	Receipts		Average Cost				Receipts		Average Cost			Average Cost
Period	(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												
2011	37,981	1,351	W	W	5.03	108.3	1,331,977	1,296,628	4.28	4.40	122.0	W
2012	23,861	858	2.62	72.96	5.86	42.2	834,245	813,288	2.97	3.05	70.8	W
2013	17,236	623	W	W	5.82	30.5	750,946	728,835	W	W	62.3	W
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
Year 2019												
January	0	0	--	--	--	0.0	73,583	71,442	3.76	3.87	59.0	3.59
February	0	0	--	--	--	0.0	64,847	62,775	3.44	3.56	58.1	3.33
March	0	0	--	--	--	0.0	66,748	64,830	3.13	3.22	57.6	3.07
April	0	0	--	--	--	0.0	64,259	62,480	2.85	2.93	59.7	2.85
May	0	0	--	--	--	0.0	66,202	64,348	2.75	2.83	57.8	2.73
June	0	0	--	--	--	0.0	64,540	62,725	2.63	2.70	56.5	2.62
July	43	2	1.71	46.96	5.81	1.7	69,836	67,819	2.49	2.56	57.3	2.49
August	615	23	1.75	46.99	5.75	30.2	70,509	68,322	2.37	2.45	57.1	2.39
September	743	26	1.63	47.00	5.56	30.6	66,121	64,014	2.56	2.65	56.0	2.57
October	627	23	1.72	47.00	6.17	30.1	65,572	63,624	2.46	2.54	55.7	2.49
November	0	0	--	--	--	0.0	69,632	67,560	2.77	2.86	57.8	2.76
December	0	0	--	--	--	0.0	72,635	70,448	2.62	2.70	57.8	2.64
Year 2020												
January	0	0	--	--	--	0.0	73,310	71,097	2.36	2.43	49.0	2.40
February	0	0	--	--	--	0.0	66,947	64,971	2.12	2.18	49.2	2.19
March	0	0	--	--	--	0.0	67,628	65,733	1.99	2.05	49.4	2.11
April	0	0	--	--	--	0.0	63,624	61,742	1.86	1.92	50.2	1.96
May	0	0	--	--	--	0.0	65,435	63,624	1.97	2.02	58.4	2.04
June	0	0	--	--	--	0.0	66,093	64,260	1.82	1.88	57.0	1.91
July	506	19	1.72	47.01	6.06	24.4	68,624	66,821	1.84	1.89	54.9	1.93
August	674	25	1.72	46.47	5.81	32.2	67,571	65,724	2.30	2.36	54.6	2.32
September	571	21	1.74	47.01	5.96	29.0	62,909	61,194	2.52	2.59	56.1	2.51
October	407	15	1.75	47.00	5.69	21.5	63,751	62,043	2.51	2.57	54.1	2.53
November	0	0	--	--	--	0.0	66,442	64,570	3.01	3.10	57.8	2.95
December	0	0	--	--	--	0.0	73,453	71,402	2.96	3.05	56.6	2.93
Year 2021												
January	0	0	--	--	--	0.0	72,875	70,729	2.81	2.89	56.4	2.77
February	0	0	--	--	--	0.0	54,185	52,629	13.21	13.60	51.6	11.43
March	0	0	--	--	--	0.0	61,141	59,409	2.87	2.96	54.5	2.83
April	0	0	--	--	--	0.0	60,706	59,084	2.73	2.81	55.2	2.72
May	0	0	--	--	--	0.0	64,452	62,733	3.12	3.20	57.1	2.99
June	0	0	--	--	--	0.0	66,734	64,935	3.33	3.42	55.9	3.17
July	0	0	--	--	--	0.0	68,822	66,765	3.91	4.03	53.6	3.71
August	0	0	--	--	--	0.0	70,582	68,625	4.15	4.26	56.2	3.91
September	0	0	--	--	--	0.0	64,834	63,108	4.83	4.96	57.0	4.45
October	0	0	--	--	--	0.0	68,441	66,595	5.76	5.92	58.7	5.31
November	0	0	--	--	--	0.0	71,400	69,498	5.60	5.76	59.7	5.09
December	0	0	--	--	--	0.0	76,882	74,751	4.87	5.01	61.1	4.55

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:
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.
- 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 7.13. Receipts of Coal Delivered for Electricity Generation by State, 2021 and 2020
(Thousand Tons)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	87	147	-40.0%	0	89	87	58	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	69	58	19.0%	0	0	69	58	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	18	89	-79.0%	0	89	18	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	15,006	12,135	24.0%	7	37	14,902	12,014	0	0	97	84
New Jersey	551	494	11.0%	0	0	551	494	0	0	0	0
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	14,455	11,641	24.0%	7	37	14,351	11,520	0	0	97	84
East North Central	96,555	92,214	4.7%	54,740	54,460	39,889	35,712	0	0	1,927	2,042
Illinois	25,917	24,163	7.3%	2,003	3,815	21,990	18,320	0	0	1,924	2,028
Indiana	19,529	22,436	-13.0%	17,381	20,077	2,148	2,359	0	0	0	0
Michigan	19,393	15,479	25.0%	19,222	15,245	169	233	0	0	2	1
Ohio	17,458	16,800	3.9%	1,876	2,000	15,582	14,800	0	0	0	0
Wisconsin	14,258	13,337	6.9%	14,258	13,323	0	0	0	0	0	13
West North Central	98,142	96,451	1.8%	95,307	93,801	0	0	11	6	2,823	2,645
Iowa	11,702	12,805	-8.6%	9,612	10,806	0	0	0	0	2,091	1,999
Kansas	12,456	11,239	11.0%	12,456	11,239	0	0	0	0	0	0
Minnesota	8,105	7,894	2.7%	8,105	7,894	0	0	0	0	0	0
Missouri	31,268	29,919	4.5%	31,256	29,913	0	0	11	6	0	0
Nebraska	11,986	12,522	-4.3%	11,253	11,876	0	0	0	0	733	646
North Dakota	21,381	21,023	1.7%	21,381	21,023	0	0	0	0	0	0
South Dakota	1,244	1,050	19.0%	1,244	1,050	0	0	0	0	0	0
South Atlantic	54,193	50,125	8.1%	45,536	43,806	7,999	5,746	0	0	658	573
Delaware	134	0	--	0	0	134	0	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	7,503	6,721	12.0%	7,466	6,690	0	0	0	0	37	31
Georgia	8,175	7,201	14.0%	8,028	7,092	0	0	0	0	147	109
Maryland	2,095	1,341	56.0%	0	0	2,095	1,341	0	0	0	0
North Carolina	7,816	8,041	-2.8%	7,570	7,755	6	63	0	0	241	224
South Carolina	6,029	4,535	33.0%	5,826	4,323	169	190	0	0	34	21
Virginia	1,585	1,470	7.8%	1,385	1,282	0	0	0	0	200	188
West Virginia	20,855	20,816	0.2%	15,260	16,665	5,595	4,151	0	0	0	0
East South Central	48,182	43,087	12.0%	44,576	40,025	3,050	2,537	0	0	556	525
Alabama	13,190	11,756	12.0%	13,190	11,756	0	0	0	0	0	0
Kentucky	25,233	22,666	11.0%	25,233	22,666	0	0	0	0	0	0
Mississippi	4,742	3,915	21.0%	1,692	1,378	3,050	2,537	0	0	0	0
Tennessee	5,017	4,751	5.6%	4,461	4,226	0	0	0	0	556	525
West South Central	80,928	72,780	11.0%	40,896	33,972	39,950	38,727	0	0	82	81
Arkansas	11,416	9,789	17.0%	9,216	7,746	2,146	1,993	0	0	54	50
Louisiana	3,706	3,584	3.4%	3,196	2,273	511	1,311	0	0	0	0
Oklahoma	6,912	3,734	85.0%	6,883	3,704	0	0	0	0	29	30
Texas	58,895	55,672	5.8%	21,601	20,249	37,294	35,424	0	0	0	0
Mountain	64,823	67,007	-3.3%	56,789	60,425	8,034	6,582	0	0	0	0
Arizona	7,192	8,397	-14.0%	7,192	8,397	0	0	0	0	0	0
Colorado	12,316	11,552	6.6%	12,316	11,552	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	6,654	5,359	24.0%	64	217	6,590	5,142	0	0	0	0
Nevada	1,259	1,087	16.0%	610	496	649	590	0	0	0	0
New Mexico	7,235	7,356	-1.6%	7,235	7,356	0	0	0	0	0	0
Utah	10,629	12,456	-15.0%	10,226	12,133	403	322	0	0	0	0
Wyoming	19,539	20,800	-6.1%	19,147	20,273	392	527	0	0	0	0
Pacific Contiguous	2,410	4,616	-48.0%	0	525	1,773	3,526	0	0	638	565
California	638	565	13.0%	0	0	0	0	0	0	638	565
Oregon	0	525	-100.0%	0	525	0	0	0	0	0	0
Washington	1,773	3,526	-50.0%	0	0	1,773	3,526	0	0	0	0
Pacific Noncontiguous	950	1,073	-11.0%	353	348	597	725	0	0	0	0
Alaska	353	348	1.5%	353	348	0	0	0	0	0	0
Hawaii	597	725	-18.0%	0	0	597	725	0	0	0	0
U.S. Total	461,277	439,636	4.9%	338,205	327,488	116,280	105,627	11	6	6,781	6,515

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:
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.
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, 2021 and 2020
(Thousand Barrels)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	337	414	-19.0%	15	13	322	401	0	0	0	0
Connecticut	30	103	-71.0%	0	0	30	103	0	0	0	0
Maine	77	175	-56.0%	0	0	77	175	0	0	0	0
Massachusetts	44	111	-61.0%	15	10	29	101	0	0	0	0
New Hampshire	174	14	NM	0	3	174	12	0	0	0	0
Rhode Island	12	10	16.0%	0	0	12	10	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	1,482	629	136.0%	881	100	530	459	0	0	72	70
New Jersey	27	78	-66.0%	0	0	27	78	0	0	0	0
New York	1,143	250	357.0%	881	100	263	150	0	0	0	0
Pennsylvania	312	300	4.0%	0	0	241	231	0	0	72	70
East North Central	876	764	15.0%	506	489	339	248	0	0	30	27
Illinois	107	57	87.0%	14	3	94	55	0	0	0	0
Indiana	248	255	-2.8%	244	255	4	0	0	0	0	0
Michigan	182	188	-3.2%	163	172	0	0	0	0	19	17
Ohio	281	222	27.0%	31	26	239	186	0	0	11	10
Wisconsin	57	41	39.0%	55	34	2	7	0	0	0	0
West North Central	1,332	605	120.0%	1,321	605	10	0	0	0	0	0
Iowa	129	115	12.0%	129	115	0	0	0	0	0	0
Kansas	329	149	121.0%	329	149	0	0	0	0	0	0
Minnesota	178	36	391.0%	168	36	10	0	0	0	0	0
Missouri	509	181	181.0%	509	181	0	0	0	0	0	0
Nebraska	87	35	145.0%	87	35	0	0	0	0	0	0
North Dakota	69	78	-11.0%	69	78	0	0	0	0	0	0
South Dakota	31	10	203.0%	31	10	0	0	0	0	0	0
South Atlantic	2,210	1,717	29.0%	1,564	1,210	380	341	0	0	266	165
Delaware	33	28	19.0%	0	0	33	28	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	584	175	233.0%	536	144	10	0	0	0	38	31
Georgia	348	297	17.0%	218	253	7	5	0	0	123	39
Maryland	206	257	-20.0%	0	0	206	257	0	0	0	0
North Carolina	155	190	-18.0%	108	136	0	0	0	0	47	55
South Carolina	166	116	43.0%	127	95	6	3	0	0	33	18
Virginia	421	408	3.0%	290	338	106	49	0	0	24	22
West Virginia	296	244	21.0%	286	244	10	0	0	0	0	0
East South Central	326	280	17.0%	271	260	36	4	0	0	19	15
Alabama	37	10	274.0%	1	6	36	4	0	0	0	0
Kentucky	170	168	0.7%	170	168	0	0	0	0	0	0
Mississippi	10	10	-0.8%	10	10	0	0	0	0	0	0
Tennessee	109	91	20.0%	90	76	0	0	0	0	19	15
West South Central	1,238	247	401.0%	282	193	956	55	0	0	0	0
Arkansas	123	83	47.0%	98	62	24	22	0	0	0	0
Louisiana	22	16	41.0%	22	16	0	0	0	0	0	0
Oklahoma	56	63	-11.0%	56	63	0	0	0	0	0	0
Texas	1,037	85	NM	105	52	932	33	0	0	0	0
Mountain	315	353	-11.0%	289	326	26	27	0	0	0	0
Arizona	75	79	-5.6%	75	79	0	0	0	0	0	0
Colorado	17	6	177.0%	17	6	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	20	19	6.3%	1	0	19	19	0	0	0	0
Nevada	17	12	46.0%	12	9	5	3	0	0	0	0
New Mexico	44	53	-16.0%	44	53	0	0	0	0	0	0
Utah	51	90	-44.0%	49	85	2	5	0	0	0	0
Wyoming	90	94	-4.1%	90	94	0	0	0	0	0	0
Pacific Contiguous	17	18	-4.0%	5	7	13	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	17	18	-4.0%	5	7	13	11	0	0	0	0
Pacific Noncontiguous	8,162	7,837	4.1%	6,334	6,168	1,828	1,669	0	0	0	0
Alaska	21	25	-18.0%	21	25	0	0	0	0	0	0
Hawaii	8,141	7,812	4.2%	6,313	6,143	1,828	1,669	0	0	0	0
U.S. Total	16,295	12,864	27.0%	11,468	9,371	4,441	3,216	0	0	387	277

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:
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.
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, 2021 and 2020
(Thousand Tons)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
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	477	411	16.0%	477	411	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	406	364	11.0%	406	364	0	0	0	0	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	72	47	51.0%	72	47	0	0	0	0	0	0
West North Central	0	80	-100.0%	0	0	0	0	0	0	0	80
Iowa	0	80	-100.0%	0	0	0	0	0	0	0	80
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	296	599	-50.0%	296	599	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	296	599	-50.0%	296	599	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	1,523	1,307	17.0%	1,523	1,307	0	0	0	0	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,523	1,307	17.0%	1,523	1,307	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	2,296	2,396	-4.2%	2,296	2,317	0	0	0	0	0	80

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:
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.
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, 2021 and 2020
(Million Cubic Feet)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	384,576	353,707	8.7%	635	1,293	383,941	352,414	0	0	0	0
Connecticut	159,374	155,098	2.8%	0	0	159,374	155,098	0	0	0	0
Maine	19,660	10,418	89.0%	0	0	19,660	10,418	0	0	0	0
Massachusetts	110,095	103,157	6.7%	635	1,083	109,460	102,074	0	0	0	0
New Hampshire	32,122	26,082	23.0%	0	210	32,122	25,872	0	0	0	0
Rhode Island	63,325	58,951	7.4%	0	0	63,325	58,951	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	1,454,370	1,422,159	2.3%	113,768	103,835	1,328,332	1,308,193	0	0	12,271	10,130
New Jersey	214,529	219,140	-2.1%	0	0	214,529	219,140	0	0	0	0
New York	404,185	392,927	2.9%	113,768	103,835	283,507	282,064	0	0	6,910	7,028
Pennsylvania	835,656	810,093	3.2%	0	0	830,296	806,990	0	0	5,360	3,103
East North Central	1,119,704	1,215,636	-7.9%	381,952	426,360	712,136	768,653	6,243	6,057	19,374	14,565
Illinois	161,282	187,047	-14.0%	15,841	18,041	141,390	168,971	0	0	4,051	35
Indiana	195,235	220,701	-12.0%	85,488	106,817	109,747	113,884	0	0	0	0
Michigan	229,961	280,514	-18.0%	79,802	98,339	137,720	170,304	6,243	6,057	6,197	5,815
Ohio	385,386	371,678	3.7%	63,323	61,626	316,600	304,210	0	0	5,463	5,842
Wisconsin	147,841	155,696	-5.0%	137,498	141,537	6,679	11,285	0	0	3,663	2,873
West North Central	242,167	247,509	-2.2%	193,571	198,962	42,181	42,536	2,285	2,131	4,130	3,879
Iowa	57,155	56,882	0.5%	53,025	53,002	0	0	0	0	4,130	3,879
Kansas	17,324	19,526	-11.0%	17,324	19,526	0	0	0	0	0	0
Minnesota	82,781	77,818	6.4%	53,250	50,787	29,513	27,015	17	16	0	0
Missouri	49,849	60,046	-17.0%	34,914	42,410	12,667	15,521	2,268	2,115	0	0
Nebraska	11,099	10,753	3.2%	11,099	10,753	0	0	0	0	0	0
North Dakota	15,538	15,793	-1.6%	15,538	15,793	0	0	0	0	0	0
South Dakota	8,421	6,692	26.0%	8,421	6,692	0	0	0	0	0	0
South Atlantic	2,773,119	2,856,503	-2.9%	2,331,380	2,362,009	403,128	455,858	0	0	38,611	38,636
Delaware	20,981	26,676	-21.0%	0	0	20,981	26,676	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	1,291,719	1,332,771	-3.1%	1,239,841	1,285,460	47,429	43,241	0	0	4,450	4,070
Georgia	411,132	427,935	-3.9%	335,256	325,139	65,571	93,400	0	0	10,305	9,395
Maryland	97,680	94,281	3.6%	23,426	20,250	74,254	74,031	0	0	0	0
North Carolina	366,122	308,427	19.0%	301,388	247,818	61,431	57,328	0	0	3,303	3,281
South Carolina	171,948	181,066	-5.0%	167,052	175,817	3,545	3,107	0	0	1,350	2,142
Virginia	387,138	456,561	-15.0%	260,777	306,326	114,182	137,949	0	0	12,179	12,286
West Virginia	26,399	28,786	-8.3%	3,640	1,199	15,735	20,125	0	0	7,024	7,462
East South Central	955,512	1,000,655	-4.5%	706,434	756,066	220,148	216,535	0	0	28,930	28,054
Alabama	364,691	370,265	-1.5%	151,572	159,727	213,119	210,538	0	0	0	0
Kentucky	108,445	102,350	6.0%	101,583	96,489	6,862	5,861	0	0	0	0
Mississippi	355,032	395,158	-10.0%	354,866	395,022	167	136	0	0	0	0
Tennessee	127,344	132,882	-4.2%	98,414	104,828	0	0	0	0	28,930	28,054
West South Central	2,953,583	3,184,607	-7.3%	970,184	1,086,155	1,337,790	1,441,159	0	0	645,609	657,293
Arkansas	149,452	133,521	12.0%	136,190	118,428	9,886	12,457	0	0	3,375	2,636
Louisiana	504,403	567,921	-11.0%	276,806	320,706	28,262	33,104	0	0	199,336	214,111
Oklahoma	264,185	343,804	-23.0%	175,359	224,912	82,405	112,383	0	0	6,421	6,509
Texas	2,035,543	2,139,361	-4.9%	381,830	422,109	1,217,236	1,283,216	0	0	436,477	434,036
Mountain	826,452	887,272	-6.9%	668,362	742,388	157,805	144,511	0	0	285	373
Arizona	355,100	385,349	-7.8%	252,298	301,616	102,802	83,733	0	0	0	0
Colorado	110,077	133,151	-17.0%	92,408	112,006	17,670	21,145	0	0	0	0
Idaho	31,238	25,101	24.0%	18,928	13,640	12,310	11,461	0	0	0	0
Montana	3,210	2,349	37.0%	3,176	2,337	35	12	0	0	0	0
Nevada	176,194	183,561	-4.0%	176,194	183,561	0	0	0	0	0	0
New Mexico	74,648	90,785	-18.0%	49,673	62,642	24,976	28,143	0	0	0	0
Utah	68,220	61,318	11.0%	67,935	60,945	0	0	0	0	285	373
Wyoming	7,764	5,658	37.0%	7,751	5,642	13	16	0	0	0	0
Pacific Contiguous	843,445	802,978	5.0%	333,590	323,650	480,204	449,078	0	0	29,651	30,251
California	593,557	585,827	1.3%	188,682	193,667	375,224	361,909	0	0	29,651	30,251
Oregon	147,598	130,565	13.0%	76,014	67,323	71,584	63,242	0	0	0	0
Washington	102,290	86,586	18.0%	68,894	62,660	33,396	23,926	0	0	0	0
Pacific Noncontiguous	13,979	10,527	33.0%	13,979	10,527	0	0	0	0	0	0
Alaska	13,979	10,527	33.0%	13,979	10,527	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	11,566,909	11,981,552	-3.5%	5,713,855	6,011,244	5,065,664	5,178,938	8,528	8,188	778,861	783,182

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:
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 7.17. Average Cost of Coal Delivered for Electricity Generation by State, 2021 and 2020
(Dollars per MMBtu)

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020
New England	W	W	W	--	3.11	W	W
Connecticut	--	--	--	--	--	--	--
Maine	W	W	W	--	--	W	W
Massachusetts	--	--	--	--	--	--	--
New Hampshire	W	3.11	W	--	3.11	W	--
Rhode Island	--	--	--	--	--	--	--
Vermont	--	--	--	--	--	--	--
Middle Atlantic	1.94	1.73	12.0%	2.88	2.99	1.94	1.72
New Jersey	W	W	W	--	--	W	W
New York	--	--	--	--	--	--	--
Pennsylvania	W	W	W	2.88	2.99	W	W
East North Central	1.93	1.90	1.6%	2.12	2.00	1.68	1.74
Illinois	W	W	W	1.72	1.61	W	W
Indiana	W	W	W	2.28	2.08	W	W
Michigan	W	W	W	2.06	2.03	W	W
Ohio	1.66	1.77	-6.2%	1.87	1.87	1.64	1.75
Wisconsin	2.06	1.96	5.1%	2.06	1.96	--	--
West North Central	1.60	1.56	2.6%	1.60	1.56	--	--
Iowa	1.60	1.51	6.0%	1.60	1.51	--	--
Kansas	1.43	1.55	-7.7%	1.43	1.55	--	--
Minnesota	2.15	1.94	11.0%	2.15	1.94	--	--
Missouri	1.66	1.56	6.4%	1.66	1.56	--	--
Nebraska	1.18	1.24	-4.8%	1.18	1.24	--	--
North Dakota	1.61	1.61	0.0%	1.61	1.61	--	--
South Dakota	1.90	1.87	1.6%	1.90	1.87	--	--
South Atlantic	2.41	2.38	1.3%	2.50	2.44	1.95	1.91
Delaware	W	--	W	--	--	W	--
District of Columbia	--	--	--	--	--	--	--
Florida	2.66	2.49	6.8%	2.66	2.49	--	--
Georgia	2.75	2.69	2.2%	2.75	2.69	--	--
Maryland	W	W	W	--	--	W	W
North Carolina	W	W	W	2.67	2.54	W	W
South Carolina	W	W	W	2.91	3.13	W	W
Virginia	2.38	2.48	-4.0%	2.38	2.48	--	--
West Virginia	1.94	2.00	-3.0%	2.09	2.12	1.53	1.51
East South Central	W	W	W	1.99	1.95	W	W
Alabama	2.19	2.12	3.3%	2.19	2.12	--	--
Kentucky	1.88	1.85	1.6%	1.88	1.85	--	--
Mississippi	W	W	W	2.56	2.62	W	W
Tennessee	1.93	1.91	1.0%	1.93	1.91	--	--
West South Central	2.04	1.86	9.7%	2.31	2.14	1.74	1.59
Arkansas	W	W	W	2.08	1.87	W	W
Louisiana	W	W	W	5.12	4.79	W	W
Oklahoma	1.74	1.60	8.7%	1.74	1.60	--	--
Texas	W	W	W	2.16	2.04	W	W
Mountain	W	W	W	1.94	1.95	W	W
Arizona	2.31	2.14	7.9%	2.31	2.14	--	--
Colorado	1.60	1.69	-5.3%	1.60	1.69	--	--
Idaho	--	--	--	--	--	--	--
Montana	W	W	W	2.31	2.27	W	W
Nevada	W	W	W	2.34	2.34	W	W
New Mexico	2.61	2.54	2.8%	2.61	2.54	--	--
Utah	1.99	2.04	-2.5%	1.99	2.04	--	--
Wyoming	W	W	W	1.69	1.70	W	W
Pacific Contiguous	W	W	W	--	2.18	W	W
California	--	--	--	--	--	--	--
Oregon	--	2.18	--	--	2.18	--	--
Washington	W	W	W	--	--	W	W
Pacific Noncontiguous	W	W	W	3.37	3.46	W	W
Alaska	3.37	3.46	-2.6%	3.37	3.46	--	--
Hawaii	W	W	W	--	--	W	W
U.S. Total	1.97	1.91	3.1%	2.03	1.96	1.79	1.74

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:
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.
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, 2021 and 2020
(Dollars per MMBtu)

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020
New England	W	W	W	16.48	9.58	W	W
Connecticut	12.38	W	W	--	--	12.38	W
Maine	W	W	W	--	--	W	W
Massachusetts	17.95	W	W	16.48	7.68	18.90	W
New Hampshire	W	W	W	--	16.32	W	W
Rhode Island	W	W	W	--	--	W	W
Vermont	--	--	--	--	--	--	--
Middle Atlantic	14.08	10.24	38.0%	13.14	9.49	15.73	10.40
New Jersey	15.50	8.67	79.0%	--	--	15.50	8.67
New York	13.65	10.92	25.0%	13.14	9.49	15.41	11.79
Pennsylvania	16.12	10.02	61.0%	--	--	16.12	10.02
East North Central	17.17	10.22	68.0%	15.45	10.05	20.05	10.56
Illinois	W	W	W	17.54	10.76	W	W
Indiana	W	10.33	W	15.16	10.33	W	--
Michigan	15.39	9.67	59.0%	15.39	9.67	--	--
Ohio	20.45	10.47	95.0%	16.45	11.10	20.95	10.38
Wisconsin	W	W	W	15.86	9.12	W	W
West North Central	W	9.98	W	15.46	9.98	W	--
Iowa	15.77	9.65	63.0%	15.77	9.65	--	--
Kansas	14.84	10.45	42.0%	14.84	10.45	--	--
Minnesota	W	9.76	W	15.15	9.76	W	--
Missouri	15.56	9.19	69.0%	15.56	9.19	--	--
Nebraska	16.69	12.32	35.0%	16.69	12.32	--	--
North Dakota	16.06	10.59	52.0%	16.06	10.59	--	--
South Dakota	16.26	8.65	88.0%	16.26	8.65	--	--
South Atlantic	15.48	10.83	43.0%	15.84	11.31	13.93	9.03
Delaware	W	W	W	--	--	W	W
District of Columbia	--	--	--	--	--	--	--
Florida	W	9.07	W	15.97	9.07	W	--
Georgia	W	W	W	17.63	10.89	W	W
Maryland	15.07	8.77	72.0%	--	--	15.07	8.77
North Carolina	15.85	10.62	49.0%	15.85	10.62	--	--
South Carolina	W	W	W	15.50	10.31	W	W
Virginia	W	12.20	W	13.84	12.51	W	9.90
West Virginia	W	12.15	W	16.41	12.15	W	--
East South Central	W	W	W	16.00	10.94	W	W
Alabama	W	W	W	15.38	9.56	W	W
Kentucky	15.69	11.32	39.0%	15.69	11.32	--	--
Mississippi	15.81	10.26	54.0%	15.81	10.26	--	--
Tennessee	16.61	10.29	61.0%	16.61	10.29	--	--
West South Central	15.96	9.67	65.0%	15.04	9.63	16.23	9.81
Arkansas	W	W	W	15.76	9.88	W	W
Louisiana	14.76	9.15	61.0%	14.76	9.15	--	--
Oklahoma	15.87	8.62	84.0%	15.87	8.62	--	--
Texas	W	W	W	13.98	10.73	W	W
Mountain	18.30	12.69	44.0%	18.38	12.72	17.41	12.37
Arizona	17.38	12.96	34.0%	17.38	12.96	--	--
Colorado	18.51	11.65	59.0%	18.51	11.65	--	--
Idaho	--	--	--	--	--	--	--
Montana	W	W	W	15.86	--	W	W
Nevada	W	W	W	18.57	14.28	W	W
New Mexico	19.94	13.08	52.0%	19.94	13.08	--	--
Utah	W	W	W	18.84	12.80	W	W
Wyoming	18.27	12.17	50.0%	18.27	12.17	--	--
Pacific Contiguous	W	W	W	16.50	13.73	W	W
California	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--
Washington	W	W	W	16.50	13.73	W	W
Pacific Noncontiguous	W	W	W	13.92	9.36	W	W
Alaska	18.32	11.67	57.0%	18.32	11.67	--	--
Hawaii	W	W	W	13.91	9.35	W	W
U.S. Total	14.76	9.74	52.0%	14.53	9.84	15.38	9.44

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:
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.
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, 2021 and 2020
(Dollars per MMBtu)

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020
New England	--	--	--	--	--	--	--
Connecticut	--	--	--	--	--	--	--
Maine	--	--	--	--	--	--	--
Massachusetts	--	--	--	--	--	--	--
New Hampshire	--	--	--	--	--	--	--
Rhode Island	--	--	--	--	--	--	--
Vermont	--	--	--	--	--	--	--
Middle Atlantic	--	--	--	--	--	--	--
New Jersey	--	--	--	--	--	--	--
New York	--	--	--	--	--	--	--
Pennsylvania	--	--	--	--	--	--	--
East North Central	1.31	1.27	3.1%	1.31	1.27	--	--
Illinois	--	--	--	--	--	--	--
Indiana	--	--	--	--	--	--	--
Michigan	1.20	1.19	0.8%	1.20	1.19	--	--
Ohio	--	--	--	--	--	--	--
Wisconsin	1.90	1.89	0.5%	1.90	1.89	--	--
West North Central	--	--	--	--	--	--	--
Iowa	--	--	--	--	--	--	--
Kansas	--	--	--	--	--	--	--
Minnesota	--	--	--	--	--	--	--
Missouri	--	--	--	--	--	--	--
Nebraska	--	--	--	--	--	--	--
North Dakota	--	--	--	--	--	--	--
South Dakota	--	--	--	--	--	--	--
South Atlantic	4.67	2.21	111.0%	4.67	2.21	--	--
Delaware	--	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--	--
Florida	4.67	2.21	111.0%	4.67	2.21	--	--
Georgia	--	--	--	--	--	--	--
Maryland	--	--	--	--	--	--	--
North Carolina	--	--	--	--	--	--	--
South Carolina	--	--	--	--	--	--	--
Virginia	--	--	--	--	--	--	--
West Virginia	--	--	--	--	--	--	--
East South Central	--	--	--	--	--	--	--
Alabama	--	--	--	--	--	--	--
Kentucky	--	--	--	--	--	--	--
Mississippi	--	--	--	--	--	--	--
Tennessee	--	--	--	--	--	--	--
West South Central	3.43	1.59	116.0%	3.43	1.59	--	--
Arkansas	--	--	--	--	--	--	--
Louisiana	3.43	1.59	116.0%	3.43	1.59	--	--
Oklahoma	--	--	--	--	--	--	--
Texas	--	--	--	--	--	--	--
Mountain	--	--	--	--	--	--	--
Arizona	--	--	--	--	--	--	--
Colorado	--	--	--	--	--	--	--
Idaho	--	--	--	--	--	--	--
Montana	--	--	--	--	--	--	--
Nevada	--	--	--	--	--	--	--
New Mexico	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--
Wyoming	--	--	--	--	--	--	--
Pacific Contiguous	--	--	--	--	--	--	--
California	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--
Pacific Noncontiguous	--	--	--	--	--	--	--
Alaska	--	--	--	--	--	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	3.16	1.70	86.0%	3.16	1.70	--	--

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:
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.
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, 2021 and 2020
(Dollars per MMBtu)

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2021	Year 2020	Percentage Change	Year 2021	Year 2020	Year 2021	Year 2020
New England	W	W	W	4.38	2.19	W	W
Connecticut	4.69	2.41	95.0%	--	--	4.69	2.41
Maine	W	W	W	--	--	W	W
Massachusetts	5.75	3.23	78.0%	4.38	2.00	5.76	3.25
New Hampshire	W	W	W	--	3.17	W	W
Rhode Island	4.37	2.32	88.0%	--	--	4.37	2.32
Vermont	--	--	--	--	--	--	--
Middle Atlantic	3.54	1.80	97.0%	4.16	2.33	3.48	1.75
New Jersey	3.63	1.79	103.0%	--	--	3.63	1.79
New York	3.95	2.12	86.0%	4.16	2.33	3.85	2.04
Pennsylvania	3.31	1.63	103.0%	--	--	3.31	1.63
East North Central	3.90	2.03	92.0%	4.05	2.18	3.82	1.95
Illinois	4.18	W	W	4.65	2.28	4.12	W
Indiana	4.16	2.04	104.0%	4.35	2.11	4.01	1.99
Michigan	4.02	2.04	97.0%	4.45	2.11	3.78	2.00
Ohio	3.67	1.87	96.0%	3.74	1.86	3.66	1.87
Wisconsin	3.70	W	W	3.70	2.40	--	W
West North Central	W	W	W	6.01	2.35	W	W
Iowa	4.10	2.03	102.0%	4.10	2.03	--	--
Kansas	9.66	2.58	274.0%	9.66	2.58	--	--
Minnesota	W	W	W	4.46	2.58	W	W
Missouri	W	W	W	9.72	2.23	W	W
Nebraska	12.59	2.35	436.0%	12.59	2.35	--	--
North Dakota	2.83	2.73	3.7%	2.83	2.73	--	--
South Dakota	3.41	2.39	43.0%	3.41	2.39	--	--
South Atlantic	4.61	2.86	61.0%	4.71	2.99	3.93	2.05
Delaware	W	W	W	--	--	W	W
District of Columbia	--	--	--	--	--	--	--
Florida	5.07	W	W	5.08	3.19	4.75	W
Georgia	W	2.32	W	4.25	2.36	W	2.16
Maryland	4.35	2.37	84.0%	4.52	2.50	4.29	2.34
North Carolina	4.40	3.24	36.0%	4.52	3.49	3.80	2.16
South Carolina	4.22	2.70	56.0%	4.22	2.70	--	--
Virginia	3.93	2.38	65.0%	4.12	2.65	3.38	1.62
West Virginia	W	1.59	W	4.16	1.91	W	1.57
East South Central	4.04	2.39	69.0%	3.98	2.41	4.27	2.30
Alabama	W	W	W	4.28	2.46	W	W
Kentucky	W	W	W	4.16	2.86	W	W
Mississippi	W	W	W	3.90	2.28	W	W
Tennessee	3.64	2.44	49.0%	3.64	2.44	--	--
West South Central	8.48	2.15	294.0%	7.98	2.21	8.92	2.08
Arkansas	W	W	W	6.99	2.33	W	W
Louisiana	W	W	W	5.28	2.25	W	W
Oklahoma	W	W	W	12.41	2.26	W	W
Texas	8.98	2.10	328.0%	8.26	2.13	9.24	2.09
Mountain	5.09	2.51	103.0%	5.11	2.49	4.98	2.83
Arizona	W	W	W	4.78	2.42	W	W
Colorado	W	W	W	7.45	2.83	W	W
Idaho	4.31	2.68	61.0%	4.31	2.68	--	--
Montana	W	W	W	3.31	1.74	W	W
Nevada	4.50	2.65	70.0%	4.50	2.65	--	--
New Mexico	5.40	1.60	238.0%	5.40	1.60	--	--
Utah	4.45	2.53	76.0%	4.45	2.53	--	--
Wyoming	W	W	W	5.84	2.28	W	W
Pacific Contiguous	4.79	3.02	59.0%	4.73	2.97	4.85	3.08
California	5.42	3.27	66.0%	5.58	3.39	5.27	3.18
Oregon	W	W	W	3.49	2.02	W	W
Washington	W	W	W	4.04	2.86	W	W
Pacific Noncontiguous	6.25	6.41	-2.5%	6.25	6.41	--	--
Alaska	6.25	6.41	-2.5%	6.25	6.41	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	5.25	2.41	118.0%	5.21	2.63	5.30	2.10

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:
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 7.21. Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Total (All Sectors) by State, 2021

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	87	1.28	7.9	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	69	0.79	8.0	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	18	2.88	7.6	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	9,627	2.78	9.9	0	--	--	0	--	--
New Jersey	551	1.53	8.2	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	9,077	2.86	10.0	0	--	--	0	--	--
East North Central	47,453	3.30	10.8	49,101	0.24	4.7	0	--	--
Illinois	9,278	3.47	20.2	16,640	0.22	4.5	0	--	--
Indiana	18,471	2.98	9.1	1,058	0.29	4.9	0	--	--
Michigan	1,935	2.42	7.7	17,457	0.26	4.7	0	--	--
Ohio	17,300	3.65	9.1	157	0.30	5.0	0	--	--
Wisconsin	469	2.89	8.4	13,789	0.24	4.8	0	--	--
West North Central	600	3.23	8.7	76,161	0.27	4.9	21,381	0.73	10.1
Iowa	264	3.56	8.7	11,439	0.25	4.8	0	--	--
Kansas	0	--	--	12,456	0.29	5.1	0	--	--
Minnesota	0	--	--	8,105	0.31	5.5	0	--	--
Missouri	336	2.97	8.7	30,931	0.24	4.8	0	--	--
Nebraska	0	--	--	11,986	0.26	4.7	0	--	--
North Dakota	0	--	--	0	--	--	21,381	0.73	10.1
South Dakota	0	--	--	1,244	0.81	5.2	0	--	--
South Atlantic	49,366	2.61	9.7	4,270	0.34	4.9	0	--	--
Delaware	134	2.62	8.0	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	7,503	2.75	8.5	0	--	--	0	--	--
Georgia	3,905	2.50	8.2	4,270	0.34	4.9	0	--	--
Maryland	2,095	2.34	11.4	0	--	--	0	--	--
North Carolina	7,816	1.80	9.1	0	--	--	0	--	--
South Carolina	6,029	1.92	8.6	0	--	--	0	--	--
Virginia	1,585	1.42	16.5	0	--	--	0	--	--
West Virginia	20,298	3.20	10.4	0	--	--	0	--	--
East South Central	26,542	2.70	9.3	18,591	0.27	5.2	3,050	0.52	13.9
Alabama	2,291	0.88	10.5	10,899	0.29	5.3	0	--	--
Kentucky	19,853	2.96	9.4	5,380	0.24	4.9	0	--	--
Mississippi	242	1.57	8.5	1,450	0.27	5.0	3,050	0.52	13.9
Tennessee	4,156	2.41	8.4	861	0.22	5.2	0	--	--
West South Central	382	2.43	10.7	62,057	0.29	5.0	18,488	1.06	17.0
Arkansas	54	0.61	10.3	11,362	0.22	4.7	0	--	--
Louisiana	294	2.93	8.8	3,012	0.23	4.8	401	0.57	15.4
Oklahoma	35	0.94	30.9	6,877	0.23	4.6	0	--	--
Texas	0	--	--	40,807	0.32	5.2	18,087	1.07	17.1
Mountain	14,336	0.59	13.5	50,020	0.48	8.4	64	0.55	9.2
Arizona	0	--	--	7,192	0.61	9.9	0	--	--
Colorado	965	0.50	10.4	11,352	0.30	5.7	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	6,590	0.65	9.2	64	0.55	9.2
Nevada	610	0.37	9.6	649	0.27	5.1	0	--	--
New Mexico	2,969	0.71	23.3	4,266	0.79	19.9	0	--	--
Utah	9,792	0.58	11.5	433	0.89	8.7	0	--	--
Wyoming	0	--	--	19,539	0.41	6.6	0	--	--
Pacific Contiguous	638	0.37	8.5	1,773	0.38	8.2	0	--	--
California	638	0.37	8.5	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	1,773	0.38	8.2	0	--	--
Pacific Noncontiguous	0	--	--	597	0.26	5.9	247	0.12	6.6
Alaska	0	--	--	0	--	--	247	0.12	6.6
Hawaii	0	--	--	597	0.26	5.9	0	--	--
U.S. Total	149,031	2.66	10.3	262,570	0.31	5.6	43,229	0.86	13.3

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 Utilties by State, 2021

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	7	1.26	11.0	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	7	1.26	11.0	0	--	--	0	--	--
East North Central	21,460	2.97	9.1	33,278	0.26	4.7	0	--	--
Illinois	1,030	3.01	10.7	974	0.20	4.5	0	--	--
Indiana	16,323	2.95	9.1	1,058	0.29	4.9	0	--	--
Michigan	1,764	2.48	7.8	17,457	0.26	4.7	0	--	--
Ohio	1,874	3.63	9.2	0	--	--	0	--	--
Wisconsin	469	2.89	8.4	13,789	0.24	4.8	0	--	--
West North Central	325	2.97	8.8	73,601	0.27	4.9	21,381	0.73	10.1
Iowa	0	--	--	9,612	0.25	4.9	0	--	--
Kansas	0	--	--	12,456	0.29	5.1	0	--	--
Minnesota	0	--	--	8,105	0.31	5.5	0	--	--
Missouri	325	2.97	8.8	30,931	0.24	4.8	0	--	--
Nebraska	0	--	--	11,253	0.26	4.8	0	--	--
North Dakota	0	--	--	0	--	--	21,381	0.73	10.1
South Dakota	0	--	--	1,244	0.81	5.2	0	--	--
South Atlantic	41,266	2.54	9.8	4,270	0.34	4.9	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	7,466	2.76	8.5	0	--	--	0	--	--
Georgia	3,758	2.57	8.2	4,270	0.34	4.9	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	7,570	1.84	9.1	0	--	--	0	--	--
South Carolina	5,826	1.95	8.6	0	--	--	0	--	--
Virginia	1,385	1.54	18.1	0	--	--	0	--	--
West Virginia	15,260	3.07	10.9	0	--	--	0	--	--
East South Central	25,986	2.74	9.4	18,591	0.27	5.2	0	--	--
Alabama	2,291	0.88	10.5	10,899	0.29	5.3	0	--	--
Kentucky	19,853	2.96	9.4	5,380	0.24	4.9	0	--	--
Mississippi	242	1.57	8.5	1,450	0.27	5.0	0	--	--
Tennessee	3,599	2.67	8.6	861	0.22	5.2	0	--	--
West South Central	329	2.75	10.8	35,326	0.25	4.9	5,241	1.47	22.1
Arkansas	0	--	--	9,216	0.22	4.7	0	--	--
Louisiana	294	2.93	8.8	2,501	0.22	4.7	401	0.57	15.4
Oklahoma	35	0.94	30.9	6,848	0.23	4.6	0	--	--
Texas	0	--	--	16,761	0.28	5.1	4,840	1.55	22.8
Mountain	14,336	0.59	13.5	42,389	0.46	8.4	64	0.55	9.2
Arizona	0	--	--	7,192	0.61	9.9	0	--	--
Colorado	965	0.50	10.4	11,352	0.30	5.7	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	0	--	--	64	0.55	9.2
Nevada	610	0.37	9.6	0	--	--	0	--	--
New Mexico	2,969	0.71	23.3	4,266	0.79	19.9	0	--	--
Utah	9,792	0.58	11.5	433	0.89	8.7	0	--	--
Wyoming	0	--	--	19,147	0.41	6.7	0	--	--
Pacific Contiguous	0	--	--	0	--	--	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	0	--	--	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	247	0.12	6.6
Alaska	0	--	--	0	--	--	247	0.12	6.6
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	103,708	2.43	10.0	207,456	0.31	5.6	26,932	0.86	12.2

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, 2021

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	87	1.28	7.9	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	69	0.79	8.0	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	18	2.88	7.6	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	9,523	2.78	9.9	0	--	--	0	--	--
New Jersey	551	1.53	8.2	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	8,973	2.86	10.0	0	--	--	0	--	--
East North Central	24,413	3.58	12.5	15,476	0.22	4.5	0	--	--
Illinois	6,671	3.56	25.4	15,319	0.22	4.5	0	--	--
Indiana	2,148	3.18	9.1	0	--	--	0	--	--
Michigan	169	1.76	7.4	0	--	--	0	--	--
Ohio	15,426	3.65	9.1	157	0.30	5.0	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	7,442	3.16	9.6	0	--	--	0	--	--
Delaware	134	2.62	8.0	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	0	--	--	0	--	--	0	--	--
Georgia	0	--	--	0	--	--	0	--	--
Maryland	2,095	2.34	11.4	0	--	--	0	--	--
North Carolina	6	0.78	4.7	0	--	--	0	--	--
South Carolina	169	1.06	9.6	0	--	--	0	--	--
Virginia	0	--	--	0	--	--	0	--	--
West Virginia	5,038	3.59	9.0	0	--	--	0	--	--
East South Central	0	--	--	0	--	--	3,050	0.52	13.9
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	3,050	0.52	13.9
Tennessee	0	--	--	0	--	--	0	--	--
West South Central	0	--	--	26,703	0.34	5.2	13,247	0.92	15.3
Arkansas	0	--	--	2,146	0.25	5.0	0	--	--
Louisiana	0	--	--	511	0.29	5.0	0	--	--
Oklahoma	0	--	--	0	--	--	0	--	--
Texas	0	--	--	24,047	0.35	5.2	13,247	0.92	15.3
Mountain	0	--	--	7,631	0.61	8.6	0	--	--
Arizona	0	--	--	0	--	--	0	--	--
Colorado	0	--	--	0	--	--	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	6,590	0.65	9.2	0	--	--
Nevada	0	--	--	649	0.27	5.1	0	--	--
New Mexico	0	--	--	0	--	--	0	--	--
Utah	0	--	--	0	--	--	0	--	--
Wyoming	0	--	--	392	0.37	5.4	0	--	--
Pacific Contiguous	0	--	--	1,773	0.38	8.2	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	1,773	0.38	8.2	0	--	--
Pacific Noncontiguous	0	--	--	597	0.26	5.9	0	--	--
Alaska	0	--	--	0	--	--	0	--	--
Hawaii	0	--	--	597	0.26	5.9	0	--	--
U.S. Total	41,465	3.30	11.3	52,179	0.34	5.6	16,297	0.86	15.1

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, 2021

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	11	2.94	8.3	0	--	--	0	--	--
Iowa	0	--	--	0	--	--	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	11	2.94	8.3	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	11	2.94	8.3	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, 2021

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	97	2.57	8.3	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	97	2.57	8.3	0	--	--	0	--	--
East North Central	1,580	3.44	8.6	347	0.35	5.4	0	--	--
Illinois	1,578	3.44	8.6	347	0.35	5.4	0	--	--
Indiana	0	--	--	0	--	--	0	--	--
Michigan	2	0.38	6.4	0	--	--	0	--	--
Ohio	0	--	--	0	--	--	0	--	--
Wisconsin	0	--	--	0	--	--	0	--	--
West North Central	264	3.56	8.7	2,559	0.21	4.5	0	--	--
Iowa	264	3.56	8.7	1,827	0.21	4.5	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	0	--	--	0	--	--	0	--	--
Nebraska	0	--	--	733	0.21	4.4	0	--	--
North Dakota	0	--	--	0	--	--	0	--	--
South Dakota	0	--	--	0	--	--	0	--	--
South Atlantic	658	0.80	7.0	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	37	0.72	6.4	0	--	--	0	--	--
Georgia	147	0.93	8.4	0	--	--	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	241	0.79	6.6	0	--	--	0	--	--
South Carolina	34	0.71	5.3	0	--	--	0	--	--
Virginia	200	0.74	7.1	0	--	--	0	--	--
West Virginia	0	--	--	0	--	--	0	--	--
East South Central	556	0.86	7.3	0	--	--	0	--	--
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	0	--	--
Tennessee	556	0.86	7.3	0	--	--	0	--	--
West South Central	54	0.61	10.3	29	0.22	4.5	0	--	--
Arkansas	54	0.61	10.3	0	--	--	0	--	--
Louisiana	0	--	--	0	--	--	0	--	--
Oklahoma	0	--	--	29	0.22	4.5	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	638	0.37	8.5	0	--	--	0	--	--
California	638	0.37	8.5	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	3,846	1.96	8.1	2,935	0.23	4.6	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, 2011 through 2021 (Btu per Kilowatthour)

Year	Coal	Petroleum	Natural Gas	Nuclear
2011	10,444	10,829	8,152	10,464
2012	10,498	10,991	8,039	10,479
2013	10,459	10,713	7,948	10,449
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	11,223	7,687	10,429

Coal includes anthracite, bituminous, subbituminous and lignite coal. Waste coal and synthetic coal are included starting in 2002.
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 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-860, "Annual Electric Generator Report."

Table 8.2. Average Tested Heat Rates by Prime Mover and Energy Source, 2011 - 2021

(Btu per Kilowatthour)

Prime Mover	Coal	Petroleum	Natural Gas	Nuclear
2011				
Steam Generator	10,128	10,414	10,414	10,464
Gas Turbine	--	13,637	11,569	--
Internal Combustion	--	10,428	9,923	--
Combined Cycle	W	10,650	7,603	--
2012				
Steam Generator	10,107	10,359	10,385	10,479
Gas Turbine	--	13,622	11,499	--
Internal Combustion	--	10,416	9,991	--
Combined Cycle	W	10,195	7,615	--
2013				
Steam Generator	10,089	10,334	10,354	10,449
Gas Turbine	--	13,555	11,371	--
Internal Combustion	--	10,401	9,573	--
Combined Cycle	W	9,937	7,667	--
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	--

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, 2011 through 2021 (Million Dollars)

Description	2011	2012	2013	2014	2015	2016
Utility Operating Revenues	**280,520**	**270,912**	**281,901**	**298,430**	**282,695**	**282,499**
.....Electric Utility	255,573	249,166	257,718	271,832	260,121	261,047
.....Other Utility	24,946	21,745	24,183	26,598	22,574	21,451
Utility Operating Expenses	**247,118**	**235,694**	**244,316**	**258,936**	**242,728**	**239,037**
.....Electric Utility	228,873	220,722	227,483	240,643	228,366	226,457
.....Operation	161,460	152,379	156,077	165,989	149,939	145,077
.....Production	122,520	111,714	115,046	123,366	107,201	100,852
.....Cost of Fuel	42,779	38,998	41,127	42,545	34,711	32,621
.....Purchased Power	61,447	54,570	55,529	62,066	52,970	49,962
.....Other	18,294	18,146	18,390	18,755	19,521	18,269
.....Transmission	6,876	7,183	7,881	8,902	9,624	10,447
.....Distribution	4,044	4,181	4,197	4,331	4,406	4,734
.....Customer Accounts	5,180	5,086	5,107	5,255	5,184	5,077
.....Customer Service	5,311	5,640	5,906	6,396	6,445	6,187
.....Sales	185	221	203	208	201	205
.....Administrative and General	17,343	18,353	17,738	17,532	16,878	17,575
.....Maintenance	15,772	15,489	15,505	16,801	16,392	16,982
.....Depreciation	22,555	23,677	24,723	25,919	26,847	30,097
.....Taxes and Other	29,086	29,177	31,179	31,934	35,188	34,301
.....Other Utility	18,245	14,972	16,833	18,293	14,362	12,579
Net Utility Operating Income	**33,402**	**35,218**	**37,585**	**39,494**	**39,968**	**43,462**

Description	2017	2018	2019	2020	2021
Utility Operating Revenues	**286,501**	**293,868**	**293,000**	**294,756**	**329,138**
.....Electric Utility	263,265	268,421	266,876	269,869	299,956
.....Other Utility	23,235	25,447	26,124	24,888	29,181
Utility Operating Expenses	**240,041**	**253,944**	**250,136**	**240,802**	**271,078**
.....Electric Utility	226,110	238,526	234,892	227,084	253,979
.....Operation	142,000	163,479	157,265	144,335	163,952
.....Production	98,859	104,185	99,518	93,505	110,775
.....Cost of Fuel	32,165	33,592	29,614	25,856	34,771
.....Purchased Power	49,030	53,060	50,378	50,407	61,627
.....Other	17,664	17,533	19,526	17,242	14,377
.....Transmission	10,804	11,387	11,941	12,949	15,310
.....Distribution	4,358	4,806	5,218	5,480	5,659
.....Customer Accounts	4,789	4,969	4,978	5,775	5,249
.....Customer Service	5,961	6,019	6,156	5,868	6,192
.....Sales	213	203	204	211	215
.....Administrative and General	17,016	31,911	29,248	20,546	20,553
.....Maintenance	17,996	17,786	19,898	20,030	20,875
.....Depreciation	30,323	32,125	34,883	38,208	39,666
.....Taxes and Other	35,791	25,136	22,846	24,510	29,485
.....Other Utility	13,931	15,418	15,245	13,718	17,100
Net Utility Operating Income	**46,460**	**39,924**	**42,864**	**53,954**	**58,060**

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, 2011 through 2021 (Mills per Kilowatthour)

	Operation				Maintenance			
Year	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale
2011	10.89	4.02	5.13	2.81	6.80	3.99	3.74	2.93
2012	12.49	4.38	6.71	2.46	7.32	4.48	4.63	2.76
2013	12.51	4.57	6.56	2.56	6.64	4.41	4.32	2.80
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

	Fuel				Total			
Year	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale
2011	7.01	27.08	--	38.80	24.70	35.09	8.88	44.54
2012	7.61	28.34	--	30.45	27.42	37.20	11.34	35.67
2013	8.14	28.94	--	32.56	27.29	37.92	10.88	37.92
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

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.

Chapter 9

Environmental Data

Table 9.1. Emissions from Energy Consumption at Conventional Power Plants and Combined-Heat-and-Power Plants 2011 through 2021 (Thousand Metric Tons)

Year	Carbon Dioxide (CO2)	Sulfur Dioxide (SO2)	Nitrogen Oxides (NOx)
2011	2,287,071	4,845	2,406
2012	2,156,875	3,704	2,148
2013	2,173,806	3,609	2,163
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

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, 2011 - 2021

	Flue Gas Desulfurization Systems		Electrostatic Precipitators		Baghouses		Select Catalytic and Non-Catalytic Reduction Systems		Activated Carbon Injection Systems		Direct Sorbent Injection Systems	
Year	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)
2011	731	211,781	1,369	307,406	633	98,507	1,411	331,882	274	59,057	76	9,113
2012	727	219,359	1,292	298,788	629	101,593	1,456	345,897	287	63,709	84	10,754
2013	705	219,359	1,219	289,545	637	104,331	1,462	352,143	262	61,215	98	13,121
2014	702	223,835	1,173	284,303	621	105,990	1,476	359,336	280	69,287	105	16,913
2015	693	224,143	1,038	265,268	623	110,820	1,484	360,796	364	106,450	123	23,443
2016	697	228,583	944	253,267	613	112,581	1,488	363,432	482	153,800	126	26,815
2017	682	222,592	887	244,450	601	109,495	1,497	366,830	477	151,208	128	25,916
2018	663	214,161	842	229,774	582	105,282	1,494	367,414	455	143,471	121	26,415
2019	618	203,115	784	217,711	535	101,839	1,467	364,602	431	136,597	116	25,615
2020	594	193,201	749	207,516	512	98,496	1,446	361,268	410	130,761	112	23,917
2021	569	186,384	708	197,689	481	94,723	1,425	358,610	396	127,791	108	22,975

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.
Data for 2005 and earlier are based primarily on Form EIA-767 data. In 2006, the Form EIA-767 was suspended. Data for 2007 and later are based primarily on Form EIA-860 data. All data for 2006 are inferred based on submissions from subsequent years. Beginning in 2013 environmental data was collected at a more detailed level, which increases its accuracy and in some cases reduces the equipment counts.

Source: U.S. Energy Information Administration, Forms EIA-767, "Steam-Electric Plant Operation and Design Report" and 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, 2011 - 2021

	Once-Through Cooling Systems		Recirculating Cooling Systems		Cooling Ponds		Dry Cooling Systems		Hybrid Wet and Dry Cooling Systems		Other Cooling System Types	
Energy Source	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)
2011												
Coal	415	127,412	369	165,958	104	50,476	3	840	1	766	9	3,090
Natural Gas	176	48,361	442	87,168	59	21,984	57	13,471	3	542	2	870
Nuclear	49	51,642	39	43,422	13	15,011	--	--	--	--	8	8,890
Petroleum	70	17,454	17	5,443	4	4,692	--	--	--	--	2	2,022
Other	18	1,318	20	1,641	--	--	1	26	--	--	2	63
2012												
Coal	372	124,589	366	166,915	88	39,933	4	1,412	1	766	15	6,918
Natural Gas	172	52,020	448	92,518	55	18,573	59	13,813	4	637	2	499
Nuclear	49	51,846	38	39,561	13	15,105	--	--	--	--	8	8,900
Petroleum	63	15,326	17	4,046	4	4,692	--	--	--	--	2	2,022
Other	15	1,258	27	2,167	--	--	1	53	--	--	2	63
2013												
Coal	345	120,340	357	164,826	77	39,482	4	1,422	1	750	11	4,797
Natural Gas	159	51,291	428	88,707	58	18,883	58	12,828	4	637	4	2,481
Nuclear	45	50,266	38	40,013	13	15,251	--	--	--	--	8	11,181
Petroleum	49	11,910	11	3,481	4	4,692	--	--	--	--	--	--
Solar Thermal	--	--	2	591	--	--	4	516	--	--	--	--
Other	15	1,301	31	2,561	1	66	--	--	--	--	1	128
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	49,586	35	37,650	13	15,237	--	--	--	--	9	11,886
Petroleum	40	10,043	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	27	8,254	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	440	88,509	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	25	7,771	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	439	91,217	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	8,089
Natural Gas	161	47,653	445	92,897	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	447	95,492	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	452	96,970	56	23,018	82	19,420	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	459	100,843	52	22,762	81	19,407	4	801	6	3,612
Nuclear	38	42,013	33	37,471	14	17,862	--	--	--	--	9	14,213
Petroleum	24	7,622	6	898	2	684	--	--	--	--	--	--
Solar Thermal	--	--	4	866	--	--	5	893	1	110	--	--
Other	18	1,955	22	2,045	--	--	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, 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 Gases.
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 Gases.
Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
EIA did not collect cooling system data for nuclear units before 2010.
Other Energy Sources consists of wood and wood waste products, biomass, blast furnace gas and other gases.
Data for 2005 and earlier are based primarily on Form EIA-767 data. In 2006, the Form EIA-767 was suspended. Data for 2007 and later are based primarily on Form EIA-860 data. All data for 2006 are inferred based on submissions from subsequent years.

Source: U.S. Energy Information Administration, Forms EIA-767, "Steam-Electric Plant Operation and Design Report" and Form EIA-860, "Annual Electric Generator Report."

Table 9.4. Average Costs of Existing Flue Gas Desulfurization Units Operating in Electric Power Sector, 2011 - 2021

Year	Average Operation and Maintenance Costs (Dollars per Megawatthour)	Average Installed Capital Costs (Dollars per Kilowatt)
2011	1.79	335.16
2012	1.87	266.40
2013	1.74	255.86
2014	1.84	186.45
2015	2.03	157.83
2016	1.96	303.32
2017	2.15	242.88
2018	2.08	--
2019	2.11	452.20
2020	2.21	--
2021	2.14	--

Notes: Average Installed Capital Costs reflect units which began operating in the specified year. Prior publications of this table reported the average installation cost of all units that were operating during each year; the new metric is intended to portray a more accurate understanding of how installation costs have changed over time.

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; prior publications of this table included commercial and industrial facilities when calculating average costs.

Sources:
U.S. Energy Information Administration, 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, 2020 and 2021 (Thousand Metric Tons)

Census Division and State	Carbon Dioxide (CO2)		Sulfur Dioxide (SO2)		Nitrogen Oxides (NOx)	
	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	27,442	25,060	8	9	22	24
Connecticut	10,940	10,186	1	0	6	6
Maine	2,285	1,824	5	6	5	5
Massachusetts	8,388	7,957	2	2	7	7
New Hampshire	2,261	1,728	0	0	2	1
Rhode Island	3,558	3,357	0	0	2	3
Vermont	11	8	0	0	1	1
Middle Atlantic	123,092	113,957	55	44	77	73
New Jersey	14,786	14,902	1	3	9	9
New York	28,355	26,771	7	7	26	26
Pennsylvania	79,951	72,284	46	35	42	38
East North Central	288,036	265,943	252	230	205	210
Illinois	57,167	47,512	55	56	31	25
Indiana	70,434	64,851	33	35	52	55
Michigan	55,045	53,183	58	41	53	58
Ohio	68,982	67,224	92	84	47	50
Wisconsin	36,408	33,173	14	14	22	21
West North Central	185,906	167,297	210	187	159	145
Iowa	28,923	21,135	27	17	24	17
Kansas	22,791	20,346	4	4	16	13
Minnesota	23,176	20,956	14	13	21	18
Missouri	59,653	54,133	92	84	49	48
Nebraska	21,255	20,950	38	37	19	18
North Dakota	27,590	27,415	34	32	28	28
South Dakota	2,519	2,362	1	1	1	1
South Atlantic	306,359	292,440	188	172	194	186
Delaware	2,464	2,667	1	0	2	1
District of Columbia	112	108	0	0	1	1
Florida	96,324	96,716	36	35	48	48
Georgia	43,566	39,865	44	42	34	32
Maryland	12,040	10,219	5	3	6	5
North Carolina	41,244	38,461	26	30	39	38
South Carolina	25,193	23,081	21	19	15	11
Virginia	27,575	31,807	13	11	18	21
West Virginia	57,839	49,518	43	30	31	28
East South Central	158,502	144,077	113	93	81	75
Alabama	49,610	44,802	30	26	23	21
Kentucky	56,157	49,750	46	37	31	28
Mississippi	25,628	26,743	12	11	15	16
Tennessee	27,107	22,782	24	19	11	10
West South Central	309,490	296,710	239	188	242	233
Arkansas	29,586	23,469	40	29	19	16
Louisiana	45,917	44,417	36	25	53	54
Oklahoma	27,812	26,380	15	7	22	18
Texas	206,175	202,444	148	127	148	144
Mountain	178,267	173,411	65	63	140	138
Arizona	34,275	35,714	7	8	23	25
Colorado	31,128	29,071	9	8	18	17
Idaho	2,573	2,221	4	4	4	4
Montana	12,777	10,415	8	7	11	9
Nevada	13,899	13,481	2	2	10	10
New Mexico	17,204	18,656	3	3	12	13
Utah	29,710	26,297	9	7	33	28
Wyoming	36,701	37,556	23	25	29	31
Pacific Contiguous	64,833	64,814	20	20	99	94
California	45,075	43,443	1	1	69	66
Oregon	8,710	9,371	4	6	18	15
Washington	11,048	11,999	15	13	12	13
Pacific Noncontiguous	9,986	9,877	18	18	34	35
Alaska	3,557	3,459	2	2	19	20
Hawaii	6,429	6,418	16	16	15	15
U.S. Total	1,651,911	1,553,586	1,168	1,023	1,253	1,211

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 Electricity, Renewables, and Uranium Statistics, U.S. Energy Information

Chapter 10

Energy Efficiency, Demand Response and Advanced Meters

Table 10.1. Energy Efficiency Category, by Sector, 2013 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Incremental Annual Savings - Energy Savings (MWh)					
2013	11,020,468	10,461,718	3,141,044	29,894	24,653,124
2014	11,443,087	11,928,798	3,074,819	19,316	26,466,020
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
Incremental Annual Savings - Peak Demand Savings (MW)					
2013	3,642	5,974	1,458	5	11,078
2014	3,000	2,889	563	2	6,453
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
Incremental Costs - Customer Incentive (thousand dollars)					
2013	1,251,703	1,274,284	345,662	5	2,871,654
2014	1,522,205	1,561,358	327,227	64	3,410,854
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
Incremental Costs - All Other Costs (thousand dollars)					
2013	1,015,135	749,710	179,719	33	1,944,597
2014	1,088,914	911,967	208,095	122	2,209,098
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

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 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Life Cycle Savings - Energy Savings (MWh)					
2013	83,729,903	127,269,038	38,493,282	448,421	249,940,645
2014	105,870,642	156,171,166	39,626,390	287,925	301,956,123
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
Life Cycle Savings - Peak Demand Savings (MW)					
2013	3,782	5,876	1,293	6	10,956
2014	4,058	3,308	672	2	8,040
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
Life Cycle Costs - Customer Incentive (thousand dollars)					
2013	2,698,135	2,875,483	455,343	5	6,028,810
2014	1,748,893	1,912,277	346,218	64	4,007,452
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
Life Cycle Costs - All Other Costs (thousand dollars)					
2013	2,134,225	1,626,069	234,577	33	3,994,889
2014	1,555,433	1,348,672	216,673	122	3,120,898
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

* = 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 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Customers Enrolled					
2013	8,419,233	611,826	155,893	398	9,187,350
2014	8,603,402	605,094	57,129	4	9,265,629
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
Energy Savings (MWh)					
2013	799,743	486,348	115,895	1	1,401,987
2014	881,563	462,337	92,549	--	1,436,449
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
Potential Peak Demand Savings (MW)					
2013	7,003	5,124	14,800	168	27,095
2014	8,118	6,215	16,505	353	31,191
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
Actual Peak Demand Savings (MW)					
2013	3,381	2,548	5,805	149	11,883
2014	3,147	2,652	6,883	1	12,683
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

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 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Customer Incentives (thousand dollars)					
2013	398,598	286,057	421,208	6,919	1,112,782
2014	345,894	345,435	514,751	11,716	1,217,796
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
All Other Costs (thousand dollars)					
2013	338,353	95,748	50,982	50	485,133
2014	301,389	101,127	45,028	115	447,659
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

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

Table 10.05. Advanced Metering Count by Technology Type, 2012 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Automated Meter Reading (AMR)					
2012	43,455,437	4,691,018	185,862	125	48,330,822
2013	42,491,242	4,632,744	196,132	1,202	47,321,320
2014	41,830,781	4,781,167	216,459	1,252	46,829,659
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
Advanced Metering Infrastructure (AMI)					
2012	38,524,639	4,461,350	179,159	35	43,165,183
2013	47,321,995	5,770,067	248,515	845	53,341,422
2014	51,710,725	6,563,614	270,683	916	58,545,938
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
Standard (non-AMR/AMI) Meters					
2012	--	--	--	--	--
2013	32,059,522	5,104,322	244,114	132	37,408,090
2014	32,995,176	5,642,247	254,621	1,331	38,893,375
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
Total Number of Meters					
2012	--	--	--	--	--
2013	121,872,759	15,507,133	688,761	2,179	138,070,832
2014	126,536,682	16,987,028	741,763	3,499	144,268,972
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

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

	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		
Year	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)
2013	227.2	1.2	191.5	111.9	1.0	112.6	225.5	1.1	202.6	215.7	1.2	179.8	106.1	1.0	106.9
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

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, 2021 and 2020

			All Events (With Major Event Days)						Without Major Event Days						Loss of Supply Removed					
	Percent of Customers Reported		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)	
Census Division and State	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	85.8%	68.0%	382.1	1,272.9	1.4	2.0	282.2	643.0	104.1	101.9	1.0	1.0	102.8	99.0	357.7	1,284.0	1.3	1.9	280.1	677.0
Connecticut	78.3%	78.5%	170.9	3,033.8	1.0	2.0	172.8	1,531.0	76.7	70.2	0.7	0.7	111.1	101.7	169.7	3,032.5	1.0	2.0	173.8	1,545.5
Maine	103.0%	102.8%	325.2	1,725.0	2.5	3.9	130.5	446.5	223.5	244.8	2.1	2.1	107.8	115.7	312.1	1,718.4	2.2	3.8	140.4	458.2
Massachusetts	91.4%	50.9%	527.8	224.1	1.2	1.2	428.8	184.4	88.1	63.6	0.9	0.8	99.1	79.3	600.8	231.0	1.1	1.2	542.0	199.3
New Hampshire	88.3%	88.4%	176.5	408.5	1.1	1.5	161.2	269.7	98.3	99.0	0.9	0.9	114.5	108.4	165.0	407.9	1.0	1.5	173.1	271.2
Rhode Island	98.4%	99.0%	448.6	548.4	1.4	2.0	313.9	278.9	68.8	69.1	0.9	0.9	72.6	73.1	436.0	452.9	1.4	1.4	312.7	314.1
Vermont	10.5%	10.5%	215.3	158.4	1.9	1.6	112.7	97.2	215.3	158.4	1.9	1.6	112.7	97.2	210.1	151.0	1.8	1.6	120.1	96.8
Middle Atlantic	58.9%	58.9%	190.8	588.9	1.2	1.5	165.1	406.2	110.9	105.0	1.0	1.0	115.7	109.3	180.4	573.1	1.1	1.3	171.9	427.3
New Jersey	99.1%	99.0%	139.2	943.3	1.0	1.6	139.0	596.4	84.3	86.5	0.9	0.9	95.2	92.1	127.1	911.3	0.9	1.4	146.4	633.9
New York	20.3%	20.2%	218.8	447.4	1.3	1.5	166.8	302.4	131.5	142.1	1.1	1.1	118.5	131.9	221.0	455.1	1.3	1.5	168.7	304.0
Pennsylvania	84.2%	84.4%	222.6	355.4	1.2	1.3	181.4	266.1	125.2	107.5	1.0	0.9	129.5	114.5	209.6	343.6	1.1	1.2	188.8	282.8
East North Central	90.6%	90.6%	377.0	311.1	1.3	1.2	298.3	263.9	120.8	113.8	0.9	0.9	129.7	125.2	355.2	294.2	1.2	1.1	307.2	274.8
Illinois	95.8%	95.8%	127.3	335.6	0.9	0.9	141.2	362.7	63.6	57.1	0.7	0.7	90.4	87.5	125.6	333.9	0.9	0.9	143.3	369.8
Indiana	83.7%	84.2%	302.7	294.3	1.4	1.3	217.8	224.7	137.4	127.6	1.1	1.0	127.5	127.0	225.2	205.1	1.1	1.0	197.5	202.9
Michigan	93.2%	93.2%	890.9	416.7	1.6	1.4	540.8	303.1	178.6	168.3	1.0	1.1	175.6	157.5	882.1	414.3	1.6	1.3	546.2	309.5
Ohio	96.1%	96.5%	244.9	283.6	1.3	1.4	184.1	209.1	136.0	129.2	1.1	1.1	121.4	120.5	191.7	261.5	1.1	1.2	174.5	224.0
Wisconsin	74.0%	72.6%	361.2	119.9	1.1	0.8	334.6	144.0	88.0	89.1	0.7	0.7	126.6	125.4	360.7	114.0	1.1	0.8	340.7	147.3
West North Central	75.0%	74.9%	236.4	226.8	1.2	1.0	201.0	217.1	88.9	87.6	0.8	0.9	105.5	102.5	229.3	249.4	1.0	1.0	219.9	253.2
Iowa	52.0%	52.0%	137.8	1,066.5	1.0	1.5	143.6	716.5	80.7	85.7	0.8	0.9	99.4	99.1	115.7	1,053.0	0.8	1.3	148.3	785.4
Kansas	76.4%	79.8%	346.0	106.6	1.5	0.9	225.1	112.8	113.9	91.8	1.1	0.9	107.1	103.2	327.9	100.7	1.3	0.9	243.6	110.7
Minnesota	86.4%	86.1%	121.0	128.0	1.0	1.0	116.5	123.5	81.7	84.7	0.9	0.9	94.2	94.6	115.7	124.4	0.9	1.0	123.1	129.2
Missouri	82.9%	82.0%	267.9	154.1	1.3	1.0	211.8	153.8	97.8	96.7	0.8	0.9	117.2	112.1	265.6	159.8	1.1	1.0	231.6	164.9
Nebraska	65.9%	64.8%	556.9	115.4	1.2	0.8	477.9	145.7	59.9	67.4	0.5	0.6	116.1	122.1	555.3	96.1	1.1	0.9	485.6	104.9
North Dakota	58.7%	58.8%	101.6	123.3	1.0	1.2	101.3	107.2	88.4	86.8	1.0	1.0	92.5	86.9	77.0	113.3	0.6	0.8	119.8	139.3
South Dakota	66.7%	64.7%	101.3	97.4	1.0	1.1	103.4	89.0	61.9	71.5	0.7	0.9	91.2	79.9	78.2	86.7	0.7	0.7	113.5	116.3
South Atlantic	80.0%	79.2%	191.2	321.4	1.2	1.5	165.8	219.5	113.0	122.6	1.0	1.1	111.0	111.0	184.8	283.3	1.1	1.3	175.8	223.0
Delaware	87.2%	87.2%	64.3	271.9	1.0	1.5	66.8	180.0	64.3	84.9	1.0	1.0	66.8	89.3	64.8	276.1	1.0	1.5	68.0	184.1
District of Columbia	98.6%	98.2%	52.0	44.0	0.5	0.4	115.6	110.0	42.0	39.0	0.4	0.4	102.4	105.4	52.0	44.0	0.5	0.4	115.6	110.0
Florida	84.0%	84.0%	82.9	200.4	0.9	1.1	92.0	175.9	65.3	72.5	0.8	0.9	82.0	81.2	77.2	194.9	0.9	1.1	89.9	184.2
Georgia	86.0%	83.0%	140.5	521.7	1.3	2.0	108.9	267.2	123.8	130.5	1.2	1.3	99.8	98.3	122.9	509.8	1.1	1.7	106.9	291.9
Maryland	98.2%	91.7%	127.6	113.8	1.0	0.9	132.1	123.8	80.2	76.2	0.8	0.8	101.5	98.9	125.1	109.2	0.9	0.9	132.3	123.8
North Carolina	86.0%	87.2%	215.2	437.4	1.2	1.7	172.3	254.6	125.9	146.0	1.1	1.2	118.2	120.7	207.3	414.4	1.2	1.5	179.9	271.8
South Carolina	90.6%	90.6%	122.9	332.6	1.2	1.5	106.2	224.4	101.3	121.3	1.0	1.1	98.6	107.5	106.2	308.9	1.0	1.2	111.7	251.8
Virginia	26.5%	25.9%	798.2	337.7	2.0	1.8	402.9	186.8	262.7	250.6	1.6	1.6	167.9	155.8	793.3	308.6	1.9	1.7	421.3	182.0
West Virginia	97.9%	98.1%	1,117.2	604.2	2.4	2.4	468.8	247.9	451.6	467.9	2.1	2.2	215.5	216.3	1,002.0	538.6	2.1	2.1	475.7	254.9
East South Central	66.8%	66.9%	573.8	825.2	1.8	2.0	314.4	420.5	152.6	147.6	1.4	1.4	107.6	108.9	582.0	798.5	1.7	1.8	342.8	437.5
Alabama	21.8%	21.8%	175.7	3,320.4	1.4	3.5	127.5	948.8	110.9	144.6	1.2	1.4	95.5	105.4	215.8	3,440.8	1.6	3.4	136.5	1,023.0
Kentucky	94.9%	95.0%	698.8	284.7	1.5	1.4	457.7	210.2	130.3	125.3	1.1	1.1	115.0	113.7	630.1	275.0	1.3	1.2	476.7	224.5
Mississippi	70.4%	70.5%	1,189.8	1,611.7	2.3	2.4	519.6	677.5	224.5	203.9	1.5	1.4	150.3	144.9	1,419.2	1,558.2	2.5	2.4	575.1	656.3
Tennessee	80.8%	81.1%	316.8	618.4	2.0	2.1	157.9	290.6	151.7	144.5	1.7	1.5	89.8	93.9	299.5	601.1	1.8	2.0	164.2	299.9
West South Central	63.5%	64.2%	1,893.7	1,018.2	3.0	1.9	633.9	530.9	186.6	153.5	1.4	1.3	130.1	117.8	1,400.7	1,044.4	3.0	1.8	464.0	581.5
Arkansas	82.2%	80.6%	308.4	771.6	1.7	1.9	184.2	415.3	199.4	210.6	1.4	1.4	142.3	146.5	286.2	727.9	1.4	1.7	199.6	436.2
Louisiana	74.3%	72.5%	5,868.8	4,331.9	3.4	3.3	1,749.4	1,297.0	265.0	217.9	1.8	1.6	148.8	134.1	5,836.4	4,204.5	3.1	3.1	1,886.8	1,345.8
Oklahoma	45.0%	45.0%	165.9	565.1	1.5	1.8	109.2	316.2	126.2	139.3	1.3	1.2	99.2	116.2	132.9	475.5	1.2	1.4	114.3	332.9
Texas	62.1%	63.6%	1,496.4	419.4	3.3	1.6	449.4	256.3	174.7	132.7	1.4	1.2	126.5	108.5	683.7	426.3	3.5	1.5	194.0	276.4
Mountain	89.8%	89.7%	166.3	178.8	1.1	1.0	147.1	175.8	95.5	87.3	0.9	0.8	105.6	104.4	138.1	179.7	1.0	1.0	140.8	186.1
Arizona	95.7%	95.7%	101.9	70.6	1.1	0.8	96.6	88.6	69.3	62.0	0.8	0.7	85.2	83.5	91.0	65.0	1.0	0.8	92.1	86.7
Colorado	86.7%	86.7%	185.4	136.4	1.1	1.0	162.8	132.1	104.8	83.4	0.9	0.9	114.5	95.5	168.4	131.5	1.0	1.0	167.6	137.4
Idaho	92.0%	91.4%	438.0	286.5	1.8	1.6	246.2	180.3	137.5	158.1	1.2	1.2	111.4	130.5	223.8	173.6	1.2	1.2	183.1	148.0
Montana	69.4%	71.3%	251.7	275.3	1.6	1.3	155.3	204.9	142.6	136.0	1.3	1.1	105.8	129.0	211.2	240.7	1.1	1.1	186.4	210.6
Nevada	102.7%	103.1%	102.4	73.3	0.8	0.7	122.3	101.6	69.6	55.3	0.7	0.6	104.1	95.1	6.8	54.4	0.1	0.6	111.0	97.5
New Mexico	83.1%	83.3%	204.3	140.1	1.2	0.9	164.9	152.2	120.0	113.6	1.0	0.9	115.4	131.4	190.9	136.4	1.1	0.9	177.8	158.6
Utah	88.6%	87.1%	113.4	591.8	0.9	1.3	124.4	448.7	98.0	100.9	0.9	0.9	114.4	115.9	114.9	614.0	0.9	1.3	124.6	466.5
Wyoming	63.2%	63.8%	167.9	293.4	1.1	1.9	148.4	155.1	115.6	105.1	1.0	1.1	120.5	96.5	165.1	263.5	1.1	1.7	149.8	154.8
Pacific Contiguous	92.3%	92.3%	483.8	282.8	1.4	1.1	342.6	249.5	145.5	110.4	1.0	0.9	143.2	126.0	421.8	266.3	1.0	0.7	430.6	382.7
California	94.1%	94.2%	335.2	280.7	1.3	1.1	254.9	256.8	148.0	107.6	1.0	0.9	142.0	121.9	266.0	266.0	0.8	0.4	332.4	600.9
Oregon	86.4%	86.1%	1,588.3	325.9	1.6	1.1	990.2	288.4	113.9	103.4	0.8	0.7	150.2	138.1	1,500.8	317.9	1.5	1.1	1,019.0	295.7
Washington	87.9%	87.6%	554.5	268.6	1.8	1.3	315.8	202.4	151.1	126.9	1.0	0.9	145.9	139.4	468.6	237.8	1.5	1.1	323.1	209.0
Pacific Noncontiguous	19.2%	85.0%	537.3	174.0	2.4	1.5	226.6	116.5	230.6	140.8	1.7	1.4	133.8	98.0	501.7	157.1	1.8	1.1	282.1	139.1
Alaska	47.0%	74.8%	537.3	256.9	2.4	2.0	226.6	130.5	230.6	245.5	1.7	2.2	133.8	110.7	501.7	251.4	1.8	1.5	282.1	167.5
Hawaii		92.7%		123.8		1.2		102.5		97.3		1.1		87.5		118.0		1.0		121.0
U.S. Total	78.1%	77.6%	475.8	456.1	1.4	1.4	331.2	329.3	125.7	116.0	1.0	1.0	120.9	114.5	404.5	460.5	1.3	1.2	312.6	371.9

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.
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.
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 11.3 Reliability Metrics Using Any Method of U.S. Distribution System by State, 2021 and 2020

			All Events (With Major Events)						Without Major Events					
	Percent of Customers Reported		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)	
Census Division and State	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020	Year 2021	Year 2020
New England	96.5%	96.7%	364.0	1,067.1	1.4	1.9	267.3	575.0	109.5	144.5	1.0	1.1	105.1	131.2
Connecticut	100.0%	100.0%	145.2	2,642.6	0.9	1.8	162.2	1,446.4	68.6	64.6	0.6	0.7	107.3	98.1
Maine	103.0%	102.8%	325.2	1,725.0	2.5	3.9	130.5	446.5	223.5	244.8	2.1	2.1	107.8	115.7
Massachusetts	93.2%	93.7%	518.7	318.9	1.2	1.3	426.3	244.9	87.2	168.1	0.9	1.0	99.0	166.5
New Hampshire	99.4%	99.5%	234.4	499.4	1.4	1.8	171.3	274.3	127.1	121.8	1.1	1.1	117.9	112.3
Rhode Island	98.4%	99.0%	448.6	548.4	1.4	2.0	313.9	278.9	68.8	69.1	0.9	0.9	72.6	73.1
Vermont	87.4%	87.2%	313.2	255.6	2.1	1.9	151.0	134.7	262.4	255.6	2.1	1.9	127.5	132.7
Middle Atlantic	97.1%	97.1%	165.6	512.4	1.0	1.2	165.8	420.5	97.3	90.4	0.8	0.8	118.5	110.3
New Jersey	100.8%	100.7%	138.8	965.2	1.0	1.6	138.8	609.8	84.7	87.0	0.9	0.9	95.7	92.8
New York	97.3%	97.3%	142.0	407.7	0.9	1.0	166.3	418.1	80.3	79.8	0.7	0.7	117.1	116.9
Pennsylvania	94.3%	94.5%	217.8	334.2	1.2	1.3	181.5	257.6	130.2	107.8	1.0	0.9	135.2	116.1
East North Central	95.5%	95.4%	366.2	301.9	1.3	1.2	292.7	258.6	119.7	112.8	0.9	0.9	129.0	124.3
Illinois	97.4%	97.3%	127.0	331.1	0.9	0.9	140.1	358.4	63.5	57.1	0.7	0.7	90.4	87.3
Indiana	91.5%	91.9%	285.8	280.1	1.4	1.3	210.5	217.3	133.1	124.8	1.1	1.0	125.5	125.3
Michigan	97.2%	97.1%	873.3	410.7	1.7	1.4	527.5	296.8	178.4	167.2	1.0	1.1	172.6	154.6
Ohio	96.4%	96.6%	244.2	283.4	1.3	1.4	184.1	209.0	135.9	129.2	1.1	1.1	121.2	120.4
Wisconsin	91.8%	90.4%	311.6	113.3	1.0	0.8	308.0	141.3	86.4	86.4	0.7	0.7	124.8	122.8
West North Central	83.8%	83.9%	223.6	372.0	1.1	1.1	195.3	350.8	88.1	87.6	0.8	0.8	105.0	103.2
Iowa	84.5%	84.8%	133.1	1,758.7	0.9	1.5	144.1	1,183.1	79.5	87.9	0.8	0.8	98.8	103.5
Kansas	78.4%	81.9%	341.5	107.1	1.5	0.9	222.7	113.3	113.0	92.3	1.1	0.9	106.8	104.2
Minnesota	88.1%	88.1%	120.9	127.6	1.0	1.0	116.2	123.1	82.5	85.6	0.9	0.9	94.2	95.0
Missouri	87.6%	86.6%	259.7	152.6	1.2	1.0	208.8	153.1	97.3	95.1	0.8	0.9	117.5	111.6
Nebraska	72.6%	72.0%	516.0	113.4	1.2	0.8	447.0	143.6	60.8	68.8	0.5	0.6	119.0	123.8
North Dakota	84.5%	84.9%	85.4	101.1	0.9	1.0	97.2	104.0	85.9	82.5	1.0	1.0	88.7	86.6
South Dakota	72.8%	70.7%	105.6	97.3	1.0	1.1	104.6	88.8	62.7	73.2	0.7	0.9	92.3	81.8
South Atlantic	95.8%	95.8%	192.8	307.2	1.2	1.5	163.2	208.3	112.1	121.5	1.0	1.1	108.3	107.4
Delaware	87.2%	87.2%	64.3	271.9	1.0	1.5	66.8	180.0	64.3	84.9	1.0	1.0	66.8	89.3
District of Columbia	98.6%	98.2%	52.0	44.0	0.5	0.4	115.6	110.0	42.0	39.0	0.4	0.4	102.4	105.4
Florida	99.8%	99.8%	80.8	188.7	0.9	1.2	87.0	161.2	64.8	73.0	0.8	1.0	77.7	76.7
Georgia	87.7%	86.5%	145.8	509.9	1.3	2.0	110.7	259.6	129.4	133.3	1.3	1.4	102.0	98.0
Maryland	98.6%	98.5%	127.1	120.3	1.0	1.0	132.1	125.9	80.2	80.9	0.8	0.8	101.5	100.5
North Carolina	94.2%	95.5%	205.5	417.9	1.2	1.7	165.4	246.3	123.6	143.7	1.1	1.2	116.0	119.2
South Carolina	95.1%	95.1%	120.9	323.8	1.2	1.5	104.1	219.6	100.7	119.9	1.0	1.1	97.7	106.7
Virginia	96.7%	96.1%	434.4	308.6	1.6	1.6	275.6	189.0	164.9	165.3	1.3	1.3	131.5	124.9
West Virginia	97.9%	98.1%	1,117.2	604.2	2.4	2.4	468.8	247.9	451.6	467.9	2.1	2.2	215.5	216.3
East South Central	88.0%	88.1%	513.1	902.2	1.8	2.0	287.5	444.6	147.5	146.2	1.4	1.3	107.3	110.3
Alabama	79.5%	80.3%	234.9	1,743.5	1.4	2.4	164.3	732.4	119.1	127.3	1.1	1.1	110.3	112.6
Kentucky	96.4%	96.6%	707.8	282.4	1.5	1.4	462.8	209.0	129.8	125.1	1.1	1.1	114.8	113.8
Mississippi	84.2%	82.4%	1,134.4	1,496.7	2.4	2.5	479.3	595.7	220.6	211.3	1.6	1.5	141.8	142.1
Tennessee	90.6%	91.0%	302.7	588.0	2.0	2.1	149.9	274.8	149.4	148.4	1.7	1.6	87.6	94.4
West South Central	93.9%	95.1%	1,456.9	1,101.8	2.7	2.3	542.9	477.9	161.2	171.3	1.3	1.5	123.7	116.5
Arkansas	89.4%	89.9%	315.9	708.4	1.7	1.8	190.5	386.5	195.9	204.7	1.4	1.4	141.7	142.7
Louisiana	95.3%	93.6%	4,811.1	3,624.4	3.3	3.2	1,459.9	1,122.7	228.2	216.4	1.8	1.7	123.5	125.7
Oklahoma	90.3%	90.5%	179.4	2,922.0	1.4	2.1	128.1	1,384.5	146.5	144.3	1.2	1.1	117.8	131.1
Texas	94.7%	96.7%	1,175.3	432.7	2.9	2.2	405.2	194.8	147.4	163.7	1.2	1.5	122.7	110.2
Mountain	93.3%	93.3%	174.8	181.6	1.2	1.0	146.2	177.0	99.7	90.7	1.0	0.8	104.1	107.4
Arizona	96.7%	96.6%	106.2	71.9	1.2	0.8	87.0	88.0	71.7	63.6	1.0	0.8	73.7	82.9
Colorado	92.5%	92.5%	180.9	134.2	1.1	1.0	164.0	134.5	102.6	82.6	0.9	0.8	115.0	97.5
Idaho	93.9%	93.3%	475.2	324.9	1.8	1.6	267.1	204.5	162.1	180.7	1.2	1.2	131.3	149.1
Montana	76.2%	78.3%	309.9	271.3	1.7	1.4	181.7	199.0	146.0	140.9	1.3	1.1	108.9	133.4
Nevada	102.7%	103.1%	102.4	73.3	0.8	0.7	122.3	101.6	69.6	55.3	0.7	0.6	104.1	95.1
New Mexico	90.4%	90.6%	221.2	148.2	1.4	1.0	152.9	146.7	131.7	118.8	1.2	0.9	108.1	127.3
Utah	91.7%	90.2%	116.0	575.1	0.9	1.3	124.1	435.6	100.9	101.5	0.9	0.9	115.6	115.1
Wyoming	76.8%	77.6%	170.5	289.7	1.2	1.8	146.6	157.8	116.3	111.3	0.9	1.0	129.6	108.7
Pacific Contiguous	98.6%	98.6%	464.7	270.2	1.4	1.1	332.9	241.3	141.6	107.7	1.0	0.9	140.5	123.4
California	100.1%	100.1%	325.2	267.1	1.3	1.1	248.4	247.9	142.7	104.0	1.0	0.9	138.1	118.3
Oregon	93.4%	93.0%	1,489.2	311.0	1.6	1.1	947.7	272.4	116.5	104.4	0.8	0.8	152.5	138.6
Washington	95.3%	95.0%	527.3	261.6	1.7	1.3	311.5	200.9	150.4	127.0	1.0	0.9	146.9	140.1
Pacific Noncontiguous	94.2%	91.2%	285.5	174.3	1.8	1.6	158.7	110.2	145.5	140.8	1.3	1.4	109.0	98.0
Alaska	85.9%	79.0%	379.1	268.0	2.1	2.2	177.8	122.1	230.6	245.5	1.7	2.2	133.8	110.7
Hawaii	100.0%	100.4%	229.7	118.7	1.6	1.2	143.5	97.5	115.7	97.3	1.2	1.1	96.5	87.5
U.S. Total	94.5%	94.7%	440.0	491.9	1.4	1.4	308.8	341.7	121.5	119.0	1.0	1.0	118.5	114.7

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.
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,
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 11.4 SAIDI Values (Minutes Per Year) of U.S. Distribution System by State, 2013 - 2021

Census Division and State	IEEE								
	All Events (With Major Event Days)								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	444.4	306.7	145.7	231.2	776.5	723.6	351.5	1,272.9	382.1
Connecticut	179.6	93.7	112.5	201.1	348.9	761.6	246.6	3,033.8	170.9
Maine	971.3	1,049.3	213.6	535.4	2,492.6	665.3	908.1	1,725.0	325.2
Massachusetts	435.5	126.8	86.4	148.6	178.7	865.3	244.3	224.1	527.8
New Hampshire	209.3	815.3	117.3	192.5	915.4	450.8	219.6	408.5	176.5
Rhode Island	783.2	54.2	341.8	168.9	728.3	594.8	236.5	548.4	448.6
Vermont	240.0	240.0	193.4	198.8	1,792.4	929.8	334.0	158.4	215.3
Middle Atlantic	176.5	283.1	193.6	150.0	172.6	516.4	262.5	588.9	190.8
New Jersey	167.7	111.7	263.6	137.5	85.5	505.5	249.7	943.3	139.2
New York	274.1	198.0	146.4	206.1	344.5	396.5	323.7	447.4	218.8
Pennsylvania	143.2	438.3	166.2	132.3	184.5	564.0	252.5	355.4	222.6
East North Central	338.4	285.4	219.4	189.9	332.1	254.0	315.3	311.1	377.0
Illinois	182.1	197.6	170.9	136.1	120.0	143.8	116.3	335.6	127.3
Indiana	246.9	236.5	257.4	254.2	223.5	302.4	266.6	294.3	302.7
Michigan	791.0	592.5	374.5	268.4	802.2	450.2	570.2	416.7	890.9
Ohio	214.8	185.5	167.5	169.5	246.8	240.3	303.8	283.6	244.9
Wisconsin	162.9	154.1	107.8	147.8	219.2	117.0	383.5	119.9	361.2
West North Central	317.3	133.1	179.0	222.1	221.0	140.2	195.2	226.8	236.4
Iowa	140.5	151.3	96.0	136.5	128.1	115.4	126.0	1,066.5	137.8
Kansas	258.2	153.4	350.5	169.1	368.6	151.3	241.2	106.6	346.0
Minnesota	388.1	123.1	160.8	308.9	129.8	128.1	148.9	128.0	121.0
Missouri	291.1	134.3	164.9	215.4	307.2	151.2	261.0	154.1	267.9
Nebraska	104.3	98.3	67.9	63.1	160.7	185.7	78.9	115.4	556.9
North Dakota	98.7	102.5	113.6	152.8	91.2	111.2	132.6	123.3	101.6
South Dakota	1,010.9	120.6	135.0	255.8	101.7	93.1	311.4	97.4	101.3
South Atlantic	194.7	309.4	195.4	576.5	1,241.6	639.0	206.0	321.4	191.2
Delaware	158.5	169.8	191.4	148.7	154.6	136.2	102.0	271.9	64.3
District of Columbia	124.0	96.0	112.4	115.0	57.5	109.2	77.0	44.0	52.0
Florida	79.3	89.4	86.1	388.2	2,693.2	305.5	88.9	200.4	82.9
Georgia	124.9	252.3	248.2	424.0	1,030.8	230.7	149.8	521.7	140.5
Maryland	119.6	255.9	117.2	120.7	103.1	330.4	143.8	113.8	127.6
North Carolina	240.4	519.0	220.8	857.5	282.2	1,877.6	287.5	437.4	215.2
South Carolina	117.7	787.0	234.3	1,698.8	386.9	488.6	338.2	332.6	122.9
Virginia	878.3	287.1	249.0	317.6	279.2	1,133.7	478.0	337.7	798.2
West Virginia	542.1	662.8	814.6	743.4	690.8	739.7	755.2	604.2	1,117.2
East South Central	188.7	263.9	272.4	216.0	427.7	314.9	269.4	825.2	573.8
Alabama	272.9	282.9	274.7	174.2	242.4	457.8	183.7	3,320.4	175.7
Kentucky	175.6	249.5	245.8	194.3	193.3	407.5	204.2	284.7	698.8
Mississippi	198.7	279.4	363.3	276.3	580.2	271.6	466.1	1,611.7	1,189.8
Tennessee	183.2	277.7	257.5	212.9	621.5	217.5	252.9	618.4	316.8
West South Central	204.0	204.8	318.0	265.6	455.6	203.4	309.0	1,018.2	1,893.7
Arkansas	252.8	238.5	326.2	400.5	405.6	330.9	451.2	771.6	308.4
Louisiana	560.5	499.1	411.9	442.6	423.5	285.7	521.2	4,331.9	5,868.8
Oklahoma	498.5	115.9	597.0	326.3	194.0	154.7	186.2	565.1	165.9
Texas	149.6	198.6	279.8	216.8	486.8	170.4	254.8	419.4	1,496.4
Mountain	130.8	107.3	131.7	131.3	131.7	119.0	131.1	178.8	166.3
Arizona	73.9	86.9	89.6	86.9	89.5	111.6	83.3	70.6	101.9
Colorado	139.1	86.7	107.9	154.5	132.7	99.9	184.5	136.4	185.4
Idaho	245.4	168.4	238.1	183.0	253.9	169.9	155.4	286.5	438.0
Montana	172.0	144.9	295.4	155.7	218.9	135.4	165.8	275.3	251.7
Nevada	68.2	75.7	107.0	95.7	114.4	126.2	87.0	73.3	102.4
New Mexico	134.9	74.5	108.8	130.4	121.2	132.9	158.2	140.1	204.3
Utah	209.3	193.9	203.2	193.4	142.1	115.5	144.4	591.8	113.4
Wyoming	386.5	201.9	181.3	180.2	201.4	125.4	166.8	293.4	167.9
Pacific Contiguous	116.1	160.6	188.1	147.8	258.5	200.9	528.9	282.8	483.8
California	100.2	113.0	120.4	119.9	243.2	199.4	610.7	280.7	335.2
Oregon	182.7	259.9	225.9	233.5	314.5	111.4	230.4	325.9	1,588.3
Washington	174.7	412.6	620.9	258.0	311.3	265.3	310.9	268.6	554.5
Pacific Noncontiguous	384.1	312.0	332.4	149.1	215.4	250.2	218.0	174.0	537.3
Alaska	384.1	312.0	657.8	196.6	149.2	339.3	279.0	256.9	537.3
Hawaii			152.0	109.3	254.3	198.0	182.1	123.8	
U.S. Total	227.2	236.2	209.0	268.4	505.9	349.2	295.5	456.1	475.8

Census Division and State	IEEE								
	Without Major Event Days								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	109.7	109.4	99.2	126.3	107.9	119.1	95.0	101.9	104.1
Connecticut	88.8	93.7	78.0	103.2	78.1	80.9	67.5	70.2	76.7
Maine	249.5	235.3	198.7	264.4	238.5	273.0	213.7	244.8	223.5
Massachusetts	85.7	84.1	71.1	91.6	72.7	81.3	67.5	63.6	88.1
New Hampshire	140.1	136.6	104.8	135.3	120.5	122.0	84.9	99.0	98.3
Rhode Island	57.3	54.2	64.3	69.1	59.1	65.1	68.2	69.1	68.8
Vermont	180.0	180.0	193.4	198.8	186.2	357.7	170.4	158.4	215.3
Middle Atlantic	111.0	96.5	97.8	110.1	98.2	113.2	115.1	105.0	110.9
New Jersey	125.6	78.3	64.0	85.0	71.0	87.4	86.4	86.5	84.3
New York	121.7	116.0	137.6	160.2	132.1	145.2	136.9	142.1	131.5
Pennsylvania	102.5	104.1	102.1	105.1	108.4	122.8	130.5	107.5	125.2
East North Central	120.5	125.7	125.5	124.4	122.5	128.1	135.4	113.8	120.8
Illinois	82.5	91.9	88.4	80.7	72.8	72.5	73.8	57.1	63.6
Indiana	112.1	122.2	119.7	129.4	135.4	146.1	147.5	127.6	137.4
Michigan	199.1	183.3	183.4	194.2	180.1	186.4	213.9	168.3	178.6
Ohio	110.6	131.4	139.4	127.1	141.8	150.1	145.2	129.2	136.0
Wisconsin	79.5	78.0	68.8	76.3	69.1	76.4	90.0	89.1	88.0
West North Central	95.7	93.2	95.6	95.1	90.3	91.1	95.4	87.6	88.9
Iowa	90.1	91.1	88.1	96.0	103.8	92.9	83.7	85.7	80.7
Kansas	121.0	114.9	131.5	132.3	130.9	105.6	117.2	91.8	113.9
Minnesota	88.0	77.1	79.4	88.6	71.7	87.8	79.9	84.7	81.7
Missouri	93.6	101.2	98.3	86.6	90.8	91.8	113.6	96.7	97.8
Nebraska	75.9	50.7	50.2	49.2	72.5	76.8	59.2	67.4	59.9
North Dakota	93.2	91.6	101.0	110.4	70.4	96.0	77.1	86.8	88.4
South Dakota	94.8	107.9	107.6	84.4	80.3	73.0	108.2	71.5	61.9
South Atlantic	123.3	119.7	123.2	129.3	122.4	135.3	124.2	122.6	113.0
Delaware	129.3	113.9	115.5	102.3	83.3	73.8	74.2	84.9	64.3
District of Columbia	124.0	82.0	112.4	115.0	57.5	52.9	55.0	39.0	42.0
Florida	75.3	86.6	79.3	82.7	76.7	79.6	74.0	72.5	65.3
Georgia	88.4	97.8	108.5	120.6	115.2	118.8	125.8	130.5	123.8
Maryland	113.4	93.6	100.2	104.5	81.5	93.6	89.0	76.2	80.2
North Carolina	112.3	118.7	131.3	152.1	151.1	168.0	147.0	146.0	125.9
South Carolina	101.6	102.0	121.9	122.1	119.4	138.8	106.3	121.3	101.3
Virginia	276.9	243.0	208.5	219.7	218.0	307.8	285.4	250.6	262.7
West Virginia	417.6	449.8	458.0	439.1	451.8	513.1	471.3	467.9	451.6
East South Central	134.8	152.6	154.5	147.9	144.4	156.3	160.3	147.6	152.6
Alabama	153.7	154.9	167.9	140.1	130.8	136.8	106.8	144.6	110.9
Kentucky	134.0	146.7	140.4	139.0	120.0	146.7	148.9	125.3	130.3
Mississippi	132.5	180.0	227.7	179.9	205.5	209.7	214.3	203.9	224.5
Tennessee	131.2	143.9	134.6	141.6	141.7	145.6	160.4	144.5	151.7
West South Central	128.8	130.9	155.3	145.8	144.8	150.3	162.3	153.5	186.6
Arkansas	214.4	216.5	222.6	213.7	176.0	214.1	228.0	210.6	199.4
Louisiana	137.2	156.7	199.0	190.1	196.9	214.2	223.5	217.9	265.0
Oklahoma	125.6	102.6	123.1	122.3	118.0	113.9	138.4	139.3	126.2
Texas	112.7	118.6	143.0	132.7	135.1	130.2	141.4	132.7	174.7
Mountain	96.9	88.1	95.2	90.6	95.6	88.6	91.2	87.3	95.5
Arizona	61.6	59.8	66.0	67.9	50.8	57.6	64.0	62.0	69.3
Colorado	92.9	81.6	83.9	83.5	80.2	86.5	84.3	83.4	104.8
Idaho	168.7	139.9	193.2	157.6	223.9	140.8	132.3	158.1	137.5
Montana	141.4	123.8	143.5	128.8	160.8	118.3	121.7	136.0	142.6
Nevada	53.3	62.6	55.4	73.7	87.7	76.7	77.5	55.3	69.6
New Mexico	96.3	76.3	95.6	102.2	114.5	123.9	121.5	113.6	120.0
Utah	182.2	151.0	156.4	106.1	116.3	115.5	110.8	100.9	98.0
Wyoming	170.9	177.4	163.3	135.6	171.9	107.1	134.0	105.1	115.6
Pacific Contiguous	91.5	106.1	97.2	103.5	108.8	101.0	106.1	110.4	145.5
California	90.3	103.3	93.2	100.8	104.0	99.5	106.7	107.6	148.0
Oregon	86.0	108.1	102.2	101.1	111.6	90.3	101.6	103.4	113.9
Washington	104.3	124.2	120.0	121.3	135.8	115.5	105.8	126.9	151.1
Pacific Noncontiguous	140.5	161.5	119.3	116.8	119.3	163.9	134.1	140.8	230.6
Alaska	140.5	161.5	155.1	176.9	136.9	193.1	184.1	245.5	230.6
Hawaii			99.4	83.2	112.0	151.9	113.4	97.3	
U.S. Total	111.9	114.2	117.0	119.8	117.0	121.4	122.2	116.0	125.7

Census Division and State	IEEE								
	Loss of Supply Removed								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	429.4	303.4	140.0	229.4	780.4	721.4	351.7	1,284.0	357.7
Connecticut	171.5	93.6	111.7	199.6	348.6	759.0	246.6	3,032.5	169.7
Maine	916.5	1,046.1	171.3	510.3	2,440.6	639.3	881.8	1,718.4	312.1
Massachusetts	422.4	128.1	87.6	153.3	186.1	907.0	256.4	231.0	600.8
New Hampshire	206.5	821.9	117.0	190.9	915.0	449.7	219.6	407.9	165.0
Rhode Island	782.9	54.2	341.8	163.2	716.8	537.4	223.8	452.9	436.0
Vermont	240.0	240.0	179.4	187.4	1,782.7	732.1	329.4	151.0	210.1
Middle Atlantic	169.9	276.6	188.6	133.5	163.7	506.5	253.6	573.1	180.4
New Jersey	152.4	109.1	259.0	115.7	80.4	491.6	240.2	911.3	127.1
New York	294.2	198.0	143.0	185.1	350.0	402.7	327.5	455.1	221.0
Pennsylvania	136.7	426.9	157.4	122.1	169.1	551.3	240.3	343.6	209.6
East North Central	342.8	271.9	210.1	178.1	322.9	239.8	301.3	294.2	355.2
Illinois	183.1	197.3	168.1	133.0	117.1	140.5	110.3	333.9	125.6
Indiana	213.9	218.7	244.0	234.4	197.5	263.0	217.4	205.1	225.2
Michigan	793.9	589.0	363.7	262.6	798.2	448.0	565.5	414.3	882.1
Ohio	205.5	142.1	149.8	142.1	225.1	210.4	277.4	261.5	191.7
Wisconsin	161.5	152.9	102.9	144.4	215.3	108.8	377.5	114.0	360.7
West North Central	328.6	127.2	170.1	198.9	218.7	126.1	194.8	249.4	229.3
Iowa	129.5	136.3	85.7	122.5	109.7	102.8	111.0	1,053.0	115.7
Kansas	237.8	138.5	242.1	151.4	359.5	140.0	266.1	100.7	327.9
Minnesota	392.8	118.8	159.9	302.6	129.1	120.2	137.6	124.4	115.7
Missouri	317.0	139.8	249.2	149.8	445.9	174.1	372.9	159.8	265.6
Nebraska	63.0	86.3	49.0	52.2	110.4	96.1	54.9	96.1	555.3
North Dakota	91.8	76.7	80.2	147.1	81.8	83.8	131.6	113.3	77.0
South Dakota	1,080.7	93.5	98.1	119.1	87.7	75.7	250.6	86.7	78.2
South Atlantic	185.7	379.2	183.5	559.7	1,237.8	630.8	196.5	283.3	184.8
Delaware	152.6	162.7	180.0	147.3	153.1	135.3	102.0	276.1	64.8
District of Columbia	117.0	96.0	112.4	115.0	57.5	109.2	77.0	44.0	52.0
Florida	77.9	122.4	80.3	387.0	2,666.6	302.8	83.2	194.9	77.2
Georgia	116.7	210.7	355.1	177.8	906.4	238.9	117.2	509.8	122.9
Maryland	104.9	244.4	113.8	115.5	100.7	328.4	139.3	109.2	125.1
North Carolina	231.0	471.1	200.5	852.6	253.4	1,670.3	266.1	414.4	207.3
South Carolina	120.0	777.9	195.3	1,663.3	371.1	463.6	319.8	308.9	106.2
Virginia	817.5	259.3	231.8	302.8	232.1	1,099.9	439.2	308.6	793.3
West Virginia	497.0	597.6	771.6	582.9	618.0	676.3	691.2	538.6	1,002.0
East South Central	178.4	253.6	255.7	210.9	406.0	299.8	266.7	798.5	582.0
Alabama	250.9	289.6	224.2	161.0	199.5	195.4	158.4	3,440.8	215.8
Kentucky	158.9	233.4	232.0	183.9	173.9	399.8	192.1	275.0	630.1
Mississippi	199.3	278.6	316.9	302.7	588.0	310.2	537.3	1,558.2	1,419.2
Tennessee	176.7	263.0	256.3	206.4	603.1	213.1	251.6	601.1	299.5
West South Central	208.9	242.0	295.2	260.2	425.5	197.5	286.5	1,044.4	1,400.7
Arkansas	322.6	593.9	324.8	404.8	383.0	325.8	376.1	727.9	286.2
Louisiana	232.9	271.9	392.1	429.8	400.9	260.7	441.5	4,204.5	5,836.4
Oklahoma	474.7	92.1	346.0	316.1	147.8	135.5	153.5	475.5	132.9
Texas	149.5	206.6	270.2	208.7	457.5	165.9	248.4	426.3	683.7
Mountain	124.1	99.3	128.8	134.0	125.2	106.8	125.3	179.7	138.1
Arizona	62.8	83.4	87.4	85.9	82.9	94.3	71.6	65.0	91.0
Colorado	106.8	80.9	103.0	147.2	122.1	96.5	181.9	131.5	168.4
Idaho	201.2	145.9	204.2	174.0	239.0	155.7	122.9	173.6	223.8
Montana	167.5	137.3	284.7	110.7	209.1	107.4	138.9	240.7	211.2
Nevada	120.0		153.8	457.0	82.8	93.3	92.0	54.4	6.8
New Mexico	112.9	27.0	53.3	103.3	105.1	118.1	141.6	136.4	190.9
Utah	183.9	167.9	217.6	206.4	139.1	119.8	140.5	614.0	114.9
Wyoming	371.3	166.5	159.4	172.5	190.1	116.9	151.1	263.5	165.1
Pacific Contiguous	98.3	158.6	170.5	141.4	217.7	159.8	522.5	266.3	421.8
California	95.2	116.8	123.9	119.7	190.2	150.0	615.7	266.0	266.0
Oregon	110.4	227.3	220.5	175.8	315.6	103.6	224.4	317.9	1,500.8
Washington	121.1	362.8	417.2	236.7	301.3	244.2	292.2	237.8	468.6
Pacific Noncontiguous	430.2	264.9	782.3	153.3	225.5	238.3	209.3	157.1	501.7
Alaska	430.2	264.9	782.3	272.5	159.6	359.2	317.1	251.4	501.7
Hawaii				98.9	252.7	188.7	164.8	118.0	
U.S. Total	225.5	244.8	198.2	257.0	489.6	338.5	289.1	460.5	404.5

Census Division and State	Any Method								
	All Events (With Major Event Days)								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	439.4	319.6	137.3	211.1	682.4	715.4	335.8	1,067.1	364.0
Connecticut	179.6	86.3	103.3	174.0	291.3	655.5	236.4	2,642.6	145.2
Maine	971.3	1,049.3	213.6	535.4	2,492.6	665.3	908.1	1,725.0	325.2
Massachusetts	427.3	124.5	91.2	144.9	275.5	813.3	250.2	318.9	518.7
New Hampshire	249.7	862.9	149.3	192.0	1,113.3	508.8	292.0	499.4	234.4
Rhode Island	783.2	54.2	341.8	168.9	728.3	594.8	236.5	548.4	448.6
Vermont	436.0	745.0	204.2	359.4	873.9	897.6	443.8	255.6	313.2
Middle Atlantic	134.2	199.6	148.7	120.2	178.8	465.4	213.6	512.4	165.6
New Jersey	165.8	112.0	260.6	137.2	85.8	509.7	247.7	965.2	138.8
New York	124.1	92.7	86.5	107.2	227.3	405.5	171.0	407.7	142.0
Pennsylvania	138.6	399.6	156.7	126.2	176.8	518.0	249.1	334.2	217.8
East North Central	327.0	278.1	214.2	189.1	323.5	249.5	310.4	301.9	366.2
Illinois	181.8	195.7	169.3	134.9	119.7	142.9	116.2	331.1	127.0
Indiana	231.8	239.9	244.0	252.5	212.4	285.9	260.6	280.1	285.8
Michigan	782.3	574.7	363.4	267.8	778.8	442.9	554.9	410.7	873.3
Ohio	217.2	187.9	172.1	174.1	248.4	242.0	305.2	283.4	244.2
Wisconsin	146.2	144.7	105.0	136.5	203.5	122.8	356.2	113.3	311.6
West North Central	291.9	134.8	167.7	200.9	210.2	139.8	187.2	372.0	223.6
Iowa	124.6	164.7	96.8	117.7	119.0	126.8	122.8	1,758.7	133.1
Kansas	255.5	152.4	347.3	167.8	364.8	154.8	240.0	107.1	341.5
Minnesota	367.2	119.4	154.5	301.2	129.7	127.4	150.1	127.6	120.9
Missouri	319.9	136.7	171.1	205.7	305.8	149.6	255.2	152.6	259.7
Nebraska	125.7	123.0	86.2	83.6	154.3	188.2	84.0	113.4	516.0
North Dakota	108.3	87.0	113.9	123.8	85.9	94.4	107.1	101.1	85.4
South Dakota	959.8	115.8	133.3	252.2	100.6	92.1	295.0	97.3	105.6
South Atlantic	190.9	281.2	185.6	518.9	1,118.6	615.0	205.6	307.2	192.8
Delaware	157.7	169.1	189.9	149.1	153.9	135.9	101.6	271.9	64.3
District of Columbia	124.0	96.0	112.4	115.0	57.5	109.2	77.0	44.0	52.0
Florida	87.0	92.1	85.4	352.1	2,504.2	325.4	89.0	188.7	80.8
Georgia	151.6	246.3	243.7	424.4	1,049.2	373.2	152.3	509.9	145.8
Maryland	116.8	244.8	124.4	120.3	116.5	337.1	141.3	120.3	127.1
North Carolina	226.6	481.9	210.6	824.6	264.0	1,761.5	287.6	417.9	205.5
South Carolina	117.0	799.5	224.1	1,645.4	372.8	470.5	326.5	323.8	120.9
Virginia	467.8	187.3	203.5	237.7	192.9	507.4	309.0	308.6	434.4
West Virginia	542.1	662.8	814.6	743.4	690.8	739.7	755.2	604.2	1,117.2
East South Central	193.4	226.4	239.7	203.1	389.2	290.6	269.5	902.2	513.1
Alabama	237.3	206.1	212.3	174.8	314.5	308.0	174.1	1,743.5	234.9
Kentucky	176.1	246.8	243.9	191.9	194.1	406.2	203.3	282.4	707.8
Mississippi	198.4	226.0	310.4	277.4	566.8	267.5	536.5	1,496.7	1,134.4
Tennessee	171.1	225.0	222.4	197.2	512.8	199.8	266.9	588.0	302.7
West South Central	247.9	193.6	343.2	260.6	440.0	194.6	330.0	1,101.8	1,456.9
Arkansas	276.7	235.1	306.7	397.3	395.4	322.9	437.7	708.4	315.9
Louisiana	327.8	310.4	361.1	392.9	390.6	276.0	472.3	3,624.4	4,811.1
Oklahoma	620.9	119.1	831.4	316.6	291.2	175.6	334.9	2,922.0	179.4
Texas	185.5	192.5	271.7	210.8	477.6	167.2	290.7	432.7	1,175.3
Mountain	130.6	111.6	148.6	136.5	161.4	125.5	134.4	181.6	174.8
Arizona	75.2	87.2	90.9	86.3	90.7	114.6	85.8	71.9	106.2
Colorado	129.0	84.0	110.1	165.5	228.5	113.3	180.5	134.2	180.9
Idaho	261.0	245.2	465.3	197.2	313.8	174.1	166.6	324.9	475.2
Montana	161.7	138.8	287.9	160.7	215.4	142.7	169.3	271.3	309.9
Nevada	68.2	75.7	107.0	95.7	114.4	126.2	87.0	73.3	102.4
New Mexico	149.2	82.4	122.3	136.3	140.6	138.3	170.2	148.2	221.2
Utah	189.7	187.2	199.6	190.1	139.0	125.3	146.2	575.1	116.0
Wyoming	363.4	193.2	184.6	192.5	217.6	136.7	164.5	289.7	170.5
Pacific Contiguous	113.9	157.8	204.8	145.3	244.7	200.0	507.7	270.2	464.7
California	98.9	108.8	118.4	117.1	233.4	195.2	587.6	267.1	325.2
Oregon	170.7	289.3	212.6	240.3	295.7	113.1	221.6	311.0	1,489.2
Washington	154.8	330.5	646.3	226.0	269.5	270.4	300.0	261.6	527.3
Pacific Noncontiguous	205.1	274.1	361.1	151.7	216.6	243.9	226.2	174.3	285.5
Alaska	360.7	313.8	605.4	192.5	152.7	335.3	280.1	268.0	379.1
Hawaii	145.0	262.5	266.1	128.7	252.3	191.4	195.2	118.7	229.7
U.S. Total	215.7	219.0	205.0	249.2	473.1	346.4	284.6	491.9	440.0

Census Division and State	Any Method								
	Without Major Event Days								
	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	117.9	114.5	100.3	131.9	114.3	124.2	104.4	144.5	109.5
Connecticut	87.9	86.3	70.2	92.0	68.2	75.8	60.9	64.6	68.6
Maine	249.5	235.3	198.7	264.4	238.5	273.0	213.7	244.8	223.5
Massachusetts	84.8	83.2	75.6	113.1	92.2	99.0	96.1	168.1	87.2
New Hampshire	162.8	172.5	138.2	141.1	151.1	151.7	111.0	121.8	127.1
Rhode Island	57.3	54.2	64.3	69.1	59.1	65.1	68.2	69.1	68.8
Vermont	258.6	216.4	205.6	273.2	246.4	262.1	170.1	255.6	262.4
Middle Atlantic	84.5	79.0	80.9	89.2	83.7	94.0	96.4	90.4	97.3
New Jersey	123.4	78.7	64.6	85.7	71.4	87.7	86.8	87.0	84.7
New York	65.1	63.4	76.0	82.2	72.0	79.2	78.9	79.8	80.3
Pennsylvania	99.5	99.7	98.8	101.4	108.7	119.3	127.7	107.8	130.2
East North Central	119.3	123.8	124.1	124.3	123.0	127.4	134.8	112.8	119.7
Illinois	83.3	92.5	88.8	80.8	73.3	72.6	73.9	57.1	63.5
Indiana	109.1	120.5	120.1	127.4	131.1	142.0	146.2	124.8	133.1
Michigan	198.6	180.0	178.8	193.1	179.4	185.0	211.1	167.2	178.4
Ohio	111.9	131.8	141.0	128.9	143.4	151.5	146.0	129.2	135.9
Wisconsin	77.9	75.9	70.3	79.2	78.8	79.6	93.0	86.4	86.4
West North Central	91.3	91.9	91.7	93.6	90.4	92.1	95.8	87.6	88.1
Iowa	79.1	93.4	85.5	92.0	95.2	92.6	89.8	87.9	79.5
Kansas	121.0	114.9	130.7	131.9	131.0	108.9	117.3	92.3	113.0
Minnesota	87.4	76.4	77.8	87.7	73.5	87.6	81.2	85.6	82.5
Missouri	98.2	101.0	98.2	86.7	93.3	94.6	112.8	95.1	97.3
Nebraska	54.1	66.7	51.9	52.0	69.9	74.2	62.4	68.8	60.8
North Dakota	88.9	87.0	99.0	108.3	67.5	95.2	74.3	82.5	85.9
South Dakota	94.9	106.2	106.5	83.8	81.2	74.0	106.7	73.2	62.7
South Atlantic	112.3	115.5	119.3	128.6	119.9	131.9	123.7	121.5	112.1
Delaware	128.8	113.7	114.7	103.2	83.2	74.1	74.0	84.9	64.3
District of Columbia	124.0	82.0	112.4	115.0	57.5	52.9	55.0	39.0	42.0
Florida	77.8	85.5	77.9	81.8	78.6	77.4	74.2	73.0	64.8
Georgia	95.6	99.1	109.1	134.5	122.1	122.5	127.7	133.3	129.4
Maryland	111.4	93.0	109.0	105.3	85.6	95.0	90.6	80.9	80.2
North Carolina	111.2	117.1	128.2	148.6	146.3	162.3	146.2	143.7	123.6
South Carolina	102.4	100.1	119.3	121.3	117.8	137.0	105.6	119.9	100.7
Virginia	143.3	148.3	148.0	164.8	142.2	187.8	182.1	165.3	164.9
West Virginia	417.6	449.8	458.0	439.1	451.8	513.1	471.3	467.9	451.6
East South Central	125.1	137.6	140.5	142.1	140.5	147.4	156.0	146.2	147.5
Alabama	121.6	125.4	124.9	115.8	115.9	120.6	120.2	127.3	119.1
Kentucky	132.8	145.1	139.7	137.4	120.1	146.7	148.5	125.1	129.8
Mississippi	124.4	155.7	197.5	187.3	211.3	211.9	220.0	211.3	220.6
Tennessee	121.3	131.0	124.9	144.4	142.4	139.6	161.4	148.4	149.4
West South Central	121.8	128.7	154.9	145.1	145.7	134.6	142.4	171.3	161.2
Arkansas	211.4	212.2	216.8	208.3	178.3	210.0	221.9	204.7	195.9
Louisiana	132.4	154.1	188.9	185.7	192.1	206.1	208.1	216.4	228.2
Oklahoma	118.3	104.1	166.8	149.5	140.6	127.2	139.0	144.3	146.5
Texas	110.2	116.9	139.1	129.3	133.8	113.7	121.8	163.7	147.4
Mountain	95.2	90.9	100.5	91.7	98.1	91.6	94.5	90.7	99.7
Arizona	61.7	59.7	66.0	67.5	51.4	61.1	67.2	63.6	71.7
Colorado	82.9	79.0	83.4	82.5	78.6	85.5	83.6	82.6	102.6
Idaho	174.4	183.8	266.4	166.0	248.5	144.9	143.9	180.7	162.1
Montana	139.4	123.5	142.3	129.9	161.4	118.0	127.0	140.9	146.0
Nevada	53.3	62.6	55.4	73.7	87.7	76.7	77.5	55.3	69.6
New Mexico	104.7	79.8	99.2	104.1	115.7	126.0	128.4	118.8	131.7
Utah	176.2	148.9	155.5	105.6	114.6	126.6	115.4	101.5	100.9
Wyoming	170.9	177.6	165.7	150.2	191.1	117.6	130.0	111.3	116.3
Pacific Contiguous	88.4	103.0	95.5	100.5	106.3	98.5	104.2	107.7	141.6
California	87.3	99.8	91.9	98.7	100.9	96.0	103.9	104.0	142.7
Oregon	86.1	107.0	102.1	100.5	111.2	92.5	103.6	104.4	116.5
Washington	95.7	117.9	110.9	109.3	129.9	114.0	105.6	127.0	150.4
Pacific Noncontiguous	120.4	126.3	127.0	123.6	119.3	163.9	134.1	140.8	145.5
Alaska	135.9	161.5	155.1	176.9	136.9	193.1	184.1	245.5	230.6
Hawaii	116.2	117.0	116.7	103.9	112.0	151.9	113.4	97.3	115.7
U.S. Total	106.1	109.7	113.1	116.9	114.4	117.2	118.6	119.0	121.5

SAIDI = System Average Interruption Duration Index. It is the minutes of non-momentary electric interruptions, per year, the average customer experienced.
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 11.5 SAIFI Values (Times Per Year) of U.S. Distribution System by State, 2013 - 2021

IEEE — All Events (With Major Event Days)

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	1.4	1.6	1.1	1.4	1.5	1.8	1.4	2.0	1.4
Connecticut	0.9	0.8	0.8	1.2	1.0	1.3	1.0	2.0	1.0
Maine	2.9	5.1	1.9	2.7	2.8	2.8	2.5	3.9	2.5
Massachusetts	1.1	1.0	0.8	1.0	1.0	1.7	1.1	1.2	1.2
New Hampshire	2.0	2.0	1.1	1.5	2.0	1.9	1.2	1.5	1.1
Rhode Island	1.3	0.8	1.2	1.2	1.2	1.6	1.4	2.0	1.4
Vermont	2.8	2.5	1.8	1.6	2.6	3.4	2.0	1.6	1.9
Middle Atlantic	1.1	1.1	1.0	1.2	1.1	1.5	1.3	1.5	1.2
New Jersey	1.4	1.0	1.0	1.2	0.9	1.4	1.2	1.6	1.0
New York	1.3	1.2	1.2	1.3	1.4	1.5	1.5	1.5	1.3
Pennsylvania	1.0	1.3	1.0	1.1	1.1	1.5	1.3	1.3	1.2
East North Central	1.2	1.2	1.2	1.1	1.2	1.2	1.3	1.2	1.3
Illinois	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.9
Indiana	1.2	1.3	1.3	1.3	1.3	1.5	1.5	1.3	1.4
Michigan	1.5	1.2	1.2	1.1	1.4	1.4	1.5	1.4	1.6
Ohio	1.2	1.2	1.2	1.2	1.4	1.4	1.5	1.4	1.3
Wisconsin	0.9	0.8	1.5	0.9	0.9	0.8	1.1	0.8	1.1
West North Central	1.3	1.1	1.1	1.2	1.1	1.0	1.2	1.0	1.2
Iowa	1.1	1.2	1.0	1.2	1.1	1.0	1.1	1.5	1.0
Kansas	1.6	1.4	1.6	1.4	1.5	1.2	1.4	0.9	1.5
Minnesota	1.2	1.0	1.0	1.2	1.0	1.0	1.0	1.0	1.0
Missouri	1.1	1.1	1.0	1.0	1.2	1.0	1.3	1.0	1.3
Nebraska	0.8	0.7	0.7	0.7	0.9	1.1	0.7	0.8	1.2
North Dakota	1.6	1.8	2.4	2.1	1.0	1.0	1.0	1.2	1.0
South Dakota	1.9	1.0	1.1	1.4	1.2	1.1	1.6	1.1	1.0
South Atlantic	1.2	1.4	1.3	1.6	1.8	1.6	1.3	1.5	1.2
Delaware	1.5	1.4	1.5	1.3	1.1	1.0	1.0	1.5	1.0
District of Columbia	0.9	0.7	0.7	0.8	0.6	0.6	0.6	0.4	0.5
Florida	1.0	1.1	1.1	1.4	2.1	1.1	1.0	1.1	0.9
Georgia	1.3	1.5	1.6	1.5	2.2	1.5	1.4	2.0	1.3
Maryland	1.1	1.3	1.0	1.1	0.9	1.2	1.0	0.9	1.0
North Carolina	1.4	1.5	1.4	1.9	1.4	2.3	1.4	1.7	1.2
South Carolina	1.1	1.9	1.5	2.4	1.6	1.8	1.5	1.5	1.2
Virginia	2.1	1.6	1.5	1.7	1.6	2.6	2.1	1.8	2.0
West Virginia	2.3	2.4	2.4	2.4	2.3	2.6	2.8	2.4	2.4
East South Central	1.6	1.8	1.8	1.7	1.7	1.9	1.9	2.0	1.8
Alabama	2.0	2.0	2.0	1.8	1.9	2.0	1.8	3.5	1.4
Kentucky	1.5	1.7	1.6	1.5	1.3	1.8	1.6	1.4	1.5
Mississippi	1.7	2.0	2.1	1.9	2.1	1.7	2.0	2.4	2.3
Tennessee	1.7	1.8	1.8	1.8	1.9	2.0	2.1	2.1	2.0
West South Central	1.5	1.5	1.9	1.7	1.8	1.6	1.8	1.9	3.0
Arkansas	1.8	1.8	2.1	2.1	2.1	1.7	1.9	1.9	1.7
Louisiana	2.8	3.0	2.3	2.1	2.3	2.0	2.1	3.3	3.4
Oklahoma	1.7	1.1	1.9	1.7	1.5	1.4	1.6	1.8	1.5
Texas	1.4	1.5	1.8	1.6	1.7	1.4	1.7	1.6	3.3
Mountain	1.1	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.1
Arizona	0.8	0.8	0.9	0.8	0.9	0.9	0.9	0.8	1.1
Colorado	1.2	1.0	1.0	1.2	1.2	1.0	1.1	1.0	1.1
Idaho	1.6	1.3	1.7	1.3	1.7	1.2	1.2	1.6	1.8
Montana	1.4	1.2	1.7	1.3	1.6	1.2	1.3	1.3	1.6
Nevada	0.6	0.7	0.7	0.8	0.9	1.0	0.8	0.7	0.8
New Mexico	1.0	0.8	1.0	1.3	1.2	1.1	1.1	0.9	1.2
Utah	1.5	1.4	1.4	1.3	1.1	1.0	1.0	1.3	0.9
Wyoming	1.9	1.6	1.5	1.5	1.7	1.3	1.5	1.9	1.1
Pacific Contiguous	0.9	1.0	1.0	1.1	1.3	1.0	1.2	1.1	1.4
California	0.8	0.9	0.9	1.0	1.3	1.0	1.3	1.1	1.3
Oregon	0.8	1.3	1.1	1.1	1.3	0.9	1.0	1.1	1.6
Washington	1.1	1.7	1.7	1.2	1.4	1.2	1.2	1.3	1.8
Pacific Noncontiguous	2.3	2.3	2.1	1.7	1.7	2.3	1.7	1.5	2.4
Alaska	2.3	2.3	2.3	2.1	1.6	2.9	1.9	2.0	2.4
Hawaii			1.9	1.3	1.8	1.9	1.6	1.2	
U.S. Total	1.2	1.3	1.3	1.3	1.4	1.3	1.3	1.4	1.4

IEEE — Without Major Event Days

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	1.1	1.0	1.0	1.2	0.9	1.1	0.9	1.0	1.0
Connecticut	0.9	0.8	0.7	1.0	0.8	0.7	0.7	0.7	0.7
Maine	2.0	2.0	1.8	2.2	1.9	2.0	1.7	2.1	2.1
Massachusetts	0.9	0.8	0.7	0.9	0.3	0.9	0.8	0.8	0.9
New Hampshire	1.1	1.4	1.1	1.4	1.1	1.1	0.8	0.9	0.9
Rhode Island	0.7	0.8	0.9	1.0	0.8	1.0	1.0	0.9	0.9
Vermont	1.9	1.4	1.8	1.6	1.6	2.3	1.5	1.6	1.9
Middle Atlantic	1.0	0.9	0.9	1.0	0.9	1.0	1.0	1.0	1.0
New Jersey	1.2	0.9	0.8	1.0	0.9	1.0	0.9	0.9	0.9
New York	0.9	1.0	1.1	1.2	1.0	1.1	1.0	1.1	1.1
Pennsylvania	0.9	1.0	0.9	1.0	0.9	1.0	1.0	0.9	1.0
East North Central	0.9	1.0	1.0	0.9	0.9	1.0	1.0	0.9	0.9
Illinois	0.9	1.0	0.9	0.8	0.7	0.8	0.8	0.7	0.7
Indiana	1.0	1.0	1.0	1.1	1.0	1.2	1.2	1.0	1.1
Michigan	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.1	1.0
Ohio	0.9	1.1	1.1	1.1	1.1	1.2	1.1	1.1	1.1
Wisconsin	0.7	0.7	1.2	0.7	0.6	0.6	0.7	0.7	0.7
West North Central	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.8
Iowa	0.9	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.8
Kansas	1.3	1.2	1.3	1.2	1.1	1.0	1.0	0.9	1.1
Minnesota	0.9	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.9
Missouri	0.8	1.0	0.9	0.8	0.8	0.8	1.0	0.9	0.8
Nebraska	0.7	0.6	0.6	0.6	0.7	0.7	0.5	0.6	0.5
North Dakota	1.6	1.7	2.3	1.9	0.9	0.9	0.8	1.0	1.0
South Dakota	1.0	1.0	0.9	1.0	1.1	0.9	1.1	0.9	0.7
South Atlantic	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0
Delaware	1.3	1.2	1.3	1.1	1.0	0.9	0.9	1.0	1.0
District of Columbia	0.9	0.6	0.7	0.8	0.6	0.5	0.5	0.4	0.4
Florida	0.9	1.1	1.0	1.1	1.0	1.0	0.9	0.9	0.8
Georgia	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.3	1.2
Maryland	1.0	1.0	1.0	1.0	0.8	0.9	0.9	0.8	0.8
North Carolina	1.0	1.0	1.1	1.1	1.2	1.2	1.1	1.2	1.1
South Carolina	1.0	1.1	1.2	1.2	1.1	1.2	1.0	1.1	1.0
Virginia	1.6	1.4	1.4	1.5	1.4	1.7	1.7	1.6	1.6
West Virginia	1.7	2.1	2.2	2.1	2.1	2.4	2.4	2.2	2.1
East South Central	1.4	1.4	1.5	1.5	1.3	1.5	1.5	1.4	1.4
Alabama	1.7	1.7	1.6	1.5	1.4	1.5	1.1	1.4	1.2
Kentucky	1.3	1.3	1.3	1.3	1.1	1.3	1.4	1.1	1.1
Mississippi	1.4	1.4	1.8	1.6	1.5	1.6	1.6	1.4	1.5
Tennessee	1.6	1.5	1.5	1.6	1.5	1.7	1.8	1.5	1.7
West South Central	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.3	1.4
Arkansas	1.6	1.6	1.8	1.7	1.5	1.5	1.5	1.4	1.4
Louisiana	1.2	1.5	1.8	1.7	1.7	1.8	1.6	1.6	1.8
Oklahoma	1.2	1.1	1.3	1.3	1.2	1.2	1.3	1.2	1.3
Texas	1.3	1.2	1.3	1.3	1.3	1.2	1.3	1.2	1.4
Mountain	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9
Arizona	0.8	0.7	0.8	0.8	0.6	0.6	0.7	0.7	0.8
Colorado	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Idaho	1.4	1.1	1.4	1.2	1.6	1.1	1.1	1.2	1.2
Montana	1.3	1.1	1.4	1.1	1.4	1.2	1.2	1.1	1.3
Nevada	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.6	0.7
New Mexico	0.9	0.8	0.9	1.0	1.1	1.1	1.0	0.9	1.0
Utah	1.3	1.2	1.2	1.0	1.0	1.0	0.9	0.9	0.9
Wyoming	1.6	1.5	1.4	1.4	1.6	1.2	1.4	1.1	1.0
Pacific Contiguous	0.8	0.9	0.8	0.9	0.9	0.8	0.8	0.9	1.0
California	0.8	0.9	0.8	0.9	0.9	0.9	0.9	0.9	1.0
Oregon	0.7	0.9	0.7	0.8	0.9	0.8	0.7	0.7	0.8
Washington	0.8	0.9	0.8	0.8	0.9	0.8	0.8	0.9	1.0
Pacific Noncontiguous	1.4	1.6	1.5	1.3	1.5	2.0	1.3	1.4	1.7
Alaska	1.4	1.6	1.5	1.9	1.8	2.6	1.6	2.2	1.7
Hawaii			1.5	1.0	1.3	1.7	1.2	1.1	
U.S. Total	1.0	1.0	1.1	1.1	1.0	1.1	1.0	1.0	1.0

IEEE — Loss of Supply Removed

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	1.3	1.5	1.0	1.3	1.4	1.7	1.3	1.9	1.3
Connecticut	0.9	0.8	0.7	1.2	1.0	1.3	1.0	2.0	1.0
Maine	2.6	5.1	1.7	2.4	2.6	2.6	2.3	3.8	2.2
Massachusetts	1.1	1.0	0.8	0.9	1.0	1.6	1.1	1.2	1.1
New Hampshire	1.1	1.8	1.1	1.5	2.0	1.9	1.2	1.5	1.0
Rhode Island	1.2	0.8	1.2	1.0	1.1	1.4	1.2	1.4	1.4
Vermont	2.8	2.3	1.5	1.4	2.5	2.9	1.9	1.6	1.8
Middle Atlantic	1.0	1.1	1.0	1.1	1.0	1.4	1.2	1.3	1.1
New Jersey	1.2	0.9	1.0	1.1	0.9	1.3	1.1	1.4	0.9
New York	1.3	1.2	1.1	1.2	1.4	1.5	1.5	1.5	1.3
Pennsylvania	0.9	1.1	0.9	1.0	1.0	1.4	1.2	1.2	1.1
East North Central	1.1	1.1	1.0	1.0	1.1	1.1	1.2	1.1	1.2
Illinois	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.9
Indiana	0.9	1.1	1.1	1.2	1.1	1.2	1.2	1.0	1.1
Michigan	1.5	1.2	1.1	1.1	1.4	1.3	1.5	1.3	1.6
Ohio	1.0	1.0	1.0	1.0	1.1	1.2	1.2	1.2	1.1
Wisconsin	0.8	0.8	0.8	0.8	0.9	0.7	1.1	0.8	1.1
West North Central	1.2	1.0	1.0	1.1	1.0	0.9	1.1	1.0	1.0
Iowa	0.9	1.1	0.8	0.9	0.9	0.9	1.0	1.3	0.8
Kansas	1.3	1.2	1.4	1.3	1.2	1.0	1.3	0.9	1.3
Minnesota	1.2	1.0	0.9	1.1	0.9	0.9	0.9	1.0	0.9
Missouri	1.1	1.1	1.3	1.0	1.3	1.1	1.6	1.0	1.1
Nebraska	0.1	0.6	0.5	0.6	0.7	0.7	0.7	0.9	1.1
North Dakota	0.9	1.0	0.7	1.0	0.7	0.7	0.8	0.8	0.6
South Dakota	1.4	0.7	0.9	0.9	0.9	0.7	1.1	0.7	0.7
South Atlantic	1.1	1.4	1.2	1.5	1.6	1.5	1.2	1.3	1.1
Delaware	1.4	1.3	1.4	1.3	1.1	1.0	1.0	1.5	1.0
District of Columbia	0.8	0.7	0.7	0.8	0.6	0.6	0.6	0.4	0.5
Florida	0.9	1.5	1.0	1.3	2.0	1.1	0.9	1.1	0.9
Georgia	0.8	1.3	1.4	1.2	2.1	1.4	1.2	1.7	1.1
Maryland	1.0	1.2	1.0	1.1	0.9	1.2	1.0	0.9	0.9
North Carolina	1.3	1.3	1.2	1.8	1.2	2.0	1.3	1.5	1.2
South Carolina	1.0	1.6	1.2	2.2	1.5	1.5	1.3	1.2	1.0
Virginia	1.9	1.4	1.4	1.3	1.5	2.4	1.9	1.7	1.9
West Virginia	1.7	2.1	2.2	2.1	2.0	2.4	2.5	2.1	2.1
East South Central	1.4	1.5	1.6	1.5	1.6	1.7	1.8	1.8	1.7
Alabama	1.7	2.0	1.8	1.5	1.8	1.7	1.5	3.4	1.6
Kentucky	1.3	1.4	1.3	1.2	1.1	1.6	1.4	1.2	1.3
Mississippi	1.6	1.8	1.9	1.9	2.3	1.9	2.2	2.4	2.5
Tennessee	1.5	1.7	1.7	1.7	1.8	1.9	2.1	2.0	1.8
West South Central	1.5	1.5	1.8	1.6	1.6	1.5	1.6	1.8	3.0
Arkansas	1.8	2.2	1.9	1.9	1.9	1.6	1.7	1.7	1.4
Louisiana	1.5	1.6	2.0	1.9	2.0	1.8	2.0	3.1	3.1
Oklahoma	1.4	0.9	1.6	1.4	1.2	1.2	1.3	1.4	1.2
Texas	1.4	1.5	1.7	1.5	1.5	1.3	1.5	1.5	3.5
Mountain	1.0	0.9	1.0	1.0	1.0	0.9	0.9	1.0	1.0
Arizona	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.0
Colorado	1.0	0.9	0.9	1.0	1.0	0.9	1.0	1.0	1.0
Idaho	1.4	1.1	1.5	1.2	1.6	1.1	1.0	1.2	1.2
Montana	1.4	1.1	1.6	0.9	1.5	0.8	1.0	1.1	1.1
Nevada	1.0		1.8	1.4	1.0	1.4	0.9	0.6	0.1
New Mexico	0.8	0.3	0.4	0.9	0.9	0.9	0.9	0.9	1.1
Utah	1.2	1.1	1.4	1.4	1.1	1.0	1.0	1.3	0.9
Wyoming	1.5	1.3	1.3	1.4	1.5	1.1	1.4	1.7	1.1
Pacific Contiguous	0.8	1.0	1.0	1.0	0.9	0.6	0.9	0.7	1.0
California	0.8	0.9	0.9	1.0	0.8	0.5	0.9	0.4	0.8
Oregon	0.7	1.1	1.0	1.0	1.3	0.8	0.9	1.1	1.5
Washington	0.9	1.5	1.3	1.1	1.2	1.0	1.1	1.1	1.5
Pacific Noncontiguous	2.3	2.7	2.6	1.5	1.6	1.8	1.4	1.1	1.8
Alaska	2.3	2.7	2.6	2.4	1.5	2.3	1.6	1.5	1.8
Hawaii				1.0	1.7	1.5	1.4	1.0	
U.S. Total	1.1	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.3

Any Method — All Events (With Major Event Days)

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	1.5	1.6	1.0	1.3	1.5	1.7	1.4	1.9	1.4
Connecticut	0.9	0.7	0.7	1.1	0.9	1.3	1.0	1.8	0.9
Maine	2.9	5.1	1.9	2.7	2.8	2.8	2.5	3.9	2.5
Massachusetts	1.1	1.0	0.8	1.0	1.1	1.6	1.2	1.3	1.2
New Hampshire	2.2	2.3	1.4	1.5	2.3	2.2	1.4	1.8	1.4
Rhode Island	1.3	0.8	1.2	1.2	1.2	1.6	1.4	2.0	1.4
Vermont	2.4	2.2	1.7	1.9	2.4	2.6	2.0	1.9	2.1
Middle Atlantic	0.9	0.9	0.8	1.0	1.0	1.2	1.1	1.2	1.0
New Jersey	1.3	1.0	1.0	1.2	0.9	1.4	1.2	1.6	1.0
New York	0.7	0.6	0.7	0.8	0.8	1.0	0.9	1.0	0.9
Pennsylvania	1.0	1.2	1.0	1.1	1.1	1.4	1.3	1.3	1.2
East North Central	1.2	1.1	1.2	1.1	1.2	1.2	1.3	1.2	1.3
Illinois	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.9
Indiana	1.2	1.3	1.3	1.3	1.3	1.5	1.5	1.3	1.4
Michigan	1.5	1.2	1.1	1.1	1.4	1.4	1.5	1.4	1.7
Ohio	1.2	1.2	1.2	1.2	1.4	1.4	1.5	1.4	1.3
Wisconsin	0.8	0.8	1.3	0.8	0.9	0.8	1.1	0.8	1.0
West North Central	1.3	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1
Iowa	1.0	1.2	1.0	1.0	1.0	1.0	1.1	1.5	0.9
Kansas	1.6	1.3	1.6	1.4	1.5	1.2	1.4	0.9	1.5
Minnesota	1.2	1.0	1.0	1.2	0.9	1.0	1.0	1.0	1.0
Missouri	1.1	1.1	1.1	1.1	1.2	1.0	1.3	1.0	1.2
Nebraska	0.8	0.9	0.7	0.7	0.9	1.1	0.7	0.8	1.2
North Dakota	2.8	1.4	2.1	1.6	1.0	0.9	0.9	1.0	0.9
South Dakota	1.9	1.0	1.1	1.4	1.2	1.1	1.6	1.1	1.0
South Atlantic	1.3	1.4	1.3	1.6	1.7	1.6	1.3	1.5	1.2
Delaware	1.5	1.4	1.5	1.4	1.1	1.0	1.0	1.5	1.0
District of Columbia	0.9	0.7	0.7	0.8	0.6	0.6	0.6	0.4	0.5
Florida	1.1	1.1	1.1	1.4	2.0	1.1	1.0	1.2	0.9
Georgia	1.3	1.5	1.5	1.5	2.4	1.6	1.4	2.0	1.3
Maryland	1.1	1.3	1.1	1.1	1.0	1.3	1.0	1.0	1.0
North Carolina	1.3	1.5	1.3	1.8	1.3	2.2	1.4	1.7	1.2
South Carolina	1.0	1.8	1.5	2.4	1.6	1.7	1.5	1.5	1.2
Virginia	1.6	1.4	1.4	1.5	1.4	1.8	1.7	1.6	1.6
West Virginia	2.3	2.4	2.4	2.4	2.3	2.6	2.8	2.4	2.4
East South Central	1.6	1.7	1.7	1.7	1.8	1.8	1.8	2.0	1.8
Alabama	1.4	1.5	1.7	1.6	2.0	1.5	1.4	2.4	1.4
Kentucky	1.5	1.7	1.6	1.5	1.3	1.8	1.6	1.4	1.5
Mississippi	1.7	1.7	2.0	1.9	2.2	1.8	2.1	2.5	2.4
Tennessee	1.8	1.8	1.8	1.8	1.8	1.9	2.2	2.1	2.0
West South Central	1.6	1.5	1.9	1.7	1.8	1.5	1.7	2.3	2.7
Arkansas	1.8	1.8	2.0	2.0	2.0	1.8	1.9	1.8	1.7
Louisiana	2.5	2.4	2.3	2.1	2.3	2.1	2.2	3.2	3.3
Oklahoma	1.5	1.1	1.8	1.6	1.4	1.3	1.5	2.1	1.4
Texas	1.5	1.4	1.8	1.6	1.7	1.4	1.7	2.2	2.9
Mountain	1.0	1.0	1.1	1.1	1.1	1.0	1.0	1.0	1.2
Arizona	0.8	0.8	0.9	0.8	0.9	0.9	0.9	0.8	1.2
Colorado	1.1	0.9	1.0	1.2	1.2	1.0	1.1	1.0	1.1
Idaho	1.6	1.3	1.7	1.4	1.7	1.2	1.2	1.6	1.8
Montana	1.4	1.1	1.8	1.3	1.6	1.3	1.3	1.4	1.7
Nevada	0.6	0.7	0.7	0.8	0.9	1.0	0.8	0.7	0.8
New Mexico	1.0	0.8	1.1	1.5	1.3	1.1	1.2	1.0	1.4
Utah	1.4	1.4	1.4	1.3	1.1	1.0	1.0	1.3	0.9
Wyoming	1.8	1.5	1.5	1.5	1.7	1.3	1.5	1.8	1.2
Pacific Contiguous	0.9	1.0	1.0	1.1	1.3	1.0	1.2	1.1	1.4
California	0.8	0.9	0.9	1.0	1.3	1.0	1.3	1.1	1.3
Oregon	0.8	1.3	1.0	1.1	1.3	0.9	1.0	1.1	1.6
Washington	1.0	1.5	1.7	1.2	1.3	1.2	1.2	1.3	1.7
Pacific Noncontiguous	2.2	2.3	2.9	2.0	2.0	2.4	2.1	1.6	1.8
Alaska	2.3	2.5	2.6	2.3	1.7	3.1	2.2	2.2	2.1
Hawaii	2.1	2.3	3.0	1.9	2.1	2.0	2.1	1.2	1.6
U.S. Total	1.2	1.2	1.2	1.3	1.4	1.3	1.3	1.4	1.4

Any Method — Without Major Event Days

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	1.1	1.1	1.0	1.1	0.9	1.1	0.9	1.1	1.0
Connecticut	0.9	0.7	0.6	0.9	0.7	0.7	0.6	0.7	0.6
Maine	2.0	2.0	1.8	2.2	1.9	2.0	1.7	2.1	2.1
Massachusetts	0.9	0.8	0.7	0.9	0.6	0.9	0.8	1.0	0.9
New Hampshire	1.3	1.6	1.4	1.4	1.3	1.3	0.9	1.1	1.1
Rhode Island	0.7	0.8	0.9	1.0	0.8	1.0	1.0	0.9	0.9
Vermont	1.9	1.5	1.7	1.8	1.9	1.9	1.5	1.9	2.1
Middle Atlantic	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
New Jersey	1.2	0.9	0.8	1.0	0.9	1.0	0.9	0.9	0.9
New York	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.7
Pennsylvania	0.9	0.9	0.9	1.0	0.9	1.0	1.0	0.9	1.0
East North Central	0.9	1.0	1.0	0.9	0.9	1.0	1.0	0.9	0.9
Illinois	0.9	1.0	0.9	0.8	0.8	0.8	0.8	0.7	0.7
Indiana	0.9	1.0	1.0	1.0	1.0	1.1	1.2	1.0	1.1
Michigan	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.1	1.0
Ohio	1.0	1.1	1.1	1.1	1.1	1.2	1.1	1.1	1.1
Wisconsin	0.7	0.7	1.1	0.7	0.6	0.7	0.8	0.7	0.7
West North Central	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8
Iowa	0.8	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8
Kansas	1.2	1.2	1.3	1.2	1.1	1.0	1.0	0.9	1.1
Minnesota	0.9	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.9
Missouri	0.9	1.0	1.0	0.8	0.8	0.8	1.0	0.9	0.8
Nebraska	0.6	0.7	0.6	0.6	0.7	0.7	0.5	0.6	0.5
North Dakota	3.4	1.7	2.3	1.9	0.9	0.9	0.8	1.0	1.0
South Dakota	1.1	0.9	0.9	1.0	1.0	0.9	1.1	0.9	0.7
South Atlantic	1.1	1.2	1.2	1.2	1.1	1.2	1.1	1.1	1.0
Delaware	1.3	1.2	1.3	1.2	1.0	0.9	0.9	1.0	1.0
District of Columbia	0.9	0.6	0.7	0.8	0.6	0.5	0.5	0.4	0.4
Florida	1.0	1.1	1.1	1.1	1.0	1.0	0.9	1.0	0.8
Georgia	1.2	1.2	1.3	1.3	1.2	1.3	1.2	1.4	1.3
Maryland	1.0	1.0	1.0	1.0	0.9	1.0	0.9	0.8	0.8
North Carolina	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.1
South Carolina	1.0	1.1	1.2	1.2	1.1	1.2	1.0	1.1	1.0
Virginia	1.2	1.2	1.2	1.3	1.2	1.4	1.3	1.3	1.3
West Virginia	1.7	2.1	2.2	2.1	2.1	2.4	2.4	2.2	2.1
East South Central	1.4	1.3	1.4	1.4	1.3	1.4	1.5	1.3	1.4
Alabama	1.2	1.1	1.2	1.2	1.1	1.2	1.1	1.1	1.1
Kentucky	1.3	1.3	1.3	1.3	1.1	1.3	1.4	1.1	1.1
Mississippi	1.3	1.2	1.6	1.7	1.6	1.6	1.6	1.5	1.6
Tennessee	1.5	1.6	1.5	1.6	1.5	1.7	1.8	1.6	1.7
West South Central	1.3	1.2	1.4	1.4	1.3	1.2	1.2	1.5	1.3
Arkansas	1.6	1.6	1.8	1.7	1.5	1.5	1.5	1.4	1.4
Louisiana	1.4	1.5	1.8	1.8	1.7	1.8	1.6	1.7	1.8
Oklahoma	1.0	1.0	1.2	1.3	1.2	1.1	1.1	1.1	1.2
Texas	1.2	1.2	1.3	1.3	1.3	1.1	1.1	1.5	1.2
Mountain	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	1.0
Arizona	0.8	0.7	0.8	0.8	0.6	0.6	0.8	0.8	1.0
Colorado	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9
Idaho	1.4	1.2	1.4	1.2	1.6	1.1	1.1	1.2	1.2
Montana	1.3	1.1	1.4	1.1	1.4	1.2	1.2	1.1	1.3
Nevada	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.6	0.7
New Mexico	0.9	0.8	1.0	1.1	1.1	1.1	1.1	0.9	1.2
Utah	1.3	1.2	1.2	1.0	0.9	1.0	0.9	0.9	0.9
Wyoming	1.6	1.5	1.4	1.4	1.6	1.2	1.3	1.0	0.9
Pacific Contiguous	0.8	0.9	0.8	0.9	0.9	0.8	0.9	0.9	1.0
California	0.8	0.9	0.8	0.9	0.9	0.9	0.9	0.9	1.0
Oregon	0.7	0.9	0.7	0.8	0.9	0.8	0.7	0.8	0.8
Washington	0.8	0.9	0.8	0.8	0.9	0.8	0.8	0.9	1.0
Pacific Noncontiguous	1.6	1.8	1.7	1.6	1.5	2.0	1.3	1.4	1.3
Alaska	1.4	1.6	1.5	1.9	1.8	2.6	1.6	2.2	1.7
Hawaii	1.6	1.8	1.7	1.4	1.3	1.7	1.2	1.1	1.2
U.S. Total	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0

SAIFI = System Average Interruption Frequency Index. It is the number of non-momentary electric interruptions, per year, the average customer experienced.
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 11.6 CAIDI Values (Minutes Per Interruption) of U.S. Distribution System by State, 2013 - 2021

IEEE — All Events (With Major Event Days)

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	317.4	195.7	137.9	163.9	521.7	405.4	258.6	643.0	282.2
Connecticut	193.0	120.6	148.6	173.4	333.8	592.4	247.1	1,531.0	172.8
Maine	335.7	204.8	114.2	198.8	885.7	237.5	359.6	446.5	130.5
Massachusetts	382.1	130.9	110.6	144.7	174.2	521.1	219.1	184.4	428.8
New Hampshire	105.7	414.2	103.9	125.5	456.7	238.6	188.0	269.7	161.2
Rhode Island	621.6	71.1	277.7	140.0	614.6	378.8	169.3	278.9	313.9
Vermont	84.6	95.2	109.6	128.1	687.1	274.3	170.4	97.2	112.7
Middle Atlantic	155.5	247.8	184.9	129.1	157.2	352.2	203.0	406.2	165.1
New Jersey	123.5	117.2	265.1	118.7	91.3	357.2	209.2	596.4	139.0
New York	209.5	172.2	124.8	157.0	246.6	261.2	219.5	302.4	166.8
Pennsylvania	143.2	341.8	162.9	121.2	163.8	378.8	192.6	266.1	181.4
East North Central	281.3	248.2	182.6	171.7	278.3	211.9	241.3	263.9	298.3
Illinois	166.6	175.8	153.7	134.0	130.2	157.7	126.1	362.7	141.2
Indiana	204.8	188.0	198.9	188.7	170.2	202.6	174.9	224.7	217.8
Michigan	516.5	481.9	325.4	237.5	567.8	327.6	369.7	303.1	540.8
Ohio	183.8	155.0	140.4	143.5	182.7	170.7	206.1	209.1	184.1
Wisconsin	187.5	184.7	74.1	171.2	236.2	152.3	341.8	144.0	334.6
West North Central	252.2	117.8	157.6	184.5	198.4	135.2	169.7	217.1	201.0
Iowa	131.5	123.6	96.2	117.1	119.4	112.9	111.7	716.5	143.6
Kansas	163.0	113.3	215.2	118.8	247.7	130.1	177.2	112.8	225.1
Minnesota	311.2	121.1	165.4	253.7	136.2	124.1	150.9	123.5	116.5
Missouri	268.0	124.5	161.3	206.8	264.7	155.3	200.6	153.8	211.8
Nebraska	134.7	142.4	102.6	89.9	176.9	168.9	119.7	145.7	477.9
North Dakota	61.6	57.0	47.7	74.0	87.8	116.6	131.8	107.2	101.3
South Dakota	537.7	115.1	120.4	187.8	88.0	84.1	191.5	89.0	103.4
South Atlantic	155.9	217.9	146.4	360.4	702.1	403.4	159.0	219.5	165.8
Delaware	108.2	120.1	125.1	110.7	136.8	131.3	104.0	180.0	66.8
District of Columbia	140.9	139.1	163.9	140.2	104.0	169.9	130.5	110.0	115.6
Florida	82.2	78.9	78.6	282.9	1,302.1	274.7	90.3	175.9	92.0
Georgia	98.7	165.0	158.9	278.1	465.6	149.7	110.1	267.2	108.9
Maryland	104.9	199.3	114.6	109.8	114.8	264.8	137.1	123.8	132.1
North Carolina	178.0	343.3	159.7	461.9	204.4	822.2	198.4	254.6	172.3
South Carolina	111.2	424.7	157.3	694.7	240.5	276.1	226.0	224.4	106.2
Virginia	422.6	180.6	160.9	187.7	172.7	435.1	228.6	186.8	402.9
West Virginia	236.4	280.1	337.3	316.2	296.1	279.5	269.6	247.9	468.8
East South Central	117.7	150.8	154.4	128.9	250.9	170.1	141.8	420.5	314.4
Alabama	138.3	138.6	135.9	99.0	126.3	233.7	103.0	948.8	127.5
Kentucky	116.4	149.9	154.1	132.5	144.7	228.6	126.3	210.2	457.7
Mississippi	114.9	136.8	169.1	148.4	273.5	156.7	231.7	677.5	519.6
Tennessee	109.0	156.1	144.1	117.9	333.2	111.2	118.5	290.6	157.9
West South Central	133.7	133.5	166.1	153.2	255.8	131.0	175.9	530.9	633.9
Arkansas	142.8	129.5	159.1	192.2	194.2	192.3	232.5	415.3	184.2
Louisiana	199.2	167.1	180.8	212.5	186.8	140.6	244.4	1,297.0	1,749.4
Oklahoma	288.7	103.8	319.2	193.0	132.6	106.7	116.4	316.2	109.2
Texas	104.9	132.9	151.8	132.3	287.8	119.3	153.5	256.3	449.4
Mountain	123.8	110.7	125.8	121.6	117.9	118.4	129.1	175.8	147.1
Arizona	90.5	103.0	104.6	103.6	103.3	121.6	96.3	88.6	96.6
Colorado	117.6	89.1	106.5	132.3	109.3	103.6	165.9	132.1	162.8
Idaho	149.4	133.0	142.7	136.8	149.7	141.8	125.0	180.3	246.2
Montana	120.0	122.0	174.4	123.6	141.1	113.5	123.3	204.9	155.3
Nevada	110.6	107.8	146.3	114.6	126.5	129.2	106.8	101.6	122.3
New Mexico	138.4	91.7	113.3	97.3	97.6	119.4	142.1	152.2	164.9
Utah	143.2	141.2	149.2	147.3	132.2	114.6	144.2	448.7	124.4
Wyoming	208.6	129.0	120.5	119.3	119.6	95.0	114.6	155.1	148.4
Pacific Contiguous	134.3	154.3	184.6	140.5	199.9	204.4	431.4	249.5	342.6
California	119.4	123.5	131.5	118.3	190.7	208.1	485.2	256.8	254.9
Oregon	223.5	193.0	215.0	211.4	234.0	123.8	232.9	288.4	990.2
Washington	161.1	246.7	364.7	207.5	227.7	227.2	258.0	202.4	315.8
Pacific Noncontiguous	167.2	138.1	161.6	89.3	125.7	110.7	125.0	116.5	226.6
Alaska	167.2	138.1	283.6	93.1	94.8	115.8	145.3	130.5	226.6
Hawaii			79.6	84.1	141.7	106.1	111.0	102.5	
U.S. Total	191.5	188.0	163.9	202.2	356.2	260.5	221.8	329.3	331.2

IEEE — Without Major Event Days

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	104.5	105.7	100.3	105.1	125.8	110.8	103.0	99.0	102.8
Connecticut	96.9	120.6	111.6	103.9	102.9	110.7	102.6	101.7	111.1
Maine	126.3	115.3	109.3	122.0	123.6	134.0	127.3	115.7	107.8
Massachusetts	94.0	100.5	95.4	100.6	286.4	95.3	87.7	79.3	99.1
New Hampshire	132.5	100.2	95.7	99.5	105.1	112.8	110.9	108.4	114.5
Rhode Island	79.6	71.1	68.6	71.0	76.3	65.0	66.6	73.1	72.6
Vermont	94.0	129.7	109.6	128.1	114.1	152.8	114.4	97.2	112.7
Middle Atlantic	111.7	104.6	104.5	107.7	106.0	111.4	115.2	109.3	115.7
New Jersey	102.3	90.3	76.8	86.6	81.0	90.9	91.7	92.1	95.2
New York	128.2	120.8	121.2	134.7	129.5	137.4	131.2	131.9	118.5
Pennsylvania	109.4	109.4	112.3	107.9	115.9	117.6	126.9	114.5	129.5
East North Central	135.5	131.1	121.2	132.5	133.1	131.4	135.4	125.2	129.7
Illinois	95.9	96.8	94.3	97.2	97.3	93.3	96.8	87.5	90.4
Indiana	116.5	116.8	115.0	121.6	129.6	126.7	125.9	127.0	127.5
Michigan	218.0	204.2	187.3	193.5	183.0	176.8	184.1	157.5	175.6
Ohio	117.1	118.7	123.6	120.2	125.0	127.9	127.8	120.5	121.4
Wisconsin	111.1	115.9	58.6	114.2	118.5	117.7	124.5	125.4	126.6
West North Central	100.4	92.3	95.7	101.1	105.0	103.8	105.7	102.5	105.5
Iowa	95.3	91.8	91.5	97.0	107.2	99.5	89.4	99.1	99.4
Kansas	96.8	95.2	100.7	106.8	114.3	107.1	114.0	103.2	107.1
Minnesota	100.5	83.5	95.9	102.9	93.1	98.8	100.7	94.6	94.2
Missouri	115.2	104.6	105.5	111.6	116.0	110.5	111.5	112.1	117.2
Nebraska	114.8	83.9	87.8	85.1	107.1	105.2	107.7	122.1	116.1
North Dakota	59.4	53.1	43.6	57.1	74.7	109.8	92.6	86.9	92.5
South Dakota	91.4	111.9	114.6	84.5	75.4	78.6	98.3	79.9	91.2
South Atlantic	114.7	104.1	105.0	108.2	110.1	117.8	114.5	111.0	111.0
Delaware	100.8	96.9	89.0	89.2	83.8	85.9	85.9	89.3	66.8
District of Columbia	140.9	128.1	163.9	140.2	104.0	98.3	112.2	105.4	102.4
Florida	80.7	78.4	76.2	78.7	76.8	83.5	81.8	81.2	82.0
Georgia	77.7	83.0	84.8	90.1	96.9	95.2	103.0	98.3	99.8
Maryland	108.6	92.7	103.2	102.2	99.8	99.7	103.0	98.9	101.5
North Carolina	109.7	116.9	115.0	132.4	130.1	143.8	132.0	120.7	118.2
South Carolina	102.8	90.1	103.2	99.5	106.1	112.1	105.7	107.5	98.6
Virginia	169.3	168.2	143.9	145.6	151.0	176.5	167.9	155.8	167.9
West Virginia	244.4	211.0	213.0	208.7	219.7	218.1	200.4	216.3	215.5
East South Central	96.1	108.0	104.7	101.6	109.6	104.1	103.7	108.9	107.6
Alabama	92.3	92.5	103.3	91.0	93.3	92.0	97.4	105.4	95.5
Kentucky	102.4	108.9	105.2	109.2	109.6	115.6	107.1	113.7	115.0
Mississippi	95.7	131.3	125.8	110.1	138.3	130.8	135.0	144.9	150.3
Tennessee	83.4	95.7	89.5	90.1	96.2	85.4	90.0	93.9	89.8
West South Central	100.2	103.2	108.6	105.2	106.6	111.3	119.3	117.8	130.1
Arkansas	135.8	136.6	125.1	124.5	118.9	145.4	149.8	146.5	142.3
Louisiana	110.0	105.8	109.9	108.9	114.8	117.8	138.6	134.1	148.8
Oklahoma	102.7	94.5	96.0	94.4	99.7	94.8	103.4	116.2	99.2
Texas	89.9	97.9	106.8	102.5	103.9	104.9	110.4	108.5	126.5
Mountain	100.5	99.4	102.6	100.5	106.7	103.5	101.3	104.4	105.6
Arizona	80.8	83.4	85.0	89.8	90.3	98.9	85.6	83.5	85.2
Colorado	84.9	85.4	91.2	89.3	89.1	94.5	95.5	95.5	114.5
Idaho	121.0	121.9	136.3	135.9	138.6	128.7	115.7	130.5	111.4
Montana	111.0	109.8	99.2	113.4	118.1	100.1	98.4	129.0	105.8
Nevada	91.8	99.1	99.4	100.4	108.2	94.3	100.3	95.1	104.1
New Mexico	107.4	95.9	105.6	100.6	107.9	112.9	118.2	131.4	115.4
Utah	138.7	124.8	127.9	109.1	121.5	115.0	118.6	115.9	114.4
Wyoming	108.6	118.6	113.1	99.9	106.5	90.0	97.8	96.5	120.5
Pacific Contiguous	115.4	120.8	120.1	115.2	122.7	119.4	125.3	126.0	143.2
California	112.8	118.3	114.2	109.2	117.6	116.2	122.3	121.9	142.0
Oregon	130.0	122.8	143.7	130.0	130.0	113.6	136.1	138.1	150.2
Washington	123.2	136.1	142.6	146.2	146.7	141.5	135.1	139.4	145.9
Pacific Noncontiguous	98.1	102.8	80.5	89.3	82.3	83.9	102.5	98.0	133.8
Alaska	98.1	102.8	101.3	95.2	75.0	74.2	116.0	110.7	133.8
Hawaii			68.4	83.1	86.5	90.0	95.1	87.5	
U.S. Total	112.6	110.0	109.1	110.7	114.3	115.5	117.5	114.5	120.9

IEEE — Loss of Supply Removed

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	329.3	196.3	138.2	177.7	542.0	423.1	270.7	677.0	280.1
Connecticut	187.5	120.5	149.4	173.5	336.7	604.1	248.1	1,545.5	173.8
Maine	350.9	205.1	102.2	215.4	927.4	246.1	384.8	458.2	140.4
Massachusetts	372.3	134.2	112.1	174.9	188.3	562.7	235.5	199.3	542.0
New Hampshire	195.4	452.6	111.1	128.1	461.7	240.4	188.0	271.2	173.1
Rhode Island	669.1	71.3	277.7	156.0	649.8	385.5	179.5	314.1	312.7
Vermont	84.6	103.0	117.2	136.6	715.5	256.0	173.4	96.8	120.1
Middle Atlantic	163.9	260.9	193.8	123.2	160.9	373.9	212.5	427.3	171.9
New Jersey	129.0	119.4	271.7	106.9	91.3	382.1	222.2	633.9	146.4
New York	223.4	172.2	125.7	149.9	247.9	262.8	220.2	304.0	168.7
Pennsylvania	151.5	373.7	173.0	120.7	169.4	408.3	202.4	282.8	188.8
East North Central	302.3	254.5	201.7	174.7	292.7	220.7	254.8	274.8	307.2
Illinois	168.0	178.5	156.7	133.2	130.2	158.5	121.7	369.8	143.3
Indiana	231.2	197.6	213.7	202.1	173.9	213.5	174.2	202.9	197.5
Michigan	527.9	491.4	324.9	237.7	574.9	332.7	375.8	309.5	546.2
Ohio	202.1	141.3	146.8	143.7	195.9	181.3	226.7	224.0	174.5
Wisconsin	192.9	188.4	136.8	175.0	243.2	147.5	359.4	147.3	340.7
West North Central	285.8	124.1	165.7	188.8	219.8	137.2	183.3	253.2	219.9
Iowa	141.1	128.6	101.0	136.6	129.0	120.7	115.5	785.4	148.3
Kansas	181.0	113.7	174.2	118.2	288.1	139.1	198.3	110.7	243.6
Minnesota	334.0	124.2	177.1	276.2	147.2	132.5	156.6	129.2	123.1
Missouri	282.3	129.4	195.3	155.6	342.3	157.2	239.5	164.9	231.6
Nebraska	818.0	151.6	93.6	80.5	164.2	147.6	83.8	104.9	485.6
North Dakota	107.4	80.2	112.4	140.6	121.2	120.8	167.6	139.3	119.8
South Dakota	750.5	134.1	112.8	135.3	97.5	108.9	225.0	116.3	113.5
South Atlantic	166.8	268.7	155.5	382.0	771.5	429.4	167.6	223.0	175.8
Delaware	110.9	122.2	131.5	113.0	140.4	138.0	104.0	184.1	68.0
District of Columbia	153.9	139.1	163.9	140.2	104.6	169.9	130.5	110.0	115.6
Florida	83.3	81.6	79.1	302.9	1,337.8	276.5	90.5	184.2	89.9
Georgia	150.9	163.3	253.6	143.2	439.1	167.9	94.9	291.9	106.9
Maryland	104.7	200.5	116.2	109.5	116.8	267.1	136.8	123.8	132.3
North Carolina	184.0	361.7	163.5	484.7	209.6	818.6	208.3	271.8	179.9
South Carolina	121.2	479.4	164.1	764.9	253.0	309.9	248.9	251.8	111.7
Virginia	429.2	187.9	163.5	224.5	153.7	449.5	226.1	182.0	421.3
West Virginia	287.1	286.1	351.2	284.0	304.9	287.2	278.0	254.9	475.7
East South Central	127.1	163.9	161.1	138.8	257.5	171.5	149.2	437.5	342.8
Alabama	144.6	147.0	121.7	108.0	113.8	112.1	103.7	1,023.0	136.5
Kentucky	126.5	170.7	177.0	151.3	151.5	256.3	134.8	224.5	476.7
Mississippi	128.6	158.2	164.4	157.9	253.5	165.9	249.4	656.3	575.1
Tennessee	116.0	157.7	147.4	120.9	344.0	112.4	121.8	299.9	164.2
West South Central	143.8	159.9	166.5	161.5	265.3	136.0	177.7	581.5	464.0
Arkansas	180.1	272.8	175.2	216.8	206.1	202.1	224.3	436.2	199.6
Louisiana	158.7	170.4	194.1	224.7	197.3	141.0	222.3	1,345.8	1,886.8
Oklahoma	335.1	98.0	218.7	233.9	124.9	111.2	120.8	332.9	114.3
Texas	107.0	140.9	155.9	134.9	298.8	123.0	160.4	276.4	194.0
Mountain	125.5	112.2	130.0	133.1	121.4	118.5	134.3	186.1	140.8
Arizona	88.6	105.8	110.9	110.0	102.4	114.5	91.5	86.7	92.1
Colorado	106.4	85.8	109.8	146.1	118.8	110.5	176.9	137.4	167.6
Idaho	146.2	130.7	140.4	141.4	151.8	142.1	127.9	148.0	183.1
Montana	121.8	124.3	180.9	117.3	136.8	134.0	135.9	210.6	186.4
Nevada	120.0		87.9	336.0	80.1	64.6	104.6	97.5	111.0
New Mexico	141.6	103.6	137.2	111.3	119.9	131.4	151.7	158.6	177.8
Utah	148.7	147.5	153.1	152.1	128.9	117.1	138.6	466.5	124.6
Wyoming	243.9	128.4	126.8	119.4	123.3	101.9	106.5	154.8	149.8
Pacific Contiguous	118.1	155.1	171.6	136.9	245.8	261.4	575.6	382.7	430.6
California	112.5	124.2	132.9	117.1	246.7	297.5	708.4	600.9	332.4
Oregon	163.1	214.2	214.9	170.8	242.5	123.0	244.1	295.7	1,019.0
Washington	132.7	241.5	310.9	215.5	245.2	246.9	274.0	209.0	323.1
Pacific Noncontiguous	185.2	97.3	306.8	103.1	138.8	133.8	145.1	139.1	282.1
Alaska	185.2	97.3	306.8	111.5	103.1	153.2	201.0	167.5	282.1
Hawaii				94.2	152.5	121.8	118.8	121.0	
U.S. Total	202.6	203.7	170.4	209.0	390.6	283.8	243.0	371.9	312.6

Any Method — All Events (With Major Event Days)

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	299.6	203.8	133.5	161.4	470.8	410.3	242.2	575.0	267.3
Connecticut	193.0	116.3	147.6	163.8	307.7	522.5	243.3	1,446.4	162.2
Maine	335.7	204.8	114.2	198.8	885.7	237.5	359.6	446.5	130.5
Massachusetts	378.4	130.2	115.8	146.3	253.4	524.1	204.4	244.9	426.3
New Hampshire	114.9	381.1	107.9	124.9	484.7	234.2	204.3	274.3	171.3
Rhode Island	621.6	71.1	277.7	140.0	614.6	378.8	169.3	278.9	313.9
Vermont	180.9	339.3	122.3	193.1	362.1	342.8	224.0	134.7	151.0
Middle Atlantic	151.6	221.1	175.1	125.3	188.2	376.3	196.5	420.5	165.8
New Jersey	124.4	117.5	262.9	118.9	91.8	358.6	208.1	609.8	138.8
New York	171.6	145.9	128.9	137.0	269.3	403.4	195.2	418.1	166.3
Pennsylvania	142.3	328.0	157.7	118.2	159.3	362.0	190.4	257.6	181.5
East North Central	275.8	242.7	180.4	171.2	273.4	208.9	239.3	258.6	292.7
Illinois	165.3	173.9	152.4	132.0	129.3	156.0	125.5	358.4	140.1
Indiana	196.3	187.5	193.3	189.1	167.3	196.3	173.4	217.3	210.5
Michigan	513.6	473.8	318.5	233.6	550.9	322.6	361.5	296.8	527.5
Ohio	184.7	155.4	142.8	147.1	183.6	171.6	207.1	209.0	184.1
Wisconsin	179.2	172.8	79.6	162.3	224.0	151.3	325.3	141.3	308.0
West North Central	232.7	122.0	151.2	176.0	191.0	136.2	165.4	350.8	195.3
Iowa	129.8	137.2	100.4	112.1	118.8	125.0	113.7	1,183.1	144.1
Kansas	162.6	113.0	213.3	119.1	246.3	132.6	175.4	113.3	222.7
Minnesota	302.1	120.1	159.4	252.4	137.1	125.4	151.0	123.1	116.2
Missouri	282.2	126.7	161.7	195.9	254.6	153.8	196.8	153.1	208.8
Nebraska	150.0	141.5	117.8	124.0	175.6	173.4	128.4	143.6	447.0
North Dakota	39.3	61.3	54.9	76.7	88.9	103.4	123.0	104.0	97.2
South Dakota	514.2	114.9	117.7	180.2	87.3	84.9	187.2	88.8	104.6
South Atlantic	147.7	203.1	141.1	332.2	642.2	394.4	155.6	208.3	163.2
Delaware	108.0	119.4	124.8	110.4	136.5	131.7	104.0	180.0	66.8
District of Columbia	140.9	139.1	163.9	140.2	104.0	169.9	130.5	110.0	115.6
Florida	77.3	80.2	78.3	259.4	1,241.6	288.2	87.9	161.2	87.0
Georgia	114.2	163.3	158.4	278.1	428.3	239.7	110.2	259.6	110.7
Maryland	103.9	193.5	114.2	110.2	120.1	260.1	134.7	125.9	132.1
North Carolina	169.0	327.5	157.6	460.8	197.9	812.7	200.1	246.3	165.4
South Carolina	112.0	440.3	154.1	680.7	235.2	269.4	220.2	219.6	104.1
Virginia	289.6	135.7	142.4	153.9	140.2	279.2	178.9	189.0	275.6
West Virginia	236.4	280.1	337.3	316.2	296.1	279.5	269.6	247.9	468.8
East South Central	121.5	136.1	138.9	122.3	219.8	165.4	149.1	444.6	287.5
Alabama	164.0	139.6	124.9	111.2	160.5	202.3	123.5	732.4	164.3
Kentucky	117.2	149.5	153.6	131.7	144.2	227.6	126.3	209.0	462.8
Mississippi	116.2	131.9	157.6	143.9	258.2	151.8	255.9	595.7	479.3
Tennessee	96.8	124.8	125.8	110.7	284.0	105.1	124.1	274.8	149.9
West South Central	155.2	131.1	184.2	153.1	250.4	129.2	189.4	477.9	542.9
Arkansas	154.1	131.1	154.8	195.4	193.3	182.3	226.3	386.5	190.5
Louisiana	129.0	130.1	159.3	185.5	170.6	131.7	218.0	1,122.7	1,459.9
Oklahoma	401.2	110.8	466.5	200.2	201.6	131.9	218.9	1,384.5	128.1
Texas	120.7	133.5	152.6	131.8	286.5	120.4	173.8	194.8	405.2
Mountain	125.3	116.3	138.6	125.2	143.3	122.7	131.1	177.0	146.2
Arizona	91.3	103.7	106.0	103.5	102.5	121.6	96.8	88.0	87.0
Colorado	118.7	90.7	108.9	143.2	191.5	116.4	167.3	134.5	164.0
Idaho	158.8	190.6	266.9	145.9	185.3	145.3	134.1	204.5	267.1
Montana	118.6	122.4	164.3	127.4	136.8	111.7	127.6	199.0	181.7
Nevada	110.6	107.8	146.3	114.6	126.5	129.2	106.8	101.6	122.3
New Mexico	143.4	97.4	108.2	93.9	108.4	120.6	140.3	146.7	152.9
Utah	140.3	138.1	147.8	145.1	130.6	122.9	146.5	435.6	124.1
Wyoming	200.3	128.7	124.3	129.4	130.9	107.7	110.4	157.8	146.6
Pacific Contiguous	132.9	152.8	195.7	137.7	189.3	201.5	415.0	241.3	332.9
California	118.8	119.4	128.0	114.0	181.8	204.5	465.9	247.9	248.4
Oregon	215.6	227.5	211.2	220.3	224.4	123.4	222.5	272.4	947.7
Washington	151.0	218.5	380.0	192.8	203.9	223.2	255.6	200.9	311.5
Pacific Noncontiguous	94.3	117.0	125.7	74.8	110.8	102.1	107.6	110.2	158.7
Alaska	156.7	126.4	236.9	85.1	89.3	106.9	127.8	122.1	177.8
Hawaii	68.1	113.8	89.1	67.9	120.6	97.7	95.2	97.5	143.5
U.S. Total	179.8	179.6	164.5	192.9	339.3	261.5	214.8	341.7	308.8

Any Method — Without Major Event Days

Census Division and State	2013	2014	2015	2016	2017	2018	2019	2020	2021
New England	106.8	108.4	103.2	114.9	125.6	114.5	111.5	131.2	105.1
Connecticut	97.2	116.3	108.4	101.5	100.1	107.4	98.2	98.1	107.3
Maine	126.3	115.3	109.3	122.0	123.6	134.0	127.3	115.7	107.8
Massachusetts	93.7	100.3	101.3	122.5	159.8	107.8	114.1	166.5	99.0
New Hampshire	125.2	109.1	102.1	102.1	116.7	119.7	120.8	112.3	117.9
Rhode Island	79.6	71.1	68.6	71.0	76.3	65.0	66.6	73.1	72.6
Vermont	138.7	145.1	117.6	151.8	130.4	137.4	116.2	132.7	127.5
Middle Atlantic	110.5	105.8	105.6	105.6	107.2	111.9	116.0	110.3	118.5
New Jersey	102.5	90.7	77.5	87.5	81.7	90.9	92.1	92.8	95.7
New York	114.4	114.9	118.8	118.5	116.0	122.3	124.2	116.9	117.1
Pennsylvania	110.3	108.5	110.8	105.6	115.9	116.7	124.6	116.1	135.2
East North Central	134.8	129.4	120.7	132.4	133.9	130.7	134.8	124.3	129.0
Illinois	96.2	96.9	94.4	97.2	97.2	93.3	96.8	87.3	90.4
Indiana	115.6	114.9	117.6	121.6	129.8	125.4	125.0	125.3	125.5
Michigan	217.1	201.5	184.8	190.8	181.5	175.4	181.7	154.6	172.6
Ohio	117.6	118.5	123.6	121.0	126.1	128.6	128.5	120.4	121.2
Wisconsin	112.0	109.5	64.0	115.4	126.1	113.3	123.1	122.8	124.8
West North Central	93.6	93.0	95.1	100.6	104.5	104.4	105.5	103.2	105.0
Iowa	93.8	94.2	92.5	98.2	104.9	98.7	94.9	103.5	98.8
Kansas	96.9	95.0	99.6	107.1	114.4	110.2	113.4	104.2	106.8
Minnesota	101.7	84.8	95.7	102.6	94.8	98.9	100.9	95.0	94.2
Missouri	114.3	103.6	103.3	108.5	113.4	112.5	110.9	111.6	117.5
Nebraska	93.7	95.5	93.8	93.6	103.4	105.0	114.1	123.8	119.0
North Dakota	26.1	50.5	42.7	58.5	75.2	107.2	90.7	86.6	88.7
South Dakota	90.0	111.9	114.9	84.6	77.4	80.9	97.5	81.8	92.3
South Atlantic	103.7	100.3	102.3	107.2	107.5	114.4	112.4	107.4	108.3
Delaware	100.6	96.4	88.8	89.3	83.9	86.5	86.0	89.3	66.8
District of Columbia	140.9	128.1	163.9	140.2	104.0	98.3	112.2	105.4	102.4
Florida	76.4	75.2	73.6	76.3	75.5	79.7	79.1	76.7	77.7
Georgia	83.0	84.8	86.2	100.2	101.8	97.5	102.9	98.0	102.0
Maryland	107.5	92.3	104.4	103.1	99.1	98.5	103.1	100.5	101.5
North Carolina	109.7	116.1	114.8	130.5	128.7	141.5	131.9	119.2	116.0
South Carolina	104.3	89.2	102.3	98.8	105.6	111.9	105.2	106.7	97.7
Virginia	122.4	120.8	118.9	122.4	120.9	135.2	135.8	124.9	131.5
West Virginia	244.4	211.0	213.0	208.7	219.7	218.1	200.4	216.3	215.5
East South Central	92.5	102.6	100.9	102.0	110.2	103.3	106.2	110.3	107.3
Alabama	99.7	110.1	100.4	99.3	108.3	102.8	109.3	112.6	110.3
Kentucky	101.7	108.1	104.9	108.9	109.6	115.6	107.4	113.8	114.8
Mississippi	94.5	125.7	125.1	109.4	134.5	129.8	136.9	142.1	141.8
Tennessee	79.5	84.4	83.8	92.3	97.0	82.7	90.0	94.4	87.6
West South Central	95.8	103.0	110.7	105.9	108.6	110.0	116.5	116.5	123.7
Arkansas	134.9	136.8	123.8	124.2	122.6	141.6	147.1	142.7	141.7
Louisiana	91.4	100.5	104.7	104.7	111.2	112.0	126.3	125.7	123.5
Oklahoma	117.4	101.4	142.1	119.2	122.1	112.2	121.0	131.1	117.8
Texas	88.8	98.5	106.3	101.8	104.3	104.4	108.9	110.2	122.7
Mountain	100.4	103.3	107.1	101.0	109.5	106.0	104.2	107.4	104.1
Arizona	80.9	83.3	85.0	89.8	89.4	100.1	86.8	82.9	73.7
Colorado	83.2	87.0	91.6	89.3	89.8	95.3	97.4	97.5	115.0
Idaho	125.0	159.1	187.1	140.8	153.9	132.4	125.8	149.1	131.3
Montana	109.4	109.6	98.4	114.4	118.6	99.7	102.2	133.4	108.9
Nevada	91.8	99.1	99.4	100.4	108.2	94.3	100.3	95.1	104.1
New Mexico	113.3	96.7	96.0	93.2	105.8	112.8	116.9	127.3	108.1
Utah	136.7	124.9	127.6	109.5	121.2	124.5	122.6	115.1	115.6
Wyoming	108.6	118.7	114.7	110.7	118.4	98.8	101.2	108.7	129.6
Pacific Contiguous	112.6	116.6	116.2	111.6	118.1	116.5	122.6	123.4	140.5
California	109.4	114.2	110.3	105.1	112.8	112.4	118.6	118.3	138.1
Oregon	129.8	123.2	142.4	129.6	128.3	115.1	139.0	138.6	152.5
Washington	121.8	124.5	134.2	139.8	137.2	137.9	135.6	140.1	146.9
Pacific Noncontiguous	76.6	70.7	76.4	79.5	82.3	83.9	102.5	98.0	109.0
Alaska	94.9	102.8	101.3	95.2	75.0	74.2	116.0	110.7	133.8
Hawaii	72.4	63.4	68.2	71.9	86.5	90.0	95.1	87.5	96.5
U.S. Total	106.9	107.7	108.1	110.0	113.6	114.0	116.6	114.7	118.5

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.

Chapter 12

U.S. Territories

Table 12.1 Puerto Rico- Number of Ultimate Customers Served: by Sector, 2011 through 2021

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	1,341,708	132,738	750	--	1,475,196
2012	1,349,750	131,264	721	--	1,481,735
2013	1,340,989	131,034	694	--	1,472,717
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
Year 2019					
January	1,343,649	125,945	594	--	1,470,188
February	1,344,627	125,872	593	--	1,471,092
March	1,345,398	125,610	595	--	1,471,603
April	1,344,357	125,225	590	--	1,470,172
May	1,343,442	125,067	589	--	1,469,098
June	1,341,453	124,798	588	--	1,466,839
July	1,341,100	124,692	588	--	1,466,380
August	1,339,811	124,550	587	--	1,464,948
September	1,338,804	124,409	584	--	1,463,797
October	1,338,280	124,254	583	--	1,463,117
November	1,338,174	124,157	582	--	1,462,913
December	1,337,987	124,366	581	--	1,462,934
Year 2020					
January	1,347,813	125,360	589	--	1,473,762
February	1,347,163	125,296	587	--	1,473,046
March	1,346,663	125,159	585	--	1,472,407
April	1,347,149	125,148	586	--	1,472,883
May	1,348,106	125,175	586	--	1,473,867
June	1,348,993	125,185	587	--	1,474,765
July	1,350,313	125,209	588	--	1,476,110
August	1,352,453	125,317	589	--	1,478,359
September	1,354,645	125,523	588	--	1,480,756
October	1,355,783	125,643	587	--	1,482,013
November	1,356,794	125,745	588	--	1,483,127
December	1,358,407	125,937	588	--	1,484,932
Year 2021					
January	1,351,470	125,338	588	--	1,477,396
February	1,352,011	125,416	588	--	1,478,015
March	1,353,210	125,563	590	--	1,479,363
April	1,354,747	125,718	590	--	1,481,055
May	1,356,556	125,951	590	--	1,483,097
June	1,357,962	126,093	590	--	1,484,645
July	1,358,817	126,125	591	--	1,485,533
August	1,360,699	126,312	592	--	1,487,603
September	1,361,984	126,528	593	--	1,489,105
October	1,363,578	126,710	595	--	1,490,883
November	1,365,047	127,017	593	--	1,492,657
December	1,366,080	127,134	593	--	1,493,807

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, 2011 through 2021 (Megawatthours)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	6,586,877	8,832,355	2,832,127	--	18,251,359
2012	6,770,865	8,879,105	2,500,360	--	18,150,330
2013	6,319,746	8,968,572	2,504,182	--	17,792,500
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
Year 2019					
January	446,630	572,906	154,093	--	1,173,629
February	367,258	487,108	145,670	--	1,000,036
March	448,373	650,652	179,999	--	1,279,023
April	465,255	681,472	164,587	--	1,311,314
May	512,020	655,330	188,520	--	1,355,870
June	567,550	692,815	170,676	--	1,431,041
July	618,052	687,926	181,218	--	1,487,197
August	594,230	718,690	175,077	--	1,487,997
September	585,897	712,800	165,757	--	1,464,454
October	587,379	712,597	195,722	--	1,495,698
November	503,846	677,555	161,844	--	1,343,245
December	508,662	655,234	165,029	--	1,328,925
Year 2020					
January	474,259	601,786	137,176	--	1,213,221
February	372,027	540,764	120,284	--	1,033,075
March	487,654	691,912	184,448	--	1,364,014
April	509,462	476,415	138,227	--	1,124,103
May	650,518	500,890	160,005	--	1,311,414
June	641,098	623,979	173,066	--	1,438,143
July	702,776	692,873	171,516	--	1,567,165
August	649,134	642,660	176,646	--	1,468,439
September	678,434	644,356	166,999	--	1,489,789
October	633,549	704,022	157,242	--	1,494,812
November	578,589	637,772	162,109	--	1,378,470
December	530,637	562,590	161,942	--	1,255,170
Year 2021					
January	532,424	560,917	131,716	--	1,225,056
February	452,617	506,470	147,034	--	1,106,121
March	526,332	637,225	176,561	--	1,340,118
April	539,985	640,589	139,000	--	1,319,574
May	611,123	657,148	159,558	--	1,427,829
June	596,088	629,036	125,964	--	1,351,087
July	657,113	700,286	149,432	--	1,506,831
August	677,918	626,895	217,158	--	1,521,971
September	720,426	669,943	170,459	--	1,560,828
October	627,930	586,868	141,522	--	1,356,320
November	607,586	567,940	136,956	--	1,312,483
December	569,841	701,213	157,840	--	1,428,894

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, 2011 through 2021 (Thousand Dollars)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	1,748,433	2,483,175	662,537	--	4,894,145
2012	1,689,700	2,604,712	647,414	--	4,941,826
2013	1,633,328	2,474,088	570,210	--	4,677,626
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
Year 2019					
January	85,157	133,940	30,481	--	249,578
February	80,236	108,862	29,331	--	218,430
March	97,926	156,348	36,593	--	290,868
April	106,476	176,783	36,066	--	319,326
May	126,532	132,306	40,714	--	299,553
June	115,587	156,609	36,290	--	308,486
July	121,856	140,238	32,435	--	294,529
August	132,042	174,002	37,054	--	343,098
September	113,409	149,848	31,382	--	294,638
October	126,261	162,497	39,071	--	327,830
November	106,555	154,101	33,426	--	294,082
December	117,668	165,076	37,334	--	320,077
Year 2020					
January	122,103	180,295	35,719	--	338,116
February	99,199	161,038	31,851	--	292,087
March	86,911	143,095	33,910	--	263,915
April	85,405	78,985	21,851	--	186,240
May	151,421	118,362	37,143	--	306,927
June	109,032	118,731	29,232	--	256,995
July	141,112	145,083	32,826	--	319,021
August	103,402	124,157	27,208	--	254,768
September	116,298	121,327	28,028	--	265,652
October	97,087	117,254	22,656	--	236,997
November	111,192	135,759	29,720	--	276,671
December	105,886	124,386	30,563	--	260,835
Year 2021					
January	92,458	108,040	21,947	--	222,446
February	71,983	94,985	22,734	--	189,702
March	120,334	149,060	40,528	--	309,922
April	107,979	149,748	23,272	--	281,000
May	120,633	135,551	28,707	--	284,890
June	138,421	151,987	29,364	--	319,772
July	132,591	169,736	31,136	--	333,462
August	157,689	162,524	49,331	--	369,544
September	160,601	179,239	36,921	--	376,761
October	142,406	166,884	32,199	--	341,489
November	138,109	161,498	31,160	--	330,767
December	123,085	170,610	33,003	--	326,699

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, 2011 through 2021 (Cents per Kilowatthour)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2011	26.54	28.11	23.39	--	26.82
2012	24.96	29.34	25.89	--	27.23
2013	25.84	27.59	22.77	--	26.29
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
Year 2019					
January	19.07	23.38	19.78	--	21.27
February	21.85	22.35	20.14	--	21.84
March	21.84	24.03	20.33	--	22.74
April	22.89	25.94	21.91	--	24.35
May	24.71	20.19	21.60	--	22.09
June	20.37	22.60	21.26	--	21.56
July	19.72	20.39	17.90	--	19.80
August	22.22	24.21	21.16	--	23.06
September	19.36	21.02	18.93	--	20.12
October	21.50	22.80	19.96	--	21.92
November	21.15	22.74	20.65	--	21.89
December	23.13	25.19	22.62	--	24.09
Year 2020					
January	25.75	29.96	26.04	--	27.87
February	26.66	29.78	26.48	--	28.27
March	17.82	20.68	18.38	--	19.35
April	16.76	16.58	15.81	--	16.57
May	23.28	23.63	23.21	--	23.40
June	17.01	19.03	16.89	--	17.87
July	20.08	20.94	19.14	--	20.36
August	15.93	19.32	15.40	--	17.35
September	17.14	18.83	16.78	--	17.83
October	15.32	16.65	14.41	--	15.85
November	19.22	21.29	18.33	--	20.07
December	19.95	22.11	18.87	--	20.78
Year 2021					
January	17.37	19.26	16.66	--	18.16
February	15.90	18.75	15.46	--	17.15
March	22.86	23.39	22.95	--	23.13
April	20.00	23.38	16.74	--	21.29
May	19.74	20.63	17.99	--	19.95
June	23.22	24.16	23.31	--	23.67
July	20.18	24.24	20.84	--	22.13
August	23.26	25.93	22.72	--	24.28
September	22.29	26.75	21.66	--	24.14
October	22.68	28.44	22.75	--	25.18
November	22.73	28.44	22.75	--	25.20
December	21.60	24.33	20.91	--	22.86

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, 2011 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2011	10,616	1,447	4	--	12,067
2012	10,736	1,437	4	--	12,177
2013	10,945	1,411	4	--	12,360
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2011	41,144	72,785	22,352	--	136,281
2012	39,935	71,952	22,539	--	134,426
2013	40,719	71,069	23,724	--	135,512
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2011	16,459	26,981	7,457	--	50,898
2012	17,343	29,092	8,233	--	54,668
2013	15,809	27,905	8,339	--	52,053
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2011	40.00	37.07	33.36	--	37.35
2012	43.43	40.43	36.53	--	40.67
2013	38.82	39.26	35.15	--	38.41
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

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

Table 12.6. Guam
By Sector, 2011 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2011	41,255	6,717	--	--	47,972
2012	41,612	6,908	--	--	48,520
2013	41,708	6,890	--	--	48,598
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2011	487,230	1,130,580	--	--	1,617,810
2012	459,499	1,103,976	--	--	1,563,475
2013	462,163	1,104,247	--	--	1,566,410
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2011	112,320	279,555	--	--	391,875
2012	122,259	315,853	--	--	438,112
2013	122,463	315,369	--	--	437,832
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2011	23.05	24.73	--	--	24.22
2012	26.61	28.61	--	--	28.02
2013	26.50	28.56	--	--	27.95
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

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

Table 12.7. Northern Mariana Islands
By Sector, 2011 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2011	11,010	3,673	--	--	14,683
2012	10,657	3,615	--	--	14,272
2013	11,138	3,524	--	--	14,662
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2011	65,962	160,389	--	--	226,351
2012	57,490	157,247	--	--	214,737
2013	54,056	154,505	--	--	208,561
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2011	23,615	66,316	--	--	89,931
2012	20,209	66,437	--	--	86,646
2013	20,128	67,020	--	--	87,148
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2011	35.80	41.35	--	--	39.73
2012	35.15	42.25	--	--	40.35
2013	37.24	43.38	--	--	41.79
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

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

Table 12.8. Virgin Islands
By Sector, 2011 through 2021

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2011	44,993	8,881	1,031	--	54,905
2012	44,780	8,826	1,023	--	54,629
2013	44,736	8,785	1,050	--	54,571
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2011	266,721	151,424	337,652	--	755,797
2012	249,011	156,328	318,578	--	723,917
2013	231,148	123,234	326,158	--	680,540
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2011	94,859	61,096	124,404	--	280,359
2012	109,441	57,856	150,636	--	317,932
2013	112,133	62,760	158,869	--	333,762
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2011	35.56	40.35	36.84	--	37.09
2012	43.95	37.01	47.28	--	43.92
2013	48.51	50.93	48.71	--	49.04
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

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 combusition 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 combusition 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 (available at:http://www.epa.gov/appcdwww/aptb/EPA-600-R-01-109A.pdf).
** 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); available at: http://www.epa.gov/ttn/chief/ap42/

Table A.2. Nitrogen Oxides Uncontrolled Emission Factors

Fuel, Code, Source and Emission Units				Combustion System Type / Firing Configuration								
							Tangential Boiler		All Other Boiler Types			
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	Dry-Bottom Boilers	Wet-Bottom Boilers	Dry-Bottom Boilers	Wet-Bottom Boilers	Combustion Turbine	Internal Combustion Engine
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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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

Notes:
** 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); available at: http://www.epa.gov/ttn/chief/ap42/
3. U.S. Environmental Protection Agency, Factor Information Retrieval (FIRE) Database, Version 6.25; available at: http://www.epa.gov/ttn/chief/software/fire/index.html

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	98.16	
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

		Reduction Factor							
Nitrogen Oxides Control Technology	**EIA Code**	**Coal**	**Residual Fuel Oil and Distallate Fuel Oil**	**Natural Gas**	**Wood**	**Other Solids**	**Other Liquids**	**Other Gases**	**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 Reburning	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%

		Source of Selected Reduction Factor							
Nitrogen Oxides Control Technology	**EIA Code**	**Coal**	**Residual Fuel Oil and Distallate Fuel Oil**	**Natural Gas**	**Wood**	**Other Solids**	**Other Liquids**	**Other Gases**	**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 Reburning	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 Reductiona 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 Distallate 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, Mincipal Solid Waste, Tire-Derived Fuels, Sludge Waste, Agricultural Biproducts, and Other Biomass Solids.
Other Liquids reduction factors are applied to Jet Fuel, Kerosene, Waste Oil, and Other Biomass Liquids.
Other Gases 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 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 (OEPCD), U.S. Energy Information Administration (EIA), U.S. Department of Energy (DOE). OEPCD 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 OEPCD Internet Data Collection (IDC) system. A small number of hard copy forms are keyed into the system by OEPCD 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, as a result 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 subsequent to 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:

$$\text{Percent Change} = \left(\frac{x\ (t_2) - x\ (t_1)}{x\ (t_1)} \right) x\ 100,$$

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.

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 subsequent to 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
	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)
Natural Gas and Other Gases	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
	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 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.

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 a number of 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 were 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 on a monthly basis.

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 taken into account 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 a number of 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 2,600 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 8,400 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 nameplate capacity of 50 MW or more and burn fossil fuels. 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 0.02 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
Prime Movers:
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
Environmental Equipment:
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 usages 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 of time, using a ratio of the actual output to the maximum possible output over that time 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:

$$capacity\ factor = \frac{\sum_{x,m} net\ generation_{x,m}}{\sum_{x,m} capacity_{x,m} * hours\ in\ month_m}$$

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:

$$usage\ factor = \frac{\sum_{x,m} gross\ generation_{x,m}}{\sum_{x,m} capacity_{x,m} * hours\ in\ month_m}$$

Air Emissions

This section describes the methodology for calculating estimated emissions of carbon dioxide (CO_2) from electric generating plants for 1989 through the present, as well as the estimated emissions of sulfur dioxide (SO_2) 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 SO_2 and NOx 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:

Emissions = Quantity of Fuel Consumed x 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 SO_2 emissions. As discussed below, physical quantities are converted to millions of Btus for calculating CO_2 emissions.

For some fuels, the calculation of SO_2 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:

Emissions = Quantity of Fuel Consumed x Emission Factor x Sulfur Content

The fuels that require the percent sulfur as part of the emissions calculation are indicated in Table A.1., which lists the SO_2 emission factors used for this report.

In the case of SO_2 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 or not the boiler is a wet-bottom or dry-bottom design.[3] These distinctions are shown in Tables A.1. and A.2.

For SO_2 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 SO_2 is the fluidized bed boiler, in which the sulfur removal process is integral with the operation of the boiler. The SO_2 emission factors shown in Table A.1. for fluidized bed boilers already account for 90 percent removal of SO_2 since, in effect, the plant has no uncontrolled emissions of this pollutant.

Although SO_2 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 CO_2 are incomplete and are not used in this report.) The CEMS data account for the bulk of SO_2 and NO_x emissions from the electric power industry. For those plants for which CEMS data are available, the EIA estimates of SO_2 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 a number of 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 CO_2 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.

CO_2 Emissions: CO_2 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 CO_2 emissions, the fuel-specific emission factor from Table A.3. is multiplied by the fuel consumption in MMBtu.

The estimation procedure calculates uncontrolled CO_2 emissions. CO_2 control technologies are currently in the early stages of research and there are no commercial systems installed. Therefore, no estimates of controlled CO_2 emissions are made.

SO_2 and NO_x Emissions: To comply with environmental regulations controlling SO_2 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 fuels[4] 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 SO_2 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 SO_2, 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 SO_2 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, with the exception of "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 of time. 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 of these 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 of 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 are 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

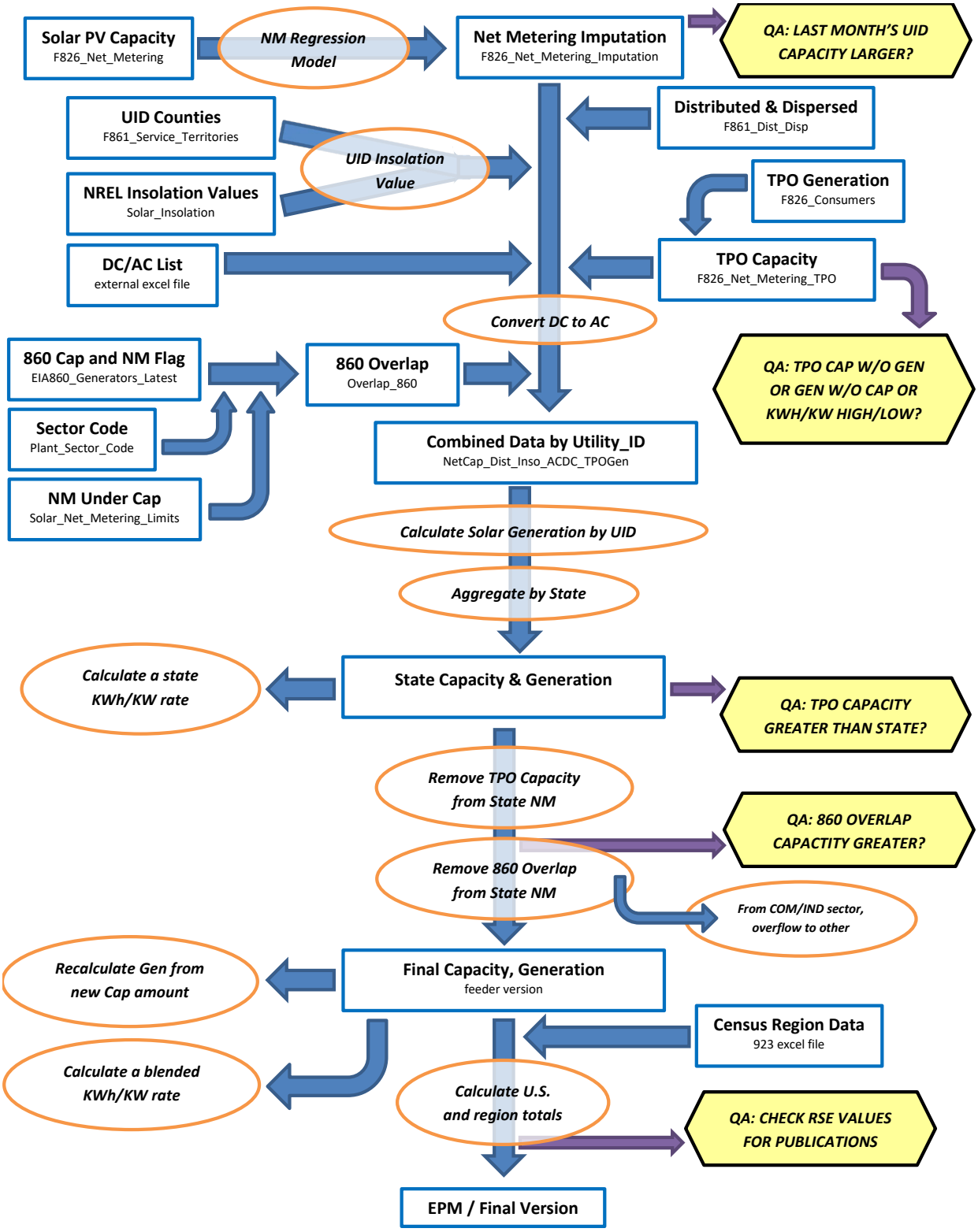
TMY3 (1991-2005) Weather Stations by MSA

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 Worchester 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 Worchester 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.