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Due to updates to Chapter 11 (Distribution System Reliability) tables (11.1 – 11.6) and minor plant-level data corrections in 2020 net generation and natural gas consumption, EIA has revised Tables 1.1, 1.2, 1.3, 3.1.a, 3.2.a, 3.7, 3.11, 5.4.a, 5.4.c, 5.4.d, 5.4.f, 5.12, 6.1, 7.1, 7.4, 7.6, 7.16, 7.20, 8.1, 9.1, 9.5, 11.1, 11.2, 11.3, 11.4, 11.5, and 11.6.

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.



Table of Contents

Chapter 1. National Summary Data

Table 1.1.	Total Electric Power Industry Summary Statistics
Table 1.2.	Summary Statistics for the United States
Table 1.3.	Supply and Disposition of Electricity

Chapter 2. Electricity Sales

Table 2.1.	Number of Ultimate Customers Served by Sector, by Provider
Table 2.2.	Sales and Direct Use of Electricity to Ultimate Customers by Sector, by Provider
Table 2.3.	Revenue from Sales of Electricity to Ultimate Customers by Sector, by Provider
Table 2.4.	Average Price of Electricity to Ultimate Customers by End-Use Sector
Table 2.5.	Sales of Electricity to Ultimate Customers: Total by End-Use Sector
Table 2.6.	Revenue from Sales of Electricity to Ultimate Customers: Total by End-Use Sector
Table 2.7.	Average Price of Electricity to Ultimate Customers: Total by End-Use Sector
Table 2.8.	Sales of Electricity to Ultimate Customers by End-Use Sector, by State
Table 2.9.	Revenue from Sales of Electricity to Ultimate Customers by End-Use Sector, by State
Table 2.10.	Average Price of Electricity to Ultimate Customers by End-Use Sector, by State
Table 2.11.	Ultimate Customers by End-Use Sector, by State
Table 2.12.	Electric Power Industry - Electricity Purchases
Table 2.13.	Electric Power Industry - Electricity Sales for Resale
Table 2.14.	Electric Power Industry - U.S. Electricity Imports from and Electricity Exports to Canada and Mexico

Chapter 3. Net Generation

Table 3.1.A.	Net Generation by Energy Source: Total (All Sectors)
Table 3.1.B.	Net Generation by Other Renewables: Total (All Sectors)
Table 3.2.A.	Net Generation by Energy Source: Electric Utilities
Table 3.2.B.	Net Generation by Other Renewables: Electric Utilities
Table 3.3.A.	Net Generation by Energy Source: Independent Power Producers
Table 3.3.B.	Net Generation by Other Renewables: Independent Power Producers
Table 3.4.A.	Net Generation by Energy Source: Commercial Sector
Table 3.4.B.	Net Generation by Other Renewables: Commercial Sector
Table 3.5.A.	Net Generation by Energy Source: Industrial Sector
Table 3.5.B.	Net Generation by Other Renewables: Industrial Sector
Table 3.6.	Net Generation by Energy Source: Residential Sector
Table 3.7.	Net Generation by State by Sector
Table 3.8.	Net Generation from Coal by State by Sector
Table 3.9.	Net Generation from Petroleum Liquids by State by Sector
Table 3.10.	Net Generation from Petroleum Coke by State by Sector
Table 3.11.	Net Generation from Natural Gas by State by Sector
Table 3.12.	Net Generation from Other Gases by State by Sector
Table 3.13.	Net Generation from Nuclear Energy by State by Sector
Table 3.14.	Net Generation from Hydroelectric (Conventional) Power by State by Sector
Table 3.15.	Net Generation from Other Renewables by State by Sector
Table 3.16.	Net Generation from Hydroelectric (Pumped Storage) Power by State by Sector
Table 3.17.	Net Generation from Other Energy Sources by State by Sector

Table 3.18.	Net Generation from Wind by State by Sector
Table 3.19.	Net Generation from Biomass by State by Sector
Table 3.20.	Net Generation from Geothermal by State by Sector
Table 3.21.	Net Generation from Solar Photovoltaic by State by Sector
Table 3.22.	Net Generation from Solar Thermal by State by Sector
Table 3.23.	Useful Thermal Output by Energy Source: Total Combined Heat and Power (All Sectors)
Table 3.24.	Useful Thermal Output by Energy Source: Electric Power Sector Combined Heat and Power
Table 3.25.	Useful Thermal Output by Energy Source: Commercial Sector Combined Heat and Power
Table 3.26.	Useful Thermal Output by Energy Source: Industrial Sector Combined Heat and Power
Table 3.27.	Gross/Net Generation by Energy Storage Technology: Total (All Sectors)

Chapter 4. Generation Capacity

Table 4.1.	Count of Electric Power Industry Power Plants, by Sector, by Predominant Energy Sources within Plant
Table 4.2.A.	Existing Net Summer Capacity by Energy Source and Producer Type
Table 4.2.B.	Existing Net Summer Capacity of Other Renewable Sources by Producer Type
Table 4.3.	Existing Capacity by Energy Source
Table 4.4.	Existing Capacity by Producer Type
Table 4.5.	Planned Generating Capacity Changes, by Energy Source
Table 4.6.	Capacity Additions, Retirements and Changes by Energy Source
Table 4.7.A.	Net Summer Capacity of Utility Scale Units by Technology and by State
Table 4.7.B.	Net Summer Capacity of Utility Scale Units Using Primarily Renewable Energy Sources and by State
Table 4.7.C.	Net Summer Capacity of Utility Scale Units Using Primarily Fossil Fuels and by State
Table 4.8.A.	Capacity Factors for Utility Scale Generators Primarily Using Fossil Fuels
Table 4.8.B.	Capacity Factors for Utility Scale Generators Not Primarily Using Fossil Fuel
Table 4.8.C.	Usage Factors for Utility Scale Storage Generators
Table 4.9.A.	Total Capacity of Distributed and Dispersed Generators by Technology Type
Table 4.9.B.	Total Capacity of Non Net Metered Distributed Generators by Technology Type and by Sector
Table 4.10.	Net Metering Customers and Capacity by Technology Type, by End Use Sector
Table 4.11.	Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel, by Producer Type
Table 4.12.	Fuel-Switching Capacity of Operable Generators Reporting Petroleum Liquids as the Primary Fuel, by Producer Type
Table 4.13.	Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel, by Type of Prime Mover
Table 4.14.	Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel, by Year of Initial Commercial Operation

Chapter 5. Consumption of Fossil Fuels

Table 5.1.A.	Coal: Consumption (Thousand Tons) for Electricity Generation by Sector
Table 5.1.B.	Coal: Consumption (Thousand Tons) for Useful Thermal Output by Sector
Table 5.1.C.	Coal: Consumption (Thousand Tons) for Electricity Generation and Useful Thermal Output by Sector
Table 5.1.D.	Coal: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.1.E.	Coal: Consumption (Billion Btus) for Useful Thermal Output by Sector

Table 5.1.F.	Coal: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.2.A.	Petroleum Liquids: Consumption (Thousand Barrels) for Electricity Generation by Sector
Table 5.2.B.	Petroleum Liquids: Consumption (Thousand Barrels) for Useful Thermal Output by Sector
Table 5.2.C.	Petroleum Liquids: Consumption (Thousand Barrels) for Electricity Generation and Useful Thermal Output by Sector
Table 5.2.D.	Petroleum Liquids: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.2.E.	Petroleum Liquids: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.2.F.	Petroleum Liquids: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.3.A.	Petroleum Coke: Consumption (Thousand Tons) for Electricity Generation by Sector
Table 5.3.B.	Petroleum Coke: Consumption (Thousand Tons) for Useful Thermal Output by Sector
Table 5.3.C.	Petroleum Coke: Consumption (Thousand Tons) for Electricity Generation and Useful Thermal Output by Sector
Table 5.3.D.	Petroleum Coke: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.3.E.	Petroleum Coke: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.3.F.	Petroleum Coke: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.4.A.	Natural Gas: Consumption (Million Cubic Feet) for Electricity Generation by Sector
Table 5.4.B.	Natural Gas: Consumption (Million Cubic Feet) for Useful Thermal Output by Sector
Table 5.4.C.	Natural Gas: Consumption (Million Cubic Feet) for Electricity Generation and Useful Thermal Output by Sector
Table 5.4.D.	Natural Gas: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.4.E.	Natural Gas: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.4.F.	Natural Gas: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.5.D.	Wood / Wood Waste Biomass: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.5.E.	Wood / Wood Waste Biomass: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.5.F.	Wood / Wood Waste Biomass: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.6.A.	Landfill Gas: Consumption (Million Cubic Feet) for Electricity Generation by Sector
Table 5.6.B.	Landfill Gas: Consumption (Million Cubic Feet) for Useful Thermal Output by Sector
Table 5.6.C.	Landfill Gas: Consumption (Million Cubic Feet) for Electricity Generation and Useful Thermal Output by Sector
Table 5.6.D.	Landfill Gas: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.6.E.	Landfill Gas: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.6.F.	Landfill Gas: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.7.A.	Biogenic Municipal Solid Waste: Consumption (Thousand Tons) for Electricity Generation by Sector
Table 5.7.B.	Biogenic Municipal Solid Waste: Consumption (Thousand Tons) for Useful Thermal Output by Sector
Table 5.7.C.	Biogenic Municipal Solid Waste: Consumption (Thousand Tons) for Electricity Generation and Useful Thermal Output by Sector

Table 5.7.D.	Biogenic Municipal Solid Waste: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.7.E.	Biogenic Municipal Solid Waste: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.7.F.	Biogenic Municipal Solid Waste: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.8.D.	Other Waste Biomass: Consumption (Billion Btus) for Electricity Generation by Sector
Table 5.8.E.	Other Waste Biomass: Consumption (Billion Btus) for Useful Thermal Output by Sector
Table 5.8.F.	Other Waste Biomass: Consumption (Billion Btus) for Electricity Generation and Useful Thermal Output by Sector
Table 5.9.	Consumption of Coal for Electricity Generation by State by Sector
Table 5.10.	Consumption of Petroleum Liquids for Electricity Generation by State by Sector
Table 5.11.	Consumption of Petroleum Coke for Electricity Generation by State by Sector
Table 5.12.	Consumption of Natural Gas for Electricity Generation by State by Sector
Table 5.13.	Consumption of Landfill Gas for Electricity Generation by State by Sector
Table 5.14.	Consumption of Biogenic Municipal Solid Waste for Electricity Generation by State by Sector

Chapter 6. Fossil Fuel Stocks for Electricity Generation

Table 6.1.	Stocks of Coal, Petroleum Liquids, and Petroleum Coke: Electric Power Sector
Table 6.2.	Stocks of Coal, Petroleum Liquids, and Petroleum Coke: Electric Power Sector, by State
Table 6.3.	Stocks of Coal, Petroleum Liquids, and Petroleum Coke: Electric Power Sector, by Census Division
Table 6.4.	Stocks of Coal by Coal Rank: Electric Power Sector

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
Table 7.2.	Receipts and Quality of Coal Delivered for the Electric Power Industry
Table 7.3.	Average Quality of Fossil Fuel Receipts for the Electric Power Industry
Table 7.4.	Weighted Average Cost of Fossil Fuels for the Electric Power Industry
Table 7.5.	Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities
Table 7.6.	Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities (continued)
Table 7.7.	Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers
Table 7.8.	Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers (continued)
Table 7.9.	Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector
Table 7.10.	Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector (continued)
Table 7.11.	Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector
Table 7.12.	Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector (continued)
Table 7.13.	Receipts of Coal Delivered for Electricity Generation by State
Table 7.14.	Receipts of Petroleum Liquids Delivered for Electricity Generation by State
Table 7.15.	Receipts of Petroleum Coke Delivered for Electricity Generation by State
Table 7.16.	Receipts of Natural Gas Delivered for Electricity Generation by State
Table 7.17.	Average Cost of Coal Delivered for Electricity Generation by State
Table 7.18.	Average Cost of Petroleum Liquids Delivered for Electricity Generation by State
Table 7.19.	Average Cost of Petroleum Coke Delivered for Electricity Generation by State
Table 7.20.	Average Cost of Natural Gas Delivered for Electricity Generation by State

Table 7.21.	Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Total(All Sectors) by State
Table 7.22.	Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Electric Utilities by State
Table 7.23.	Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Independent Power Producers by State
Table 7.24.	Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Commercial Sector by State
Table 7.25.	Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Industrial Sector by State

Chapter 8. Electric Power System Characteristics and Performance

Table 8.1.	Average Operating Heat Rate for Selected Energy Sources
Table 8.2.	Average Tested Heat Rates by Prime Mover and Energy Source
Table 8.3.	Revenue and Expense Statistics for Major U.S. Investor-Owned Electric Utilities
Table 8.4.	Average Power Plant Operating Expenses for Major U.S. Investor-Owned Electric Utilities

Chapter 9. Environmental Data

Table 9.1.	Emissions from Energy Consumption at Conventional Power Plants and Combined-Heat-and-Power Plants
Table 9.2.	Quantity and Net Summer Capacity of Operable Environmental Equipment
Table 9.3.	Quantity and Net Summer Capacity of Operable Cooling Systems, by Energy Source and Cooling System Type
Table 9.4.	Average Cost of Existing Flue Gas Desulfurization Units
Table 9.5.	Emissions from Energy Consumption at Conventional Power Plants and Combined-Heat-and-Power Plants, by State

Chapter 10. Demand-Side Management and Advanced Metering

Table 10.1.	Energy Efficiency
Table 10.2.	Energy Efficiency – Life Cycle
Table 10.3.	Demand Response – Yearly Energy and Demand Savings
Table 10.4.	Demand Response – Program Costs
Table 10.5.	Advanced Metering Count by Technology Type

Chapter 11. Distribution System Reliability

Table 11.1.	Reliability Metrics of U.S. Distribution System
Table 11.2.	Reliability Metrics Using IEEE of U.S. Distribution System by State, 2020 and 2019
Table 11.3.	Reliability Metrics Using Any Method of U.S. Distribution System by State, 2020 and 2019
Table 11.4.	SAIDI values of U.S. Distribution System by State, 2013 – 2020
Table 11.5.	SAIFI values of U.S. Distribution System by State, 2013 – 2020
Table 11.6.	CAIDI values of U.S. Distribution System by State, 2013 - 2020

Chapter 12. U.S. Territories

Table 12.1.	Puerto Rico – Number of Ultimate Customers Served, by Sector
Table 12.2.	Puerto Rico – Sales of Electricity to Ultimate Customers, by Sector
Table 12.3.	Puerto Rico – Revenue from Sale of Electricity to Ultimate Customers, by Sector
Table 12.4.	Puerto Rico – Average Price of Electricity to Ultimate Customers, by Sector

Table 12.5.	American Samoa - Sales, Revenue, Average Price and Customer Counts by Sector
Table 12.6.	Guam - Sales, Revenue, Average Price and Customer Counts by Sector
Table 12.7	Northern Mariana Islands – Sales, Revenue, Average Price and Customer Counts by Sector
Table 12.8	U.S. Virgin Islands – Sales, Revenue, Average Price and Customer Counts by Sector

Appendix

Technical Notes

Table A.1.	Sulfur Dioxide Uncontrolled Emission Factors
Table A.2.	Nitrogen Oxides Uncontrolled Emission Factors
Table A.3.	Carbon Dioxide Uncontrolled Emission Factors
Table A.4.	Nitrogen Oxides Control Technology Emissions Reduction Factors
Table A.5.	Unit-of-Measure Equivalents

EIA Electric Industry Data Collection

Chapter 1

National Summary Data

Table 1.1. Total Electric Power Industry Summary Statistics, 2020 and 2019

Net Generation and Consumption of Fuels for January through December														
		Total (All Sectors)			Electric Power Sector				Commercial		Industrial		Residential	
Fuel	Facility Type	Year 2020	Year 2019	Percentage Change	Electric Utilities		Independent Power Producers		Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
					Year 2020	Year 2019	Year 2020	Year 2019						
Net Generation (Thousand Megawatts)														
Coal	Utility Scale Facilities	773,393	964,957	-19.9%	582,374	722,885	185,328	235,847	240	268	5,451	5,957	0	0
Petroleum Liquids	Utility Scale Facilities	9,662	11,522	-16.1%	7,182	8,313	1,984	2,669	97	116	398	424	0	0
Petroleum Coke	Utility Scale Facilities	7,679	6,819	12.6%	5,663	5,112	1,504	1,125	2	5	510	576	0	0
Natural Gas	Utility Scale Facilities	1,624,167	1,585,814	2.4%	812,791	785,026	706,885	692,113	8,110	8,610	96,381	100,065	0	0
Other Gas	Utility Scale Facilities	11,818	12,591	-6.1%	45	154	3,129	3,883	0	0	8,644	8,554	0	0
Nuclear	Utility Scale Facilities	789,879	809,409	-2.4%	428,953	430,672	360,925	378,738	0	0	0	0	0	0
Hydroelectric Conventional	Utility Scale Facilities	285,274	287,874	-0.9%	264,650	262,364	19,409	24,288	214	188	1,001	1,033	0	0
Renewable Sources Excluding Hydroelectric	Utility Scale Facilities	497,729	440,799	12.9%	69,742	55,188	398,200	354,823	3,347	3,426	26,441	27,361	0	0
... Wind	Utility Scale Facilities	337,938	295,882	14.2%	55,554	43,636	281,599	251,968	168	179	617	100	0	0
... Solar Thermal and Photovoltaic	Utility Scale Facilities	89,199	71,937	24.0%	9,945	6,785	78,567	64,480	586	587	101	85	0	0
... Wood and Wood-Derived Fuels	Utility Scale Facilities	36,210	38,543	-6.1%	2,077	2,784	9,135	9,237	91	90	24,908	26,433	0	0
... Other Biomass	Utility Scale Facilities	18,493	18,964	-2.5%	1,252	1,213	14,374	14,878	2,053	2,129	814	743	0	0
... Geothermal	Utility Scale Facilities	15,890	15,473	2.7%	915	771	14,526	14,260	449	442	0	0	0	0
Hydroelectric Pumped Storage	Utility Scale Facilities	-5,321	-5,261	1.1%	-4,326	-4,261	-995	-1,000	0	0	0	0	0	0
Other Energy Sources	Utility Scale Facilities	12,855	13,331	-3.6%	618	551	6,971	7,138	1,035	1,076	4,231	4,567	0	0
All Energy Sources	Utility Scale Facilities	4,007,135	4,127,855	-2.9%	2,167,694	2,266,004	1,683,340	1,699,625	13,046	13,689	143,056	148,537	0	0
Estimated Small Scale Solar Photovoltaic	Small Scale Facilities	41,522	34,957	18.8%	0	0	0	0	12,859	11,002	3,484	3,041	25,179	20,914
Estimated Total Solar Photovoltaic	All Facilities	127,588	103,676	23.1%	9,915	6,757	75,464	61,290	13,445	11,588	3,586	3,127	25,179	20,914
Estimated Total Solar	All Facilities	130,721	106,894	22.3%	9,945	6,785	78,567	64,480	13,445	11,588	3,586	3,127	25,179	20,914
Consumption of Fossil Fuels for Electricity Generation														
Coal (1000 tons)	Utility Scale Facilities	435,351	537,620	-19.0%	325,352	399,545	108,125	135,838	72	76	1,802	2,161	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	18,008	20,836	-13.6%	13,913	15,677	3,447	4,464	238	251	410	444	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	3,077	2,724	13.0%	2,260	2,067	658	478	1	1	158	177	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	11,917,622	11,601,600	2.7%	6,185,671	5,969,422	5,061,569	4,958,798	51,827	55,575	618,556	617,805	0	0
Consumption of Fossil Fuels for Useful Thermal Output														
Coal (1000 tons)	Utility Scale Facilities	10,402	12,397	-16.1%	1,635	2,062	715	1,161	401	443	7,651	8,731	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	1,730	2,162	-20.0%	59	71	179	226	269	419	1,223	1,446	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	780	839	-7.0%	16	17	124	93	3	6	637	724	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	1,292,624	1,196,025	8.1%	47,025	42,645	326,976	317,231	78,844	79,734	839,778	756,415	0	0
Consumption of Fossil Fuels for Electricity Generation and Useful Thermal Output														
Coal (1000 tons)	Utility Scale Facilities	445,753	550,017	-19.0%	326,987	401,607	108,840	136,998	473	519	9,453	10,892	0	0
Petroleum Liquids (1000 barrels)	Utility Scale Facilities	19,738	22,998	-14.2%	13,972	15,748	3,626	4,690	507	670	1,633	1,890	0	0
Petroleum Coke (1000 tons)	Utility Scale Facilities	3,856	3,563	8.2%	2,276	2,083	782	571	4	7	795	900	0	0
Natural Gas (1000 Mcf)	Utility Scale Facilities	13,210,246	12,797,626	3.2%	6,232,696	6,012,067	5,388,545	5,276,029	130,671	135,310	1,458,334	1,374,220	0	0

Sales, Revenue, and Average Price of Electricity to Ultimate Customers for January through December									
Total U.S. Electric Power Industry									
Sector	Sales of Electricity to Ultimate Customers (million kWh)			Revenue from Sales of Electricity to Ultimate Customers (million dollars)			Average Price of Electricity to Ultimate Customers (cents/kWh)		
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Percentage Change
Residential	1,464,605	1,440,289	1.7%	192,663	187,436	2.8%	13.15	13.01	1.1%
Commercial	1,287,440	1,360,877	-5.4%	136,372	145,280	-6.1%	10.59	10.68	-0.8%
Industrial	959,082	1,002,353	-4.3%	63,956	68,285	-6.3%	6.67	6.81	-2.1%
Transportation	6,548	7,632	-14.2%	648	737	-12.1%	9.90	9.66	2.5%
All Sectors	3,717,674	3,811,150	-2.5%	393,639	401,738	-2.0%	10.59	10.54	0.5%

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, 2010 - 2020

(From Table 2.1.) Number of Ultimate Customers

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2010	125,717,935	17,674,338	747,747	239	N/A	144,140,259
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

(From Table 2.2.) Sales to Ultimate Customers

(Thousand Megawatthours)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2010	1,445,708	1,330,199	971,221	7,712	N/A	3,754,841
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

(From Table 2.3.) Revenue From Ultimate Customers

(Million Dollars)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2010	166,778	135,554	65,772	814	N/A	368,918
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

Table 1.2. Summary Statistics for the United States, 2010 - 2020

(From Table 2.4.) Average Price

(Cents per Kilowatthour)

Year	Residential	Commer-cial	Industrial	Transpor-tation	Other	Total
2010	11.54	10.19	6.77	10.56	N/A	9.83
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

(From Tables 2.12. - 2.14.) Trade

(Thousand Megawatthours)

Year	Purchases	Sales for Resale	Imports	Exports
2010	5,770,134	5,929,211	45,083	19,106
2011	5,024,621	5,143,121	52,300	15,049
2012	4,984,933	5,013,765	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

(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 Conventional	Hydro Pumped Storage	Geothermal	Wind
2010	1,847,290	37,061	987,697	11,313	806,968	260,203	-5,501	15,219	94,652
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	1,126,609	12,022	797,166	259,367	-6,174	15,877	181,655
2015	1,352,398	28,249	1,333,482	13,117	797,178	249,080	-5,091	15,918	190,719
2016	1,239,149	24,205	1,378,307	12,807	805,694	267,812	-6,686	15,826	226,993
2017	1,205,835	21,390	1,296,442	12,469	804,950	300,333	-6,495	15,927	254,303
2018	1,149,487	25,226	1,469,133	13,463	807,084	292,524	-5,905	15,967	272,667
2019	964,957	18,341	1,585,814	12,591	809,409	287,874	-5,261	15,473	295,882
2020	773,393	17,341	1,624,167	11,818	789,879	285,274	-5,321	15,890	337,938

Table 1.2. Summary Statistics for the United States, 2010 - 2020

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
2010	423	789	37,172	18,917	12,855	4,125,060	--	423	1,212
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	4,093,538	11,233	26,482	28,924
2015	21,666	3,227	41,929	21,703	13,955	4,077,528	14,139	35,805	39,032
2016	32,670	3,384	40,947	21,813	13,689	4,076,610	18,812	51,483	54,866
2017	50,018	3,269	41,124	21,610	13,008	4,034,183	23,990	74,008	77,277
2018	60,234	3,592	40,936	20,896	12,973	4,178,277	29,539	89,773	93,365
2019	68,719	3,218	38,543	18,964	13,331	4,127,855	34,957	103,676	106,894
2020	86,066	3,133	36,210	18,493	12,855	4,007,135	41,522	127,588	130,721

(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 Conventional	Hydro Pumped Storage	Geothermal	Wind
2010	316,800.1	55,646.9	407,028.4	2,700.3	101,167.4	78,824.7	22,198.9	2,404.6	39,134.5
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

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
2010	393.4	473.0	7,037.3	4,368.5	883.8	1,039,061.8	--	393.4	866.4
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

Table 1.2. Summary Statistics for the United States, 2010 - 2020

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
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

(From Chapter 5.) Consumption of Fossil Fuels

Year	For Electricity Generation				For Useful Thermal Output			
	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)
2010	979,684	65,071	7,680,185	90,058	21,727	10,161	821,775	172,081
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	10,833,043	78,757	13,813	7,261	1,205,962	274,612
2019	537,620	34,454	11,601,600	71,854	12,397	6,357	1,196,025	209,000
2020	435,351	33,391	11,917,622	69,609	10,402	5,629	1,292,624	199,076

Year	Total			
	Coal (Thousand Tons)	Petroleum (Thousand Barrels)	Natural Gas (Millions of Cubic Feet)	Other Gas (Millions of BTU)
2010	1,001,411	75,231	8,501,960	262,138
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	12,039,005	353,369
2019	550,017	40,811	12,797,626	280,854
2020	445,753	39,020	13,210,246	268,685

(From Tables 6.1. and 7.1)

Year End Stocks, Annual Receipts and Average Costs

Year	Electric Power Sector Year End Stocks		Annual Receipts at All Electricity Generators			Average Cost of Fuel at All Electricity Generators		
	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)
2010	174,917	39,936	979,918	75,285	8,673,070	2.27	9.54	5.09
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

Table 1.2. Summary Statistics for the United States, 2010 - 2020

2014	151,548	36,459	854,560	54,488	8,431,423	2.37	11.60	5.00
2015	195,548	38,396	782,929	48,804	9,842,581	2.22	6.74	3.23
2016	162,009	34,818	650,770	37,637	10,271,180	2.11	5.24	2.87
2017	137,687	32,407	642,364	32,672	9,628,733	2.06	7.10	3.37
2018	102,793	28,674	596,215	37,341	10,885,764	2.06	9.68	3.55
2019	128,176	28,317	560,153	24,556	11,693,486	2.02	9.07	2.89
2020	133,327	27,552	439,636	24,846	11,971,059	1.92	5.98	2.40

(From Table 9.1.) Emissions

(Thousand Metric Tons)

Year	Carbon Dioxide (CO ₂)	Sulfur Dioxide (SO ₂)	Nitrogen Oxides (NO _x)
2010	2,388,596	5,400	2,491
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	1,657	1,506
2018	1,874,346	1,571	1,485
2019	1,724,396	1,267	1,342
2020	1,553,037	1,023	1,211

(From Tables 10.1. and 10.2.) Energy Efficiency

Year	Savings		Incremental Costs		Life Cycle Savings		Life Cycle Costs	
	Energy (MWh)	Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)	Energy (MWh)	Peak Demand (MW)	Incentives (thousand dollars)	Other (thousand dollars)
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

(From Tables 10.3. and 10.4.) Demand Response

Year	Yearly Energy and Demand Savings				Program Costs	
	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
2018	9,752,238	1,426,211	30,895	12,522	1,189,284	360,718

Table 1.2. Summary Statistics for the United States, 2010 - 2020

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

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 municipal 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, commercial power-producing facilities, and industrial power-producing facilities. Receipts, cost, and quality data are collected from plants above a 50 MW threshold, and imputed for plants between 1 and 50 MW. Therefore, there may be a notable increase in fuel receipts beginning with 2008 data. Receipts of coal include imported coal.

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, 2010 through 2020

(From Chapter 3.) Supply (Thousand Megawatthours)

Year	Generation					Total Imports	Total Supply
	Electric Utilities	IPP (Non-CHP)	IPP (CHP)	Commercial Sector	Industrial Sector		
2010	2,471,632	1,338,712	162,042	8,592	144,082	45,083	4,170,143
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	2,382,473	1,404,256	150,205	12,520	144,083	66,510	4,160,048
2015	2,315,323	1,448,726	155,173	12,595	145,712	75,770	4,153,298
2016	2,304,923	1,459,558	153,532	12,706	145,890	72,716	4,149,326
2017	2,274,279	1,464,503	138,584	13,060	143,758	65,685	4,099,868
2018	2,337,250	1,538,235	142,682	13,312	146,798	58,261	4,236,538
2019	2,266,004	1,559,801	139,824	13,689	148,537	59,052	4,186,908
2020	2,167,694	1,546,400	136,940	13,046	143,056	61,449	4,068,584

(From Chapter 2.) Disposition (Thousand Megawatthours)

Year	Sales to Ultimate Customers			Direct Use	Total Exports	Losses and Unaccounted For	Total Disposition
	Full-Service Providers	Energy-Only Providers	Facility Direct				
2010	3,365,338	379,277	10,226	131,910	19,106	264,285	4,170,143
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	243,476	4,160,048
2015	3,191,425	554,944	12,624	141,168	9,100	244,039	4,153,298
2016	3,189,541	560,015	12,905	139,837	6,214	240,814	4,149,326
2017	3,149,973	559,727	13,656	140,959	9,371	226,182	4,099,868
2018	3,260,944	584,077	14,164	143,904	13,804	219,644	4,236,538
2019	3,213,129	583,431	14,591	143,270	20,008	212,479	4,186,908
2020	3,144,898	558,832	13,944	138,690	14,135	198,085	4,068,584

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, 2010 through 2020

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2010	125,717,935	17,674,338	747,747	239	144,140,259
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
Full-Service Providers					
2010	121,555,089	16,675,341	718,652	198	138,949,280
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
Energy-Only Providers					
2010	4,162,846	998,997	29,095	41	5,190,979
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

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, 2010 through 2020 (Megawatthours)

Year	Residential	Commercial	Industrial	Transportation	Total	Direct Use	Total End Use
Total Electric Industry							
2010	1,445,708,403	1,330,199,364	971,221,189	7,712,412	3,754,841,368	131,910,249	3,886,751,617
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	138,689,682	3,856,364,163
Full-Service Providers							
2010	1,409,355,244	1,123,328,313	840,439,791	2,440,567	3,375,563,915	N/A	3,375,563,915
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
Energy-Only Providers							
2010	36,353,159	206,871,051	130,781,398	5,271,845	379,277,453	N/A	379,277,453
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

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, 2010 through 2020 (Million Dollars)

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2010	166,778	135,554	65,772	814	368,918
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
Full-Service Providers					
2010	161,221	110,298	54,582	233	326,334
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
Competitive Service Providers					
2010	5,557	25,256	11,190	581	42,584
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
Energy-Only Providers					
2010	3,226	16,994	8,664	424	29,308
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
Delivery-Only Providers					
2010	2,330	8,262	2,526	157	13,276
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

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 2010 through 2020 (Cents per kilowatthour)

Year	Residential	Commercial	Industrial	Transportation	Total
Total Electric Industry					
2010	11.54	10.19	6.77	10.56	9.83
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
Full-Service Providers					
2010	11.44	9.82	6.49	9.55	9.67
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
Competitive Service Providers					
2010	15.29	12.21	8.56	11.03	11.23
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
Energy-Only Providers					
2010	8.88	8.21	6.62	8.05	7.73
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
Delivery-Only Providers					
2010	6.41	3.99	1.93	2.98	3.50
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

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, 2010 - December 2020 (Thousand Megawatthours)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	1,445,708	1,330,199	971,221	7,712	3,754,841
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
Year 2018					
January	148,917	114,925	79,890	745	344,478
February	113,751	102,685	75,661	634	292,732
March	107,218	108,108	81,053	620	296,999
April	95,454	103,331	79,083	599	278,468
May	103,848	113,175	85,638	587	303,248
June	129,913	122,011	85,536	623	338,083
July	153,566	131,522	89,301	634	375,023
August	153,496	134,848	92,106	680	381,131
September	128,910	122,033	85,679	640	337,263
October	107,049	116,133	85,301	631	309,114
November	103,790	104,983	81,118	616	290,507
December	123,180	107,998	80,306	655	312,140
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

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, 2010 - December 2020 (Million Dollars)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	166,778	135,554	65,772	814	368,918
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
Year 2018					
January	18,193	12,053	5,543	70	35,859
February	14,364	10,936	5,128	62	30,490
March	13,905	11,365	5,373	58	30,701
April	12,290	10,806	5,194	57	28,347
May	13,625	11,890	5,819	55	31,388
June	16,922	13,223	6,136	64	36,344
July	20,156	14,466	6,540	64	41,226
August	20,351	14,874	6,673	65	41,963
September	16,775	13,085	6,038	64	35,962
October	13,751	12,506	5,864	62	32,182
November	13,389	11,069	5,557	60	30,074
December	15,311	11,155	5,353	64	31,883
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

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.

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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, 2010 - December 2020 (Cents per Kilowatthour)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	11.54	10.19	6.77	10.56	9.83
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
Year 2018					
January	12.22	10.49	6.94	9.39	10.41
February	12.63	10.65	6.78	9.78	10.42
March	12.97	10.51	6.63	9.40	10.34
April	12.88	10.46	6.57	9.47	10.18
May	13.12	10.51	6.79	9.39	10.35
June	13.03	10.84	7.17	10.23	10.75
July	13.13	11.00	7.32	10.05	10.99
August	13.26	11.03	7.25	9.50	11.01
September	13.01	10.72	7.05	10.05	10.66
October	12.85	10.77	6.87	9.79	10.41
November	12.90	10.54	6.85	9.70	10.35
December	12.43	10.33	6.67	9.71	10.21
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

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.

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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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	48,328	46,173	47,469	51,503	15,583	16,234	467	547	111,846	114,458
Connecticut	12,982	12,494	11,146	12,158	2,860	3,072	126	177	27,114	27,900
Maine	4,905	4,794	3,816	4,148	2,626	2,790	0	0	11,347	11,732
Massachusetts	20,345	19,315	23,121	25,337	6,220	6,342	323	343	50,009	51,337
New Hampshire	4,790	4,507	4,030	4,281	1,873	1,924	0	0	10,694	10,712
Rhode Island	3,148	2,983	3,551	3,644	635	695	18	27	7,352	7,350
Vermont	2,157	2,082	1,806	1,934	1,369	1,412	0	0	5,331	5,428
Middle Atlantic	137,241	133,150	139,685	153,246	71,953	74,961	3,246	3,740	352,126	365,097
New Jersey	29,677	28,613	35,316	38,013	6,735	6,990	270	301	71,998	73,917
New York	52,257	50,141	68,989	75,091	16,610	17,548	2,550	2,820	140,407	145,600
Pennsylvania	55,307	54,396	35,381	40,143	48,607	50,423	425	619	139,721	145,580
East North Central	190,311	186,187	168,614	180,212	177,267	192,318	508	636	536,700	559,352
Illinois	46,171	45,220	45,487	49,279	40,362	43,250	450	570	132,469	138,319
Indiana	32,878	33,249	21,996	23,546	22,164	23,615	18	21	97,156	102,104
Michigan	35,863	33,496	35,491	37,861	25,654	29,886	4	6	97,012	101,249
Ohio	52,553	52,226	43,204	46,009	46,823	50,249	35	38	142,615	148,522
Wisconsin	22,847	21,995	22,436	23,546	22,164	23,615	1	1	67,448	69,158
West North Central	106,677	106,595	96,335	102,643	92,537	93,550	41	49	295,591	302,838
Iowa	14,567	14,495	11,606	12,310	24,467	24,239	0	0	50,640	51,043
Kansas	13,592	13,631	14,843	15,916	11,048	11,613	0	0	39,484	41,160
Minnesota	22,936	22,288	21,527	22,904	19,572	21,748	20	25	64,055	66,966
Missouri	34,950	35,691	27,931	30,133	12,824	13,010	20	24	75,726	78,858
Nebraska	10,515	10,308	9,090	9,457	11,566	10,619	0	0	31,172	30,383
North Dakota	5,047	5,125	6,642	7,035	10,131	9,399	0	0	21,819	21,559
South Dakota	5,070	5,057	4,696	4,888	2,929	2,924	0	0	12,696	12,869
South Atlantic	372,703	370,430	301,366	318,135	135,627	141,243	1,217	1,383	810,913	831,191
Delaware	4,991	5,004	4,082	4,421	2,055	2,044	0	0	11,129	11,469
District of Columbia	2,453	2,547	6,815	7,952	186	180	332	350	9,786	11,028
Florida	133,299	127,182	92,494	96,567	16,573	16,514	75	85	242,440	240,348
Georgia	58,220	59,331	44,302	47,412	30,808	32,393	141	164	133,470	139,301
Maryland	27,306	27,534	26,452	28,893	3,382	3,718	489	575	57,629	60,721
North Carolina	58,642	59,853	45,905	49,173	25,828	27,391	16	19	130,391	136,436
South Carolina	30,826	31,160	20,834	22,168	25,077	26,877	0	0	76,737	80,206
Virginia	46,089	46,666	53,527	53,981	17,474	17,598	164	190	117,254	118,435
West Virginia	10,877	11,153	6,956	7,567	14,243	14,527	0	0	32,077	33,221
East South Central	116,346	120,280	86,034	93,078	94,302	98,863	0	0	296,682	312,247
Alabama	31,331	32,416	21,308	23,076	30,757	32,603	0	0	83,396	88,095
Kentucky	25,935	26,573	18,061	19,612	27,804	29,161	0	0	71,800	75,345
Mississippi	17,995	18,718	13,185	14,239	15,302	15,994	0	0	46,482	48,951
Tennessee	41,085	42,573	33,480	36,151	20,439	21,105	0	0	95,004	99,829
West South Central	228,068	229,006	197,376	198,321	198,512	207,836	185	199	624,140	635,361
Arkansas	17,980	18,732	11,110	11,949	16,760	17,412	0	0	45,851	48,093
Louisiana	30,441	30,986	22,399	24,284	36,276	37,846	11	12	89,127	93,129
Oklahoma	23,232	23,806	18,699	20,086	20,368	20,904	0	0	62,299	64,796
Texas	156,415	155,481	145,168	142,002	125,107	131,674	174	187	426,863	429,343
Mountain	108,571	100,458	95,288	98,070	83,044	84,813	159	185	287,061	283,525
Arizona	38,707	34,720	29,128	29,415	14,113	13,783	11	11	81,960	77,929
Colorado	20,483	19,405	20,042	21,111	15,431	15,891	94	114	56,050	56,521
Idaho	8,971	8,697	6,310	6,441	9,181	8,847	0	0	24,461	23,985
Montana	5,380	5,308	4,702	4,956	4,502	5,057	0	0	14,584	15,321
Nevada	14,322	12,868	11,984	11,681	11,925	12,426	4	8	38,234	36,982
New Mexico	7,282	6,872	8,407	9,029	9,088	8,980	0	0	24,777	24,880
Utah	10,547	9,740	11,395	11,860	9,672	9,491	49	52	31,663	31,143
Wyoming	2,880	2,849	3,320	3,575	9,131	10,339	0	0	15,331	16,763
Pacific Contiguous	151,421	143,323	150,063	159,972	85,690	87,648	726	893	387,900	391,836
California	94,935	87,524	107,006	114,279	47,631	47,808	603	768	250,175	250,379
Oregon	19,628	19,286	15,749	16,423	15,617	14,668	26	27	51,019	50,404
Washington	36,859	36,512	27,307	29,270	22,442	25,172	98	99	86,706	91,053
Pacific Noncontiguous	4,938	4,688	5,208	5,697	4,568	4,887	0	0	14,714	15,272
Alaska	2,089	1,928	2,524	2,639	1,304	1,252	0	0	5,918	5,819
Hawaii	2,849	2,760	2,684	3,058	3,263	3,635	0	0	8,797	9,453
U.S. Total	1,464,605	1,440,289	1,287,440	1,360,877	959,082	1,002,353	6,548	7,632	3,717,674	3,811,150

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, 2020 and 2019 (Million Dollars)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	10,269	9,744	7,518	8,412	2,008	2,122	41	50	19,835	20,328
Connecticut	2,949	2,733	1,848	2,036	374	413	17	24	5,188	5,206
Maine	825	858	479	532	233	257	0	0	1,537	1,647
Massachusetts	4,469	4,233	3,707	4,255	902	936	20	21	9,098	9,445
New Hampshire	912	904	621	682	246	252	0	0	1,779	1,838
Rhode Island	693	648	566	597	100	108	4	5	1,363	1,359
Vermont	421	369	296	309	153	156	0	0	871	834
Middle Atlantic	21,866	21,039	17,412	18,705	4,589	4,925	371	418	44,238	45,088
New Jersey	4,757	4,535	4,361	4,651	674	710	25	27	9,816	9,922
New York	9,597	8,995	10,045	10,557	921	985	310	346	20,872	20,884
Pennsylvania	7,512	7,509	3,006	3,498	2,994	3,230	37	45	13,549	14,282
East North Central	25,799	24,929	17,311	18,378	12,011	13,290	34	45	55,156	56,642
Illinois	6,022	5,891	4,161	4,476	2,703	2,822	30	39	12,915	13,228
Indiana	4,217	4,183	2,465	2,594	2,950	3,335	2	2	9,634	10,114
Michigan	5,831	5,273	4,156	4,313	1,858	2,114	0	1	11,847	11,701
Ohio	6,457	6,464	4,116	4,470	2,884	3,292	2	3	13,460	14,229
Wisconsin	3,272	3,118	2,413	2,525	1,616	1,727	0	0	7,300	7,370
West North Central	12,762	12,643	9,300	9,911	6,575	6,802	4	4	28,641	29,360
Iowa	1,815	1,806	1,156	1,230	1,572	1,600	0	0	4,543	4,636
Kansas	1,747	1,733	1,544	1,638	806	853	0	0	4,098	4,224
Minnesota	3,020	2,907	2,245	2,369	1,502	1,637	2	2	6,768	6,915
Missouri	3,923	3,976	2,495	2,734	877	925	2	2	7,297	7,636
Nebraska	1,135	1,110	808	837	854	813	0	0	2,797	2,759
North Dakota	527	528	599	634	736	747	0	0	1,861	1,908
South Dakota	596	584	453	469	228	228	0	0	1,277	1,281
South Atlantic	43,946	44,201	27,288	29,764	8,474	9,175	99	109	79,807	83,250
Delaware	627	628	375	421	138	157	0	0	1,140	1,207
District of Columbia	310	331	808	975	15	15	32	33	1,164	1,354
Florida	15,021	14,883	8,181	8,950	1,186	1,283	6	7	24,394	25,103
Georgia	6,996	6,979	4,466	4,752	1,777	1,999	8	10	13,247	13,740
Maryland	3,551	3,611	2,572	2,880	264	290	38	42	6,426	6,823
North Carolina	6,673	6,834	3,989	4,331	1,630	1,727	1	2	12,293	12,893
South Carolina	3,941	4,048	2,157	2,345	1,499	1,643	0	0	7,597	8,036
Virginia	5,543	5,632	4,086	4,417	1,097	1,206	14	16	10,740	11,271
West Virginia	1,284	1,255	654	693	868	875	0	0	2,806	2,823
East South Central	13,189	13,668	9,232	9,997	5,236	5,699	0	0	27,657	29,364
Alabama	3,940	4,061	2,460	2,658	1,807	1,940	0	0	8,207	8,659
Kentucky	2,818	2,869	1,867	1,991	1,477	1,624	0	0	6,163	6,484
Mississippi	2,011	2,109	1,369	1,498	862	936	0	0	4,242	4,543
Tennessee	4,420	4,629	3,535	3,851	1,090	1,198	0	0	9,046	9,678
West South Central	25,487	25,587	15,433	16,257	10,038	11,277	12	13	50,970	53,134
Arkansas	1,871	1,835	957	1,050	967	1,068	0	0	3,816	3,952
Louisiana	2,943	3,035	1,983	2,164	1,770	1,979	1	1	6,697	7,179
Oklahoma	2,350	2,430	1,463	1,603	939	1,059	0	0	4,752	5,092
Texas	18,322	18,287	11,031	11,440	6,342	7,171	11	12	35,706	36,910
Mountain	12,767	11,866	9,010	9,373	5,192	5,372	15	17	26,983	26,629
Arizona	4,751	4,317	2,944	3,014	857	865	1	1	8,553	8,197
Colorado	2,531	2,363	2,063	2,203	1,155	1,175	8	10	5,757	5,750
Idaho	892	860	489	494	572	538	0	0	1,953	1,892
Montana	605	591	494	516	233	276	0	0	1,332	1,382
Nevada	1,624	1,545	893	939	669	763	0	1	3,187	3,247
New Mexico	942	860	864	884	507	492	0	0	2,313	2,236
Utah	1,101	1,013	943	979	571	567	5	5	2,619	2,565
Wyoming	320	318	321	345	628	695	0	0	1,269	1,358
Pacific Contiguous	25,244	22,432	22,612	23,067	8,827	8,474	73	80	56,756	54,053
California	19,413	16,764	18,757	19,052	6,797	6,406	61	68	45,029	42,290
Oregon	2,192	2,124	1,418	1,453	890	859	2	2	4,502	4,438
Washington	3,639	3,545	2,436	2,561	1,140	1,209	10	9	7,226	7,325
Pacific Noncontiguous	1,334	1,327	1,257	1,416	1,005	1,148	0	0	3,596	3,891
Alaska	472	442	494	522	207	212	0	0	1,173	1,176
Hawaii	863	885	763	894	798	936	0	0	2,423	2,715
U.S. Total	192,663	187,436	136,372	145,280	63,956	68,285	648	737	393,639	401,738

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, 2020 and 2019 (Cents per Kilowatthour)

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	21.25	21.10	15.84	16.33	12.89	13.07	8.75	9.20	17.73	17.76
Connecticut	22.71	21.87	16.58	16.75	13.07	13.44	13.34	13.69	19.13	18.66
Maine	16.81	17.89	12.56	12.83	8.86	9.22	--	--	13.54	14.04
Massachusetts	21.97	21.92	16.03	16.80	14.51	14.76	6.24	6.15	18.19	18.40
New Hampshire	19.04	20.05	15.41	15.93	13.11	13.09	--	--	16.63	17.15
Rhode Island	22.01	21.73	15.94	16.38	15.76	15.59	22.23	18.49	18.54	18.49
Vermont	19.54	17.71	16.39	15.98	11.20	11.05	--	--	16.33	15.36
Middle Atlantic	15.93	15.80	12.47	12.21	6.38	6.57	11.42	11.17	12.56	12.35
New Jersey	16.03	15.85	12.35	12.23	10.01	10.16	9.19	8.80	13.63	13.42
New York	18.36	17.94	14.56	14.06	5.54	5.61	12.14	12.28	14.87	14.34
Pennsylvania	13.58	13.80	8.50	8.71	6.16	6.41	8.58	7.26	9.70	9.81
East North Central	13.56	13.39	10.27	10.20	6.78	6.91	6.75	7.08	10.28	10.13
Illinois	13.04	13.03	9.15	9.08	6.70	6.52	6.56	6.91	9.75	9.56
Indiana	12.83	12.58	11.21	11.03	6.98	7.36	10.21	11.03	9.92	9.91
Michigan	16.26	15.74	11.71	11.39	7.24	7.07	11.39	10.56	12.21	11.56
Ohio	12.29	12.38	9.53	9.72	6.16	6.55	6.71	6.83	9.44	9.58
Wisconsin	14.32	14.18	10.75	10.72	7.29	7.31	14.64	13.85	10.82	10.66
West North Central	11.96	11.86	9.65	9.66	7.11	7.27	8.62	8.72	9.69	9.69
Iowa	12.46	12.46	9.96	9.99	6.43	6.60	--	--	8.97	9.08
Kansas	12.85	12.71	10.40	10.29	7.30	7.35	--	--	10.38	10.26
Minnesota	13.17	13.04	10.43	10.34	7.67	7.53	9.40	9.49	10.57	10.33
Missouri	11.22	11.14	8.93	9.07	6.84	7.11	7.84	7.89	9.64	9.68
Nebraska	10.80	10.77	8.89	8.85	7.38	7.65	--	--	8.97	9.08
North Dakota	10.44	10.30	9.02	9.01	7.26	7.94	--	--	8.53	8.85
South Dakota	11.75	11.55	9.65	9.59	7.79	7.81	--	--	10.06	9.96
South Atlantic	11.79	11.93	9.05	9.36	6.25	6.50	8.13	7.92	9.84	10.02
Delaware	12.56	12.55	9.18	9.53	6.70	7.70	--	--	10.24	10.52
District of Columbia	12.63	12.98	11.85	12.26	7.99	8.22	9.60	9.50	11.90	12.27
Florida	11.27	11.70	8.85	9.27	7.15	7.65	7.69	8.32	10.06	10.44
Georgia	12.02	11.76	10.08	10.02	5.77	6.17	5.39	5.85	9.93	9.86
Maryland	13.01	13.12	9.72	9.97	7.81	7.80	7.79	7.37	11.15	11.24
North Carolina	11.38	11.42	8.69	8.81	6.31	6.30	7.67	8.20	9.43	9.45
South Carolina	12.78	12.99	10.35	10.58	5.98	6.11	--	--	9.90	10.02
Virginia	12.03	12.07	7.63	8.18	6.28	6.85	8.77	8.27	9.16	9.52
West Virginia	11.80	11.25	9.40	9.16	6.09	6.02	--	--	8.75	8.49
East South Central	11.34	11.36	10.73	10.74	5.55	5.76	--	--	9.32	9.40
Alabama	12.57	12.53	11.55	11.52	5.87	5.95	--	--	9.84	9.83
Kentucky	10.87	10.80	10.34	10.15	5.31	5.57	--	--	8.58	8.61
Mississippi	11.17	11.27	10.38	10.52	5.63	5.85	--	--	9.13	9.28
Tennessee	10.76	10.87	10.56	10.65	5.33	5.68	--	--	9.52	9.69
West South Central	11.17	11.17	7.82	8.20	5.06	5.43	6.65	6.61	8.17	8.36
Arkansas	10.41	9.80	8.61	8.78	5.89	6.13	13.32	11.73	8.32	8.22
Louisiana	9.67	9.80	8.85	8.91	4.88	5.23	8.77	9.08	7.51	7.71
Oklahoma	10.12	10.21	7.82	7.98	4.61	5.07	--	--	7.63	7.86
Texas	11.71	11.76	7.60	8.06	5.07	5.45	6.52	6.44	8.36	8.60
Mountain	11.76	11.81	9.46	9.56	6.25	6.33	9.33	9.29	9.40	9.39
Arizona	12.27	12.43	10.11	10.25	6.07	6.28	9.38	9.68	10.44	10.52
Colorado	12.36	12.18	10.29	10.43	7.48	7.40	8.64	8.70	10.27	10.17
Idaho	9.95	9.89	7.75	7.67	6.23	6.08	--	--	7.99	7.89
Montana	11.24	11.13	10.51	10.41	5.18	5.45	--	--	9.13	9.02
Nevada	11.34	12.00	7.45	8.04	5.61	6.14	8.84	8.51	8.33	8.78
New Mexico	12.94	12.51	10.28	9.79	5.58	5.48	--	--	9.33	8.99
Utah	10.44	10.40	8.27	8.26	5.90	5.98	10.69	10.62	8.27	8.24
Wyoming	11.11	11.18	9.65	9.64	6.88	6.73	--	--	8.27	8.10
Pacific Contiguous	16.67	15.65	15.07	14.42	10.30	9.67	10.03	8.98	14.63	13.79
California	20.45	19.15	17.53	16.67	14.27	13.40	10.07	8.91	18.00	16.89
Oregon	11.17	11.01	9.00	8.85	5.70	5.86	9.46	9.14	8.82	8.81
Washington	9.87	9.71	8.92	8.75	5.08	4.80	9.93	9.45	8.33	8.04
Pacific Noncontiguous	27.02	28.30	24.13	24.86	22.01	23.50	--	--	24.44	25.48
Alaska	22.57	22.92	19.58	19.80	15.88	16.94	--	--	19.82	20.22
Hawaii	30.28	32.06	28.41	29.23	24.45	25.76	--	--	27.55	28.72
U.S. Total	13.15	13.01	10.59	10.68	6.67	6.81	9.90	9.66	10.59	10.54

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, 2019 and 2020

Census Division and State	Residential		Commercial		Industrial		Transportation		All Sectors	
	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	6,447,975	6,411,587	892,596	889,951	22,812	23,310	6	6	7,363,389	7,324,854
Connecticut	1,521,112	1,510,966	154,894	151,979	4,130	4,204	3	3	1,680,139	1,667,152
Maine	717,559	710,869	97,575	99,738	2,681	2,893	--	--	817,815	813,500
Massachusetts	2,817,549	2,802,099	411,448	410,995	10,877	11,020	2	2	3,239,876	3,224,116
New Hampshire	633,234	627,257	109,068	108,247	3,180	3,193	--	--	745,482	738,697
Rhode Island	441,573	444,216	60,057	60,672	1,692	1,758	1	1	503,323	506,647
Vermont	316,948	316,180	59,554	58,320	252	242	--	--	376,754	374,742
Middle Atlantic	16,305,858	16,251,104	2,390,991	2,361,895	34,626	33,176	19	21	18,731,494	18,646,196
New Jersey	3,618,587	3,596,834	526,725	523,796	11,629	11,781	6	7	4,156,947	4,132,418
New York	7,239,162	7,235,400	1,143,347	1,121,107	7,535	7,607	8	8	8,390,052	8,364,122
Pennsylvania	5,448,109	5,418,870	720,919	716,992	15,462	13,788	5	6	6,184,495	6,149,656
East North Central	20,440,854	20,287,076	2,535,283	2,515,638	55,891	55,588	11	10	23,032,039	22,858,312
Illinois	5,339,610	5,314,522	628,868	622,802	5,561	5,737	3	3	5,974,042	5,943,064
Indiana	2,920,266	2,887,031	363,465	358,791	19,383	18,805	1	1	3,303,115	3,264,628
Michigan	4,423,595	4,384,305	546,115	544,690	5,728	5,580	2	2	4,975,292	4,934,723
Ohio	5,014,959	4,980,931	636,519	632,794	19,746	19,796	3	2	5,671,227	5,633,525
Wisconsin	2,742,424	2,720,287	360,316	356,561	5,621	5,522	2	2	3,108,363	3,082,372
West North Central	9,644,469	9,570,282	1,478,118	1,465,470	128,394	126,985	3	3	11,250,984	11,162,740
Iowa	1,403,386	1,392,979	243,762	241,734	9,507	8,565	--	--	1,656,655	1,643,278
Kansas	1,282,532	1,274,955	236,430	235,236	23,979	24,230	--	--	1,542,941	1,534,421
Minnesota	2,464,753	2,446,111	303,702	299,995	9,042	8,998	1	1	2,777,498	2,755,105
Missouri	2,833,918	2,811,863	387,872	384,787	10,108	10,096	2	2	3,231,900	3,206,748
Nebraska	864,842	855,619	155,282	153,814	62,716	62,204	--	--	1,082,840	1,071,637
North Dakota	387,506	385,038	76,834	76,355	8,933	8,803	--	--	473,273	470,196
South Dakota	407,532	403,717	74,236	73,549	4,109	4,089	--	--	485,877	481,355
South Atlantic	28,773,632	28,325,448	3,878,717	3,835,185	84,927	85,778	13	13	32,737,289	32,246,424
Delaware	446,276	439,167	56,764	55,802	878	865	--	--	503,918	495,834
District of Columbia	290,466	282,277	26,672	26,471	1	1	3	3	317,142	308,752
Florida	9,731,237	9,565,846	1,256,569	1,240,902	22,587	23,579	2	2	11,010,395	10,830,329
Georgia	4,487,431	4,411,521	592,220	585,573	23,822	23,539	1	1	5,103,474	5,020,634
Maryland	2,376,983	2,352,535	256,738	256,165	8,966	8,935	5	5	2,642,692	2,617,640
North Carolina	4,695,096	4,620,856	710,220	705,587	9,822	9,871	1	1	5,415,139	5,336,315
South Carolina	2,377,020	2,330,903	395,288	385,285	3,714	3,703	--	--	2,776,022	2,719,891
Virginia	3,506,844	3,464,677	437,477	434,175	3,693	3,723	1	1	3,948,015	3,902,576
West Virginia	862,279	857,666	146,769	145,225	11,444	11,562	--	--	1,020,492	1,014,453
East South Central	8,533,282	8,448,897	1,422,861	1,414,750	24,580	24,787	--	--	9,980,723	9,888,434
Alabama	2,280,741	2,249,425	371,888	369,798	7,240	7,245	--	--	2,659,869	2,626,468
Kentucky	2,013,910	1,991,137	312,014	309,830	5,982	6,147	--	--	2,331,906	2,307,114
Mississippi	1,308,149	1,293,419	237,370	237,625	10,343	10,379	--	--	1,555,862	1,541,423
Tennessee	2,930,482	2,914,916	501,589	497,497	1,015	1,016	--	--	3,433,086	3,413,429
West South Central	16,837,380	16,636,131	2,323,836	2,316,766	339,848	306,569	6	6	19,501,070	19,259,472
Arkansas	1,413,490	1,396,870	197,869	198,861	35,978	34,864	2	2	1,647,339	1,630,597
Louisiana	2,112,928	2,095,466	296,222	295,153	19,276	19,373	1	1	2,428,427	2,409,993
Oklahoma	1,795,629	1,777,156	290,192	285,641	20,466	19,905	--	--	2,106,289	2,082,702
Texas	11,515,333	11,366,639	1,539,553	1,537,111	264,126	232,427	3	3	13,319,015	13,136,180
Mountain	10,153,253	9,994,348	1,449,704	1,431,391	98,064	96,422	5	5	11,701,026	11,522,166
Arizona	2,896,339	2,853,183	331,229	326,191	7,595	7,899	2	2	3,235,165	3,187,275
Colorado	2,400,357	2,370,164	384,518	380,609	15,209	14,386	1	1	2,800,085	2,765,160
Idaho	782,559	763,841	114,707	112,137	28,759	28,493	--	--	926,025	904,471
Montana	522,382	516,052	110,977	109,459	11,414	11,286	--	--	644,773	636,797
Nevada	1,226,566	1,204,996	169,743	167,628	3,316	3,265	1	1	1,399,626	1,375,890
New Mexico	905,885	895,086	145,459	144,960	9,436	9,456	--	--	1,060,780	1,049,502
Utah	1,143,136	1,116,145	135,113	132,082	11,001	10,343	1	1	1,289,251	1,258,571
Wyoming	276,029	274,881	57,958	58,325	11,334	11,294	--	--	345,321	344,500
Pacific Contiguous	18,788,088	18,597,101	2,354,980	2,348,236	201,224	199,658	20	19	21,344,312	21,145,014
California	13,834,719	13,707,126	1,725,533	1,718,601	148,130	147,660	13	12	15,708,395	15,573,399
Oregon	1,785,131	1,763,783	239,645	240,488	26,353	25,169	2	2	2,051,131	2,029,442
Washington	3,168,238	3,126,192	389,802	389,147	26,741	26,829	5	5	3,584,786	3,542,173
Pacific Noncontiguous	757,210	727,642	121,727	114,958	1,945	1,949	--	--	880,882	844,549
Alaska	315,208	289,290	61,993	55,080	1,129	1,126	--	--	378,330	345,496
Hawaii	442,002	438,352	59,734	59,878	816	823	--	--	502,552	499,053
U.S. Total	136,682,001	135,249,616	18,848,813	18,694,240	992,311	954,222	83	83	156,523,208	154,898,161

Table 2.12. Electric Power Industry - Electricity Purchases, 2010 through 2020 (Thousand Megawatthours)

Year	Electric Utilities	Energy-Only Providers	Independent Power Producers	Combined Heat and Power	U.S. Total
2011	2,245,381	2,679,803	21,844	77,593	5,024,621
2012	2,148,346	2,740,043	17,726	78,818	4,984,933
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

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, 2010 through 2020 (Thousand Megawatthours)

Year	Electric Utilities	Energy-Only Providers	Independent Power Producers	Combined Heat and Power	U.S. Total
2010	1,541,554	2,946,452	1,404,137	37,068	5,929,211
2011	1,529,434	2,206,981	1,372,306	34,400	5,143,121
2012	1,456,774	2,135,819	1,384,155	37,017	5,013,765
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

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, 2010-2020 (Megawatthours)

Year	Canada		Mexico		U.S. Total	
	Imports from	Exports to	Imports from	Exports to	Imports	Exports
2010	43,763,091	18,481,678	1,320,095	624,502	45,083,186	19,106,180
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

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: 2016-2020, 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), 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities												Small Scale Generation	Net Generation From Utility and Small Scale Facilities		
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other 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																
2010	1,847,290	23,337	13,724	987,697	11,313	806,968	260,203	1,212	165,961	-5,501	12,855	4,125,060	N/A	N/A	N/A	
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	13,463	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	1,124,838	12,853	789,016	289,565	9,036	244,472	-4,881	13,588	4,085,964	N/A	N/A	N/A	
2014	1,581,710	18,276	11,955	1,126,609	12,022	797,166	259,367	17,691	261,522	-8,174	13,393	4,093,538	11,233	26,482	28,204	
2015	1,352,398	17,372	10,877	1,333,482	13,117	797,178	249,080	24,893	270,268	-5,091	13,955	4,077,528	14,139	35,805	39,032	
2016	1,239,149	13,008	11,197	1,378,307	12,807	805,694	267,812	38,054	305,579	-6,886	13,889	4,076,610	18,812	51,483	54,866	
2017	1,205,835	12,414	8,976	1,296,442	12,469	804,950	300,333	53,287	332,963	-6,495	13,008	4,034,183	23,990	74,008	77,277	
2018	1,149,487	16,245	8,981	1,469,133	13,463	807,084	292,524	63,825	350,467	-5,905	12,973	4,178,277	29,539	89,773	93,365	
2019	964,957	11,522	6,819	1,585,814	12,591	809,409	287,874	71,937	368,862	-5,261	13,331	4,127,855	34,957	103,676	106,894	
2020	773,393	9,662	7,679	1,624,167	11,818	789,879	285,274	89,199	408,531	-5,321	12,855	4,007,135	41,522	127,588	130,721	
Year 2018																
January	119,284	5,555	965	110,293	1,097	74,649	25,064	3,319	32,443	-547	1,109	373,230	1,619	4,810	4,938	
February	82,050	804	754	98,512	1,092	64,790	24,902	3,896	29,415	-315	994	306,894	1,766	5,472	5,663	
March	80,626	830	642	106,524	1,158	67,033	25,861	5,056	33,200	-490	1,108	321,547	2,434	7,233	7,490	
April	73,346	872	666	98,371	1,099	59,133	28,115	6,057	32,446	-377	1,028	300,756	2,740	6,462	6,796	
May	85,227	1,040	517	115,284	1,167	67,320	20,444	6,849	30,419	-390	1,070	338,948	3,011	9,430	9,860	
June	101,503	1,068	834	130,826	1,091	69,688	27,597	7,415	31,193	-433	1,104	371,886	3,059	9,957	10,474	
July	115,376	988	913	164,749	1,172	72,456	25,100	8,755	23,316	-644	1,111	411,290	3,146	9,521	9,901	
August	115,129	1,047	879	161,676	1,301	72,282	22,017	6,695	28,601	-747	1,146	408,028	3,017	9,303	9,712	
September	96,544	1,055	799	141,786	1,104	64,725	19,166	5,961	24,718	-603	1,004	356,258	2,674	8,205	8,635	
October	87,264	1,015	562	123,142	1,016	59,397	19,548	4,970	27,426	-492	1,084	324,932	2,382	7,087	7,361	
November	92,819	1,006	656	108,168	1,045	63,954	21,913	3,743	28,334	-343	1,075	322,369	1,905	5,480	5,684	
December	100,319	966	795	109,802	1,120	71,657	22,797	3,110	30,956	-522	1,139	342,139	1,775	4,792	4,885	
Year 2019																
January	100,905	1,413	800	121,589	1,025	73,701	24,798	3,580	30,829	-323	1,194	359,509	1,903	5,373	5,483	
February	79,929	815	692	112,142	948	64,715	22,881	3,836	28,455	-389	1,003	315,026	2,059	5,763	5,895	
March	78,352	816	574	115,813	1,086	65,080	26,334	5,899	32,036	-409	1,077	326,657	2,974	6,553	6,813	
April	59,922	782	401	104,059	948	60,581	27,820	6,732	34,486	-103	1,015	286,663	3,245	6,672	9,997	
May	71,885	937	737	117,059	1,054	67,124	31,982	7,162	31,736	-368	1,117	330,423	3,549	10,375	10,711	
June	78,540	957	563	137,836	1,009	68,805	28,078	7,971	28,514	-385	1,101	352,988	3,604	11,136	11,575	
July	100,771	1,004	791	171,955	1,185	72,199	24,875	8,133	28,591	-622	1,157	410,038	3,760	11,493	11,893	
August	94,040	1,047	684	174,968	1,147	71,911	22,579	7,877	26,546	-579	1,211	401,430	3,611	11,075	11,488	
September	85,707	923	581	149,697	1,112	66,064	18,526	6,817	30,622	-671	1,142	360,518	3,205	9,728	10,022	
October	66,777	942	200	130,948	924	62,033	18,306	6,093	33,402	-373	1,100	320,352	2,833	8,628	8,926	
November	75,549	899	333	117,910	1,047	64,125	20,218	4,364	30,830	-509	1,082	315,849	2,228	6,450	6,592	
December	72,581	988	463	131,839	1,107	73,074	21,478	3,453	32,815	-529	1,133	338,402	2,047	5,430	5,500	
Year 2020																
January	65,140	915	633	135,916	1,155	74,170	24,498	4,459	34,248	-377	1,093	341,850	2,313	6,665	6,771	
February	56,201	749	540	127,871	1,152	65,911	25,868	5,561	34,972	-247	971	319,550	2,623	6,006	6,184	
March	50,731	691	704	125,905	1,047	63,997	23,823	6,350	35,601	-353	1,092	309,587	3,424	6,581	9,774	
April	40,675	628	614	110,301	802	59,170	23,194	7,921	35,533	-325	1,073	279,583	3,816	11,431	11,736	
May	46,527	691	610	116,943	884	64,338	29,976	9,653	34,247	-367	1,090	304,593	4,267	13,508	13,921	
June	65,283	818	801	142,833	867	67,205	27,999	9,654	35,766	-499	1,018	351,745	4,269	13,553	13,923	
July	89,708	914	837	181,260	937	69,385	26,742	10,610	28,760	-686	1,093	409,562	4,405	14,586	15,015	
August	91,145	887	787	173,390	1,094	68,982	23,284	9,315	29,072	-784	1,107	398,280	4,199	13,158	13,514	
September	68,407	755	439	141,164	1,013	65,727	18,679	7,732	28,851	-525	1,016	333,258	3,722	11,185	11,454	
October	59,805	876	351	131,242	918	59,362	18,810	7,085	34,438	-423	1,067	313,531	3,310	10,137	10,395	
November	61,182	800	612	109,658	950	61,760	20,893	5,767	38,932	-369	1,067	301,250	2,687	8,290	8,453	
December	78,588	940	751	127,685	999	69,871	21,508	5,091	38,112	-368	1,169	344,346	2,489	7,489	7,580	

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, Form EIA-961M, Form EIA-961 and from estimation methods described in the technical notes.

Estimated small scale solar photovoltaic generation and small scale solar photovoltaic capacity are based on data from Form EIA-961M, Form EIA-961 and from estimation methods described in the technical notes.

Table 3.1.B. Net Generation from Renewable Sources: Total (All Sectors), 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2010	94,652	423	789	37,172	8,377	7,927	2,613	15,219	260,203	427,376	N/A	N/A	N/A
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	272,867	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	36,210	10,212	6,080	2,201	15,890	285,274	783,003	41,522	127,588	130,721
Year 2018													
January	25,599	3,191	128	3,686	964	588	265	1,341	25,064	60,826	1,619	4,810	4,938
February	23,189	3,705	191	3,235	906	559	251	1,274	24,902	58,213	1,766	5,472	5,663
March	26,464	4,799	258	3,547	972	597	253	1,367	25,861	64,117	2,434	7,233	7,490
April	26,431	5,743	314	3,102	920	566	239	1,188	28,115	66,618	2,740	8,482	8,796
May	23,953	6,419	430	3,352	930	573	228	1,393	30,444	67,712	3,011	9,430	9,860
June	24,703	6,898	517	3,471	889	629	202	1,300	27,597	66,206	3,059	9,957	10,474
July	16,447	6,374	380	3,749	909	638	202	1,370	25,100	55,170	3,146	9,521	9,901
August	19,846	6,286	409	3,630	919	630	208	1,367	22,017	55,313	3,017	9,303	9,712
September	18,520	5,531	430	3,281	836	562	192	1,328	19,166	49,844	2,674	8,205	8,635
October	21,194	4,695	275	3,216	918	594	231	1,273	19,548	51,944	2,392	7,087	7,361
November	22,016	3,575	168	3,264	920	584	220	1,331	21,913	53,990	1,905	5,480	5,648
December	24,306	3,018	92	3,404	951	616	233	1,446	22,797	56,863	1,775	4,792	4,885
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	26,444	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	3,325	921	520	213	1,148	24,498	63,205	2,313	6,665	6,771
February	29,110	5,383	178	3,119	855	464	194	1,230	25,868	66,401	2,623	8,006	8,184
March	29,320	6,157	193	3,169	911	535	201	1,465	23,823	65,773	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	2,918	882	517	190	1,362	29,976	73,877	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	3,021	841	527	173	1,331	26,742	66,111	4,405	14,586	15,015
August	23,029	8,960	356	3,159	852	538	171	1,323	23,284	61,671	4,199	13,158	13,514
September	23,186	7,463	269	2,894	816	492	174	1,288	18,679	55,262	3,722	11,185	11,454
October	28,823	6,827	258	2,839	820	486	183	1,288	18,810	60,334	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	3,149	838	535	177	1,403	21,508	64,711	2,489	7,489	7,580

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.

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

Beginning with 2008 data, the Form EIA-923, Power Plant Operations Report, replaced the following: Form EIA-906, Power Plant Report; Form EIA-920, Combined Heat and Power Plant Report; Form EIA-423, Monthly Cost and Quality of Fuels for Electric Plants Report; and Federal Energy Regulatory Commission, 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, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other	Total
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Nuclear	Hydroelectric Conventional	Solar						
Annual Totals														
2010	1,378,028	17,258	8,807	392,616	52	424,843	236,104	101	17,826	-4,466	462	2,471,632		
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	1,146,460	9,892	5,064	504,958	0	394,823	292,936	639	27,376	-4,202	603	2,339,172		
2013	1,188,452	9,446	9,522	501,427	78	406,114	283,040	943	31,474	-3,773	615	2,388,056		
2014	1,173,073	10,696	9,147	501,414	112	419,871	238,195	1,218	33,278	-5,144	622	2,382,473		
2015	998,385	10,386	8,278	617,817	199	416,680	229,640	1,404	35,992	-4,105	558	2,315,323		
2016	922,399	9,069	8,881	654,780	154	424,400	247,787	1,995	40,666	-5,629	421	2,304,923		
2017	893,639	8,567	6,711	623,834	149	424,485	275,677	3,348	42,763	-5,448	553	2,274,279		
2018	863,505	10,108	6,817	720,206	151	424,251	267,336	4,916	44,184	-4,785	561	2,337,250		
2019	722,885	8,313	5,112	785,026	154	430,672	262,364	6,785	48,403	-4,261	551	2,266,004		
2020	582,374	7,182	5,663	812,791	45	428,953	264,650	9,945	59,797	-4,326	618	2,167,694		
Year 2018														
January	88,718	2,491	770	55,797	26	39,366	23,106	288	4,399	-475	41	214,525		
February	61,138	617	575	48,715	17	33,941	22,864	314	3,853	-226	38	171,847		
March	58,606	595	491	52,161	16	35,262	23,638	446	4,276	-408	48	175,132		
April	55,261	632	477	48,151	28	30,590	25,598	480	4,120	-295	39	165,093		
May	64,034	745	336	58,251	11	34,479	28,055	463	3,427	-309	45	189,538		
June	77,899	756	670	66,774	13	36,437	25,778	503	3,691	-339	50	212,232		
July	88,102	668	716	81,297	15	38,293	23,303	477	2,824	-522	55	235,229		
August	87,358	711	686	78,025	24	38,885	20,050	476	3,122	-626	56	228,767		
September	73,021	781	639	68,655	3	34,377	17,368	436	3,288	-500	47	198,116		
October	64,902	751	378	59,071	0	31,364	17,571	418	3,447	-405	43	177,541		
November	68,864	703	477	51,796	0	33,043	19,630	325	3,631	-254	50	178,265		
December	75,578	657	601	51,512	0	38,223	20,373	290	4,105	-426	49	190,963		
Year 2019														
January	74,950	884	634	59,221	12	39,806	22,391	379	3,980	-247	42	202,052		
February	59,507	580	564	55,553	22	34,243	20,610	403	3,431	-310	30	174,633		
March	56,462	616	464	57,144	31	34,213	23,839	598	4,349	-309	31	177,458		
April	44,228	545	276	51,618	0	31,063	25,266	687	4,820	-28	35	159,460		
May	55,130	685	552	59,603	0	35,416	29,266	889	4,057	-305	41	185,133		
June	60,199	723	398	70,460	23	36,847	25,767	662	3,649	-299	39	198,468		
July	77,085	713	551	85,011	18	39,023	22,846	673	3,631	-505	36	229,082		
August	72,032	802	501	87,745	16	39,218	20,913	640	3,139	-470	66	224,601		
September	64,955	694	460	74,912	10	34,770	17,045	641	4,185	-583	59	197,147		
October	49,301	701	146	64,537	0	32,289	16,625	574	4,600	-316	58	168,516		
November	56,455	638	251	56,508	19	32,923	18,467	464	4,237	-424	56	168,594		
December	53,561	730	315	62,718	2	39,861	19,330	395	4,325	-465	57	180,830		
Year 2020														
January	48,396	749	493	67,507	0	40,721	22,509	540	4,647	-325	55	185,292		
February	41,703	366	574	64,180	8	36,079	23,948	611	5,264	-182	53	172,604		
March	38,368	484	521	64,042	19	35,133	21,612	795	5,045	-252	53	165,620		
April	29,904	437	455	56,821	6	32,827	20,901	910	4,988	-252	47	148,843		
May	34,966	509	436	61,187	8	34,392	27,694	1,086	4,690	-273	52	164,746		
June	49,771	612	647	72,247	1	36,388	26,532	1,013	5,087	-420	43	191,922		
July	69,484	677	664	89,658	6	37,583	25,226	1,052	3,708	-595	53	227,516		
August	71,205	671	607	85,828	0	37,644	21,967	955	4,194	-675	57	222,353		
September	53,212	571	289	68,566	0	36,043	17,567	823	4,765	-438	43	181,441		
October	44,186	666	169	65,256	0	31,641	17,451	775	5,420	-346	48	165,266		
November	43,774	586	438	54,198	-1	32,605	19,456	676	6,231	-281	55	157,738		
December	57,404	645	578	63,503	-1	37,995	19,787	710	5,758	-287	59	186,152		

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.

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Table 3.2.B. Net Generation from Renewable Sources: Electric Utilities, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2010	13,089	101	0	2,328	879	154	259	1,118	236,104	254,031	N/A	N/A	N/A
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
Year 2018													
January	3,832	286	1	364	102	11	17	73	23,106	27,793	0	286	288
February	3,363	311	3	291	92	12	12	82	22,864	27,031	0	311	314
March	3,717	437	9	343	100	17	10	89	23,638	28,361	0	437	446
April	3,707	472	9	221	94	16	10	73	25,598	30,199	0	472	480
May	2,990	460	3	228	93	20	6	90	28,055	31,945	0	460	463
June	3,227	498	5	278	75	18	7	85	25,778	29,972	0	498	503
July	2,297	472	6	327	77	21	14	88	23,303	26,604	0	472	477
August	2,612	470	6	317	73	21	11	88	20,050	23,647	0	470	476
September	2,875	432	4	234	68	15	11	85	17,368	21,092	0	432	436
October	3,007	413	5	251	76	18	14	81	17,571	21,437	0	413	418
November	3,164	324	1	277	76	17	14	84	19,630	23,586	0	324	325
December	3,676	290	1	233	77	17	12	90	20,373	24,769	0	290	290
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

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.

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

Table 3.3.A. Net Generation by Energy Source: Independent Power Producers, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Renewable Sources Excluding Hydroelectric and Solar	Hydroelectric Pumped Storage	Other	Total	
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Nuclear	Hydroelectric Conventional	Solar							
Annual Totals															
2010	449,709	5,117	3,497	508,774	2,915	382,126	22,351	1,105	119,851	-1,035	6,345	1,500,754			
2011	416,783	3,655	3,431	511,447	2,911	374,906	26,117	1,511	140,442	-828	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	382,802	22,018	7,782	181,263	-908	6,742	1,515,857			
2014	395,701	6,789	1,410	531,758	3,246	377,295	19,861	16,086	196,723	-1,030	6,622	1,554,482			
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	307,283	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			
Year 2018															
January	29,839	2,951	137	45,672	318	35,283	1,856	3,000	25,364	-72	575	144,924			
February	20,261	133	126	41,986	320	30,849	1,929	3,549	23,179	-89	543	122,786			
March	21,377	186	96	46,436	331	31,770	2,114	4,563	26,260	-82	564	133,615			
April	17,506	199	137	42,464	326	28,553	2,392	5,522	25,872	-78	527	123,416			
May	20,600	248	124	48,762	379	32,841	2,264	6,335	24,380	-81	526	138,366			
June	22,994	268	100	55,398	303	33,251	1,724	6,845	24,920	-95	582	146,291			
July	26,647	260	139	73,967	344	34,163	1,700	6,214	17,729	-123	586	161,625			
August	27,157	292	139	74,126	369	33,396	1,858	6,158	20,775	-121	579	164,730			
September	22,941	233	108	64,337	328	30,348	1,692	5,475	18,927	-103	515	144,800			
October	21,834	218	126	55,462	255	28,033	1,855	4,508	21,450	-87	556	134,209			
November	23,393	245	140	47,623	311	30,911	2,150	3,386	22,175	-88	651	130,797			
December	24,120	254	144	49,384	350	33,434	2,277	2,792	24,124	-96	574	137,357			
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	328	28,518	2,428	6,023	27,340	-78	546	124,919			
May	18,258	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	45,760	166	26,343	2,166	6,948	28,162	-73	590	120,861			
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			

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.

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Table 3.3.B. Net Generation from Renewable Sources: Independent Power Producers, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2010	81,547	316	789	9,118	7,227	6,742	1,116	14,101	22,351	143,306	N/A	N/A	N/A
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
Year 2018													
January	21,738	2,873	127	956	786	492	124	1,268	1,856	30,221	0	2,873	3,000
February	19,802	3,361	188	846	741	472	125	1,192	1,929	28,657	0	3,361	3,549
March	22,718	4,314	248	857	794	494	120	1,278	2,114	32,936	0	4,314	4,563
April	22,700	5,216	306	727	751	466	114	1,115	2,392	33,786	0	5,216	5,522
May	20,941	5,898	427	810	765	461	110	1,293	2,264	32,969	0	5,898	6,325
June	21,456	6,333	512	890	745	516	98	1,214	1,724	33,489	0	6,333	6,845
July	14,135	5,839	374	944	761	524	83	1,281	1,700	25,642	0	5,839	6,214
August	17,218	5,754	403	900	774	517	87	1,279	1,858	28,792	0	5,754	6,158
September	15,627	5,049	425	810	700	465	82	1,243	1,692	26,094	0	5,049	5,475
October	18,162	4,238	270	738	770	489	98	1,192	1,855	27,812	0	4,238	4,508
November	18,827	3,219	167	753	774	487	86	1,247	2,150	27,712	0	3,219	3,386
December	20,606	2,701	91	789	802	508	98	1,322	2,277	29,194	0	2,701	2,792
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	23,806	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

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, 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, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities												Small Scale Generation	Net Generation From Utility and Small Scale Facilities		
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other 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	Estimated Total Solar	
Annual Totals																
2010	1,111	117	7	4,725	3	0	80	5	1,709	0	834	8,592	N/A	N/A	N/A	
2011	1,049	86	3	5,487	3	0	26	84	2,392	0	950	10,080	N/A	N/A	N/A	
2012	863	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	596	247	8	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	
Year 2018																
January	40	41	1	671	0	0	19	29	229	0	84	1,114	552	581	581	
February	32	7	1	626	0	0	7	31	206	0	72	995	605	636	636	
March	27	7	1	647	0	0	21	43	227	0	83	1,058	820	863	863	
April	24	8	0	585	0	0	24	50	217	0	81	989	907	957	957	
May	21	7	0	658	0	0	24	57	221	0	90	1,076	992	1,048	1,048	
June	20	7	0	737	0	0	21	62	224	0	92	1,163	1,003	1,065	1,065	
July	21	11	0	875	0	0	19	59	223	0	90	1,298	1,036	1,094	1,094	
August	23	9	0	892	0	0	17	56	230	0	90	1,318	993	1,049	1,049	
September	24	7	1	771	0	0	16	46	213	0	80	1,156	893	938	938	
October	20	7	1	668	0	0	14	39	223	0	83	1,055	786	826	826	
November	25	12	1	622	0	0	12	29	212	0	77	993	623	652	652	
December	24	9	1	669	0	0	17	25	262	0	88	1,095	589	614	614	
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	0	648	0	0	19	54	216	0	88	1,053	1,032	1,086	1,086	
May	18	7	0	663	0	0	22	63	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	12	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	548	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	

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, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2010	16	5	0	21	256	1,031	386	0	80	1,794	N/A	N/A	N/A
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
Year 2018													
January	18	29	0	9	61	86	56	0	19	277	552	581	581
February	15	31	0	6	57	74	53	0	19	256	605	636	636
March	18	43	0	5	63	85	56	0	21	292	820	863	863
April	16	50	0	2	60	84	55	0	24	291	907	957	957
May	14	57	0	4	57	92	54	0	24	302	992	1,048	1,048
June	14	62	0	8	55	94	54	0	21	308	1,003	1,065	1,065
July	10	59	0	9	58	92	55	0	19	301	1,036	1,094	1,094
August	11	56	0	11	59	92	57	0	17	304	993	1,049	1,049
September	12	46	0	8	57	81	54	0	16	274	893	938	938
October	15	39	0	4	60	86	58	0	14	276	786	826	826
November	16	29	0	2	57	81	56	0	16	256	623	652	652
December	15	25	0	8	59	91	55	33	17	304	589	614	614
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

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.

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

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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, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities											Small Scale Generation	Net Generation From Utility and Small Scale Facilities		
	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other 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	Estimated Total Solar
Annual Totals															
2010	18,441	844	1,414	81,583	8,343	0	1,668	2	26,574	0	5,214	144,082	N/A	N/A	N/A
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	8,331	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	8,864	0	1,292	16	28,659	0	4,978	144,083	1,139	1,156	1,156
2015	10,896	563	900	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	26,339	0	4,231	143,056	3,484	3,586	3,586
Year 2018															
January	687	73	57	8,153	752	0	83	2	2,450	0	410	12,668	146	149	149
February	619	47	52	7,184	755	0	89	3	2,177	0	340	11,265	155	158	158
March	616	41	54	7,280	811	0	87	4	2,437	0	413	11,742	221	225	225
April	535	33	51	7,172	811	0	102	4	2,237	0	380	11,258	241	245	245
May	572	41	56	7,614	748	0	101	5	2,390	0	409	11,987	287	271	271
June	590	34	64	7,918	775	0	74	5	2,358	0	381	12,199	268	273	273
July	606	49	57	8,609	813	0	78	5	2,540	0	381	13,138	277	282	282
August	590	35	54	8,634	909	0	91	5	2,474	0	421	13,212	266	273	273
September	558	34	51	8,022	773	0	90	4	2,290	0	363	12,185	242	247	247
October	507	39	58	7,941	762	0	108	4	2,307	0	402	12,127	220	224	224
November	536	46	38	8,127	734	0	116	3	2,318	0	396	12,313	174	177	177
December	506	46	49	8,237	771	0	130	2	2,464	0	429	12,724	157	160	160
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	394	12,099	254	261	261
April	475	40	45	7,552	619	0	106	8	2,110	0	346	11,391	278	286	286
May	479	30	41	7,951	730	0	95	9	2,150	0	361	11,854	309	317	317
June	484	31	47	8,196	880	0	104	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	77	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	2,353	0	343	13,163	192	196	196
February	506	45	39	8,154	784	0	108	6	2,229	0	297	12,168	212	218	218
March	476	31	40	8,222	755	0	123	7	2,309	0	333	12,296	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	105	12	2,152	0	371	11,277	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	2,131	0	348	12,266	370	383	383
August	435	23	47	8,497	777	0	62	11	2,167	0	352	12,371	358	369	369
September	459	25	45	7,883	718	0	71	9	2,107	0	327	11,426	321	330	330
October	449	34	47	7,515	705	0	53	8	2,155	0	375	11,340	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	12,629	203	208	208

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, 2010 - 2020
(Thousand Megawatthours)

Period	Generation at Utility Scale Facilities										Small Scale Generation	Generation From Utility and Small Scale Facilities	
	Wind	Solar Photovoltaic	Solar Thermal	Wood and Wood-Derived Fuels	Landfill Gas	Biogenic Municipal Solid Waste	Other Waste Biomass	Geothermal	Conventional Hydroelectric	Total Renewable Generation at Utility Scale Facilities	Estimated Solar Photovoltaic	Estimated Total Solar Photovoltaic	Estimated Total Solar
Annual Totals													
2010	0	2	0	25,706	15	0	853	0	1,668	28,244	N/A	N/A	N/A
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	27,316	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	2,067	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	24,908	133	5	676	0	1,001	27,441	3,484	3,586	3,586
Year 2018													
January	11	2	0	2,357	15	0	67	0	83	2,535	146	149	149
February	9	3	0	2,091	15	0	61	0	89	2,269	155	158	158
March	10	4	0	2,342	16	1	68	0	87	2,528	221	225	225
April	9	4	0	2,151	16	0	60	0	102	2,343	241	245	245
May	8	5	0	2,310	14	0	58	0	101	2,496	267	271	271
June	6	5	0	2,294	14	1	43	0	74	2,437	268	273	273
July	5	5	0	2,470	14	1	51	0	78	2,623	277	282	282
August	5	5	0	2,402	13	1	53	0	91	2,570	268	273	273
September	6	4	0	2,228	12	0	44	0	90	2,385	242	247	247
October	9	4	0	2,223	13	0	62	0	108	2,418	220	224	224
November	9	3	0	2,231	13	0	65	0	116	2,436	174	177	177
December	9	2	0	2,374	13	0	67	0	130	2,596	157	160	160
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	2,264	13	0	67	0	102	2,459	192	196	196
February	9	6	0	2,149	13	0	59	0	108	2,343	212	218	218
March	9	7	0	2,226	13	0	61	0	123	2,439	292	299	299
April	8	8	0	2,077	12	0	59	0	111	2,276	316	324	324
May	9	12	0	2,076	10	1	56	0	102	2,266	349	361	361
June	60	12	0	1,959	10	1	49	0	73	2,164	354	367	367
July	69	13	0	1,999	11	0	52	0	64	2,207	370	383	383
August	56	11	0	2,048	10	1	52	0	62	2,240	358	369	369
September	72	9	0	1,982	10	1	43	0	54	2,170	321	330	330
October	94	8	0	1,991	10	0	61	0	53	2,216	291	299	299
November	105	6	0	2,003	11	0	55	0	67	2,247	226	232	232
December	119	5	0	2,135	12	0	62	0	83	2,416	203	208	208

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.

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

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

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 - 2020
(Thousand Megawatthours)**

Period	Small Scale Generation	
		Estimated Small Scale Solar Photovoltaic Generation
Annual Totals		
2014		4,947
2015		6,999
2016		10,595
2017		13,942
2018		17,105
2019		20,914
2020		25,179
Year 2018		
January		921
February		1,007
March		1,393
April		1,592
May		1,753
June		1,788
July		1,834
August		1,756
September		1,539
October		1,385
November		1,108
December		1,029
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

See Glossary for definitions. Values are final.

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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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	96,809	99,997	-3.2%	1,986	2,414	91,020	93,277	1,136	1,307	2,667	2,998
Connecticut	41,191	40,050	2.8%	96	99	40,150	38,846	330	445	614	661
Maine	10,002	10,491	-4.7%	3	4	8,220	8,457	110	132	1,669	1,898
Massachusetts	18,214	21,516	-15.3%	488	407	16,936	20,239	576	606	215	264
New Hampshire	16,351	18,027	-9.3%	499	935	15,765	16,997	59	64	28	30
Rhode Island	8,895	7,624	16.7%	0	0	8,696	7,421	57	57	142	146
Vermont	2,156	2,290	-5.8%	900	970	1,254	1,316	3	3	0	0
Middle Atlantic	420,680	431,617	-2.5%	37,408	35,171	376,907	389,911	2,248	2,381	4,117	4,155
New Jersey	61,106	71,019	-14.0%	84	145	59,694	69,390	612	704	717	780
New York	129,430	131,603	-1.7%	37,232	34,926	90,111	94,557	1,267	1,278	819	843
Pennsylvania	230,143	228,995	0.5%	91	100	227,102	225,964	369	399	2,581	2,532
East North Central	552,534	586,452	-5.8%	191,181	215,936	348,692	357,937	1,708	1,751	10,953	10,829
Illinois	173,395	184,470	-6.0%	4,377	5,192	165,839	176,335	431	363	2,748	2,580
Indiana	90,073	102,505	-12.1%	57,441	70,437	27,729	27,387	255	292	4,648	4,390
Michigan	106,625	116,701	-8.6%	69,821	78,882	34,988	35,687	662	729	1,154	1,403
Ohio	120,993	120,001	0.8%	12,168	13,064	107,855	106,004	220	230	750	704
Wisconsin	61,449	62,774	-2.1%	47,374	48,361	12,282	12,524	140	137	1,653	1,752
West North Central	336,428	344,147	-2.2%	255,069	272,591	77,142	66,980	601	648	3,616	3,928
Iowa	59,637	62,650	-4.8%	45,457	47,135	12,006	13,035	186	231	1,988	2,248
Kansas	54,542	50,888	7.2%	32,082	31,468	22,257	19,305	16	17	188	98
Minnesota	56,510	59,379	-4.8%	40,271	44,812	15,052	13,249	209	191	978	1,127
Missouri	72,568	78,279	-7.3%	66,374	72,581	5,620	5,472	174	192	40	34
Nebraska	36,849	37,298	-1.2%	27,757	30,018	8,837	6,914	16	18	239	348
North Dakota	42,176	41,147	2.5%	33,529	34,191	8,493	6,896	0	0	154	60
South Dakota	14,147	14,507	-2.5%	9,239	12,385	4,878	2,109	NM	0	29	12
South Atlantic	794,999	811,088	-2.0%	653,280	669,612	121,581	120,785	1,942	2,004	18,197	18,687
Delaware	5,205	5,259	-1.0%	34	35	4,004	3,886	6	6	1,162	1,332
District of Columbia	201	174	15.5%	0	0	13	9	188	165	0	0
Florida	250,828	245,603	2.1%	234,442	229,438	11,511	10,989	96	70	4,779	5,107
Georgia	120,126	128,692	-6.7%	96,523	107,079	18,348	16,421	4	7	5,251	5,184
Maryland	36,029	39,326	-8.4%	3,030	3,359	32,017	34,782	935	1,039	47	146
North Carolina	124,363	131,174	-5.2%	104,613	111,312	17,683	17,822	345	347	1,722	1,692
South Carolina	98,529	100,108	-1.6%	93,611	95,689	3,306	2,838	3	3	1,609	1,577
Virginia	103,056	96,828	6.4%	80,244	74,386	20,105	19,670	364	368	2,343	2,404
West Virginia	56,662	63,926	-11.4%	40,783	48,312	14,594	14,367	0	0	1,285	1,246
East South Central	348,230	362,770	-4.0%	304,370	313,578	34,124	39,144	220	213	9,517	9,836
Alabama	137,543	142,679	-3.6%	102,353	102,180	30,402	35,596	0	0	4,788	4,903
Kentucky	63,540	71,804	-11.5%	62,569	70,897	502	396	0	0	469	512
Mississippi	66,582	65,959	0.9%	61,841	61,366	2,767	2,702	0	0	1,974	1,891
Tennessee	80,566	82,327	-2.1%	77,608	79,135	452	449	220	213	2,286	2,531
West South Central	711,228	733,035	-3.0%	229,722	244,261	407,017	409,475	859	975	73,630	78,324
Arkansas	54,641	64,443	-15.2%	48,635	57,343	4,818	5,451	65	56	1,123	1,592
Louisiana	100,774	100,175	0.6%	65,841	59,912	5,135	7,912	187	164	29,611	32,187
Oklahoma	82,298	85,217	-3.4%	37,571	41,188	43,805	43,198	0	0	922	830
Texas	473,515	483,201	-2.0%	77,676	85,818	353,259	352,914	606	755	41,974	43,714
Mountain	358,058	372,421	-3.9%	271,008	286,297	82,368	82,251	1,035	1,011	3,648	2,862
Arizona	109,305	113,552	-3.7%	91,617	96,645	17,539	16,754	149	152	0	0
Colorado	54,115	56,338	-3.9%	38,880	43,713	14,933	12,514	38	36	264	75
Idaho	17,686	18,408	-3.9%	11,278	11,986	5,755	5,777	69	65	584	580
Montana	23,353	27,797	-16.0%	11,347	10,708	11,970	17,057	0	0	36	32
Nevada	40,425	39,890	1.3%	27,246	27,293	12,277	11,715	573	569	329	312
New Mexico	34,076	35,175	-3.1%	21,419	23,575	12,518	11,486	121	109	17	4
Utah	37,087	39,117	-5.2%	32,526	34,770	4,065	3,747	85	80	411	520
Wyoming	42,011	42,146	-0.3%	36,693	37,607	3,310	3,201	0	0	2,007	1,338
Pacific Contiguous	372,814	370,506	0.6%	213,223	215,445	140,642	135,809	2,610	2,721	16,339	16,531
California	193,075	201,784	-4.3%	67,891	82,940	108,973	102,455	2,506	2,627	13,705	13,762
Oregon	63,625	62,258	2.2%	44,679	44,038	18,309	17,578	80	71	557	570
Washington	116,114	106,464	9.1%	100,653	88,467	13,360	15,776	24	22	2,077	2,199
Pacific Noncontiguous	15,355	15,821	-2.9%	10,448	10,699	3,848	4,056	687	678	373	388
Alaska	6,276	6,071	3.4%	5,597	5,447	242	243	320	265	118	116
Hawaii	9,079	9,750	-6.9%	4,851	5,252	3,605	3,813	367	413	255	272
U.S. Total	4,007,135	4,127,855	-2.9%	2,167,694	2,266,004	1,683,340	1,699,625	13,046	13,689	143,056	148,537

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	165	467	-64.7%	128	343	28	114	0	0	9	11
Connecticut	-19	53	-136.0%	0	0	-19	53	0	0	0	0
Maine	55	71	-21.9%	0	0	47	61	0	0	9	11
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	128	343	-62.5%	128	343	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	24,519	39,392	-37.8%	0	0	24,455	39,304	0	0	64	88
New Jersey	917	1,042	-12.0%	0	0	917	1,042	0	0	0	0
New York	144	422	-65.9%	0	0	144	422	0	0	0	0
Pennsylvania	23,458	37,929	-38.2%	0	0	23,395	37,841	0	0	64	88
East North Central	175,741	219,992	-20.1%	100,494	128,525	73,230	89,534	33	58	1,985	1,875
Illinois	31,238	48,788	-36.0%	1,654	3,482	27,859	43,772	12	13	1,712	1,522
Indiana	47,773	60,762	-21.4%	43,049	56,524	4,703	4,193	21	45	0	0
Michigan	27,961	37,341	-25.1%	27,589	36,942	370	381	0	0	2	18
Ohio	45,009	46,765	-3.8%	4,711	5,575	40,297	41,187	0	0	0	3
Wisconsin	23,761	26,335	-9.8%	23,490	26,003	0	0	0	0	271	333
West North Central	141,834	161,119	-12.0%	140,010	158,954	0	0	57	79	1,767	2,086
Iowa	14,147	22,159	-36.2%	12,786	20,551	0	0	51	68	1,310	1,541
Kansas	16,960	17,315	-2.0%	16,960	17,315	0	0	0	0	0	0
Minnesota	14,038	17,805	-21.2%	13,915	17,605	0	0	1	2	121	197
Missouri	51,756	55,686	-7.1%	51,751	55,678	0	0	4	9	0	0
Nebraska	18,789	20,385	-7.8%	18,549	20,038	0	0	0	0	239	348
North Dakota	24,497	25,151	-2.6%	24,400	25,151	0	0	0	0	96	0
South Dakota	1,648	2,617	-37.0%	1,648	2,617	0	0	0	0	0	0
South Atlantic	121,205	159,468	-24.0%	106,522	141,570	14,176	17,280	34	40	474	577
Delaware	102	119	-14.1%	0	0	102	119	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	16,598	21,248	-21.9%	16,562	21,197	0	0	0	0	35	51
Georgia	13,914	25,245	-44.9%	13,745	25,065	0	0	0	0	169	181
Maryland	3,360	5,722	-41.3%	0	0	3,360	5,690	0	0	0	32
North Carolina	20,793	30,672	-32.2%	20,534	30,413	97	86	32	36	130	137
South Carolina	12,459	14,861	-16.2%	12,268	14,640	175	212	0	0	17	10
Virginia	3,763	3,418	10.1%	3,563	3,176	76	71	1	4	123	167
West Virginia	50,216	58,182	-13.7%	39,849	47,080	10,367	11,101	0	0	0	0
East South Central	84,207	101,476	-17.0%	81,480	98,613	2,321	2,363	0	0	406	500
Alabama	21,730	26,655	-18.5%	21,730	26,638	0	0	0	0	0	17
Kentucky	43,638	51,714	-15.6%	43,638	51,714	0	0	0	0	0	0
Mississippi	4,594	4,414	4.1%	2,273	2,052	2,321	2,363	0	0	0	0
Tennessee	14,245	18,692	-23.8%	13,839	18,209	0	0	0	0	406	483
West South Central	104,102	130,375	-20.2%	49,671	67,575	54,332	62,639	0	0	99	161
Arkansas	15,421	23,313	-33.9%	12,160	19,338	3,228	3,933	0	0	33	43
Louisiana	3,918	7,419	-47.2%	3,626	5,633	292	1,786	0	0	0	0
Oklahoma	5,938	7,826	-24.1%	5,871	7,708	0	0	0	0	67	119
Texas	78,825	91,817	-14.1%	28,013	34,897	50,812	56,920	0	0	0	0
Mountain	112,642	140,704	-19.9%	102,022	124,330	10,290	15,979	0	0	331	395
Arizona	13,747	23,218	-40.8%	13,747	23,218	0	0	0	0	0	0
Colorado	19,478	25,321	-23.1%	19,478	25,316	0	0	0	0	0	5
Idaho	20	21	-4.6%	0	0	0	0	0	0	20	21
Montana	8,490	14,101	-39.8%	232	261	8,247	13,831	0	0	11	9
Nevada	1,953	2,735	-28.6%	928	1,689	1,025	1,047	0	0	0	0
New Mexico	12,788	14,692	-13.0%	12,788	14,692	0	0	0	0	0	0
Utah	22,806	25,241	-9.6%	22,486	24,842	320	400	0	0	0	0
Wyoming	33,359	35,376	-5.7%	32,362	34,314	698	702	0	0	300	360
Pacific Contiguous	7,091	9,980	-28.9%	1,630	2,569	5,143	7,146	0	0	317	264
California	290	240	20.7%	0	0	0	0	0	0	290	240
Oregon	1,630	2,569	-36.5%	1,630	2,569	0	0	0	0	0	0
Washington	5,170	7,170	-27.9%	0	0	5,143	7,146	0	0	27	24
Pacific Noncontiguous	1,887	1,985	-4.9%	417	406	1,353	1,489	116	91	0	0
Alaska	722	683	5.7%	417	406	188	187	116	91	0	0
Hawaii	1,165	1,302	-10.5%	0	0	1,165	1,302	0	0	0	0
U.S. Total	773,393	964,957	-19.9%	582,374	722,885	185,328	235,847	240	268	5,451	5,957

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	154	193	-20.3%	22	23	100	116	20	37	12	17
Connecticut	33	12	167.2%	7	5	24	1	1	3	1	3
Maine	37	35	6.4%	0	0	26	20	1	2	10	12
Massachusetts	36	104	-65.1%	7	7	22	79	6	16	1	1
New Hampshire	42	30	38.5%	6	9	24	7	11	13	0	0
Rhode Island	4	11	-59.4%	0	0	4	9	1	2	0	0
Vermont	2	1	70.8%	2	1	0	0	0	0	0	0
Middle Atlantic	439	740	-40.7%	180	244	226	457	17	15	16	24
New Jersey	24	71	-66.5%	0	1	23	67	0	2	0	1
New York	350	512	-31.7%	179	242	147	245	12	9	11	16
Pennsylvania	65	157	-58.6%	0	0	56	145	4	4	5	7
East North Central	367	481	-23.7%	239	291	119	175	3	2	7	14
Illinois	30	44	-30.4%	7	8	23	36	0	0	0	0
Indiana	113	127	-10.5%	112	119	0	0	0	NM	2	7
Michigan	87	94	-7.3%	82	90	0	0	1	1	3	2
Ohio	117	164	-28.6%	20	30	95	130	0	0	2	3
Wisconsin	19	53	-63.4%	17	43	1	9	0	0	1	1
West North Central	275	353	-22.1%	266	339	4	10	3	2	1	1
Iowa	37	63	-41.8%	34	60	3	4	0	0	0	0
Kansas	75	78	-4.2%	75	78	0	0	0	0	0	0
Minnesota	30	51	-40.8%	24	40	1	7	3	2	1	1
Missouri	81	97	-16.8%	81	97	0	0	0	0	0	0
Nebraska	14	16	-13.2%	14	16	0	0	0	0	0	0
North Dakota	31	34	-8.6%	31	34	0	0	0	0	0	0
South Dakota	7	14	-45.8%	7	14	0	0	NM	0	0	0
South Atlantic	931	1,175	-20.8%	655	899	133	157	45	45	97	74
Delaware	8	19	-56.9%	1	0	7	18	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	231	324	-28.6%	208	301	5	7	0	0	18	17
Georgia	67	107	-37.8%	5	61	2	5	1	4	59	38
Maryland	70	67	4.6%	-1	-1	70	66	0	1	0	1
North Carolina	117	192	-39.3%	101	177	4	5	0	1	11	9
South Carolina	64	79	-18.4%	56	69	2	3	0	0	6	7
Virginia	231	258	-10.5%	142	164	42	52	44	40	3	2
West Virginia	142	128	10.9%	142	127	0	1	0	0	0	0
East South Central	186	224	-16.6%	171	209	3	4	0	0	13	11
Alabama	13	20	-35.5%	3	10	3	3	0	0	7	6
Kentucky	57	50	13.6%	57	50	0	0	0	0	0	0
Mississippi	8	14	-38.7%	5	12	0	0	0	0	3	2
Tennessee	108	140	-22.7%	106	137	0	0	0	0	2	2
West South Central	126	147	-14.5%	98	101	24	35	0	1	3	10
Arkansas	44	47	-6.3%	33	33	11	12	0	0	0	3
Louisiana	7	28	-76.4%	7	18	0	11	0	0	0	0
Oklahoma	26	18	51.1%	25	16	0	0	0	0	1	1
Texas	48	54	-10.4%	33	34	14	13	0	1	2	6
Mountain	-15	367	-104.2%	-30	349	14	18	0	0	0	0
Arizona	40	64	-36.6%	40	64	0	0	0	0	0	0
Colorado	-189	8	NM	-189	8	0	0	0	0	0	0
Idaho	0	0	-85.3%	0	0	0	0	0	0	0	0
Montana	10	16	-36.4%	0	2	10	14	0	0	0	0
Nevada	6	12	-49.3%	4	10	2	2	0	0	0	0
New Mexico	33	184	-82.3%	33	184	0	0	0	0	0	0
Utah	40	40	-0.6%	37	38	2	2	0	0	0	0
Wyoming	45	44	2.3%	45	44	0	0	0	0	0	0
Pacific Contiguous	65	77	-16.4%	38	43	13	15	-1	1	13	19
California	44	51	-13.8%	32	35	7	6	0	1	5	9
Oregon	2	7	-64.7%	2	7	0	0	0	0	0	0
Washington	19	20	-6.8%	4	1	6	9	0	0	8	10
Pacific Noncontiguous	7,135	7,765	-8.1%	5,542	5,817	1,349	1,682	8	13	236	254
Alaska	986	901	9.4%	928	845	2	3	2	7	53	47
Hawaii	6,149	6,864	-10.4%	4,615	4,972	1,347	1,679	6	6	182	207
U.S. Total	9,662	11,522	-16.1%	7,182	8,313	1,984	2,669	97	116	398	424

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

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

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

Table 3.10. Utility Scale Facility Net Generation from Petroleum Coke by State, by Sector, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
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	43	99	-57.1%	0	0	0	0	0	0	43	99
New Jersey	43	71	-39.9%	0	0	0	0	0	0	43	71
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	28	-100.0%	0	0	0	0	0	0	0	28
East North Central	1,990	1,591	25.0%	771	762	1,057	676	0	0	162	153
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	847	822	3.1%	685	673	0	0	0	0	162	149
Ohio	1,057	680	55.4%	0	0	1,057	676	0	0	0	4
Wisconsin	86	90	-4.3%	86	90	0	0	0	0	0	0
West North Central	74	77	-4.1%	0	0	0	0	2	5	72	73
Iowa	74	77	-4.1%	0	0	0	0	2	5	72	73
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	1,610	1,341	20.1%	1,471	1,201	0	0	0	0	140	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	1,471	1,201	22.4%	1,471	1,201	0	0	0	0	0	0
Georgia	140	140	-0.1%	0	0	0	0	0	0	140	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	3,515	3,261	7.8%	3,422	3,149	0	0	0	0	93	111
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	3,422	3,160	8.3%	3,422	3,149	0	0	0	0	0	11
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	93	100	-7.2%	0	0	0	0	0	0	93	100
Mountain	447	449	-0.4%	0	0	447	449	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	447	449	-0.4%	0	0	447	449	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	7,679	6,819	12.6%	5,663	5,112	1,504	1,125	2	5	510	576

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

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

Table 3.11. Utility Scale Facility Net Generation from Natural Gas by State, by Sector, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	51,531	49,272	4.6%	237	151	48,861	46,503	927	1,055	1,506	1,562
Connecticut	23,537	21,343	10.3%	57	54	22,541	20,195	325	437	613	658
Maine	1,904	1,797	5.9%	0	0	1,358	1,295	32	31	515	472
Massachusetts	14,177	15,407	-8.0%	164	92	13,294	14,529	510	529	208	258
New Hampshire	3,638	3,583	1.5%	14	5	3,586	3,537	10	11	28	30
Rhode Island	8,272	7,141	15.8%	0	0	8,081	6,948	49	48	142	145
Vermont	2	2	9.2%	1	1	0	0	1	1	0	0
Middle Atlantic	204,363	186,102	9.8%	11,795	9,947	188,939	172,408	1,074	1,205	2,555	2,542
New Jersey	30,631	40,449	-24.3%	117	158	29,922	39,615	164	251	429	425
New York	52,966	47,612	11.2%	11,674	9,785	39,915	36,437	789	812	588	578
Pennsylvania	120,767	98,040	23.2%	5	4	119,103	96,356	121	142	1,538	1,538
East North Central	167,418	159,477	5.0%	56,157	51,737	105,921	102,150	1,433	1,424	3,906	4,167
Illinois	24,516	21,346	14.9%	2,526	1,534	21,091	18,923	411	341	488	548
Indiana	32,085	32,042	0.1%	13,509	13,069	16,519	16,746	188	201	1,869	2,025
Michigan	36,434	34,430	5.8%	13,147	11,751	22,309	21,475	560	604	417	599
Ohio	52,382	51,325	2.1%	7,172	7,169	44,707	43,706	207	214	296	236
Wisconsin	22,002	20,334	8.2%	19,803	18,214	1,295	1,300	67	63	837	758
West North Central	33,014	35,005	-5.7%	25,601	28,492	6,151	5,316	332	354	931	843
Iowa	7,037	7,782	-9.6%	6,378	7,088	0	0	104	117	555	576
Kansas	2,802	3,024	-7.4%	2,620	2,931	0	0	0	0	183	93
Minnesota	11,815	12,607	-6.3%	7,654	9,559	3,945	2,834	97	94	119	119
Missouri	7,561	7,675	-1.5%	5,191	5,023	2,206	2,482	126	138	37	32
Nebraska	1,209	1,277	-5.3%	1,205	1,273	0	0	4	4	0	0
North Dakota	1,488	1,471	1.2%	1,469	1,461	0	0	0	0	20	10
South Dakota	1,102	1,170	-5.7%	1,085	1,157	0	0	0	0	18	12
South Atlantic	398,668	385,449	3.4%	329,526	316,793	62,682	62,272	1,244	1,279	5,215	5,105
Delaware	4,818	4,806	0.2%	28	28	3,787	3,650	0	0	1,004	1,128
District of Columbia	134	110	21.3%	0	0	0	0	134	110	0	0
Florida	189,420	182,007	4.1%	180,323	173,358	7,398	6,961	72	19	1,628	1,669
Georgia	59,175	58,620	0.9%	45,339	44,720	13,137	13,356	0	0	698	544
Maryland	14,092	14,605	-3.5%	3,023	3,351	10,119	10,184	903	1,005	46	65
North Carolina	41,401	41,147	0.6%	33,246	32,238	7,880	8,626	130	127	146	155
South Carolina	24,228	23,926	1.3%	23,377	22,793	663	1,002	0	0	188	130
Virginia	62,623	57,985	8.0%	44,065	39,928	17,720	17,267	6	17	832	773
West Virginia	2,777	2,243	23.8%	1,25	377	1,979	1,225	0	0	673	641
East South Central	138,939	138,274	0.5%	104,701	99,001	30,518	35,589	215	208	3,505	3,477
Alabama	55,225	57,197	-3.4%	23,694	20,447	30,020	35,191	0	0	1,511	1,560
Kentucky	14,384	15,341	-6.2%	13,673	14,730	476	377	0	0	236	235
Mississippi	53,662	48,781	10.0%	53,092	48,270	5	4	0	0	564	507
Tennessee	15,668	16,955	-7.6%	14,243	15,555	17	17	215	208	1,193	1,175
West South Central	379,477	391,113	-3.0%	134,294	134,611	178,759	186,221	785	891	65,639	69,390
Arkansas	18,307	21,772	-15.9%	16,835	20,261	1,198	1,169	43	42	231	300
Louisiana	70,782	69,523	1.8%	41,653	37,045	3,547	4,667	187	164	25,395	27,648
Oklahoma	43,759	44,188	-1.0%	27,541	28,190	15,703	15,585	0	0	515	413
Texas	246,629	255,630	-3.5%	48,265	49,116	158,311	164,801	555	685	39,498	41,029
Mountain	123,034	115,932	6.1%	98,818	92,575	22,037	21,479	436	422	1,743	1,456
Arizona	50,778	46,084	10.2%	39,079	34,495	11,562	11,453	136	136	0	0
Colorado	18,171	17,097	6.3%	15,393	14,717	2,578	2,351	6	6	194	23
Idaho	4,157	4,267	-2.6%	2,277	2,290	1,689	1,801	40	39	151	136
Montana	291	507	-42.7%	228	346	60	158	0	0	3	3
Nevada	26,801	25,775	4.0%	24,227	23,227	2,189	2,175	61	63	325	310
New Mexico	12,002	11,803	1.7%	7,999	8,225	3,865	3,467	120	106	17	4
Utah	9,460	9,369	1.0%	8,967	8,863	93	72	71	71	327	363
Wyoming	1,374	1,029	33.5%	647	412	1	1	0	0	725	616
Pacific Contiguous	125,081	122,502	2.1%	49,084	49,100	63,015	60,175	1,664	1,772	11,317	11,455
California	92,047	85,841	7.2%	29,301	28,600	50,611	44,854	1,610	1,721	10,525	10,665
Oregon	19,020	20,932	-9.1%	9,826	10,246	9,084	10,570	44	44	66	72
Washington	14,014	15,729	-10.9%	9,956	10,253	3,321	4,751	11	7	727	718
Pacific Noncontiguous	2,641	2,687	-1.7%	2,577	2,619	0	0	0	0	64	68
Alaska	2,641	2,687	-1.7%	2,577	2,619	0	0	0	0	64	68
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	1,624,167	1,585,814	2.4%	812,791	785,026	706,885	692,113	8,110	8,610	96,381	100,065

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
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	773	713	8.5%	0	0	26	0	0	0	747	713
New Jersey	197	216	-8.9%	0	0	0	0	0	0	197	216
New York	0	2	-100.0%	0	0	0	0	0	0	0	2
Pennsylvania	576	494	16.5%	0	0	26	0	0	0	550	494
East North Central	4,197	4,717	-11.0%	45	154	1,499	2,174	0	0	2,653	2,390
Illinois	285	261	9.1%	0	0	0	0	0	0	285	261
Indiana	2,240	1,984	12.9%	0	0	0	0	0	0	2,240	1,984
Michigan	969	1,697	-42.9%	45	154	923	1,543	0	0	0	0
Ohio	704	776	-9.2%	0	0	576	631	0	0	128	145
Wisconsin	0	0	--	0	0	0	0	0	0	0	0
West North Central	38	50	-24.1%	0	0	0	0	0	0	38	50
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	50	-24.1%	0	0	0	0	0	0	38	50
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	192	236	-18.5%	0	0	0	0	0	0	192	236
Delaware	146	194	-25.0%	0	0	0	0	0	0	146	194
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	0	0	-40.3%	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	47	42	12.0%	0	0	0	0	0	0	47	42
East South Central	12	15	-21.6%	0	0	0	0	0	0	12	15
Alabama	0	3	-84.6%	0	0	0	0	0	0	0	3
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	11	12	-7.9%	0	0	0	0	0	0	11	12
West South Central	4,342	4,744	-8.5%	0	0	1,592	1,699	0	0	2,750	3,045
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,731	1,875	-7.7%	0	0	0	0	0	0	1,731	1,875
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	2,611	2,869	-9.0%	0	0	1,592	1,699	0	0	1,019	1,170
Mountain	431	313	37.6%	0	0	12	10	0	0	419	303
Arizona	0	0	--	0	0	0	0	0	0	0	0
Colorado	21	0	--	0	0	0	0	0	0	21	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	12	10	16.5%	0	0	12	10	0	0	0	0
Nevada	0	0	--	0	0	0	0	0	0	0	0
New Mexico	0	0	--	0	0	0	0	0	0	0	0
Utah	7	17	-56.6%	0	0	0	0	0	0	7	17
Wyoming	391	286	36.6%	0	0	0	0	0	0	391	286
Pacific Contiguous	1,830	1,798	1.8%	0	0	0	0	0	0	1,830	1,798
California	1,538	1,476	4.2%	0	0	0	0	0	0	1,538	1,476
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	292	322	-9.2%	0	0	0	0	0	0	292	322
Pacific Noncontiguous	3	6	-48.9%	0	0	0	0	0	0	3	6
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	3	6	-48.9%	0	0	0	0	0	0	3	6
U.S. Total	11,818	12,591	-6.1%	45	154	3,129	3,883	0	0	8,644	8,554

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	25,580	29,818	-14.2%	0	0	25,580	29,818	0	0	0	0
Connecticut	15,715	16,733	-6.1%	0	0	15,715	16,733	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	0	2,177	-100.0%	0	0	0	2,177	0	0	0	0
New Hampshire	9,865	10,907	-9.6%	0	0	9,865	10,907	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	141,690	154,732	-8.4%	0	0	141,690	154,732	0	0	0	0
New Jersey	26,738	26,637	0.4%	0	0	26,738	26,637	0	0	0	0
New York	38,430	44,865	-14.3%	0	0	38,430	44,865	0	0	0	0
Pennsylvania	76,521	83,230	-8.1%	0	0	76,521	83,230	0	0	0	0
East North Central	158,569	158,686	-0.1%	24,337	26,044	134,232	132,642	0	0	0	0
Illinois	100,246	98,735	1.5%	0	0	100,246	98,735	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	30,333	32,909	-7.8%	24,337	26,044	5,995	6,865	0	0	0	0
Ohio	18,219	17,011	7.1%	0	0	18,219	17,011	0	0	0	0
Wisconsin	9,771	10,030	-2.6%	0	0	9,771	10,030	0	0	0	0
West North Central	42,095	44,729	-5.9%	39,190	39,494	2,905	5,236	0	0	0	0
Iowa	2,905	5,236	-44.5%	0	0	2,905	5,236	0	0	0	0
Kansas	10,582	9,248	14.4%	10,582	9,248	0	0	0	0	0	0
Minnesota	14,677	14,105	4.1%	14,677	14,105	0	0	0	0	0	0
Missouri	7,742	9,190	-15.8%	7,742	9,190	0	0	0	0	0	0
Nebraska	6,189	6,952	-11.0%	6,189	6,952	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	204,546	205,228	-0.3%	189,465	190,215	15,081	15,013	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	29,419	29,108	1.1%	29,419	29,108	0	0	0	0	0	0
Georgia	32,826	33,591	-2.3%	32,826	33,591	0	0	0	0	0	0
Maryland	15,081	15,013	0.5%	0	0	15,081	15,013	0	0	0	0
North Carolina	42,329	41,916	1.0%	42,329	41,916	0	0	0	0	0	0
South Carolina	54,751	56,103	-2.4%	54,751	56,103	0	0	0	0	0	0
Virginia	30,140	29,498	2.2%	30,140	29,498	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	86,710	90,410	-4.1%	86,710	90,410	0	0	0	0	0	0
Alabama	43,551	43,657	-0.2%	43,551	43,657	0	0	0	0	0	0
Kentucky	0	0	--	0	0	0	0	0	0	0	0
Mississippi	6,471	11,033	-41.3%	6,471	11,033	0	0	0	0	0	0
Tennessee	36,688	35,720	2.7%	36,688	35,720	0	0	0	0	0	0
West South Central	73,451	68,854	6.7%	32,013	27,556	41,439	41,298	0	0	0	0
Arkansas	15,063	13,575	11.0%	15,063	13,575	0	0	0	0	0	0
Louisiana	16,950	13,981	21.2%	16,950	13,981	0	0	0	0	0	0
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	41,439	41,298	0.3%	0	0	41,439	41,298	0	0	0	0
Mountain	31,552	31,920	-1.2%	31,552	31,920	0	0	0	0	0	0
Arizona	31,552	31,920	-1.2%	31,552	31,920	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	25,686	25,032	2.6%	25,686	25,032	0	0	0	0	0	0
California	16,259	16,165	0.6%	16,259	16,165	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	9,427	8,866	6.3%	9,427	8,866	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	789,879	809,409	-2.4%	428,953	430,672	360,925	378,738	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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	6,889	7,706	-13.2%	888	1,068	5,713	6,520	5	6	83	113
Connecticut	326	428	-23.8%	29	36	297	391	0	0	0	0
Maine	3,158	3,499	-9.7%	3	4	3,072	3,383	0	0	83	113
Massachusetts	844	976	-13.5%	157	188	682	782	5	6	0	0
New Hampshire	1,228	1,462	-16.0%	329	363	899	1,099	0	0	0	0
Rhode Island	4	4	-2.3%	0	0	4	4	0	0	0	0
Vermont	1,130	1,337	-15.5%	370	476	759	861	0	0	0	0
Middle Atlantic	32,238	34,150	-5.6%	25,794	25,310	6,381	8,774	6	6	57	59
New Jersey	15	26	-42.0%	0	0	15	26	0	0	0	0
New York	29,550	30,621	-3.5%	25,708	25,215	3,780	5,340	6	6	57	59
Pennsylvania	2,672	3,503	-23.7%	86	96	2,586	3,407	0	0	0	0
East North Central	5,281	5,073	4.1%	4,687	4,474	457	475	1	1	136	124
Illinois	135	124	9.0%	52	42	82	81	1	1	0	0
Indiana	271	256	5.8%	271	256	0	0	0	0	0	0
Michigan	1,713	1,650	3.9%	1,614	1,526	90	114	0	0	9	10
Ohio	374	403	-7.1%	250	274	125	129	0	0	0	0
Wisconsin	2,788	2,641	5.6%	2,501	2,377	160	150	0	0	127	114
West North Central	13,810	16,523	-17.6%	13,241	16,197	300	230	0	0	68	97
Iowa	1,025	798	28.8%	1,017	788	8	8	0	0	0	0
Kansas	32	20	58.3%	0	0	32	20	0	0	0	0
Minnesota	1,002	1,056	-5.1%	674	758	260	201	0	0	68	97
Missouri	1,879	2,216	-15.2%	1,879	2,216	0	0	0	0	0	0
Nebraska	1,390	1,340	3.7%	1,390	1,340	0	0	0	0	0	0
North Dakota	2,450	3,179	-22.9%	2,450	3,179	0	0	0	0	0	0
South Dakota	5,831	7,915	-26.3%	5,831	7,915	0	0	0	0	0	0
South Atlantic	22,034	18,741	17.6%	19,059	15,333	2,370	2,810	18	17	586	582
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	232	210	10.4%	232	210	0	0	0	0	0	0
Georgia	4,663	3,956	17.9%	4,631	3,929	11	9	0	0	21	18
Maryland	1,697	2,188	-22.5%	0	0	1,697	2,188	0	0	0	0
North Carolina	7,957	6,186	28.6%	7,829	6,118	114	53	15	14	0	0
South Carolina	3,863	2,976	29.8%	3,759	2,903	100	70	3	2	0	0
Virginia	2,030	1,519	33.6%	1,941	1,445	89	74	0	0	0	0
West Virginia	1,592	1,706	-6.7%	668	728	359	415	0	0	565	563
East South Central	31,807	25,767	23.4%	31,797	25,758	10	8	0	0	0	0
Alabama	13,349	11,405	17.0%	13,349	11,405	0	0	0	0	0	0
Kentucky	5,005	4,232	18.3%	4,996	4,223	10	8	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	13,452	10,130	32.8%	13,452	10,130	0	0	0	0	0	0
West South Central	9,668	10,879	-11.1%	8,377	9,422	1,290	1,455	1	1	0	0
Arkansas	4,531	4,135	9.6%	4,476	4,085	55	50	0	0	0	0
Louisiana	1,204	1,366	-11.9%	0	0	1,204	1,366	0	0	0	0
Oklahoma	2,854	3,903	-26.9%	2,854	3,903	0	0	0	0	0	0
Texas	1,079	1,475	-26.8%	1,047	1,434	31	40	1	1	0	0
Mountain	32,377	32,621	-0.7%	31,167	31,332	1,195	1,276	15	13	0	0
Arizona	6,424	6,204	3.5%	6,424	6,204	0	0	0	0	0	0
Colorado	1,669	1,811	-7.9%	1,401	1,578	253	220	15	13	0	0
Idaho	9,508	10,333	-8.0%	8,800	9,517	708	816	0	0	0	0
Montana	10,748	10,005	7.4%	10,591	9,850	157	155	0	0	0	0
Nevada	1,923	2,242	-14.2%	1,867	2,176	56	66	0	0	0	0
New Mexico	203	158	28.2%	203	158	0	0	0	0	0	0
Utah	817	875	-6.7%	807	863	10	12	0	0	0	0
Wyoming	1,086	992	9.4%	1,076	985	10	8	0	0	0	0
Pacific Contiguous	129,708	134,695	-3.7%	128,033	131,966	1,669	2,716	6	14	0	0
California	21,377	38,355	-44.3%	20,271	36,219	1,100	2,122	6	14	0	0
Oregon	31,921	30,322	5.3%	31,688	30,069	253	253	0	0	0	0
Washington	76,410	66,018	15.7%	76,093	65,677	316	341	0	0	0	0
Pacific Noncontiguous	1,863	1,718	8.4%	1,607	1,504	23	24	162	130	70	59
Alaska	1,764	1,623	8.7%	1,602	1,493	0	0	162	130	0	0
Hawaii	99	95	4.5%	5	11	23	24	0	0	70	59
U.S. Total	285,274	287,874	-0.9%	264,650	262,364	19,409	24,288	214	188	1,001	1,033

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	11,206	11,095	1.0%	712	830	9,425	8,935	142	155	927	1,175
Connecticut	1,008	900	12.0%	3	3	1,000	892	4	5	0	0
Maine	4,517	4,749	-4.9%	0	0	3,561	3,536	35	45	921	1,169
Massachusetts	2,649	2,379	11.3%	160	120	2,428	2,197	55	55	5	6
New Hampshire	1,393	1,647	-15.4%	21	214	1,334	1,393	38	40	0	0
Rhode Island	615	469	31.1%	0	0	607	461	7	8	0	0
Vermont	1,028	951	7.8%	529	493	495	456	2	2	0	0
Middle Atlantic	15,182	14,231	6.7%	77	79	13,875	12,939	636	642	595	570
New Jersey	2,061	1,984	3.9%	77	79	1,693	1,608	284	289	8	7
New York	7,322	6,926	5.7%	0	0	6,945	6,528	215	210	163	188
Pennsylvania	5,799	5,322	9.0%	0	0	5,238	4,803	136	143	425	375
East North Central	38,900	36,336	7.1%	5,278	4,628	32,130	30,040	159	175	1,334	1,493
Illinois	16,896	14,934	11.8%	138	128	16,552	14,798	6	8	0	0
Indiana	7,094	7,001	1.3%	501	469	6,507	6,447	22	21	64	64
Michigan	8,992	8,283	8.6%	3,166	2,399	5,234	5,223	46	56	547	604
Ohio	3,127	2,870	8.9%	16	18	2,783	2,536	13	16	314	300
Wisconsin	2,992	3,248	-7.9%	1,457	1,614	1,055	1,035	72	74	409	526
West North Central	105,140	85,545	22.9%	36,604	28,594	67,658	56,047	168	177	710	726
Iowa	34,412	26,536	29.7%	25,242	18,649	9,090	7,787	28	41	52	59
Kansas	24,085	21,198	13.6%	1,845	1,896	22,225	19,285	16	17	0	0
Minnesota	14,621	13,402	9.1%	3,186	2,610	10,721	10,066	70	61	644	664
Missouri	3,571	3,078	16.0%	112	41	3,414	2,990	43	45	3	2
Nebraska	9,259	7,327	26.4%	410	400	8,837	6,914	12	13	0	0
North Dakota	13,634	11,213	21.6%	5,141	4,317	8,493	6,896	0	0	1	0
South Dakota	5,558	2,791	99.1%	668	682	4,878	2,109	0	0	12	0
South Atlantic	43,553	37,353	16.6%	8,720	6,213	24,535	20,550	437	459	9,861	10,131
Delaware	131	120	9.1%	6	7	108	98	6	6	12	10
District of Columbia	68	64	5.6%	0	0	13	9	55	55	0	0
Florida	10,535	8,351	26.2%	6,229	4,065	2,498	2,365	25	50	1,783	1,870
Georgia	9,635	7,536	27.8%	353	312	5,197	3,052	3	3	4,081	4,169
Maryland	1,410	1,405	0.4%	8	9	1,371	1,315	32	33	0	49
North Carolina	11,281	10,524	7.2%	574	450	9,301	8,727	167	168	1,238	1,179
South Carolina	3,797	3,027	25.4%	78	90	2,358	1,543	0	0	1,361	1,393
Virginia	4,791	4,696	2.0%	1,472	1,280	1,785	1,810	150	144	1,385	1,461
West Virginia	1,904	1,631	16.7%	0	0	1,904	1,631	0	0	0	0
East South Central	7,017	7,162	-2.0%	168	155	1,272	1,180	5	5	5,572	5,822
Alabama	3,675	3,742	-1.8%	27	23	379	402	0	0	3,269	3,317
Kentucky	390	419	-6.9%	141	132	17	11	0	0	233	276
Mississippi	1,847	1,718	7.5%	0	0	441	335	0	0	1,406	1,382
Tennessee	1,104	1,283	-13.9%	0	0	435	431	5	5	664	847
West South Central	135,547	122,620	10.5%	1,721	1,815	129,520	116,043	74	82	4,232	4,680
Arkansas	1,205	1,545	-22.0%	2	2	326	288	23	14	854	1,242
Louisiana	2,155	2,250	-4.2%	4	2	92	83	0	0	2,059	2,165
Oklahoma	29,833	29,378	1.5%	1,397	1,475	28,102	27,613	0	0	334	291
Texas	102,353	89,447	14.4%	318	337	101,000	88,058	51	68	985	983
Mountain	57,105	49,611	15.1%	7,489	5,912	48,131	42,739	585	576	901	383
Arizona	6,704	6,063	10.6%	713	741	5,979	5,306	12	16	0	0
Colorado	15,056	12,233	23.1%	2,948	2,288	12,089	9,925	17	17	3	3
Idaho	3,948	3,721	6.1%	201	178	3,358	3,160	29	25	360	358
Montana	3,125	2,423	29.0%	297	250	2,806	2,153	0	0	21	20
Nevada	9,715	9,103	6.7%	194	170	9,004	8,424	512	506	4	2
New Mexico	9,051	8,339	8.5%	397	317	8,653	8,019	1	3	0	0
Utah	3,828	3,386	13.0%	176	115	3,639	3,262	13	9	0	0
Wyoming	5,678	4,343	30.7%	2,564	1,853	2,601	2,490	0	0	513	0
Pacific Contiguous	82,570	75,577	9.3%	8,788	6,775	70,532	65,488	941	934	2,309	2,380
California	60,862	58,921	3.3%	2,078	1,967	57,098	55,307	891	892	795	756
Oregon	11,008	8,392	31.2%	1,552	1,148	8,928	6,719	36	27	491	499
Washington	10,700	8,263	29.5%	5,158	3,660	4,505	3,462	13	15	1,023	1,126
Pacific Noncontiguous	1,510	1,269	19.0%	186	186	1,122	862	202	220	0	1
Alaska	168	180	-7.0%	77	89	51	53	39	37	0	1
Hawaii	1,342	1,089	23.2%	109	97	1,071	809	163	183	0	0
U.S. Total	497,729	440,799	12.9%	69,742	55,188	398,200	354,823	3,347	3,426	26,441	27,361

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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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	-401	-434	-7.6%	0	0	-401	-434	0	0	0	0
Connecticut	1	2	-38.7%	0	0	1	2	0	0	0	0
Maine	0	0	--	0	0	0	0	0	0	0	0
Massachusetts	-403	-436	-7.8%	0	0	-403	-436	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	-1,032	-975	5.9%	-438	-409	-594	-566	0	0	0	0
New Jersey	-110	-94	17.1%	-110	-94	0	0	0	0	0	0
New York	-328	-316	3.9%	-328	-316	0	0	0	0	0	0
Pennsylvania	-594	-566	5.1%	0	0	-594	-566	0	0	0	0
East North Central	-845	-696	21.4%	-845	-696	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	-845	-696	21.4%	-845	-696	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	-22	337	-106.6%	-22	337	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	-22	337	-106.6%	-22	337	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	-2,135	-2,612	-18.3%	-2,135	-2,612	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	-376	-599	-37.1%	-376	-599	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	-679	-909	-25.3%	-679	-909	0	0	0	0	0	0
Virginia	-1,080	-1,104	-2.2%	-1,080	-1,104	0	0	0	0	0	0
West Virginia	0	0	--	0	0	0	0	0	0	0	0
East South Central	-721	-615	17.2%	-721	-615	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	-721	-615	17.2%	-721	-615	0	0	0	0	0	0
West South Central	-52	-53	-2.1%	-52	-53	0	0	0	0	0	0
Arkansas	66	51	29.3%	66	51	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	-118	-104	13.2%	-118	-104	0	0	0	0	0	0
Texas	0	0	--	0	0	0	0	0	0	0	0
Mountain	-89	-189	-52.9%	-89	-189	0	0	0	0	0	0
Arizona	62	2	NM	62	2	0	0	0	0	0	0
Colorado	-151	-192	-21.1%	-151	-192	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	-23	-22	6.3%	-23	-22	0	0	0	0	0	0
California	-37	-31	21.3%	-37	-31	0	0	0	0	0	0
Oregon	0	0	--	0	0	0	0	0	0	0	0
Washington	14	9	60.1%	14	9	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	-5,321	-5,261	1.1%	-4,326	-4,261	-995	-1,000	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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	1,885	1,881	0.2%	-2	-1	1,715	1,707	42	54	130	121
Connecticut	591	578	2.1%	0	0	591	578	0	0	0	0
Maine	330	339	-2.5%	0	0	157	162	42	54	131	122
Massachusetts	911	910	0.1%	0	0	912	912	0	0	0	-2
New Hampshire	56	55	1.7%	0	0	56	55	0	0	0	0
Rhode Island	0	0	--	0	0	0	0	0	0	0	0
Vermont	-3	-1	163.4%	-2	-1	0	0	0	0	0	0
Middle Atlantic	2,466	2,433	1.4%	0	0	1,909	1,861	516	512	41	60
New Jersey	590	616	-4.2%	0	0	386	394	163	162	41	60
New York	997	960	3.9%	0	0	752	720	246	240	0	0
Pennsylvania	879	857	2.5%	0	0	772	748	107	110	0	0
East North Central	915	795	15.0%	18	19	48	71	79	91	770	614
Illinois	249	239	4.1%	0	0	-14	-10	0	0	263	249
Indiana	498	333	49.2%	0	0	0	0	24	24	473	310
Michigan	135	173	-21.8%	0	0	66	85	55	67	15	21
Ohio	5	8	-44.2%	-2	-2	-4	-3	0	0	10	14
Wisconsin	29	42	-31.2%	20	21	0	0	0	0	9	21
West North Central	371	409	-9.5%	178	184	125	141	38	31	29	53
Iowa	0	0	-36.2%	0	0	0	0	0	0	0	0
Kansas	5	5	-0.5%	0	0	0	0	0	0	5	5
Minnesota	328	355	-7.7%	140	135	125	141	38	31	24	48
Missouri	0	0	-20.2%	0	0	0	0	0	0	0	0
Nebraska	0	0	--	0	0	0	0	0	0	0	0
North Dakota	38	50	-23.3%	38	50	0	0	0	0	0	0
South Dakota	0	0	--	0	0	0	0	0	0	0	0
South Atlantic	4,396	4,708	-6.6%	-2	-2	2,603	2,703	163	163	1,631	1,844
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	2,921	3,154	-7.4%	-2	-2	1,610	1,656	0	0	1,314	1,500
Georgia	83	94	-11.2%	0	0	0	0	0	0	83	94
Maryland	320	325	-1.7%	0	0	320	325	0	0	0	0
North Carolina	485	538	-9.8%	0	0	287	325	0	0	198	213
South Carolina	46	45	2.5%	0	0	9	8	0	0	37	37
Virginia	557	558	-0.2%	0	0	394	395	163	163	0	0
West Virginia	-17	-6	161.6%	0	0	-17	-6	0	0	0	0
East South Central	74	58	28.4%	64	47	0	0	0	0	10	10
Alabama	0	0	-25.0%	0	0	0	0	0	0	0	0
Kentucky	64	47	35.4%	64	47	0	0	0	0	0	0
Mississippi	0	0	--	0	0	0	0	0	0	0	0
Tennessee	10	10	-4.3%	0	0	0	0	0	0	10	10
West South Central	1,051	1,096	-4.1%	179	85	60	85	-1	0	813	926
Arkansas	4	5	-8.4%	0	0	0	0	-1	0	5	5
Louisiana	605	573	5.6%	180	85	0	0	0	0	426	488
Oklahoma	5	7	-29.1%	0	1	-1	0	0	0	6	7
Texas	436	510	-14.6%	-1	0	60	85	0	0	377	426
Mountain	574	694	-17.3%	78	69	241	301	0	0	254	324
Arizona	-3	-4	-34.9%	0	0	-3	-4	0	0	0	0
Colorado	59	60	-1.7%	0	-1	13	18	0	0	46	43
Idaho	53	66	-19.6%	0	0	0	0	0	0	53	66
Montana	231	287	-19.5%	0	0	231	287	0	0	0	0
Nevada	26	22	19.9%	26	22	0	0	0	0	0	0
New Mexico	-1	-1	-4.7%	-1	-1	0	0	0	0	0	0
Utah	130	189	-31.3%	53	49	0	0	0	0	76	140
Wyoming	79	75	4.3%	0	0	0	0	0	0	79	75
Pacific Contiguous	807	867	-6.9%	-13	-17	270	269	-2	0	552	615
California	695	765	-9.2%	-12	-16	157	166	-2	0	552	615
Oregon	44	36	22.8%	0	-1	44	36	0	0	0	0
Washington	69	66	4.0%	0	0	69	67	0	0	0	0
Pacific Noncontiguous	317	391	-18.8%	119	167	0	0	199	224	0	0
Alaska	-3	-4	-11.5%	-3	-4	0	0	0	0	0	0
Hawaii	321	395	-18.7%	122	171	0	0	199	224	0	0
U.S. Total	12,855	13,331	-3.6%	618	551	6,971	7,138	1,035	1,076	4,231	4,567

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

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

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

Table 3.18. Utility Scale Facility Net Generation from Wind by State, by Sector, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	3,769	3,734	0.9%	248	220	3,489	3,480	31	31	0	2
Connecticut	12	12	-0.3%	0	0	12	12	0	0	0	0
Maine	2,395	2,494	-4.0%	0	0	2,395	2,494	0	0	0	0
Massachusetts	238	211	13.0%	67	49	147	136	24	24	0	2
New Hampshire	525	433	21.1%	0	0	525	433	0	0	0	0
Rhode Island	215	206	4.1%	0	0	207	199	7	8	0	0
Vermont	384	377	1.6%	181	171	203	207	0	0	0	0
Middle Atlantic	8,290	7,728	7.3%	0	0	8,285	7,724	3	3	2	1
New Jersey	20	22	-9.0%	0	0	20	22	0	0	0	0
New York	4,522	4,456	1.5%	0	0	4,516	4,452	3	3	2	1
Pennsylvania	3,748	3,250	15.3%	0	0	3,748	3,250	0	0	0	0
East North Central	33,301	30,422	9.5%	4,229	3,607	28,957	26,706	29	30	86	79
Illinois	16,226	14,460	12.2%	11	12	16,211	14,443	4	5	0	0
Indiana	6,288	6,216	1.2%	0	0	6,288	6,216	0	0	0	0
Michigan	6,735	5,826	15.6%	3,077	2,313	3,658	3,513	0	0	0	0
Ohio	2,289	2,043	12.1%	9	11	2,198	1,956	3	3	79	72
Wisconsin	1,763	1,878	-6.1%	1,132	1,270	603	579	21	21	7	7
West North Central	101,616	82,465	23.2%	36,257	28,295	65,313	54,124	45	45	0	0
Iowa	34,182	26,305	29.9%	25,208	18,628	8,970	7,673	4	4	0	0
Kansas	23,964	21,124	13.4%	1,842	1,894	22,106	19,212	16	17	0	0
Minnesota	11,831	10,965	7.9%	3,013	2,450	8,792	8,490	25	25	0	0
Missouri	3,345	2,858	17.0%	60	0	3,285	2,858	0	0	0	0
Nebraska	9,115	7,211	26.4%	324	324	8,791	6,887	0	0	0	0
North Dakota	13,634	11,213	21.6%	5,141	4,317	8,493	6,896	0	0	0	0
South Dakota	5,544	2,789	98.8%	668	682	4,876	2,107	0	0	0	0
South Atlantic	2,995	2,680	11.8%	0	0	2,990	2,675	5	5	0	0
Delaware	5	5	-1.7%	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	546	520	4.9%	0	0	546	520	0	0	0	0
North Carolina	546	523	4.4%	0	0	546	523	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	1,898	1,631	16.4%	0	0	1,898	1,631	0	0	0	0
East South Central	39	38	3.2%	0	0	39	38	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	39	38	3.2%	0	0	39	38	0	0	0	0
West South Central	121,858	112,629	8.2%	1,578	1,671	120,225	110,895	48	54	8	9
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	29,417	29,008	1.4%	1,333	1,415	28,083	27,593	0	0	0	0
Texas	92,441	83,620	10.5%	244	256	92,141	83,302	48	54	8	9
Mountain	33,724	28,534	18.2%	5,971	4,548	27,236	23,979	1	4	516	3
Arizona	644	554	16.2%	0	0	644	554	0	0	0	0
Colorado	13,386	10,852	23.3%	2,939	2,282	10,445	8,566	2	3	3	3
Idaho	2,771	2,551	8.6%	183	163	2,587	2,388	0	0	0	0
Montana	3,059	2,373	28.9%	285	250	2,774	2,124	0	0	0	0
Nevada	325	329	-1.4%	0	0	325	329	0	0	0	0
New Mexico	7,224	6,892	4.8%	0	0	7,223	6,889	1	3	0	0
Utah	803	819	-2.0%	0	0	803	819	0	0	0	0
Wyoming	5,513	4,163	32.4%	2,564	1,853	2,436	2,309	0	0	513	0
Pacific Contiguous	31,626	26,981	17.2%	7,194	5,206	24,421	21,765	6	6	5	5
California	13,583	13,735	-1.1%	816	780	12,756	12,944	6	6	5	5
Oregon	8,777	6,569	33.6%	1,485	1,081	7,293	5,488	0	0	0	0
Washington	9,266	6,677	38.8%	4,893	3,344	4,373	3,333	0	0	0	0
Pacific Noncontiguous	721	672	7.3%	77	89	644	583	0	0	0	0
Alaska	129	143	-9.9%	77	89	51	53	0	0	0	0
Hawaii	592	529	11.9%	0	0	592	529	0	0	0	0
U.S. Total	337,938	295,882	14.2%	55,554	43,636	281,599	251,968	168	179	617	100

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	5,411	5,850	-7.5%	308	496	4,082	4,072	100	113	921	1,169
Connecticut	782	749	4.3%	0	0	782	749	0	0	0	0
Maine	2,094	2,248	-6.9%	0	0	1,138	1,035	35	45	921	1,169
Massachusetts	1,006	1,004	0.2%	0	0	981	978	25	26	0	0
New Hampshire	865	1,214	-28.8%	21	214	805	960	38	40	0	0
Rhode Island	205	208	-1.3%	0	0	205	208	0	0	0	0
Vermont	459	426	7.7%	287	282	170	142	2	2	0	0
Middle Atlantic	4,608	4,732	-2.6%	0	0	3,559	3,702	479	482	570	547
New Jersey	736	797	-7.6%	0	0	591	650	145	147	0	0
New York	1,961	1,946	0.7%	0	0	1,606	1,569	201	197	153	180
Pennsylvania	1,911	1,988	-3.9%	0	0	1,362	1,482	132	139	417	367
East North Central	4,749	5,207	-8.8%	746	787	2,637	2,875	121	133	1,246	1,412
Illinois	391	412	-5.1%	124	114	267	299	0	0	0	0
Indiana	448	463	-3.3%	314	330	50	49	20	20	64	64
Michigan	2,102	2,314	-9.2%	0	0	1,510	1,655	45	55	547	604
Ohio	674	685	-1.7%	0	0	432	452	8	8	233	226
Wisconsin	1,136	1,333	-14.8%	308	343	378	420	48	51	402	518
West North Central	1,654	1,671	-1.0%	294	271	528	543	122	131	710	726
Iowa	208	216	-3.8%	24	12	108	107	23	37	52	59
Kansas	64	63	1.6%	0	0	64	63	0	0	0	0
Minnesota	1,156	1,188	-2.7%	154	158	314	330	44	36	644	664
Missouri	125	120	4.3%	39	30	42	44	42	44	3	2
Nebraska	90	85	6.1%	78	71	0	0	12	13	0	0
North Dakota	1	0	180.5%	0	0	0	0	0	0	1	0
South Dakota	12	0	--	0	0	0	0	0	0	12	0
South Atlantic	18,308	18,795	-2.6%	1,372	1,772	6,782	6,586	301	312	9,854	10,124
Delaware	72	61	17.4%	0	0	60	52	0	0	12	10
District of Columbia	55	55	-0.5%	0	0	0	0	55	55	0	0
Florida	4,025	4,449	-9.5%	495	670	1,734	1,872	16	40	1,780	1,867
Georgia	5,855	5,376	8.9%	0	0	1,774	1,206	0	0	4,081	4,169
Maryland	337	391	-13.6%	0	0	322	326	15	15	0	49
North Carolina	2,461	2,549	-3.5%	0	0	1,156	1,312	67	59	1,238	1,179
South Carolina	2,075	2,168	-4.3%	71	86	647	692	0	0	1,357	1,390
Virginia	3,420	3,746	-8.7%	806	1,016	1,082	1,126	148	143	1,385	1,461
West Virginia	6	0	--	0	0	6	0	0	0	0	0
East South Central	5,811	6,045	-3.9%	99	88	146	141	0	0	5,566	5,816
Alabama	3,306	3,357	-1.5%	0	0	37	40	0	0	3,269	3,317
Kentucky	347	374	-7.1%	99	88	15	10	0	0	233	276
Mississippi	1,417	1,395	1.6%	0	0	11	13	0	0	1,406	1,382
Tennessee	740	919	-19.4%	0	0	82	78	0	0	658	840
West South Central	4,777	5,354	-10.8%	53	72	495	596	4	16	4,224	4,671
Arkansas	933	1,335	-30.1%	0	0	75	88	4	5	854	1,242
Louisiana	2,116	2,248	-5.9%	0	0	57	83	0	0	2,059	2,165
Oklahoma	353	311	13.6%	0	0	19	20	0	0	334	291
Texas	1,376	1,461	-5.9%	53	72	345	405	0	11	977	974
Mountain	1,101	1,078	2.1%	30	15	651	652	42	34	378	376
Arizona	223	231	-3.4%	0	0	223	231	0	0	0	0
Colorado	166	162	2.7%	0	0	166	162	0	0	0	0
Idaho	521	518	0.7%	18	15	118	121	29	25	357	356
Montana	33	20	65.4%	12	0	0	0	0	0	21	20
Nevada	54	54	-0.1%	0	0	54	54	0	0	0	0
New Mexico	25	23	10.6%	0	0	25	23	0	0	0	0
Utah	78	71	9.7%	0	0	65	62	13	9	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	7,989	8,445	-5.4%	398	437	4,565	4,896	775	777	2,252	2,335
California	5,640	5,941	-5.1%	71	60	4,106	4,435	725	735	738	710
Oregon	961	962	-0.1%	62	61	371	375	36	27	491	499
Washington	1,388	1,542	-10.0%	265	316	88	86	13	15	1,023	1,126
Pacific Noncontiguous	295	329	-10.3%	28	57	65	51	202	220	0	1
Alaska	39	38	4.0%	0	0	0	0	39	37	0	1
Hawaii	256	292	-12.1%	28	57	65	51	163	183	0	0
U.S. Total	54,703	57,507	-4.9%	3,328	3,997	23,508	24,115	2,144	2,219	25,722	27,176

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

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, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
				Electric Utilities		Independent Power Producers					
	Generation at Utility Scale Facilities			Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
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	4,321	4,373	-1.2%	176	115	3,697	3,816	449	442	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	91	96	-5.3%	0	0	91	96	0	0	0	0
Montana	0	0	--	0	0	0	0	0	0	0	0
Nevada	3,801	3,909	-2.8%	0	0	3,352	3,467	449	442	0	0
New Mexico	53	58	-8.3%	0	0	53	58	0	0	0	0
Utah	377	310	21.4%	176	115	201	195	0	0	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	11,559	11,100	4.1%	739	656	10,820	10,444	0	0	0	0
California	11,367	10,914	4.1%	739	656	10,628	10,258	0	0	0	0
Oregon	192	185	3.6%	0	0	192	185	0	0	0	0
Washington	0	0	--	0	0	0	0	0	0	0	0
Pacific Noncontiguous	10	0	--	0	0	10	0	0	0	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	10	0	--	0	0	10	0	0	0	0	0
U.S. Total	15,890	15,473	2.7%	915	771	14,526	14,260	449	442	0	0

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

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

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

Table 3.22. Utility Scale Facility Net Generation from Solar Thermal by State, by Sector, 2020 and 2019 (Thousand Megawatthours)

Census Division and State	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Generation at Utility Scale Facilities			Electric Utilities		Independent Power Producers		Generation at Utility Scale Facilities		Generation at Utility Scale Facilities	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
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	-100.0%	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	-100.0%	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	30	28	6.2%	30	28	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	30	28	6.2%	30	28	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	883	952	-7.2%	0	0	883	952	0	0	0	0
Arizona	776	792	-2.0%	0	0	776	792	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	107	160	-33.1%	0	0	107	160	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	2,220	2,237	-0.8%	0	0	2,220	2,237	0	0	0	0
California	2,220	2,237	-0.8%	0	0	2,220	2,237	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	3,133	3,218	-2.6%	30	28	3,103	3,190	0	0	0	0

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

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

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

Table 3.23. Useful Thermal Output by Energy Source: Total Combined Heat and Power (All Sectors), 2010 - 2020 (Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2010	300,303	19,914	21,448	524,494	91,439	581,310	28,755	1,567,862
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	566,945	113,147	580,513	24,571	1,564,853
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	835,665	135,048	601,556	20,901	1,751,415
Year 2018								
January	18,956	2,597	1,662	72,379	13,963	58,883	1,994	170,434
February	16,841	708	1,539	64,059	13,591	52,908	1,886	151,532
March	16,639	601	1,390	67,685	14,652	57,112	2,034	160,113
April	14,584	532	1,472	62,177	13,569	53,599	1,838	147,771
May	14,238	567	1,435	63,879	14,587	54,802	1,821	151,330
June	14,229	634	1,370	65,579	14,392	53,137	2,053	151,393
July	14,346	534	1,361	72,049	14,604	56,586	2,017	161,498
August	14,217	532	1,308	71,554	16,097	56,410	2,065	162,182
September	13,791	491	1,245	66,851	13,972	51,546	1,662	149,558
October	13,254	768	1,287	66,578	14,976	54,658	1,877	153,399
November	15,056	914	1,141	68,771	13,821	55,116	1,925	156,745
December	16,223	998	1,371	71,565	14,452	58,887	1,997	165,493
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	55,708	1,802	165,337
February	12,903	666	782	72,512	12,266	52,069	1,812	153,010
March	11,772	453	624	73,085	12,642	53,065	1,753	153,394
April	10,321	936	477	68,293	10,215	49,876	1,806	141,925
May	10,169	371	994	64,264	10,791	50,012	1,615	138,215
June	10,054	430	1,160	65,419	10,655	46,792	1,648	136,158
July	11,352	432	1,206	71,798	11,071	48,524	1,694	146,076
August	11,028	462	1,241	70,526	11,354	47,770	1,721	144,101
September	10,676	442	1,169	65,054	9,828	46,183	1,720	135,073
October	12,138	509	1,142	66,947	11,186	49,192	1,719	142,833
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	52,682	1,919	154,852

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.

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Table 3.24. Useful Thermal Output by Energy Source: Electric Power Sector Combined Heat and Power, 2010 - 2020 (Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2010	38,325	4,702	1,108	186,772	19,707	17,589	5,040	273,244
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	261,807
Year 2018								
January	1,483	437	104	18,095	1,467	2,384	625	24,596
February	1,151	36	88	16,586	1,398	2,279	568	22,104
March	1,194	35	97	17,454	1,412	2,354	632	23,177
April	1,005	32	105	15,767	1,579	1,614	561	20,663
May	1,050	51	64	16,311	1,661	1,542	573	21,253
June	1,069	37	14	16,547	1,535	1,664	643	21,509
July	1,087	28	97	18,937	1,576	1,794	635	24,154
August	1,073	32	99	18,736	1,569	1,763	620	23,897
September	882	35	80	16,902	1,510	1,594	439	21,442
October	793	46	99	17,040	1,776	1,980	578	22,311
November	1,396	49	86	17,026	1,571	2,200	625	22,954
December	1,391	204	90	18,059	1,639	2,208	619	24,210
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

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.

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Table 3.25. Useful Thermal Output by Energy Source: Commercial Sector Combined Heat and Power, 2010 - 2020 (Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2010	19,216	845	216	29,791	13	7,917	5,333	63,330
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	75,850
2020	5,446	692	50	55,508	0	6,929	2,863	71,489
Year 2018								
January	952	314	29	5,302	0	964	436	7,998
February	719	87	25	4,783	0	967	423	7,006
March	691	80	23	4,924	0	989	421	7,128
April	573	59	9	4,382	0	904	428	6,354
May	455	43	0	4,357	0	897	449	6,201
June	429	39	0	4,655	0	889	407	6,419
July	474	60	0	5,401	0	914	431	7,280
August	491	53	0	5,442	0	945	421	7,352
September	525	43	14	4,686	0	755	297	6,321
October	496	49	13	4,576	0	831	373	6,338
November	565	93	24	4,858	0	864	403	6,808
December	573	100	26	4,946	0	982	429	7,056
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

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.

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Table 3.26. Useful Thermal Output by Energy Source: Industrial Sector Combined Heat and Power, 2010 - 2020
(Billion Btus)

Period	Coal	Petroleum Liquids	Petroleum Coke	Natural Gas	Other Gas	Renewable Sources	Other	Total
Annual Totals								
2010	242,762	14,366	20,124	307,931	71,719	555,804	18,382	1,231,088
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	1,232,889
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	568,058	10,702	1,375,401
Year 2018								
January	14,472	1,677	1,516	46,673	12,496	54,988	932	132,754
February	13,139	572	1,417	40,743	12,193	49,103	894	118,061
March	13,006	476	1,262	43,193	13,241	53,174	978	125,329
April	11,359	432	1,345	40,349	11,989	50,528	848	116,851
May	11,248	462	1,364	41,234	12,926	51,916	800	119,948
June	11,183	544	1,344	42,224	12,857	50,140	1,002	119,295
July	11,209	437	1,253	45,047	13,028	53,237	950	125,161
August	11,104	436	1,199	44,958	14,528	53,149	1,023	126,397
September	10,875	395	1,143	43,198	12,463	48,750	924	117,747
October	10,610	658	1,172	43,194	13,200	51,191	926	120,951
November	11,718	763	1,022	45,021	12,250	51,484	894	123,152
December	12,749	684	1,245	46,103	12,813	55,038	947	129,578
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	52,251	895	130,792
February	10,446	564	625	48,560	10,569	48,763	952	120,479
March	9,803	359	500	48,935	10,854	49,766	849	121,066
April	8,708	848	351	46,461	8,850	47,329	897	113,444
May	8,527	257	861	41,960	9,483	47,409	821	109,317
June	8,206	347	1,066	41,985	9,467	44,167	817	106,055
July	9,042	317	1,101	45,718	9,879	45,986	829	112,872
August	8,776	322	1,115	44,711	9,846	45,268	878	110,915
September	8,672	342	1,038	41,420	8,687	43,878	932	104,970
October	10,036	384	1,035	44,075	9,906	46,678	899	113,014
November	9,440	428	981	43,044	9,387	46,851	923	111,055
December	10,763	502	1,140	48,503	9,792	49,711	1,010	121,421

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.

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

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

Totals may not equal sum of components because of independent rounding. NM=Not meaningful due to large standard error. W=Withheld to avoid disclosure of individual company data. Sources: U.S. Energy Information Administration, Form EIA-923, Power Plant Operations Report; U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920 Combined Heat and Power Plant Report; and predecessor forms.

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

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

**Table 3.27 Gross/Net Generation by Energy Storage Technology: Total (All Sectors), 2010 - 2020
(Thousand Megawatthours)**

Period	Generation at Utility Scale Facilities									
	Gross Generation					Net Generation				
	Battery	Compressed Air	Flywheels	Hydroelectric Pumped Storage	Total	Battery	Compressed Air	Flywheels	Hydroelectric Pumped Storage	Total
Annual Totals										
2010	0	0	0	24,067	24,067	0	0	0	-5,501	-5,501
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
Year 2018										
January	27	1	5	1,666	1,698	-7	0	-2	-547	-557
February	25	0	5	1,464	1,495	-7	0	-2	-315	-324
March	28	0	5	1,346	1,380	-7	0	-2	-490	-500
April	27	1	5	1,338	1,371	-7	0	-2	-377	-387
May	29	1	6	1,874	1,910	-7	0	-2	-390	-400
June	28	1	6	2,177	2,211	-7	-1	-2	-433	-444
July	33	1	6	2,630	2,670	-8	-1	-2	-644	-656
August	32	1	6	2,730	2,768	-8	-1	-2	-747	-758
September	32	1	5	2,000	2,038	-7	-1	-2	-603	-613
October	32	1	6	1,605	1,643	-8	-1	-2	-492	-503
November	33	0	6	1,356	1,395	-7	0	-2	-343	-353
December	33	0	6	1,316	1,355	-8	0	-2	-522	-532
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	-8	-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

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, 2010 through 2020

Year	Coal	Petroleum	Natural Gas	Other Gases	Nuclear	Hydroelectric Conventional	Other Renewables	Hydroelectric Pumped Storage	Other Energy Sources
Total (All Sectors)									
2010	580	1,169	1,657	48	66	1,432	1,355	39	32
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
Electric Utilities									
2010	333	855	775	3	34	888	155	34	--
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
Independent Power Producers, Non-Combined Heat and Power Plants									
2010	102	175	380	1	32	488	966	5	6
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
Independent Power Producers, Combined Heat and Power Plants									
2010	48	10	161	2	--	--	41	--	--
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
Commercial Sector									
2010	17	69	110	1	--	9	57	--	1
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
Industrial Sector									
2010	80	60	231	41	--	47	136	--	25
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

Notes: The number of power plants for each energy source is the number of sites for which the respective energy source was reported as the most predominant energy source for at least one of its generators. If all generators for a site have the same energy source reported as the most predominant, that site will be counted once under that energy source. However, if the most predominant energy source is not the same for all generators within a site, the site is counted more than once, based on the number of most predominant energy sources for generators at a site. In general, this table translates the number of generators by energy source into the number of sites represented by the generators for an energy source. Therefore, the count for Total (All Sectors) above is the sum of the counts for each sector by energy source and does not necessarily represent unique sites. In addition, changes to predominant energy sources and status codes from year to year may result in changes to previously-posted data.

Capacity by energy source is based on the capacity associated with the energy source reported as the most predominant (primary) one, where more than one energy source is associated with a generator. In 2011, EIA corrected the NAICS codes of several plants which resulted in a net capacity shift from the electric utility sector to the commercial sector.

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

Table 4.2.B. Existing Net Summer Capacity of Other Renewable Sources by Producer Type, 2010 through 2020 (Megawatts) (Page 1)

Year	Utility Scale Capacity						Utility and Small Scale Capacity			
	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)										
2010	39,134.5	393.4	473.0	7,037.3	2,404.6	4,368.5	53,811.3	--	393.4	866.4
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
Electric Utilities										
2010	5,338.3	78.2	1.0	414.3	158.9	325.4	6,316.1	--	78.2	79.2
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
Independent Power Producers, Non-Combined Heat and Power Plants										
2010	33,783.9	307.9	472.0	1,274.5	2,245.7	2,929.7	41,013.7	--	307.9	779.9
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

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, 2010 through 2020 (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										
2010	--	--	--	392.8	--	452.7	845.5	--	--	--
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
Commercial Sector										
2010	10.5	5.9	--	7.6	--	495.7	519.7	--	5.9	5.9
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
Industrial Sector										
2010	1.8	1.4	--	4,948.1	--	165.0	5,116.3	--	1.4	1.4
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
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

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, 2020 (Megawatts)

Energy Source	Facility Type	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	Utility Scale	599	234,126.3	215,554.2	217,108.2
Petroleum	Utility Scale	3,705	32,071.2	27,569.3	30,520.9
Natural Gas	Utility Scale	6,075	551,680.7	485,807.2	519,553.9
Other Gases	Utility Scale	91	2,618.4	2,275.2	2,297.4
Nuclear	Utility Scale	94	100,898.8	96,500.6	98,719.0
Hydroelectric Conventional	Utility Scale	4,009	79,895.6	79,924.3	79,370.1
Wind	Utility Scale	1,422	118,728.2	118,378.7	118,381.0
Solar Photovoltaic	Utility Scale	4,599	46,578.4	46,306.2	45,825.4
Solar Thermal	Utility Scale	18	1,760.1	1,747.9	1,588.4
Wood and Wood-Derived Fuels	Utility Scale	332	9,491.3	8,326.5	8,446.1
Geothermal	Utility Scale	170	3,864.6	2,571.9	2,987.1
Other Biomass	Utility Scale	1,839	5,260.7	4,623.3	4,682.0
Hydroelectric Pumped Storage	Utility Scale	153	21,969.3	23,016.2	22,836.1
Other Energy Sources	Utility Scale	311	3,295.7	3,079.3	3,137.8
Total	Utility Scale	23,417	1,212,239.3	1,115,680.8	1,155,453.4
Small Scale Photovoltaic	Small Scale	--	--	27,584.8	--
Estimated Total Photovoltaic	Utility and Small Scale	--	--	73,891.0	--
Estimated Total Solar	Utility and Small Scale	--	--	75,638.9	--

Notes: Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; coal synfuel and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011, coal-derived synthesis gas was included in Other 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, 2020 (Megawatts)

Producer Type	Facility Type	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Electric Power Sector					
Electric Utilities	Utility Scale	9,582	661,542.3	607,398.2	627,395.2
Independent Power Producers, Non-Combined Heat and Power Plants	Utility Scale	10,261	482,701.1	448,340.2	464,187.0
Independent Power Producers, Combined Heat and Power Plants	Utility Scale	460	31,972.1	28,495.8	30,531.9
Total	Utility Scale	20,303	1,176,215.5	1,084,234.2	1,122,114.1
Commercial and Industrial Sectors					
Commercial Sector	Utility Scale	1,601	5,099.0	4,641.6	4,734.4
Industrial Sector	Utility Scale	1,513	30,924.8	26,805.0	28,604.9
Total	Utility Scale	3,114	36,023.8	31,446.6	33,339.3
All Sectors					
Total	Utility Scale	23,417	1,212,239.3	1,115,680.8	1,155,453.4
Small Scale					
Estimated Solar Photovoltaic	Small Scale	--	--	27,584.8	--

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, 2021-2025 (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 2021						
U.S. Total	973	44,546.5	120	11,317.0	853	33,229.5
Coal	--	--	21	4,570.4	-21	-4,570.4
Petroleum	13	18.0	23	21.9	-10	-3.9
Natural Gas	132	6,270.5	39	1,127.0	93	5,143.5
Other Gases	--	--	--	--	--	--
Nuclear	--	--	5	5,133.3	-5	-5,133.3
Hydroelectric Conventional	10	67.3	11	10.2	-1	57.1
Wind	91	17,461.1	1	11.6	90	17,449.5
Solar Thermal and Photovoltaic	563	16,280.3	6	268.0	557	16,012.3
Wood and Wood-Derived Fuels	1	5.0	4	163.0	-3	-158.0
Geothermal	2	41.8	--	--	2	41.8
Other Biomass	10	44.2	10	11.6	--	32.6
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	151	4,358.3	--	--	151	4,358.3
Year 2022						
U.S. Total	434	41,434.6	86	18,618.3	348	22,816.3
Coal	--	--	42	14,205.4	-42	-14,205.4
Petroleum	4	20.8	15	731.3	-11	-710.5
Natural Gas	69	9,972.7	23	2,896.6	46	7,076.1
Other Gases	--	--	1	5.3	-1	-5.3
Nuclear	2	2,228.0	1	768.5	1	1,459.5
Hydroelectric Conventional	10	28.0	3	3.4	7	24.6
Wind	37	6,510.8	--	--	37	6,510.8
Solar Thermal and Photovoltaic	234	18,283.1	--	--	234	18,283.1
Wood and Wood-Derived Fuels	--	--	1	7.8	-1	-7.8
Geothermal	1	21.0	--	--	1	21.0
Other Biomass	3	6.8	--	--	3	6.8
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	74	4,363.4	--	--	74	4,363.4
Year 2023						
U.S. Total	188	26,962.8	74	12,011.9	114	14,950.9
Coal	--	--	18	6,468.4	-18	-6,468.4
Petroleum	--	--	9	186.0	-9	-186.0
Natural Gas	26	6,111.4	38	5,315.3	-12	796.1
Other Gases	--	--	--	--	--	--
Nuclear	--	--	--	--	--	--
Hydroelectric Conventional	28	80.8	6	25.2	22	55.6
Wind	15	3,117.2	--	--	15	3,117.2
Solar Thermal and Photovoltaic	78	12,713.4	--	--	78	12,713.4
Wood and Wood-Derived Fuels	1	12.0	2	16.0	-1	-4.0
Geothermal	--	--	--	--	--	--
Other Biomass	2	19.0	--	--	2	19.0
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	38	4,909.0	1	1.0	37	4,908.0

Notes: These data reflect plans as of December 31, 2020

Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, coal symfuel, 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, 2021-2025 (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 2024						
U.S. Total	108	13,951.9	40	8,428.3	68	5,523.6
Coal	--	--	8	2,491.3	-8	-2,491.3
Petroleum	--	--	4	32.4	-4	-32.4
Natural Gas	24	5,487.0	20	4,779.2	4	707.8
Other Gases	--	--	--	--	--	--
Nuclear	--	--	1	1,122.0	-1	-1,122.0
Hydroelectric Conventional	41	109.8	7	3.4	34	106.4
Wind	16	4,067.9	--	--	16	4,067.9
Solar Thermal and Photovoltaic	20	3,453.9	--	--	20	3,453.9
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	--	--	--	--	--	--
Other Biomass	2	3.2	--	--	2	3.2
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	5	830.1	--	--	5	830.1
Year 2025						
U.S. Total	34	10,017.3	55	9,006.1	-21	1,011.2
Coal	--	--	12	5,336.5	-12	-5,336.5
Petroleum	--	--	1	48.0	-1	-48.0
Natural Gas	16	6,928.3	27	2,500.0	-11	4,428.3
Other Gases	--	--	--	--	--	--
Nuclear	--	--	1	1,118.0	-1	-1,118.0
Hydroelectric Conventional	7	20.0	4	1.1	3	18.9
Wind	7	2,290.0	9	1.5	-2	2,288.5
Solar Thermal and Photovoltaic	4	779.0	--	--	4	779.0
Wood and Wood-Derived Fuels	--	--	--	--	--	--
Geothermal	--	--	--	--	--	--
Other Biomass	--	--	1	1.0	-1	-1.0
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	--	--	--	--	--	--
Years 2021-2025						
U.S. Total	1,737	136,913.1	375	59,381.6	1,362	77,531.5
Coal	--	--	101	33,072.0	-101	-33,072.0
Petroleum	17	38.8	52	1,019.6	-35	-980.8
Natural Gas	267	34,769.9	147	16,618.1	120	18,151.8
Other Gases	--	--	1	5.3	-1	-5.3
Nuclear	2	2,228.0	8	8,141.8	-6	-5,913.8
Hydroelectric Conventional	96	305.9	31	43.3	65	262.6
Wind	166	33,447.0	10	13.1	156	33,433.9
Solar Thermal and Photovoltaic	899	51,509.7	6	268.0	893	51,241.7
Wood and Wood-Derived Fuels	2	17.0	7	186.8	-5	-169.8
Geothermal	3	62.8	--	--	3	62.8
Other Biomass	17	73.2	11	12.6	6	60.6
Hydroelectric Pumped Storage	--	--	--	--	--	--
Other Energy Sources	268	14,460.8	1	1.0	267	14,459.8

Notes: These data reflect plans as of December 31, 2020

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

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

Other 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, 2020 (Count, Megawatts)

Energy Source	Generator Additions				Generator Retirements			
	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity	Number of Generators	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	1	17.0	17.0	17.0	39	11,590.5	10,456.7	10,538.2
Petroleum	23	37.8	36.3	36.1	45	1,451.9	1,213.8	1,333.6
Natural Gas	95	7,186.8	6,368.2	6,817.8	88	3,630.9	2,650.9	2,844.2
Other Gases	--	--	--	--	--	--	--	--
Nuclear	--	--	--	--	2	1,978.5	1,612.9	622.1
Hydroelectric Conventional	6	154.6	154.0	154.0	6	10.9	10.9	10.9
Wind	95	14,679.5	14,664.9	14,665.1	23	246.6	246.4	246.4
Solar Thermal and Photovoltaic	581	10,417.8	10,410.6	10,382.5	--	--	--	--
Wood and Wood-Derived Fuels	2	54.0	46.5	46.5	4	77.5	71.2	71.2
Geothermal	3	47.6	31.8	47.6	2	21.8	14.6	21.8
Other Biomass	10	21.6	19.9	19.9	33	104.7	97.9	97.9
Hydroelectric Pumped Storage	--	--	--	--	--	--	--	--
Other Energy Sources	56	490.0	489.0	489.1	2	4.4	4.2	4.2
Total	872	33,106.7	32,238.2	32,675.6	244	19,117.7	16,379.5	15,790.5

Energy Source	Other Changes to Existing Capacity		
	Generator Nameplate Capacity	Net Summer Capacity	Net Winter Capacity
Coal	-3,096.5	-3,117.9	-2,448.7
Petroleum	-6,637.0	-6,261.2	-5,517.1
Natural Gas	4,317.6	4,176.9	3,038.6
Other Gases	-244.9	-224.0	-253.7
Nuclear	--	-5.5	-800.4
Hydroelectric Conventional	-133.3	-90.0	-43.3
Wind	-163.5	290.0	195.5
Solar Thermal and Photovoltaic	-15.0	30.6	21.9
Wood and Wood-Derived Fuels	-4.3	-23.3	-25.4
Geothermal	-10.5	-0.7	-2.0
Other Biomass	-43.7	-42.3	-44.0
Hydroelectric Pumped Storage	98.0	237.9	237.5
Other Energy Sources	-46.3	-42.4	-34.1
Total	-5,979.4	-5,071.9	-5,675.2

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

Year/Month	Coal		Natural Gas								Petroleum					
	Time Adjusted Capacity	Capacity Factor	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
Annual Data																
2010	313,393.9	67.1%	202,404.4	44.3%	116,426.0	7.8%	80,233.7	11.1%	2,543.0	6.5%	29,871.2	13.6%	19,565.5	2.0%	5,016.0	2.1%
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	55.0%	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	57.0%	129,085.6	11.5%	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%
Year 2018																
January	251,730.8	64.0%	247,709.0	51.4%	126,362.3	11.7%	78,615.1	10.9%	4,280.9	11.8%	13,440.4	19.9%	14,336.6	3.5%	5,330.8	2.5%
February	250,522.8	49.1%	247,709.0	51.6%	126,189.1	9.3%	78,185.1	5.8%	4,292.9	12.0%	13,440.4	12.1%	14,336.6	0.8%	5,333.5	1.8%
March	249,781.8	43.8%	247,709.0	49.1%	126,170.5	10.3%	77,411.2	7.5%	4,288.5	11.9%	13,440.4	10.9%	14,336.6	0.9%	5,326.9	1.8%
April	248,603.8	41.5%	248,199.0	45.6%	126,338.5	10.5%	77,369.9	8.5%	4,372.4	10.9%	13,440.4	12.9%	14,336.6	1.0%	5,317.8	2.0%
May	248,603.8	46.7%	252,604.7	49.8%	126,690.5	11.3%	76,359.3	15.3%	4,372.4	12.0%	13,440.4	10.0%	14,336.6	1.1%	5,319.2	1.8%
June	245,407.8	58.0%	255,100.3	58.7%	126,881.1	12.4%	75,658.1	16.3%	4,362.4	13.1%	13,440.4	15.0%	14,166.6	1.4%	5,275.1	1.8%
July	245,407.8	63.8%	256,721.3	69.8%	126,878.6	16.3%	75,658.1	23.3%	4,369.0	18.3%	13,440.4	16.6%	14,166.6	1.5%	5,275.5	1.8%
August	245,407.8	63.6%	257,487.3	69.3%	127,267.4	15.0%	75,658.1	20.3%	4,594.6	16.9%	13,440.4	15.6%	14,166.6	1.3%	5,277.8	2.1%
September	245,113.4	55.3%	258,463.3	63.2%	127,146.3	13.8%	75,650.6	15.6%	4,594.3	13.8%	13,440.4	16.9%	14,166.6	1.3%	5,274.0	2.0%
October	244,837.5	48.5%	258,836.7	52.9%	127,104.0	11.6%	75,120.6	12.6%	4,595.0	12.4%	13,440.4	13.7%	14,166.6	1.1%	5,269.0	2.0%
November	244,426.5	53.2%	260,948.0	48.8%	126,977.7	10.5%	74,758.6	8.7%	4,613.6	11.7%	13,440.4	13.4%	14,154.6	1.1%	5,240.4	1.8%
December	242,785.6	55.9%	260,868.5	48.9%	127,108.3	9.1%	73,841.6	6.3%	4,613.6	11.0%	11,788.4	12.6%	14,154.6	1.0%	5,237.9	1.7%
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%	261,801.1	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	10.7%	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	52.9%	129,140.8	10.7%	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	47.9%	129,138.0	9.3%	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	48.3%	129,126.0	9.8%	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	59.9%	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	71.5%	129,015.4	16.7%	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	69.8%	129,136.8	14.4%	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	60.4%	129,076.1	11.3%	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	11.2%	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	9.3%	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	10.2%	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%

Values are final.

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

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

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

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

Year/Month	Battery		Pumped Storage	
	Time Adjusted Capacity	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%
Year 2018				
January	643.7	5.2%	22,785.2	9.8%
February	653.5	5.1%	22,785.2	9.6%
March	667.1	5.2%	22,785.2	7.9%
April	681.1	5.0%	22,785.2	8.2%
May	690.6	5.2%	22,830.2	11.0%
June	696.1	4.9%	22,830.2	13.2%
July	742.1	5.6%	22,830.2	15.5%
August	740.1	5.6%	22,830.2	16.1%
September	746.4	5.6%	22,830.2	12.2%
October	748.9	5.0%	22,830.2	9.4%
November	768.9	5.3%	22,830.2	8.2%
December	770.7	5.1%	22,830.2	7.7%
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%

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, 2010 through 2015 (Table Discontinued)

Year	Capacity (MW)										Number of Generators
	Internal Combustion	Combustion Turbine	Steam Turbine	Hydro	Wind	Photovoltaic	Storage	Other	Wind and Other	Total	
Distributed Generators											
2010	886.8	186.0	109.9	97.4	98.9	236.3	--	372.7	--	1,988.0	15,630
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											
2010	2,771.2	64.4	13.8	8.4	6.3	95.2	7.0	17.9	--	2,984.2	16,874
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											
2010	3,658.0	250.4	123.7	105.8	105.2	331.5	7.0	390.6	--	4,972.2	32,504
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, 2010 through 2020

Year	Generators by Technology and Sector					Total
	Residential	Commercial	Industrial	Transportation	Direct Connected	
Internal Combustion						
2010	--	--	--	--	--	886,800
2011	--	--	--	--	--	791,100
2012	--	--	--	--	--	756,100
2013	--	--	--	--	--	881,311
2014	--	--	--	--	--	813,847
2015	--	--	--	--	--	797,595
2016	46,974	679,239	223,037	--	69,217	1,018,467
2017	86,766	651,363	308,905	--	78,184	1,325,214
2018	69,428	909,278	336,970	--	91,159	1,406,835
2019	76,634	965,455	263,507	0.275	111,981	1,408,152
2020	56,878	862,233	299,805	--	81,835	1,300,751
Combustion Turbine						
2010	--	--	--	--	--	186,000
2011	--	--	--	--	--	116,500
2012	--	--	--	--	--	105,800
2013	--	--	--	--	--	106,385
2014	--	--	--	--	--	81,325
2015	--	--	--	--	--	48,329
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
Steam Turbine						
2010	--	--	--	--	--	108,500
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	--	4,629	0.539	--	2,681	7,746
2019	--	8,430	0.539	--	2,581	11,569
2020	--	7,464	0.539	--	2,581	10,584
Hydroelectric						
2010	--	--	--	--	--	97,400
2011	--	--	--	--	--	97,800
2012	--	--	--	--	--	119,900
2013	--	--	--	--	--	103,935
2014	--	--	--	--	--	108,235
2015	--	--	--	--	--	121,234
2016	6,140	39,820	8,530	--	101,148	155,748
2017	5,915	30,763	8,033	--	103,607	148,318
2018	5,422	36,048	8,503	--	113,592	160,565
2019	7,482	37,818	8,503	--	113,910	164,713
2020	2,622	39,539	2,793	--	104,293	148,447
Wind						
2010	--	--	--	--	--	98,900
2011	--	--	--	--	--	96,700
2012	--	--	--	--	--	252,900
2013	--	--	--	--	--	78,299
2014	--	--	--	--	--	33,727
2015	--	--	--	--	--	26,658
2016	2,616	15,742	1,368	--	8,838	28,552
2017	2,632	18,453	1,044	--	9,989	29,117
2018	2,579	15,527	1,441	--	9,071	28,618
2019	2,437	15,707	1,462	--	9,918	29,514
2020	2,104	13,947	1,249	--	9,523	26,823
Photovoltaic						
2010	--	--	--	--	--	236,300
2011	--	--	--	--	--	314,800
2012	--	--	--	--	--	643,700
2013	--	--	--	--	--	555,965
2014	--	--	--	--	--	892,034
2015	--	--	--	--	--	876,351
2016	80,577	388,911	132,970	--	112,922	715,380
2017	186,910	513,251	177,162	--	120,844	998,298
2018	289,151	594,877	185,874	--	126,793	1,196,695
2019	437,911	688,600	202,899	--	131,391	1,460,801
2020	655,125	872,948	211,173	--	138,251	1,877,496
Storage						
2010	--	--	--	--	--	0.200
2011	--	--	--	--	--	15,200
2012	--	--	--	--	--	1,950
2013	--	--	--	--	--	7,227
2014	--	--	--	--	--	24,443
2015	0.070	32,678	8,714	--	1,248	42,708
2016	3,916	42,584	12,271	--	1,444	60,515
2017	6,935	79,042	10,674	--	7,278	103,927
2018	14,308	113,788	15,519	--	15,929	159,544
2019	26,048	138,443	18,876	--	17,245	196,617
2020	--	--	--	--	--	--
Fuel Cell						
2010	--	--	--	--	--	--
2011	--	--	--	--	--	--
2012	--	--	--	--	--	--
2013	--	--	--	--	--	--
2014	--	--	--	--	--	--
2015	--	--	--	--	--	--
2016	0.161	6,229	3,700	--	0.229	10,315
2017	0.167	7,953	6,336	--	0.623	15,081
2018	0.150	12,793	3,869	--	0.623	17,527
2019	0.150	19,943	3,601	--	0.625	24,319
2020	1.133	18,599	4,599	--	0.625	24,956
Other						
2010	--	--	--	--	--	372,700
2011	--	--	--	--	--	264,300
2012	--	--	--	--	--	324,400
2013	--	--	--	--	--	88,000
2014	--	--	--	--	--	100,995
2015	--	--	--	--	--	88,423
2016	0.753	34,050	10,389	--	6,050	51,242
2017	1,136	33,090	12,728	--	4,999	51,911
2018	0.629	36,452	16,209	--	3,310	56,600
2019	0.484	37,306	14,964	--	3,579	56,303
2020	0.117	38,842	16,249	--	2,979	58,187
Total						
2010	--	--	--	--	--	1,888,000
2011	--	--	--	--	--	1,685,400
2012	--	--	--	--	--	1,899,800
2013	--	--	--	--	--	1,947,384
2014	--	--	--	--	--	1,855,455
2015	--	--	--	--	--	1,894,564
2016	137,524	1,261,901	413,640	--	302,793	2,115,858
2017	300,445	1,553,887	550,233	--	325,064	2,729,629
2018	374,368	1,763,792	588,737	--	357,893	3,084,792
2019	538,703	1,853,551	530,102	0.275	394,402	3,416,292
2020	744,304	2,084,904	575,111	--	360,820	3,765,160
Total Number of Generators						
2010	--	--	--	--	--	15,630
2011	--	--	--	--	--	20,941
2012	--	--	--	--	--	28,252
2013	--	--	--	--	--	196,141
2014	--	--	--	--	--	203,099
2015	--	--	--	--	--	215,825
2016	--	--	--	--	--	195,703
2017	--	--	--	--	--	215,888
2018	--	--	--	--	--	231,220
2019	--	--	--	--	--	251,357
2020	--	--	--	--	--	279,730

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, 2010 through 2020

Year	Capacity (MW)					Customers				
	Residential	Commercial	Industrial	Transportation	Total	Residential	Commercial	Industrial	Transportation	Total
Photovoltaic										
2010	697.890	517.861	243.051	--	1,458.802	137,618	11,897	1,225	--	150,740
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
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
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
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
Wind										
2010	83.797	26.106	6.392	--	116.295	3,467	583	37	--	4,087
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
Other										
2010	11.455	34.752	24.835	--	71.042	767	271	56	--	1,094
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
All Technologies										
2010	793.142	578.719	274.278	--	1,646.139	141,852	12,751	1,318	--	155,921
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

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, 2020 (Megawatts, Percent)

Producer Type	Total Net Summer Capacity of All Generators Reporting Natural Gas as the Primary Fuel	Fuel-Switchable Part of Total			
		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	252,902.3	82,009.1	32.4%	77,791.6	18,113.4
Independent Power Producers, Non-Combined Heat and Power Plants	190,621.4	43,832.9	23.0%	41,028.7	7,277.5
Independent Power Producers, Combined Heat and Power Plants	24,635.8	3,991.6	16.2%	3,830.0	295.8
Electric Power Sector Subtotal	468,159.5	129,833.6	27.7%	122,650.3	25,686.7
Commercial Sector	2,345.0	932.1	39.7%	877.5	118.8
Industrial Sector	15,302.7	910.4	5.9%	880.7	89.2
All Sectors	485,807.2	131,676.1	27.1%	124,408.5	25,894.7

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

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

Table 4.12. Fuel-Switching Capacity of Operable Generators Reporting Petroleum Liquids as the Primary Fuel, by Producer Type, 2020 (Megawatts, Percent)

Producer Type	Total Net Summer Capacity of All Generators Reporting Petroleum Liquids as the Primary Fuel	Fuel-Switchable Part of Total		
		Net Summer Capacity of Petroleum Liquids-Fired Generators Reporting the Ability to Switch to Natural Gas	Fuel Switchable Capacity as Percent of Total	Maximum Achievable Net Summer Capacity Using Natural Gas
Electric Utilities	13,793.1	730.9	5.3%	709.6
Independent Power Producers, Non-Combined Heat and Power Plants	11,007.6	2,746.0	24.9%	1,902.2
Independent Power Producers, Combined Heat and Power Plants	262.8	--	0.0%	--
Electric Power Sector Subtotal	25,063.5	3,476.9	13.9%	2,611.8
Commercial Sector	875.1	5.9	0.7%	5.6
Industrial Sector	247.9	29.0	11.7%	25.0
All Sectors	26,186.5	3,511.8	13.4%	2,642.4

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

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

Table 4.13. Fuel-Switching Capacity of Operable Generators Reporting Natural Gas as the Primary Fuel, by Type of Prime Mover, 2020 (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	173	25,482.1	8,842.0
Combined Cycle	380	47,923.4	5,396.1
Internal Combustion	293	1,202.4	389.8
Gas Turbine	865	57,068.2	11,266.8
All Fuel Switchable Prime Movers	1,711	131,676.1	25,894.7

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

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

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

by Year of Initial Commercial Operation, 2020 (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	244	10,108.6	3,248.7
1970-1974	248	12,569.7	4,214.5
1975-1979	94	11,300.7	3,986.0
1980-1984	41	1,044.3	199.3
1985-1989	82	2,727.6	195.3
1990-1994	193	11,618.3	1,361.1
1995-1999	126	8,806.1	1,657.7
2000-2004	396	37,540.0	6,398.6
2005-2009	118	15,499.9	1,705.4
2010-2014	100	11,449.7	246.4
2015-2019	66	8,656.2	2,681.7
2020	3	355.0	--
Total	1,711	131,676.1	25,894.7

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

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

Chapter 5

Consumption of Fossil Fuels

Table 5.1.A. Coal: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	979,684	721,431	249,814	314	8,125
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
Year 2018					
January	64,845	47,762	16,817	11	255
February	45,793	34,002	11,552	9	230
March	44,474	32,312	11,930	8	224
April	40,515	30,350	9,965	7	193
May	47,293	35,261	11,815	6	211
June	56,078	42,502	13,360	6	210
July	63,818	48,277	15,322	6	212
August	63,737	47,866	15,660	7	204
September	53,914	40,293	13,415	7	199
October	48,422	35,547	12,695	6	173
November	51,702	37,956	13,537	7	202
December	55,624	41,488	13,908	7	221
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

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, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	21,727	0	3,808	1,406	16,513
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
Year 2018					
January	1,434	237	144	65	987
February	1,285	216	126	51	892
March	1,254	202	119	49	885
April	1,095	188	100	40	767
May	1,081	173	106	33	769
June	1,081	184	107	30	759
July	1,078	189	105	34	750
August	1,064	181	103	35	745
September	1,061	183	97	38	743
October	984	159	72	35	718
November	1,167	173	141	40	813
December	1,229	182	135	40	872
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

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, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	1,001,411	721,431	253,621	1,720	24,638
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
Year 2018					
January	66,279	47,999	16,961	76	1,242
February	47,079	34,219	11,679	59	1,122
March	45,728	32,513	12,049	57	1,109
April	41,610	30,538	10,065	47	960
May	48,374	35,435	11,921	39	979
June	57,159	42,687	13,467	36	969
July	64,895	48,467	15,427	40	962
August	64,801	48,047	15,763	42	949
September	54,975	40,475	13,512	45	943
October	49,406	35,706	12,768	42	891
November	52,868	38,129	13,677	47	1,015
December	56,853	41,670	14,043	47	1,093
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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	19,196,315	14,333,496	4,709,686	6,815	146,318
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
Year 2018					
January	1,244,183	925,236	313,697	231	5,019
February	861,400	642,512	214,188	184	4,516
March	843,941	615,379	223,981	162	4,419
April	764,142	577,004	183,171	133	3,833
May	897,675	675,299	218,106	121	4,149
June	1,069,511	819,784	245,472	114	4,140
July	1,211,799	922,838	284,640	123	4,199
August	1,208,987	915,915	288,894	135	4,044
September	1,014,778	767,264	243,419	138	3,958
October	907,352	675,385	228,441	117	3,409
November	965,757	716,357	245,287	139	3,973
December	1,047,918	788,385	255,025	138	4,371
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

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

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

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other 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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	490,931	0	90,184	30,725	370,022
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
Year 2018					
January	29,072	4,032	3,117	1,353	20,569
February	25,883	3,681	2,508	1,019	18,675
March	25,351	3,449	2,553	979	18,371
April	22,087	3,256	2,109	800	15,923
May	21,807	3,009	2,249	633	15,916
June	21,792	3,174	2,288	596	15,734
July	21,795	3,202	2,298	663	15,632
August	21,520	3,063	2,255	691	15,512
September	21,039	3,042	1,864	741	15,392
October	19,687	2,697	1,579	682	14,730
November	23,428	2,861	3,081	784	16,702
December	24,814	3,047	2,929	778	18,060
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

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

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

Coal includes anthracite, bituminous, subbituminous, lignite, and waste coal; synthetic coal and refined coal; and beginning in 2011, coal-derived synthesis gas. Prior to 2011 coal-derived synthesis gas was included in Other 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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	19,687,246	14,333,496	4,799,870	37,540	516,341
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
Year 2018					
January	1,273,255	929,268	316,814	1,585	25,589
February	887,284	646,193	216,696	1,203	23,191
March	869,293	618,828	226,534	1,141	22,789
April	786,229	580,260	185,280	933	19,756
May	919,483	678,308	220,355	754	20,065
June	1,091,302	822,958	247,760	710	19,874
July	1,233,595	926,040	286,938	786	19,831
August	1,230,507	918,977	291,149	825	19,556
September	1,035,817	770,306	245,282	879	19,350
October	927,039	678,082	230,020	799	18,139
November	989,185	719,218	248,368	923	20,675
December	1,072,732	791,432	257,954	916	22,431
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

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

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See the Technical Notes for fuel conversion factors.

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

Sources: U.S. Energy Information Administration, Form EIA-906, Power Plant Report; U.S. Energy Information Administration, Form EIA-920

Combined Heat and Power Plant Report, and predecessor forms.

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, 2010 - 2020 (Thousand Barrels)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	40,103	30,806	8,278	164	855
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
Year 2018					
January	9,468	4,469	4,861	66	72
February	1,451	1,118	270	14	49
March	1,497	1,096	348	12	42
April	1,601	1,169	383	15	34
May	1,863	1,340	463	18	43
June	1,895	1,378	464	18	35
July	1,753	1,216	454	27	56
August	1,870	1,295	516	24	35
September	1,863	1,401	411	18	33
October	1,814	1,368	390	16	40
November	1,799	1,281	452	22	45
December	1,740	1,216	455	20	49
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

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

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

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other 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, 2010 - 2020 (Thousand Barrels)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	4,866	0	1,086	212	3,567
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
Year 2018					
January	701	58	132	109	402
February	179	4	12	25	138
March	156	3	13	21	118
April	136	3	12	17	104
May	147	4	18	16	109
June	162	5	14	15	128
July	156	3	11	28	114
August	143	4	12	23	104
September	130	7	15	15	93
October	190	5	16	16	153
November	228	3	20	30	174
December	287	3	80	35	169
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

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

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Petroleum 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.

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Table 5.2.C. Petroleum Liquids: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2010 - 2020 (Thousand Barrels)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	44,968	30,806	9,364	376	4,422
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
Year 2018					
January	10,169	4,527	4,993	175	474
February	1,630	1,122	282	39	187
March	1,653	1,099	361	33	160
April	1,738	1,172	395	32	138
May	2,010	1,343	480	34	152
June	2,057	1,383	478	33	164
July	1,909	1,219	465	55	170
August	2,012	1,298	528	46	140
September	1,993	1,407	426	34	127
October	2,003	1,373	406	31	193
November	2,027	1,284	472	52	219
December	2,027	1,220	534	55	218
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

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

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Petroleum 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.

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

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Table 5.2.D. Petroleum Liquids: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	244,114	188,987	49,042	970	5,115
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
Year 2018					
January	56,277	26,582	28,891	387	416
February	8,576	6,672	1,557	84	263
March	8,849	6,526	2,027	69	227
April	9,497	6,984	2,242	88	183
May	11,024	8,040	2,653	105	226
June	11,266	8,316	2,652	107	191
July	10,412	7,314	2,661	156	280
August	11,110	7,771	3,005	139	196
September	11,112	8,453	2,362	107	190
October	10,729	8,200	2,220	92	217
November	10,637	7,650	2,606	130	251
December	10,173	7,225	2,556	114	278
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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	29,243	0	6,402	1,297	21,545
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
Year 2018					
January	4,121	353	733	645	2,390
February	1,046	26	71	148	801
March	898	17	77	127	677
April	794	17	71	105	601
May	848	20	106	94	628
June	942	28	82	89	743
July	873	18	63	166	625
August	832	21	70	134	608
September	760	38	86	90	546
October	1,104	27	92	94	891
November	1,353	17	120	181	1,035
December	1,592	19	379	208	987
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

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

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

Petroleum Liquids includes distillate and residual fuel oils, jet fuel, kerosene, waste oil, and beginning in 2011, propane. Prior to 2011 propane was included in Other 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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	273,357	188,987	55,444	2,267	26,660
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
Year 2018					
January	60,398	26,935	29,625	1,032	2,806
February	9,622	6,697	1,628	232	1,064
March	9,747	6,543	2,105	195	904
April	10,291	7,002	2,313	193	784
May	11,872	8,060	2,759	199	854
June	12,208	8,344	2,734	196	934
July	11,284	7,332	2,725	323	905
August	11,942	7,792	3,074	273	804
September	11,872	8,491	2,448	198	736
October	11,834	8,227	2,312	186	1,107
November	11,990	7,667	2,725	312	1,286
December	11,765	7,244	2,935	322	1,264
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

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

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Petroleum 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, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	4,994	3,325	1,354	2	313
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
Year 2018					
January	377	296	67	0	14
February	305	234	60	0	11
March	255	198	43	0	13
April	271	193	63	0	15
May	212	140	58	0	14
June	338	269	51	0	18
July	367	284	66	0	17
August	352	272	66	0	15
September	325	259	50	0	15
October	229	158	54	0	16
November	271	196	63	0	13
December	321	241	65	0	16
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

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, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	1,059	0	98	11	950
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
Year 2018					
January	88	1	9	2	76
February	78	1	8	2	67
March	72	1	9	1	61
April	83	1	10	1	71
May	70	1	6	0	63
June	75	1	1	0	73
July	81	1	9	0	71
August	77	1	9	0	66
September	74	1	7	1	65
October	77	0	9	1	67
November	71	1	8	2	61
December	83	1	8	2	72
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

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

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

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other 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, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	6,053	3,325	1,452	12	1,264
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
Year 2018					
January	466	297	76	2	90
February	382	235	68	2	78
March	327	199	52	2	74
April	354	195	72	1	86
May	281	141	63	0	77
June	413	270	52	0	91
July	448	285	75	0	88
August	429	273	75	0	81
September	399	260	58	1	80
October	306	159	63	1	83
November	342	196	70	2	74
December	404	242	73	2	88
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

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

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

Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other 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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	141,774	94,331	38,235	44	9,165
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
Year 2018					
January	10,384	7,942	2,030	9	403
February	8,297	6,172	1,814	8	303
March	6,943	5,268	1,282	9	384
April	7,506	5,193	1,892	3	418
May	5,886	3,704	1,757	0	425
June	9,342	7,272	1,553	0	517
July	10,232	7,741	2,003	0	488
August	9,875	7,469	1,984	0	422
September	9,022	7,059	1,515	4	443
October	6,353	4,237	1,638	5	472
November	7,587	5,320	1,900	9	358
December	8,935	6,517	1,958	10	449
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

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

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Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other 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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	31,303	0	2,855	296	28,152
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
Year 2018					
January	2,579	36	275	51	2,217
February	2,283	24	230	44	1,984
March	2,135	27	255	39	1,815
April	2,419	39	277	16	2,087
May	2,113	24	167	0	1,922
June	2,229	31	38	0	2,160
July	2,400	31	255	0	2,114
August	2,280	29	261	0	1,990
September	2,213	23	211	25	1,954
October	2,309	11	260	23	2,015
November	2,053	26	227	42	1,757
December	2,386	31	237	45	2,073
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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	173,078	94,331	41,090	340	37,317
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
Year 2018					
January	12,964	7,978	2,305	60	2,621
February	10,580	6,196	2,045	52	2,287
March	9,078	5,295	1,536	48	2,199
April	9,926	5,233	2,169	19	2,505
May	7,999	3,728	1,925	0	2,346
June	11,571	7,303	1,591	0	2,677
July	12,632	7,773	2,258	0	2,602
August	12,155	7,498	2,244	0	2,413
September	11,234	7,082	1,726	29	2,397
October	8,662	4,248	1,898	28	2,487
November	9,640	5,346	2,127	51	2,116
December	11,321	6,548	2,195	55	2,522
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

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

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Petroleum Coke includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other 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, 2010 - 2020 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	7,680,185	3,290,993	3,794,423	39,462	555,307
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	10,833,043	5,551,181	4,663,935	52,650	565,276
2019	11,601,600	5,969,422	4,958,798	55,575	617,805
2020	11,917,622	6,185,671	5,061,569	51,827	618,556
Year 2018					
January	805,929	425,891	327,351	4,145	48,542
February	706,517	363,824	296,296	3,886	42,511
March	772,448	395,826	329,151	4,071	43,400
April	722,667	372,401	303,383	3,616	43,268
May	868,518	459,568	359,038	4,201	45,712
June	973,956	520,305	402,054	4,633	46,963
July	1,245,648	639,299	549,546	5,518	51,285
August	1,208,900	605,610	546,123	5,593	51,575
September	1,051,922	530,570	468,776	4,838	47,737
October	909,338	457,374	400,338	4,290	47,335
November	784,673	395,480	337,321	3,760	48,112
December	782,527	385,034	344,559	4,098	48,836
Year 2019					
January	873,321	441,671	373,529	4,566	53,555
February	801,111	411,897	338,638	4,217	46,359
March	835,730	431,601	350,686	4,516	48,926
April	762,597	398,966	313,343	4,173	46,115
May	863,169	458,759	350,386	4,217	49,806
June	1,016,521	538,873	422,755	4,619	50,274
July	1,283,658	657,397	566,007	5,625	54,630
August	1,305,990	676,294	568,683	5,493	55,519
September	1,108,966	572,673	478,814	4,824	52,654
October	964,547	493,811	414,452	4,356	51,926
November	846,614	423,092	366,212	4,253	53,057
December	939,376	464,388	415,293	4,715	54,981
Year 2020					
January	975,951	504,198	411,105	4,616	56,032
February	917,429	478,299	383,490	4,211	51,428
March	914,458	484,881	373,112	3,944	52,521
April	798,416	427,447	320,603	3,491	46,874
May	858,041	464,236	342,427	3,664	47,715
June	1,065,323	559,071	450,418	4,366	51,468
July	1,371,672	703,094	607,755	5,434	55,389
August	1,301,779	664,939	576,428	5,247	55,165
September	1,037,115	524,416	459,392	4,433	48,874
October	970,288	500,783	416,665	4,222	48,618
November	795,571	406,222	336,578	3,818	48,953
December	911,580	468,085	383,595	4,381	55,518

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

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

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

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

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

Table 5.4.B. Natural Gas: Consumption for Useful Thermal Output, by Sector, 2010 - 2020 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	821,775	0	301,769	46,324	473,683
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
Year 2018					
January	107,213	3,929	28,934	7,417	66,933
February	94,793	3,366	26,629	6,706	58,093
March	100,213	3,557	28,088	6,844	61,724
April	92,932	2,942	25,265	6,133	58,592
May	94,707	3,306	26,238	6,099	59,064
June	97,016	3,642	26,642	6,537	60,196
July	107,003	4,484	30,339	7,649	64,531
August	105,929	4,079	29,861	7,691	64,297
September	99,289	3,479	27,089	6,581	62,140
October	99,045	3,013	27,218	6,411	62,402
November	101,846	3,185	27,080	6,829	64,751
December	105,976	4,174	28,570	6,959	66,273
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

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

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

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

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Table 5.4.C. Natural Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2010 - 2020 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	8,501,960	3,290,993	4,096,192	85,786	1,028,990
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	12,039,005	5,594,338	4,995,888	134,507	1,314,273
2019	12,797,626	6,012,067	5,276,029	135,310	1,374,220
2020	13,210,246	6,232,696	5,388,545	130,671	1,458,334
Year 2018					
January	913,142	429,820	356,285	11,562	115,475
February	801,310	367,190	322,924	10,592	100,604
March	872,661	399,383	357,239	10,914	105,124
April	815,600	375,343	328,647	9,750	101,860
May	963,226	462,873	385,276	10,300	104,776
June	1,070,972	523,947	428,696	11,170	107,159
July	1,352,652	643,783	579,885	13,167	115,816
August	1,314,829	609,689	575,984	13,285	115,872
September	1,151,210	534,049	495,866	11,419	109,877
October	1,008,383	460,387	427,556	10,702	109,738
November	886,519	398,665	364,401	10,589	112,863
December	888,503	389,208	373,128	11,058	115,109
Year 2019					
January	981,593	445,621	402,898	11,975	121,099
February	898,335	415,700	363,610	11,010	108,015
March	937,313	435,291	378,235	11,200	112,587
April	854,475	401,714	337,966	10,200	104,595
May	957,393	461,622	374,465	9,944	111,362
June	1,112,358	542,215	448,347	10,749	111,046
July	1,386,062	661,380	593,287	12,979	118,416
August	1,410,041	680,392	597,512	12,443	119,694
September	1,206,364	576,435	504,340	11,201	114,389
October	1,061,523	496,742	439,925	10,527	114,328
November	946,645	426,619	392,248	10,881	116,896
December	1,045,523	468,333	443,195	12,201	121,793
Year 2020					
January	1,105,433	508,440	439,958	12,034	145,000
February	1,035,771	482,279	410,328	11,163	132,001
March	1,032,895	489,151	400,385	10,381	132,978
April	909,069	431,340	345,582	9,108	123,040
May	954,280	468,052	368,261	9,074	108,893
June	1,163,836	562,934	477,528	10,587	112,787
July	1,479,368	707,559	637,059	13,023	121,727
August	1,407,841	669,138	605,961	12,431	120,311
September	1,134,781	527,961	486,910	10,799	109,112
October	1,072,319	503,997	442,965	10,677	114,681
November	893,053	409,244	361,982	10,086	111,741
December	1,021,601	472,602	411,627	11,308	126,064

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

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Table 5.4.D. Natural Gas: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	7,852,665	3,359,035	3,882,995	40,356	570,279
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	11,191,452	5,730,408	4,825,957	54,390	580,696
2019	11,996,976	6,166,728	5,137,826	57,028	635,394
2020	12,314,201	6,387,914	5,239,105	53,175	634,006
Year 2018					
January	832,763	439,632	338,891	4,297	49,943
February	729,643	375,307	306,626	4,024	43,685
March	798,583	408,805	341,003	4,213	44,562
April	745,888	383,881	313,808	3,744	44,456
May	896,969	474,489	371,190	4,322	46,968
June	1,005,861	536,851	415,986	4,775	48,249
July	1,286,597	660,362	567,947	5,689	52,598
August	1,248,419	625,212	564,433	5,775	52,999
September	1,087,420	548,304	485,082	5,011	49,023
October	939,342	471,956	414,310	4,446	48,630
November	810,660	407,831	349,539	3,876	49,415
December	809,307	397,779	357,144	4,217	50,168
Year 2019					
January	901,900	455,045	387,180	4,684	54,991
February	827,416	424,560	350,869	4,326	47,662
March	862,791	444,842	363,075	4,635	50,238
April	787,711	412,207	323,855	4,288	47,361
May	890,239	472,669	362,071	4,323	51,176
June	1,049,852	556,057	437,389	4,738	51,668
July	1,328,690	680,354	586,332	5,762	56,242
August	1,353,214	700,522	589,832	5,629	57,230
September	1,147,718	591,980	496,535	4,954	54,249
October	997,755	510,360	429,551	4,473	53,371
November	876,616	437,601	380,018	4,370	54,627
December	973,075	480,530	431,121	4,845	56,579
Year 2020					
January	1,011,002	521,994	426,723	4,736	57,549
February	949,495	494,504	397,868	4,323	52,799
March	946,765	501,732	387,055	4,045	53,933
April	827,286	442,732	332,834	3,579	48,141
May	885,237	478,886	353,936	3,768	48,648
June	1,097,736	575,482	465,080	4,479	52,696
July	1,414,170	724,281	627,718	5,567	56,604
August	1,343,116	685,970	595,290	5,378	56,479
September	1,071,597	541,706	475,247	4,557	50,087
October	1,001,797	516,892	430,726	4,335	49,845
November	821,878	419,304	348,452	3,918	50,204
December	944,121	484,431	398,177	4,492	57,022

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	841,521	0	308,246	47,001	486,274
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	1,330,224	48,377	337,024	81,490	863,334
Year 2018					
January	110,628	4,042	29,790	7,723	69,074
February	97,708	3,459	27,364	6,975	59,910
March	103,291	3,651	28,924	7,105	63,610
April	95,684	3,016	25,979	6,378	60,311
May	97,553	3,393	26,998	6,338	60,824
June	99,927	3,741	27,426	6,796	61,964
July	110,227	4,625	31,245	7,946	66,410
August	109,218	4,214	30,755	7,989	66,261
September	102,279	3,587	27,861	6,855	63,976
October	102,003	3,095	27,963	6,679	64,267
November	104,969	3,272	27,893	7,097	66,706
December	109,284	4,299	29,508	7,228	68,250
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	3,300	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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	8,694,186	3,359,035	4,191,241	87,357	1,056,553
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	12,434,223	5,774,801	5,167,665	139,498	1,352,259
2019	13,229,901	6,210,590	5,465,029	139,483	1,414,799
2020	13,644,425	6,436,291	5,576,129	134,665	1,497,340
Year 2018					
January	943,391	443,674	368,681	12,020	119,017
February	827,351	378,767	333,990	10,999	103,595
March	901,874	412,456	369,928	11,318	108,172
April	841,572	386,896	339,787	10,121	104,768
May	994,522	477,882	398,187	10,660	107,792
June	1,105,788	540,592	443,412	11,572	110,213
July	1,396,824	664,987	599,192	13,636	119,009
August	1,357,638	629,426	595,188	13,764	119,260
September	1,189,699	551,891	512,943	11,866	112,999
October	1,041,345	475,051	442,273	11,125	112,896
November	915,629	411,103	377,431	10,973	116,121
December	918,591	402,077	386,652	11,444	118,418
Year 2019					
January	1,013,486	459,106	417,463	12,338	124,578
February	927,548	428,469	376,534	11,341	111,203
March	967,331	448,623	391,394	11,540	115,774
April	882,261	415,021	349,203	10,518	107,518
May	987,221	475,605	386,836	10,244	114,536
June	1,148,565	559,494	463,746	11,080	114,245
July	1,434,315	684,463	614,520	13,363	121,968
August	1,460,694	704,751	619,669	12,817	123,457
September	1,248,228	595,855	522,891	11,557	117,924
October	1,097,826	513,369	455,874	10,864	117,718
November	979,802	441,234	406,924	11,235	120,409
December	1,082,625	484,600	459,973	12,584	125,468
Year 2020					
January	1,143,926	526,365	456,514	12,401	148,646
February	1,071,033	498,604	425,615	11,509	135,304
March	1,068,421	506,122	415,232	10,701	136,366
April	941,058	446,741	358,721	9,388	126,208
May	984,483	482,808	380,670	9,371	111,635
June	1,199,067	579,446	492,952	10,905	115,763
July	1,524,985	728,870	657,873	13,395	124,846
August	1,452,352	690,288	625,686	12,794	123,584
September	1,172,131	545,359	503,490	11,132	112,150
October	1,107,025	520,193	457,746	11,005	118,082
November	922,301	422,411	374,562	10,410	114,919
December	1,057,643	489,086	427,068	11,652	129,837

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	349,530	40,167	137,072	274	172,016
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	318,314	31,606	125,695	608	160,405
Year 2018					
January	33,136	4,713	13,790	63	14,571
February	28,906	3,689	12,141	42	13,033
March	31,435	4,501	12,243	36	14,655
April	26,860	2,966	10,597	16	13,280
May	29,530	3,196	11,683	32	14,619
June	31,205	3,909	12,733	53	14,509
July	33,490	4,670	13,260	59	15,501
August	32,186	4,427	12,624	69	15,067
September	28,704	3,340	11,278	52	14,034
October	27,972	3,376	10,642	27	13,927
November	28,539	3,741	10,733	20	14,044
December	29,741	3,326	11,563	51	14,801
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	29,255	3,341	11,363	49	14,502
February	27,495	3,095	10,658	41	13,700
March	27,504	2,644	10,423	32	14,405
April	23,850	1,872	8,674	8	13,296
May	25,098	1,918	9,789	30	13,361
June	24,644	2,209	9,540	54	12,840
July	27,208	3,084	10,984	89	13,052
August	28,921	3,838	11,730	90	13,264
September	25,299	2,138	10,529	45	12,587
October	24,768	2,099	9,962	58	12,648
November	26,008	2,737	10,309	49	12,913
December	28,265	2,629	11,734	64	13,838

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

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

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

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

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

Table 5.5.E. Wood / Wood Waste Biomass: Consumption for Useful Thermal Output, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	876,041	0	18,357	1,064	856,620
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	859,499	3,051	25,022	3,595	827,831
Year 2018					
January	81,175	844	2,115	454	77,762
February	73,007	878	2,141	474	69,514
March	78,989	948	1,966	493	75,583
April	73,967	869	1,533	339	71,225
May	77,198	673	1,679	319	74,528
June	75,544	655	1,683	402	72,805
July	80,237	991	1,899	382	76,964
August	79,868	854	1,930	417	76,667
September	73,254	655	1,676	336	70,587
October	76,266	1,005	1,607	329	73,326
November	76,373	891	1,635	343	73,503
December	83,486	1,033	1,759	518	80,175
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	77,558	368	2,309	483	74,398
February	73,283	368	2,284	453	70,178
March	75,151	368	2,277	353	72,153
April	70,513	262	1,929	238	68,084
May	72,007	123	2,109	321	69,453
June	67,886	155	2,099	394	65,239
July	68,531	179	2,086	250	66,017
August	69,244	167	1,994	244	66,840
September	67,215	208	1,902	166	64,940
October	70,930	362	1,726	191	68,651
November	71,706	328	2,103	233	69,042
December	75,475	165	2,205	269	72,836

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

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

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

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

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

Table 5.5.F. Wood / Wood Waste Biomass: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	1,225,571	40,167	155,429	1,338	1,028,637
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	1,177,813	34,657	150,717	4,203	988,236
Year 2018					
January	114,312	5,557	15,905	517	92,333
February	101,913	4,567	14,282	516	82,547
March	110,425	5,449	14,209	528	90,238
April	100,826	3,835	12,131	356	84,505
May	106,728	3,869	13,362	351	89,146
June	106,749	4,564	14,416	455	87,314
July	113,727	5,661	15,160	441	92,465
August	112,054	5,281	14,554	486	91,733
September	101,958	3,995	12,954	388	84,621
October	104,238	4,381	12,248	356	87,253
November	104,912	4,633	12,368	363	87,548
December	113,227	4,360	13,322	569	94,976
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	106,813	3,709	13,672	532	88,900
February	100,778	3,462	12,942	495	83,879
March	102,655	3,012	12,700	385	86,558
April	94,363	2,134	10,603	246	81,380
May	97,105	2,041	11,899	351	82,814
June	92,531	2,364	11,640	448	78,079
July	95,739	3,263	13,069	339	79,068
August	98,166	4,005	13,723	334	80,104
September	92,513	2,346	12,430	210	77,527
October	95,699	2,462	11,688	249	81,299
November	97,713	3,064	12,412	282	81,955
December	103,739	2,794	13,939	333	86,674

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

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

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

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

Table 5.6.A. Landfill Gas: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	218,331	19,975	192,428	5,535	393
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
Year 2018					
January	23,568	2,389	19,205	1,673	301
February	22,069	2,186	17,993	1,576	314
March	23,672	2,377	19,280	1,692	324
April	22,281	2,159	18,159	1,633	330
May	22,748	2,125	18,722	1,609	291
June	21,854	1,777	18,189	1,607	281
July	22,507	1,817	18,773	1,651	266
August	23,061	1,739	19,377	1,696	249
September	20,472	1,604	17,004	1,643	222
October	22,360	1,779	18,634	1,687	259
November	22,405	1,812	18,708	1,630	255
December	23,237	1,815	19,468	1,695	259
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

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, 2010 - 2020 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	1,623	0	1,195	370	58
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
Year 2018					
January	321	0	176	68	77
February	320	0	165	79	77
March	340	0	175	82	83
April	335	0	164	85	86
May	285	0	140	71	74
June	259	0	146	46	68
July	278	0	139	76	64
August	302	0	157	82	63
September	290	0	150	82	58
October	334	0	170	95	69
November	276	0	134	73	68
December	280	0	152	71	57
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

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, 2010 - 2020 (Million Cubic Feet)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	219,954	19,975	193,623	5,905	451
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
Year 2018					
January	23,890	2,389	19,382	1,741	378
February	22,390	2,186	18,158	1,655	390
March	24,012	2,377	19,455	1,774	407
April	22,616	2,159	18,323	1,718	416
May	23,033	2,125	18,862	1,680	366
June	22,113	1,777	18,335	1,652	349
July	22,785	1,817	18,912	1,726	330
August	23,363	1,739	19,534	1,778	313
September	20,763	1,604	17,154	1,725	280
October	22,694	1,779	18,804	1,783	328
November	22,681	1,812	18,842	1,703	324
December	23,516	1,815	19,620	1,766	316
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

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

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

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

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

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

Table 5.6.D. Landfill Gas: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	105,835	10,029	92,763	2,837	205
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
Year 2018					
January	11,667	1,237	9,582	699	150
February	10,937	1,129	8,994	657	157
March	11,740	1,237	9,638	704	161
April	11,060	1,150	9,069	676	165
May	11,319	1,142	9,368	664	146
June	10,808	938	9,079	650	141
July	11,116	957	9,354	671	134
August	11,416	914	9,683	690	128
September	10,140	845	8,524	658	113
October	11,091	941	9,333	685	132
November	11,142	948	9,404	660	131
December	11,522	958	9,742	690	131
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

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

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

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

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

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

Table 5.6.E. Landfill Gas: Consumption for Useful Thermal Output, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	847	0	643	174	30
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
Year 2018					
January	169	0	91	42	36
February	172	0	85	50	36
March	185	0	91	55	39
April	183	0	86	56	41
May	151	0	73	43	35
June	135	0	77	26	33
July	153	0	73	50	30
August	166	0	82	54	31
September	161	0	78	55	28
October	185	0	87	65	33
November	152	0	69	49	34
December	151	0	74	50	27
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

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

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

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

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

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

Table 5.6.F. Landfill Gas: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	106,681	10,029	93,405	3,011	236
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
Year 2018					
January	11,836	1,237	9,673	741	186
February	11,109	1,129	9,079	707	193
March	11,925	1,237	9,728	760	201
April	11,242	1,150	9,155	733	206
May	11,470	1,142	9,441	707	181
June	10,943	938	9,155	675	174
July	11,269	957	9,427	721	164
August	11,582	914	9,765	744	159
September	10,301	845	8,602	713	140
October	11,277	941	9,420	750	165
November	11,294	948	9,473	709	165
December	11,673	958	9,817	740	158
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

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

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

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

Table 5.7.A. Biogenic Municipal Solid Waste: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	19,437	402	16,802	2,233	0
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
Year 2018					
January	1,370	28	1,147	195	0
February	1,297	26	1,090	180	1
March	1,398	40	1,153	204	1
April	1,356	38	1,117	200	1
May	1,419	43	1,158	217	1
June	1,476	42	1,218	214	1
July	1,479	48	1,224	207	1
August	1,483	47	1,220	215	1
September	1,334	36	1,097	199	1
October	1,387	43	1,140	205	0
November	1,369	39	1,127	202	0
December	1,416	37	1,169	210	0
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

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

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

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

Table 5.7.B. Biogenic Municipal Solid Waste: Consumption for Useful Thermal Output, by Sector, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	2,287	0	819	1,316	152
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
Year 2018					
January	182	0	64	102	17
February	163	0	60	91	12
March	169	0	64	93	12
April	160	0	54	90	16
May	176	0	59	101	16
June	177	0	65	95	18
July	180	0	65	98	17
August	183	0	66	95	21
September	144	0	58	68	17
October	160	0	61	83	16
November	173	0	66	93	14
December	182	0	70	100	13
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

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

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

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

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

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

Table 5.7.C. Biogenic Municipal Solid Waste: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2010 - 2020 (Thousand Tons)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	21,725	402	17,621	3,549	152
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
Year 2018					
January	1,552	28	1,211	296	17
February	1,459	26	1,150	271	13
March	1,567	40	1,217	297	13
April	1,516	38	1,171	290	17
May	1,595	43	1,217	319	17
June	1,653	42	1,283	309	19
July	1,659	48	1,288	305	18
August	1,666	47	1,286	311	22
September	1,478	36	1,156	268	18
October	1,547	43	1,201	288	16
November	1,542	39	1,193	295	14
December	1,598	37	1,238	310	13
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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	144,934	3,322	124,437	17,176	0
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
Year 2018					
January	11,104	278	9,239	1,583	4
February	10,426	253	8,728	1,439	7
March	11,332	400	9,296	1,628	8
April	10,904	377	8,952	1,568	7
May	11,349	431	9,212	1,702	5
June	11,807	420	9,689	1,687	10
July	11,815	477	9,677	1,651	9
August	11,828	449	9,676	1,695	8
September	10,577	348	8,681	1,540	7
October	11,083	408	9,062	1,610	3
November	10,921	371	8,955	1,595	0
December	11,319	356	9,285	1,676	2
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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	17,502	0	6,031	10,333	1,138
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
Year 2018					
January	1,480	0	506	840	135
February	1,331	0	470	773	88
March	1,377	0	507	777	93
April	1,361	0	423	804	133
May	1,416	0	447	836	132
June	1,441	0	517	772	152
July	1,471	0	509	823	139
August	1,488	0	513	797	179
September	1,174	0	453	579	142
October	1,296	0	472	705	119
November	1,412	0	526	778	109
December	1,478	0	545	830	103
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

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, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	162,436	3,322	130,467	27,509	1,138
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
Year 2018					
January	12,585	278	9,745	2,423	139
February	11,757	253	9,198	2,211	95
March	12,709	400	9,802	2,405	102
April	12,265	377	9,375	2,372	140
May	12,765	431	9,659	2,538	137
June	13,248	420	10,206	2,459	162
July	13,286	477	10,186	2,474	148
August	13,316	449	10,189	2,492	187
September	11,751	348	9,134	2,119	149
October	12,379	408	9,534	2,315	122
November	12,332	371	9,480	2,372	109
December	12,797	356	9,830	2,506	105
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

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

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

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

Table 5.8.D. Other Waste Biomass: Consumption for Electricity Generation, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	29,996	3,668	14,449	3,790	8,090
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
Year 2018					
January	3,130	201	1,896	507	527
February	2,990	123	1,915	474	477
March	2,880	103	1,751	495	531
April	2,858	130	1,785	479	465
May	2,721	66	1,728	475	451
June	2,431	59	1,565	481	325
July	2,025	122	1,040	486	377
August	2,036	95	1,060	495	385
September	1,833	103	934	475	322
October	2,184	125	1,090	506	463
November	2,140	112	1,041	490	496
December	2,179	102	1,069	504	504
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

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

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

Table 5.8.E. Other Waste Biomass: Consumption for Useful Thermal Output, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	47,153	0	8,436	1,648	37,070
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
Year 2018					
January	5,543	0	1,334	317	3,892
February	5,058	0	1,226	316	3,516
March	5,492	0	1,313	327	3,852
April	4,392	5	656	315	3,416
May	3,563	6	462	321	2,774
June	2,468	1	534	305	1,627
July	2,687	0	551	292	1,844
August	2,720	1	465	318	1,936
September	2,733	0	550	295	1,888
October	4,872	0	1,061	297	3,514
November	5,269	0	1,332	306	3,631
December	5,541	0	1,270	264	4,007
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

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

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Table 5.8.F. Other Waste Biomass: Consumption for Electricity Generation and Useful Thermal Output, by Sector, 2010 - 2020 (Billion Btus)

Period	Total (all sectors)	Electric Power Sector		Commercial Sector	Industrial Sector
		Electric Utilities	Independent Power Producers		
Annual Totals					
2010	77,150	3,668	22,884	5,438	45,159
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
Year 2018					
January	8,673	201	3,230	824	4,419
February	8,048	124	3,141	790	3,993
March	8,372	103	3,064	822	4,383
April	7,251	135	2,441	794	3,881
May	6,284	72	2,190	797	3,225
June	4,898	60	2,100	786	1,953
July	4,712	122	1,591	778	2,221
August	4,756	96	1,525	813	2,321
September	4,566	103	1,483	770	2,210
October	7,057	125	2,151	803	3,977
November	7,409	112	2,373	796	4,128
December	7,720	102	2,338	768	4,511
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

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, 2020 and 2019 (Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	75	224	-66.0%	58	159	15	61	0	0	3	4
Connecticut	4	48	-92.0%	0	0	4	48	0	0	0	0
Maine	14	17	-18.0%	0	0	11	13	0	0	3	4
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	58	159	-64.0%	58	159	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	14,028	20,049	-30.0%	0	0	14,014	20,027	0	0	14	22
New Jersey	402	440	-8.6%	0	0	402	440	0	0	0	0
New York	64	187	-66.0%	0	0	64	187	0	0	0	0
Pennsylvania	13,562	19,422	-30.0%	0	0	13,548	19,400	0	0	14	22
East North Central	90,199	116,185	-22.0%	53,672	69,048	35,932	46,535	9	15	586	587
Illinois	18,290	29,617	-38.0%	948	1,923	16,852	27,230	4	4	486	460
Indiana	23,921	30,906	-23.0%	21,679	28,888	2,237	2,008	5	10	0	0
Michigan	15,891	21,257	-25.0%	15,710	21,056	180	192	0	0	1	9
Ohio	18,761	19,596	-4.3%	2,098	2,490	16,663	17,105	0	0	0	0
Wisconsin	13,337	14,809	-9.9%	13,237	14,692	0	0	0	0	100	117
West North Central	91,121	103,233	-12.0%	90,305	102,157	0	0	14	20	801	1,056
Iowa	8,161	12,710	-36.0%	7,701	12,190	0	0	13	17	447	502
Kansas	11,263	11,535	-2.4%	11,263	11,535	0	0	0	0	0	0
Minnesota	8,281	10,495	-21.0%	8,244	10,345	0	0	1	1	37	149
Missouri	30,424	32,663	-6.9%	30,423	32,661	0	0	1	2	0	0
Nebraska	11,875	13,517	-12.0%	11,587	13,149	0	0	0	0	288	367
North Dakota	20,074	20,682	-2.9%	20,045	20,645	0	0	0	0	29	37
South Dakota	1,042	1,631	-36.0%	1,042	1,631	0	0	0	0	0	0
South Atlantic	52,920	69,979	-24.0%	46,752	62,386	6,030	7,422	8	10	130	161
Delaware	76	85	-11.0%	0	0	76	85	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	7,503	9,542	-21.0%	7,496	9,533	0	0	0	0	7	9
Georgia	7,377	13,591	-46.0%	7,340	13,552	0	0	0	0	37	39
Maryland	1,528	2,556	-40.0%	0	0	1,528	2,548	0	0	0	8
North Carolina	8,580	12,349	-31.0%	8,509	12,281	38	31	8	10	25	27
South Carolina	5,410	6,316	-14.0%	5,368	6,267	39	47	0	0	3	2
Virginia	1,872	1,781	5.2%	1,774	1,658	40	45	0	1	58	76
West Virginia	20,573	23,760	-13.0%	16,265	19,094	4,309	4,666	0	0	0	0
East South Central	43,476	52,523	-17.0%	40,853	49,851	2,537	2,563	0	0	86	109
Alabama	11,896	14,250	-17.0%	11,896	14,245	0	0	0	0	0	5
Kentucky	20,637	24,974	-17.0%	20,637	24,974	0	0	0	0	0	0
Mississippi	3,989	3,833	4.1%	1,451	1,271	2,537	2,563	0	0	0	0
Tennessee	6,955	9,466	-27.0%	6,869	9,362	0	0	0	0	86	104
West South Central	72,014	87,629	-18.0%	33,524	44,548	38,453	43,007	0	0	38	74
Arkansas	9,207	13,771	-33.0%	7,300	11,552	1,900	2,211	0	0	6	8
Louisiana	2,736	5,276	-48.0%	2,505	3,979	231	1,297	0	0	0	0
Oklahoma	4,002	5,271	-24.0%	3,970	5,206	0	0	0	3	32	66
Texas	56,069	63,311	-11.0%	19,748	23,812	36,321	39,499	0	0	0	0
Mountain	65,735	80,167	-18.0%	58,814	69,526	6,842	10,547	0	0	79	93
Arizona	8,274	12,875	-36.0%	8,274	12,875	0	0	0	0	0	0
Colorado	11,477	14,517	-21.0%	11,477	14,515	0	0	0	0	0	1
Idaho	4	4	-5.7%	0	0	0	0	0	0	4	4
Montana	5,630	9,280	-39.0%	229	261	5,394	9,014	0	0	6	5
Nevada	1,105	1,551	-29.0%	507	945	598	606	0	0	0	0
New Mexico	7,443	8,148	-8.7%	7,443	8,148	0	0	0	0	0	0
Utah	10,866	11,891	-8.6%	10,544	11,489	322	402	0	0	0	0
Wyoming	20,936	21,901	-4.4%	20,339	21,293	527	525	0	0	69	83
Pacific Contiguous	4,527	6,359	-29.0%	985	1,499	3,476	4,804	0	0	65	55
California	58	49	18.0%	0	0	0	0	0	0	58	49
Oregon	985	1,499	-34.0%	985	1,499	0	0	0	0	0	0
Washington	3,484	4,811	-28.0%	0	0	3,476	4,804	0	0	7	7
Pacific Noncontiguous	1,256	1,273	-1.3%	389	370	826	872	41	32	0	0
Alaska	588	556	5.7%	389	370	158	155	41	32	0	0
Hawaii	668	717	-6.8%	0	0	668	717	0	0	0	0
U.S. Total	435,351	537,620	-19.0%	325,352	399,545	108,125	135,838	72	76	1,802	2,161

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, 2020 and 2019 (Thousand Barrels)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	347	390	-11.0%	49	55	266	284	22	38	10	14
Connecticut	129	79	64.0%	12	9	116	64	1	3	1	2
Maine	61	53	14.0%	0	0	47	36	5	8	8	10
Massachusetts	84	190	-56.0%	14	16	64	161	5	12	1	1
New Hampshire	61	49	26.0%	17	26	34	10	11	13	0	0
Rhode Island	6	16	-64.0%	0	0	5	13	1	2	0	1
Vermont	6	4	48.0%	6	4	0	0	0	0	0	0
Middle Atlantic	1,001	1,437	-30.0%	405	468	537	905	30	27	30	37
New Jersey	42	115	-64.0%	0	3	41	110	1	2	0	1
New York	751	896	-16.0%	404	464	318	403	19	14	11	15
Pennsylvania	208	426	-51.0%	0	0	179	392	11	11	19	22
East North Central	783	952	-18.0%	532	605	242	331	3	4	6	12
Illinois	76	97	-22.0%	15	16	61	81	0	0	0	0
Indiana	230	241	-4.8%	228	234	0	0	0	NM	2	7
Michigan	200	185	8.0%	197	182	0	0	1	2	2	1
Ohio	227	315	-28.0%	47	70	178	242	0	1	1	3
Wisconsin	50	114	-56.0%	45	104	3	8	1	1	1	0
West North Central	660	796	-17.0%	648	773	7	20	4	2	1	2
Iowa	127	135	-5.5%	122	128	5	7	0	0	0	0
Kansas	177	175	1.0%	177	175	0	0	0	0	0	0
Minnesota	55	101	-46.0%	48	85	2	13	4	2	1	1
Missouri	184	243	-24.0%	184	243	0	0	0	0	0	0
Nebraska	38	41	-9.2%	38	41	0	0	0	0	0	0
North Dakota	61	67	-8.5%	61	67	0	0	0	0	0	0
South Dakota	19	33	-44.0%	19	33	0	0	NM	0	0	0
South Atlantic	1,904	2,226	-14.0%	1,361	1,661	304	350	154	148	85	66
Delaware	22	35	-38.0%	1	1	21	35	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	398	547	-27.0%	367	506	14	26	0	0	17	16
Georgia	149	188	-20.0%	98	140	4	9	2	8	45	30
Maryland	177	173	2.4%	4	4	172	166	1	1	0	1
North Carolina	242	355	-32.0%	223	335	8	9	1	2	10	9
South Carolina	133	154	-14.0%	123	140	3	7	0	0	7	8
Virginia	526	543	-3.3%	288	306	81	97	151	137	6	4
West Virginia	257	230	12.0%	257	229	0	2	0	0	0	0
East South Central	414	500	-17.0%	394	481	6	8	0	0	14	10
Alabama	23	35	-35.0%	7	21	6	8	0	0	10	6
Kentucky	166	167	-0.8%	166	167	0	0	0	0	0	0
Mississippi	14	25	-45.0%	11	24	0	0	0	0	3	2
Tennessee	211	272	-22.0%	209	269	1	1	0	0	1	2
West South Central	250	264	-5.2%	199	197	47	56	0	1	4	10
Arkansas	91	81	13.0%	72	58	19	20	0	0	0	3
Louisiana	14	48	-71.0%	14	39	0	9	0	0	0	0
Oklahoma	52	35	50.0%	51	33	0	0	0	0	2	2
Texas	93	100	-6.8%	63	66	28	27	0	1	2	5
Mountain	354	1,063	-67.0%	325	1,025	28	37	0	0	0	0
Arizona	79	124	-37.0%	79	124	0	0	0	0	0	0
Colorado	20	24	-18.0%	20	24	0	0	0	0	0	0
Idaho	0	0	-73.0%	0	0	0	0	0	0	0	0
Montana	20	34	-40.0%	1	4	20	30	0	0	0	0
Nevada	13	25	-47.0%	10	21	3	4	0	0	0	0
New Mexico	67	703	-90.0%	67	703	0	0	0	0	0	0
Utah	71	70	1.0%	65	67	5	3	0	0	0	0
Wyoming	84	84	0.6%	84	83	0	0	0	0	0	0
Pacific Contiguous	124	147	-15.0%	74	85	34	39	2	2	15	21
California	89	101	-12.0%	61	67	21	20	1	1	6	13
Oregon	4	15	-71.0%	4	14	0	0	0	0	0	0
Washington	31	31	-0.8%	9	3	14	19	0	0	8	9
Pacific Noncontiguous	12,170	13,059	-6.8%	9,926	10,327	1,975	2,434	23	27	245	272
Alaska	1,784	1,608	11.0%	1,703	1,530	5	5	4	8	72	65
Hawaii	10,387	11,451	-9.3%	8,223	8,797	1,971	2,429	20	19	173	207
U.S. Total	18,008	20,836	-14.0%	13,913	15,677	3,447	4,464	238	251	410	444

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Table 5.11. Consumption of Petroleum Coke for Electricity Generation by State, by Sector, 2020 and 2019 (Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
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	6	12	-54.0%	0	0	0	0	0	0	6	12
New Jersey	6	8	-25.0%	0	0	0	0	0	0	6	8
New York	0	0	--	0	0	0	0	0	0	0	0
Pennsylvania	0	5	-100.0%	0	0	0	0	0	0	0	5
East North Central	960	773	24.0%	401	389	492	316	0	0	68	68
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	0	0	--	0	0	0	0	0	0	0	0
Michigan	430	418	2.9%	362	350	0	0	0	0	68	68
Ohio	492	316	56.0%	0	0	492	316	0	0	0	0
Wisconsin	38	39	-2.8%	38	39	0	0	0	0	0	0
West North Central	11	12	-5.4%	0	0	0	0	1	1	11	10
Iowa	11	12	-5.4%	0	0	0	0	1	1	11	10
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	577	466	24.0%	544	433	0	0	0	0	33	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	544	433	26.0%	544	433	0	0	0	0	0	0
Georgia	33	33	-1.8%	0	0	0	0	0	0	33	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	1,357	1,297	4.6%	1,315	1,244	0	0	0	0	42	53
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,315	1,246	5.5%	1,315	1,244	0	0	0	0	0	2
Oklahoma	0	0	--	0	0	0	0	0	0	0	0
Texas	42	51	-17.0%	0	0	0	0	0	0	42	51
Mountain	165	163	1.7%	0	0	165	163	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	165	163	1.7%	0	0	165	163	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	3,077	2,724	13.0%	2,260	2,067	658	478	1	1	158	177

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Table 5.12. Consumption of Natural Gas for Electricity Generation by State, by Sector, 2020 and 2019 (Million Cubic Feet)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	364,792	351,302	3.8%	2,348	1,540	348,370	334,916	5,361	5,891	8,713	8,956
Connecticut	162,634	149,034	9.1%	473	496	156,675	142,289	1,928	2,497	3,558	3,752
Maine	12,304	11,730	4.9%	0	0	9,756	9,361	156	148	2,393	2,221
Massachusetts	103,485	111,604	-7.3%	1,651	952	97,667	106,334	2,993	2,964	1,174	1,353
New Hampshire	26,277	25,693	2.3%	210	79	25,853	25,381	40	45	174	188
Rhode Island	60,071	53,225	13.0%	0	0	58,419	51,551	239	231	1,413	1,442
Vermont	19	17	11.0%	14	12	0	0	5	5	0	0
Middle Atlantic	1,450,940	1,317,087	10.0%	106,359	89,507	1,322,588	1,204,391	7,460	8,791	14,534	14,398
New Jersey	211,483	277,795	-24.0%	1,175	1,582	206,798	272,204	1,230	1,734	2,280	2,276
New York	409,352	365,544	12.0%	105,138	87,886	294,912	267,693	5,590	6,269	3,712	3,696
Pennsylvania	830,105	673,749	23.0%	47	38	820,878	664,495	640	789	8,541	8,427
East North Central	1,283,829	1,168,361	9.9%	486,134	404,987	760,535	725,680	7,691	7,650	29,469	30,043
Illinois	235,955	172,502	37.0%	55,415	11,739	174,794	155,078	2,177	1,823	3,570	3,862
Indiana	236,178	230,037	2.7%	109,486	101,345	111,299	111,896	965	1,028	14,429	15,768
Michigan	276,119	253,869	9.6%	115,843	97,842	155,991	149,348	2,946	3,167	3,339	3,512
Ohio	373,280	363,846	2.6%	62,341	62,285	308,073	299,079	1,056	1,102	1,810	1,379
Wisconsin	160,297	148,107	8.2%	143,049	131,775	10,379	10,280	547	530	6,322	5,522
West North Central	248,317	262,011	-5.2%	199,243	216,875	42,237	39,189	1,703	1,806	5,133	4,140
Iowa	46,732	49,948	-6.4%	43,290	46,716	1	0	555	616	2,885	2,616
Kansas	25,410	28,782	-12.0%	24,305	28,232	0	0	0	0	1,105	550
Minnesota	80,617	86,011	-6.3%	53,880	65,551	25,743	19,427	447	445	546	588
Missouri	61,981	62,142	-0.3%	44,690	41,554	16,492	19,762	658	707	141	118
Nebraska	10,880	12,076	-9.9%	10,837	12,037	0	0	43	38	0	0
North Dakota	13,793	13,817	-0.2%	13,537	13,686	0	0	0	0	256	131
South Dakota	8,904	9,235	-3.6%	8,704	9,099	0	0	0	0	200	136
South Atlantic	2,897,882	2,817,330	2.9%	2,376,979	2,300,179	477,796	474,308	11,810	12,952	31,296	29,890
Delaware	34,353	33,688	2.0%	308	319	28,860	27,606	0	0	5,185	5,764
District of Columbia	1,422	1,511	-5.9%	0	0	0	0	1,422	1,511	0	0
Florida	1,366,201	1,327,986	2.9%	1,298,470	1,262,062	58,877	57,158	336	107	8,518	8,659
Georgia	430,708	430,234	0.1%	329,536	327,045	96,867	99,660	0	1	4,305	3,528
Maryland	103,245	105,316	-2.0%	20,323	22,900	74,059	72,319	8,646	9,786	217	312
North Carolina	305,495	305,954	-0.1%	247,829	241,074	55,533	62,620	1,363	1,457	771	803
South Carolina	179,934	178,750	0.7%	172,779	168,922	5,914	8,941	0	3	1,241	884
Virginia	452,605	414,935	9.1%	306,344	273,670	137,803	133,755	43	87	8,415	7,423
West Virginia	23,919	18,955	26.0%	1,390	4,188	19,885	12,249	0	0	2,645	2,519
East South Central	1,001,282	1,017,088	-1.6%	763,979	742,039	214,734	252,074	1,015	962	21,553	22,013
Alabama	390,877	414,117	-5.6%	172,846	156,800	208,645	247,450	0	0	9,386	9,866
Kentucky	103,772	113,334	-8.4%	96,948	107,944	5,861	4,426	0	0	963	965
Mississippi	392,568	361,588	8.6%	389,357	358,718	72	51	0	0	3,139	2,819
Tennessee	114,064	128,049	-11.0%	104,828	118,577	156	148	1,015	962	8,065	8,363
West South Central	2,801,964	2,878,287	-2.7%	1,106,281	1,113,512	1,270,128	1,336,517	4,334	4,787	421,221	423,471
Arkansas	131,199	155,904	-16.0%	122,918	147,395	6,603	6,476	477	479	1,201	1,554
Louisiana	509,199	500,639	1.7%	323,353	299,170	27,871	37,775	826	718	157,149	162,977
Oklahoma	339,271	341,019	-0.5%	223,519	226,720	111,704	110,767	0	0	4,048	3,532
Texas	1,822,295	1,880,725	-3.1%	436,491	440,226	1,123,951	1,181,500	3,030	3,590	258,822	255,409
Mountain	949,707	897,474	5.8%	769,161	725,201	164,878	158,146	2,338	2,252	13,330	11,876
Arizona	389,011	356,797	9.0%	303,841	273,400	84,570	82,798	600	598	0	0
Colorado	141,499	127,897	11.0%	117,073	107,650	23,129	19,856	35	35	1,261	356
Idaho	31,341	32,193	-2.6%	19,030	19,222	11,461	12,187	172	168	678	616
Montana	3,445	5,510	-37.0%	2,878	4,067	548	1,428	0	0	20	15
Nevada	201,712	191,553	5.3%	183,380	173,486	15,338	15,166	251	262	2,742	2,639
New Mexico	100,630	104,014	-3.3%	70,813	77,649	29,025	25,781	589	530	204	54
Utah	71,656	72,335	-0.9%	66,435	66,472	791	914	691	658	3,739	4,291
Wyoming	10,413	7,175	45.0%	5,710	3,255	16	16	0	0	4,686	3,905
Pacific Contiguous	895,800	867,974	3.2%	352,345	351,183	460,303	433,576	10,113	10,484	73,040	72,731
California	667,754	615,344	8.5%	216,736	209,860	372,664	326,983	9,855	10,226	68,499	68,275
Oregon	130,410	143,735	-9.3%	65,996	69,066	63,713	73,945	212	227	489	497
Washington	97,636	108,895	-10.0%	69,613	72,257	23,926	32,648	45	31	4,052	3,959
Pacific Noncontiguous	23,110	24,687	-6.4%	22,841	24,401	0	0	0	0	268	286
Alaska	23,110	24,687	-6.4%	22,841	24,401	0	0	0	0	268	286
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	11,917,622	11,601,600	2.7%	6,185,671	5,969,422	5,061,569	4,958,798	51,827	55,575	618,556	617,805

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, 2020 and 2019 (Million Cubic Feet)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	12,051	12,339	-2.3%	1,231	1,410	10,613	10,711	208	217	0	0
Connecticut	146	169	-14.0%	0	0	146	169	0	0	0	0
Maine	646	682	-5.3%	0	0	646	682	0	0	0	0
Massachusetts	3,614	3,633	-0.5%	0	0	3,614	3,633	0	0	0	0
New Hampshire	1,947	1,958	-0.6%	0	0	1,740	1,741	208	217	0	0
Rhode Island	4,216	4,229	-0.3%	0	0	4,216	4,229	0	0	0	0
Vermont	1,482	1,668	-11.0%	1,231	1,410	251	257	0	0	0	0
Middle Atlantic	41,942	48,526	-14.0%	0	0	40,414	46,743	708	673	819	1,110
New Jersey	5,030	6,693	-25.0%	0	0	4,892	6,510	138	183	0	0
New York	16,092	16,168	-0.5%	0	0	16,092	16,168	0	0	0	0
Pennsylvania	20,820	25,665	-19.0%	0	0	19,430	24,064	571	491	819	1,110
East North Central	63,087	61,921	1.9%	10,283	10,372	52,283	50,982	285	321	236	246
Illinois	10,998	11,432	-3.8%	3,456	3,202	7,541	8,230	0	0	0	0
Indiana	8,049	8,317	-3.2%	6,827	7,170	1,223	1,147	0	0	0	0
Michigan	24,179	21,180	14.0%	0	0	24,179	21,180	0	0	0	0
Ohio	10,334	10,990	-6.0%	0	0	10,334	10,990	0	0	0	0
Wisconsin	9,527	10,002	-4.8%	0	0	9,006	9,435	285	321	236	246
West North Central	9,310	8,716	6.8%	3,426	3,008	5,871	5,708	0	0	13	0
Iowa	2,353	2,242	4.9%	0	0	2,353	2,242	0	0	0	0
Kansas	1,432	1,390	3.1%	0	0	1,432	1,390	0	0	0	0
Minnesota	1,879	1,694	11.0%	720	671	1,159	1,024	0	0	0	0
Missouri	1,943	1,886	3.0%	1,015	833	928	1,052	0	0	0	0
Nebraska	1,691	1,504	12.0%	1,691	1,504	0	0	0	0	0	0
North Dakota	0	0	--	0	0	0	0	0	0	0	0
South Dakota	13	0	--	0	0	0	0	0	0	13	0
South Atlantic	49,719	50,216	-1.0%	3,974	3,785	42,599	43,366	1,964	1,708	1,182	1,358
Delaware	1,435	1,305	9.9%	0	0	1,328	1,220	0	0	107	86
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	10,677	10,573	1.0%	1,890	1,575	8,786	8,998	0	0	0	0
Georgia	6,238	6,096	2.3%	0	0	6,132	5,949	0	0	106	147
Maryland	2,371	2,251	5.3%	0	0	1,622	1,471	749	780	0	0
North Carolina	11,013	11,378	-3.2%	0	0	10,085	10,641	928	737	0	0
South Carolina	3,228	3,493	-7.6%	2,025	2,134	234	233	0	0	969	1,126
Virginia	14,681	15,120	-2.9%	58	75	14,336	14,854	287	191	0	0
West Virginia	77	0	--	0	0	77	0	0	0	0	0
East South Central	5,738	5,405	6.2%	2,429	2,212	3,309	3,193	0	0	0	0
Alabama	995	1,045	-4.8%	0	0	995	1,045	0	0	0	0
Kentucky	2,806	2,455	14.0%	2,429	2,212	377	243	0	0	0	0
Mississippi	207	236	-12.0%	0	0	207	236	0	0	0	0
Tennessee	1,729	1,669	3.6%	0	0	1,729	1,669	0	0	0	0
West South Central	10,128	11,627	-13.0%	0	0	10,128	11,438	0	189	0	0
Arkansas	1,433	1,472	-2.6%	0	0	1,433	1,472	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	420	453	-7.3%	0	0	420	453	0	0	0	0
Texas	8,275	9,702	-15.0%	0	0	8,275	9,513	0	189	0	0
Mountain	7,444	6,774	9.9%	610	332	5,960	5,720	875	721	0	0
Arizona	468	747	-37.0%	0	0	468	747	0	0	0	0
Colorado	1,273	1,283	-0.8%	0	0	1,273	1,283	0	0	0	0
Idaho	1,454	945	54.0%	354	332	545	113	555	500	0	0
Montana	255	0	--	255	0	0	0	0	0	0	0
Nevada	1,679	1,716	-2.2%	0	0	1,679	1,716	0	0	0	0
New Mexico	463	409	13.0%	0	0	463	409	0	0	0	0
Utah	1,853	1,674	11.0%	0	0	1,533	1,453	320	221	0	0
Wyoming	0	0	--	0	0	0	0	0	0	0	0
Pacific Contiguous	52,305	51,258	2.0%	1,619	1,606	37,019	36,959	13,319	12,332	348	361
California	45,390	44,573	1.8%	112	108	32,120	32,125	12,810	11,980	348	361
Oregon	5,906	5,631	4.9%	1,507	1,498	3,889	3,780	509	352	0	0
Washington	1,010	1,053	-4.1%	0	0	1,010	1,053	0	0	0	0
Pacific Noncontiguous	776	712	9.0%	0	0	0	0	776	712	0	0
Alaska	776	712	9.0%	0	0	0	0	776	712	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	252,501	257,494	-1.9%	23,571	22,726	208,196	214,819	18,136	16,874	2,597	3,075

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Table 5.14. Consumption of Biogenic Municipal Solid Waste for Electricity Generation by State, by Sector, 2020 and 2019 (Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	3,357,062	3,391,400	-1.0%	0	0	3,235,745	3,251,436	121,317	139,964	0	0
Connecticut	1,174,677	1,152,812	1.9%	0	0	1,174,677	1,152,812	0	0	0	0
Maine	230,149	247,953	-7.2%	0	0	108,832	107,989	121,317	139,964	0	0
Massachusetts	1,839,047	1,874,608	-1.9%	0	0	1,839,047	1,874,608	0	0	0	0
New Hampshire	113,189	116,027	-2.4%	0	0	113,189	116,027	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	5,138,118	5,092,928	0.9%	0	0	3,994,007	3,952,827	1,144,111	1,140,101	0	0
New Jersey	1,275,256	1,280,530	-0.4%	0	0	943,842	950,747	331,414	329,783	0	0
New York	1,958,614	1,958,517	0.0%	0	0	1,390,247	1,388,113	568,367	570,404	0	0
Pennsylvania	1,904,248	1,853,881	2.7%	0	0	1,659,918	1,613,967	244,330	239,914	0	0
East North Central	165,535	179,378	-7.7%	31,633	35,106	0	0	133,902	144,272	0	0
Illinois	0	0	--	0	0	0	0	0	0	0	0
Indiana	20,046	18,485	8.4%	0	0	0	0	20,046	18,485	0	0
Michigan	113,856	125,787	-9.5%	0	0	0	0	113,856	125,787	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	31,633	35,106	-9.9%	31,633	35,106	0	0	0	0	0	0
West North Central	458,423	482,950	-5.1%	248,167	262,383	200,134	209,879	10,122	10,688	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	458,423	482,950	-5.1%	248,167	262,383	200,134	209,879	10,122	10,688	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	5,324,569	5,297,915	0.5%	0	0	4,905,241	4,876,934	419,328	420,981	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	3,628,428	3,545,259	2.3%	0	0	3,628,428	3,545,259	0	0	0	0
Georgia	0	0	--	0	0	0	0	0	0	0	0
Maryland	551,109	610,344	-9.7%	0	0	551,109	610,344	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	1,145,032	1,142,312	0.2%	0	0	725,704	721,331	419,328	420,981	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	10,326	10,086	2.4%	0	0	0	0	0	0	10,326	10,086
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	0	0	--	0	0	0	0	0	0	0	0
Oklahoma	10,326	10,086	2.4%	0	0	0	0	0	0	10,326	10,086
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	639,777	650,245	-1.6%	0	0	639,777	650,245	0	0	0	0
California	375,623	385,958	-2.7%	0	0	375,623	385,958	0	0	0	0
Oregon	113,266	114,155	-0.8%	0	0	113,266	114,155	0	0	0	0
Washington	150,888	150,132	0.5%	0	0	150,888	150,132	0	0	0	0
Pacific Noncontiguous	422,300	453,635	-6.9%	0	0	0	0	422,300	453,635	0	0
Alaska	0	0	--	0	0	0	0	0	0	0	0
Hawaii	422,300	453,635	-6.9%	0	0	0	0	422,300	453,635	0	0
U.S. Total	15,516,110	15,558,537	-0.3%	279,800	297,489	12,974,904	12,941,321	2,251,080	2,309,641	10,326	10,086

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Chapter 6

Fossil Fuel Stocks for Electricity Generation

Table 6.1. Stocks of Coal, Petroleum Liquids, and Petroleum Coke: Electric Power Sector, 2010 - 2020

Period	Electric Power Sector			Electric Utilities			Independent Power Producers		
	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Petroleum Coke (Thousand Tons)	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Petroleum Coke (Thousand Tons)	Coal (Thousand Tons)	Petroleum Liquids (Thousand Barrels)	Petroleum Coke (Thousand Tons)
End of Year Stocks									
2010	174,917	34,841	1,019	143,744	23,934	850	31,173	10,908	168
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	128,176	25,960	471	104,265	16,435	428	23,911	9,525	43
2020	133,327	26,063	298	107,968	15,941	273	25,359	10,123	25
Year 2018, End of Month Stocks									
January	123,235	25,853	720	103,761	17,653	579	19,474	8,200	141
February	120,526	26,831	692	101,532	18,213	561	18,994	8,618	131
March	126,008	26,763	736	106,377	18,301	612	19,631	8,462	124
April	128,571	26,608	731	107,870	18,236	647	20,701	8,372	84
May	127,982	26,794	709	107,176	18,315	648	20,806	8,479	61
June	121,041	26,494	591	101,498	17,964	526	19,544	8,530	65
July	110,348	25,912	668	93,099	17,412	614	17,249	8,500	53
August	103,744	24,815	625	87,944	16,602	580	15,800	8,213	45
September	100,384	24,595	608	84,696	16,378	557	15,688	8,217	51
October	104,855	24,591	541	87,394	16,183	511	17,461	8,409	30
November	104,075	24,720	557	86,252	16,114	540	17,823	8,606	16
December	102,793	25,977	539	84,728	16,553	521	18,065	9,423	19
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	116,861	26,185	388	93,750	16,862	381	23,111	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	128,176	25,960	471	104,265	16,435	428	23,911	9,525	43
Year 2020, End of Month Stocks									
January	134,384	25,154	562	108,363	16,011	503	26,021	9,144	59
February	139,361	25,101	650	112,121	16,018	584	27,240	9,084	66
March	145,283	25,609	566	116,445	16,448	527	28,838	9,162	39
April	151,807	25,732	549	122,122	16,491	524	29,685	9,240	25
May	154,130	25,937	529	123,727	16,552	518	30,403	9,385	11
June	150,525	26,095	479	120,400	16,530	471	30,125	9,565	9
July	137,970	26,870	455	110,537	16,670	437	27,432	10,200	19
August	129,444	25,881	408	103,906	16,437	402	25,538	9,444	6
September	129,173	26,404	416	103,172	16,229	402	26,001	10,175	15
October	133,547	26,484	457	106,730	16,355	435	26,817	10,129	21
November	136,304	26,224	472	109,162	16,178	452	27,142	10,045	21
December	133,327	26,063	298	107,968	15,941	273	25,359	10,123	25

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, 2020 and 2019**

Census Division and State	Coal (Thousand Tons)			Petroleum Liquids (Thousand Barrels)			Petroleum Coke (Thousand Tons)		
	December 2020	December 2019	Percentage Change	December 2020	December 2019	Percentage Change	December 2020	December 2019	Percentage Change
New England	491	465	5.6%	3,568	3,409	4.7%	0	0	--
Connecticut	W	W	W	1,261	1,202	4.9%	0	0	--
Maine	0	0	--	301	231	30.4%	0	0	--
Massachusetts	0	0	--	1,442	1,386	4.0%	0	0	--
New Hampshire	W	W	W	361	345	4.7%	0	0	--
Rhode Island	0	0	--	173	207	-16.7%	0	0	--
Vermont	0	0	--	31	NM	NM	0	0	--
Middle Atlantic	3,734	4,612	-19.0%	5,406	5,671	-4.7%	0	0	--
New Jersey	W	W	W	767	764	0.4%	0	0	--
New York	0	W	W	3,149	3,504	-10.1%	0	0	--
Pennsylvania	W	4,427	W	1,490	1,404	6.1%	0	0	--
East North Central	31,919	28,377	12.5%	1,667	1,180	41.2%	W	116	W
Illinois	6,220	4,385	41.9%	71	NM	NM	0	0	--
Indiana	10,635	8,900	19.5%	106	164	-34.9%	0	W	W
Michigan	4,930	4,998	-1.4%	258	NM	NM	W	W	W
Ohio	6,585	6,697	-1.7%	458	480	-4.6%	0	W	W
Wisconsin	3,549	3,397	4.5%	774	NM	NM	W	W	W
West North Central	26,370	22,810	15.6%	801	844	-5.1%	0	0	--
Iowa	7,523	4,659	61.5%	127	NM	NM	0	0	--
Kansas	3,340	3,227	3.5%	127	110	14.8%	0	0	--
Minnesota	3,149	3,743	-15.9%	103	NM	NM	0	0	--
Missouri	7,399	7,070	4.7%	262	326	-19.7%	0	0	--
Nebraska	3,114	2,597	19.9%	105	NM	NM	0	0	--
North Dakota	W	W	W	30	NM	NM	0	0	--
South Dakota	W	W	W	48	NM	NM	0	0	--
South Atlantic	20,440	23,185	-11.8%	10,372	10,401	-0.3%	W	W	W
Delaware	W	W	W	561	524	6.9%	0	0	--
District of Columbia	0	0	--	0	0	--	0	0	--
Florida	2,049	2,737	-25.1%	3,641	3,853	-5.5%	W	W	W
Georgia	4,839	5,045	-4.1%	1,010	805	25.4%	0	0	--
Maryland	1,427	1,723	-17.2%	768	723	6.2%	0	0	--
North Carolina	3,527	3,776	-6.6%	1,226	1,214	1.0%	0	0	--
South Carolina	1,438	2,398	-40.0%	669	671	-0.3%	0	0	--
Virginia	W	W	W	2,345	2,456	-4.5%	0	0	--
West Virginia	6,527	6,263	4.2%	152	154	-1.1%	W	W	W
East South Central	11,367	12,837	-11.5%	1,164	1,196	-2.7%	0	0	--
Alabama	2,993	W	W	210	210	0.1%	0	0	--
Kentucky	5,600	6,582	-14.9%	237	221	7.5%	0	0	--
Mississippi	W	W	W	6	NM	NM	0	0	--
Tennessee	W	2,868	W	710	756	-6.0%	0	0	--
West South Central	20,032	18,248	9.8%	1,194	1,243	-3.9%	W	W	W
Arkansas	3,911	3,611	8.3%	162	163	-0.6%	0	0	--
Louisiana	3,810	2,588	47.2%	208	222	-6.6%	W	W	W
Oklahoma	2,662	2,578	3.3%	100	93	8.2%	0	0	--
Texas	9,648	9,471	1.9%	724	765	-5.3%	0	0	--
Mountain	17,985	16,447	9.3%	360	334	7.9%	W	W	W
Arizona	3,456	3,325	3.9%	105	126	-16.4%	0	0	--
Colorado	3,662	3,581	2.3%	130	118	10.1%	0	0	--
Idaho	0	0	--	0	0	-48.4%	0	0	--
Montana	W	W	W	14	NM	NM	W	W	W
Nevada	W	W	W	1	2	-68.3%	0	0	--
New Mexico	W	W	W	19	NM	NM	0	0	--
Utah	4,475	2,866	56.1%	46	26	77.9%	0	0	--
Wyoming	W	4,644	W	44	29	53.4%	0	0	--
Pacific Contiguous	W	W	W	366	358	2.4%	0	0	--
California	0	0	--	194	177	9.9%	0	0	--
Oregon	0	W	W	73	80	-8.7%	0	0	--
Washington	W	W	W	98	NM	NM	0	0	--
Pacific Noncontiguous	W	W	W	1,166	1,323	-11.9%	0	0	--
Alaska	W	W	W	241	NM	NM	0	0	--
Hawaii	W	W	W	925	1,103	-16.2%	0	0	--
U.S. Total	133,327	128,176	4.0%	26,063	25,960	0.4%	298	471	-36.8%

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, 2020 and 2019**

Census Division	Electric Power Sector			Electric Utilities		Independent Power Producers	
	December 2020	December 2019	Percentage Change	December 2020	December 2019	December 2020	December 2019
Coal (Thousand Tons)							
New England	491	465	5.6%	W	W	W	W
Middle Atlantic	3,734	4,612	-19.0%	W	0	W	4,612
East North Central	31,919	28,377	12.5%	20,171	18,492	11,748	9,885
West North Central	26,370	22,810	15.6%	26,370	22,810	0	0
South Atlantic	20,440	23,185	-11.8%	18,367	20,619	2,072	2,567
East South Central	11,367	12,837	-11.5%	11,367	12,837	0	0
West South Central	20,032	18,248	9.8%	13,969	13,016	6,063	5,232
Mountain	17,985	16,447	9.3%	W	W	W	W
Pacific Contiguous	W	W	W	0	W	W	W
Pacific Noncontiguous	W	W	W	W	W	W	W
U.S. Total	133,327	128,176	4.0%	107,968	104,265	25,359	23,911
Petroleum Liquids (Thousand Barrels)							
New England	3,568	3,409	4.7%	526	497	3,042	2,911
Middle Atlantic	5,406	5,671	-4.7%	2,000	2,138	3,405	3,534
East North Central	1,667	1,180	41.2%	742	717	925	463
West North Central	801	844	-5.1%	776	819	26	NM
South Atlantic	10,372	10,401	-0.3%	8,087	8,271	2,285	2,130
East South Central	1,164	1,196	-2.7%	1,073	1,104	91	92
West South Central	1,194	1,243	-3.9%	999	1,025	196	218
Mountain	360	334	7.9%	333	306	27	28
Pacific Contiguous	366	358	2.4%	269	278	97	79
Pacific Noncontiguous	1,166	1,323	-11.9%	1,136	1,280	29	43
U.S. Total	26,063	25,960	0.4%	15,941	16,435	10,123	9,525
Petroleum Coke (Thousand Tons)							
New England	0	0	--	0	0	0	0
Middle Atlantic	0	0	--	0	0	0	0
East North Central	W	116	W	W	W	0	W
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	298	471	-36.8%	273	428	25	43

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, 2010 - 2020
(Thousand Tons)**

Period	Electric Power Sector			
	Bituminous Coal	Subbituminous Coal	Lignite Coal	Total
End of Year Stocks				
2010	81,108	86,915	6,894	174,917
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	54,843	69,942	3,124	128,176
2020	52,541	77,036	3,556	133,327
Year 2018, End of Month Stocks				
January	47,910	72,251	3,074	123,235
February	47,658	69,960	2,909	120,526
March	49,027	73,768	3,213	126,008
April	50,499	74,747	3,324	128,571
May	51,393	73,377	3,212	127,982
June	48,411	69,439	3,191	121,041
July	44,487	63,014	2,847	110,348
August	42,359	58,570	2,816	103,744
September	40,384	57,155	2,845	100,384
October	42,588	59,252	3,016	104,855
November	42,392	58,575	3,108	104,075
December	41,507	58,247	3,039	102,793
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	53,689	60,294	2,551	116,861
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	54,843	69,942	3,124	128,176
Year 2020, End of Month Stocks				
January	56,339	74,483	3,307	134,384
February	57,324	78,571	3,235	139,361
March	59,934	81,469	3,624	145,283
April	61,928	85,646	3,947	151,807
May	61,592	88,064	4,117	154,130
June	59,475	86,585	4,140	150,525
July	53,727	79,684	4,245	137,970
August	50,769	74,087	4,338	129,444
September	50,322	74,586	4,070	129,173
October	53,519	76,062	3,772	133,547
November	54,825	77,585	3,702	136,304
December	52,541	77,036	3,556	133,327

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, 2010 through 2020

Period	Coal				Petroleum				Natural Gas		All Fossil Fuels
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Cost		Receipts (Thousand Barrels)	Average Sulfur Percent by Weight	Average Cost		Receipts (Thousand Mcf)	Average Cost	Average Cost
			(Dollars per MMBtu)	(Dollars per Ton)			(Dollars per MMBtu)	(Dollars per Barrel)		(Dollars per MMBtu)	(Dollars per MMBtu)
2010	979,918	1.16	2.27	44.64	75,285	2.14	9.54	56.35	8,673,070	5.09	3.26
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	10,885,764	3.55	2.83
2019	560,153	1.31	2.02	38.70	24,556	3.03	9.07	53.55	11,693,486	2.89	2.50
2020	439,636	1.28	1.92	36.36	24,846	3.45	5.98	34.92	11,971,059	2.40	2.22

* = 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, 2010 through 2020

Period	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
2010	403,619	1.90	10.4	491,425	0.33	5.8	71,416	0.90	14.1
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

* = 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, 2010 through 2020

Period	Coal			Petroleum			Natural Gas
	Average Btu per Pound	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Average Btu per Gallon	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Average Btu per Cubic Foot
2010	9,842	1.16	8.8	140,598	2.14	0.2	1,022
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

* = 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, 2010 through 2020

Period	Coal								Petroleum		Natural Gas		Total Fossil	
	Bituminous		Subbituminous		Lignite		All Coal Ranks		Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)
	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)	Receipts (Trillion Btu)	Average Cost (Dollars per MMBtu)						
2010	9,652	2.81	8,545	1.73	925	1.62	19,290	2.27	445	9.54	8,867	5.09	28,602	3.26
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	11,244	3.55	22,834	2.83
2019	4,670	2.26	5,401	1.86	601	1.68	10,746	2.02	145	9.07	12,093	2.89	22,984	2.50
2020	3,399	2.11	4,300	1.78	566	1.90	8,329	1.92	145	5.98	12,370	2.40	20,844	2.22

* = 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.

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- See the Technical Notes for fuel conversion factors.
- Totals may not equal the sum of components because of independent rounding.

Sources: U.S. Energy Information Administration (EIA), Form EIA-923, "Power Plant Operations Report" and predecessor forms including Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report" and Federal Energy Regulatory Commission (FERC), FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants."

Table 7.5. Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities, 2010 - 2020

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2010	14,226,995	713,094	2.27	45.33	1.14	98.8	189,790	31,099	13.94	85.07	0.48	101.0
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	98.0	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
Year 2018												
January	689,121	36,230	2.08	39.57	1.11	75.5	16,449	2,762	14.38	85.73	0.43	61.0
February	637,294	33,294	2.10	40.18	1.17	97.3	8,657	1,413	12.58	77.10	0.46	126.0
March	696,264	36,224	2.09	40.20	1.18	111.4	5,472	906	13.38	80.86	0.36	82.4
April	600,033	31,096	2.12	40.93	1.23	101.8	5,321	875	13.78	83.81	0.36	74.7
May	654,477	33,757	2.09	40.57	1.24	95.3	6,739	1,108	14.37	87.44	0.29	82.5
June	689,040	35,857	2.10	40.33	1.21	84.0	6,566	1,085	14.63	88.49	0.28	78.5
July	738,964	38,675	2.10	40.13	1.15	79.8	5,620	920	14.34	87.60	0.27	75.5
August	802,045	41,889	2.11	40.43	1.19	87.2	5,016	826	15.26	92.68	0.34	63.6
September	695,648	36,530	2.12	40.31	1.15	90.3	5,665	940	15.53	93.63	0.35	66.8
October	713,410	37,228	2.10	40.20	1.21	104.3	6,170	1,011	15.78	96.34	0.39	73.6
November	691,145	36,346	2.10	39.90	1.17	95.3	5,383	896	15.89	95.50	0.41	69.8
December	743,694	38,838	2.17	41.48	1.17	93.2	6,991	1,155	13.83	83.69	0.44	94.7
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

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.

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Table 7.6. Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities, 2010 - 2020 (continued)

Period	Petroleum Coke							Natural Gas					All Fossil Fuels
	Receipts		Average Cost			Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost			Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	(Billion Btu)			(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	Percentage of Consumption	(Dollars per MMBtu)	
Annual Totals													
2010	103,152	3,629	2.38	67.65	5.03	109.1	3,395,962	3,327,919	5.43	5.54	101.1	2.99	
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	2.88	
2018	83,211	2,940	2.56	72.34	5.74	106.8	5,553,558	5,379,459	3.68	3.80	96.2	2.80	
2019	54,266	1,896	1.92	54.88	5.50	91.0	6,026,974	5,831,134	3.03	3.13	97.0	2.53	
2020	65,684	2,317	1.70	48.07	5.39	101.8	6,196,320	6,000,750	2.63	2.72	96.3	2.32	
Year 2018													
January	7,009	248	2.38	67.41	5.31	83.4	423,606	410,310	5.20	5.37	95.5	3.41	
February	7,769	277	2.43	68.09	5.49	117.9	359,760	348,729	3.81	3.93	95.0	2.79	
March	7,841	281	2.54	70.89	5.54	141.5	397,572	384,900	3.46	3.57	96.4	2.64	
April	6,564	232	2.56	72.38	6.09	119.0	377,302	365,948	3.30	3.40	97.5	2.63	
May	4,344	152	2.41	68.58	6.09	108.3	452,870	438,567	3.24	3.35	94.8	2.63	
June	7,382	260	2.73	77.61	5.97	96.2	525,751	509,192	3.28	3.39	97.2	2.67	
July	8,147	287	2.73	77.48	5.73	100.4	632,132	612,044	3.27	3.38	95.1	2.69	
August	8,183	288	2.82	80.03	5.67	105.4	607,246	588,293	3.33	3.44	96.5	2.68	
September	7,493	263	3.05	86.74	5.59	101.2	535,618	518,216	3.28	3.39	97.0	2.68	
October	5,415	191	2.55	72.24	5.80	120.4	464,777	450,302	3.57	3.68	97.8	2.74	
November	6,524	229	2.23	63.55	5.88	116.4	390,167	378,446	4.26	4.39	94.9	2.93	
December	6,541	232	2.04	57.52	5.91	96.0	386,756	374,513	4.92	5.08	96.2	3.16	
Year 2019													
January	5,447	192	2.08	59.13	5.93	73.8	446,581	432,740	4.13	4.26	97.1	2.94	
February	4,486	155	2.27	65.75	5.78	69.4	414,367	398,782	3.76	3.90	95.9	2.84	
March	3,725	130	2.43	69.63	6.15	66.9	432,758	419,315	3.63	3.74	96.3	2.84	
April	3,159	111	2.71	76.93	5.65	101.5	401,329	388,531	3.05	3.15	96.7	2.55	
May	4,631	162	2.24	63.78	5.41	73.8	471,417	457,391	2.92	3.01	99.1	2.50	
June	3,740	130	2.18	62.61	5.15	85.7	546,353	529,347	2.73	2.82	97.6	2.43	
July	5,723	199	2.01	57.76	5.22	86.8	662,600	640,466	2.63	2.72	96.8	2.38	
August	6,693	235	1.72	48.82	5.15	115.7	680,091	657,152	2.52	2.61	96.6	2.31	
September	3,034	105	1.68	48.71	5.58	56.6	577,988	559,208	2.75	2.84	97.0	2.40	
October	1,738	60	1.51	43.76	5.45	92.3	496,610	480,428	2.69	2.78	96.7	2.35	
November	6,654	232	1.46	41.78	5.38	227.7	427,761	413,977	3.13	3.24	97.0	2.52	
December	5,236	183	1.14	32.50	5.44	132.2	469,120	453,799	3.12	3.22	96.9	2.50	
Year 2020													
January	8,421	295	1.53	43.68	5.34	144.1	494,000	477,695	2.85	2.95	94.0	2.41	
February	6,913	244	1.47	41.75	4.99	164.5	480,258	464,716	2.64	2.73	96.4	2.33	
March	4,942	174	1.36	38.61	5.46	82.4	488,297	471,965	2.34	2.42	96.5	2.19	
April	5,150	180	1.38	39.50	5.35	98.8	431,390	415,554	2.33	2.42	96.3	2.16	
May	5,495	195	1.61	45.35	5.30	104.2	468,100	453,784	2.43	2.51	97.0	2.21	
June	5,648	199	1.46	41.45	6.01	77.0	560,552	544,664	2.26	2.33	96.8	2.14	
July	6,801	240	1.53	43.25	5.87	92.0	700,253	679,974	2.23	2.29	96.1	2.13	
August	6,229	219	1.89	53.72	5.63	92.4	664,394	644,016	2.59	2.67	96.3	2.33	
September	3,305	119	1.97	54.59	5.08	102.2	527,005	510,468	2.71	2.79	96.7	2.36	
October	3,340	118	2.12	59.66	4.87	143.2	502,129	486,600	2.74	2.83	96.6	2.38	
November	4,711	167	2.25	63.61	4.99	105.0	410,600	397,887	3.38	3.49	97.2	2.61	
December	4,729	167	2.33	66.30	5.44	73.1	469,341	453,428	3.40	3.52	95.9	2.65	

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 W = Withheld to avoid disclosure of individual company data.

Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:

PETROLEUM COKE - includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
 NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

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Table 7.7 Receipts, Average Cost, and Quality of Fossil Fuels: Independent Power Producers, 2010 - 2020

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2010	4,555,898	243,585	2.20	41.15	1.21	96.0	49,598	8,420	14.80	87.19	0.35	89.9
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
Year 2018												
January	250,209	13,549	1.99	36.82	1.60	79.9	19,101	3,180	13.71	82.73	0.46	63.7
February	200,760	10,859	1.93	35.69	1.58	93.0	3,249	550	13.53	79.99	0.43	195.1
March	229,355	11,974	1.84	35.33	1.83	99.4	2,273	388	14.17	82.79	0.43	107.3
April	202,887	10,815	1.88	35.20	1.61	107.5	1,427	242	14.45	84.93	0.44	61.3
May	223,521	11,725	1.87	35.68	1.78	98.4	2,731	459	14.46	86.28	0.46	95.4
June	227,121	12,009	1.84	34.83	1.84	89.2	2,614	444	15.89	93.43	0.40	92.9
July	235,760	12,666	1.87	34.83	1.73	82.1	1,775	301	16.08	94.43	0.45	64.8
August	260,087	13,942	1.86	34.73	1.68	88.4	1,864	315	15.92	93.84	0.42	59.8
September	235,579	12,761	1.82	33.63	1.56	94.5	2,082	351	15.17	89.90	0.39	82.5
October	274,139	14,529	1.89	35.60	1.72	113.8	3,039	517	15.83	92.93	0.41	127.4
November	248,768	13,265	1.92	35.95	1.73	97.0	3,328	566	15.95	93.64	0.42	119.9
December	260,878	13,920	1.94	36.42	1.68	99.1	4,215	709	14.20	84.15	0.46	132.8
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

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Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:
 COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.
 PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

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- 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, 2010 - 2020 (continued)

Period	Petroleum Coke							Natural Gas					All Fossil Fuels
	Receipts		Average Cost			Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Percentage of Consumption	Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	(Billion Btu)			(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	(Dollars per MMBtu)		
Annual Totals													
2010	30,079	1,050	1.74	49.80	3.84	72.3	4,212,611	4,119,103	4.94	5.05	100.6	3.57	
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	
Year 2018													
January	0	0	--	--	--	0.0	343,077	331,644	5.21	5.39	93.1	3.99	
February	0	0	--	--	--	0.0	312,835	302,657	3.38	3.49	93.7	2.80	
March	0	0	--	--	--	0.0	346,290	334,497	2.87	2.97	93.6	2.46	
April	0	0	--	--	--	0.0	319,774	309,352	2.96	3.06	94.1	2.51	
May	0	0	--	--	--	0.0	377,388	365,397	2.79	2.89	94.8	2.46	
June	0	0	--	--	--	0.0	422,237	408,330	2.89	2.98	95.3	2.53	
July	0	0	--	--	--	0.0	570,783	552,360	3.21	3.32	95.3	2.79	
August	0	0	--	--	--	0.0	565,773	547,533	3.22	3.33	95.1	2.76	
September	0	0	--	--	--	0.0	489,149	472,958	2.90	3.00	95.4	2.54	
October	0	0	--	--	--	0.0	419,722	405,657	3.20	3.31	94.9	2.88	
November	0	0	--	--	--	0.0	355,192	343,013	4.12	4.27	94.1	3.19	
December	0	0	--	--	--	0.0	366,993	354,294	4.49	4.65	95.0	3.39	
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	

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Notes:

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:
 PETROLEUM COKE - includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
 NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

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

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Table 7.9. Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector, 2010 - 2020

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost				Receipts		Average Cost			
	(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												
2010	37,778	1,747	2.82	61.06	1.77	101.6	2,395	400	15.24	91.25	0.38	106.3
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
Year 2018												
January	95	4	2.92	66.58	3.11	5.5	0	0	--	--	--	0.0
February	31	1	2.92	66.05	3.19	2.3	0	0	--	--	--	0.0
March	5	0	2.92	66.20	3.16	0.4	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	52	2	2.94	66.53	2.87	5.5	0	0	--	--	--	0.0
November	62	3	2.94	66.44	2.99	5.8	0	0	--	--	--	0.0
December	46	2	2.97	66.83	3.05	4.4	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

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Notes:

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COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

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- See the Technical Notes for fuel conversion factors.

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

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Table 7.10. Receipts, Average Cost, and Quality of Fossil Fuels: Commercial Sector, 2010 - 2020 (continued)

Period	Petroleum Coke							Natural Gas					All Fossil Fuels
	Receipts		Average Cost			Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost			Average Cost
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)	(Billion Btu)			(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)	Percentage of Consumption	(Dollars per MMBtu)	
Annual Totals													
2010	410	15	2.19	60.59	5.67	122.5	92,055	90,130	5.39	5.51	105.1	4.83	
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	
Year 2018													
January	0	0	--	--	--	0.0	844	818	3.63	3.74	7.1	3.56	
February	0	0	--	--	--	0.0	709	688	3.72	3.84	6.5	3.69	
March	0	0	--	--	--	0.0	768	746	3.59	3.69	6.8	3.58	
April	0	0	--	--	--	0.0	732	713	3.49	3.58	7.3	3.49	
May	0	0	--	--	--	0.0	776	758	3.47	3.55	7.4	3.47	
June	0	0	--	--	--	0.0	670	650	3.57	3.67	5.8	3.57	
July	0	0	--	--	--	0.0	790	760	3.39	3.52	5.8	3.39	
August	0	0	--	--	--	0.0	786	764	3.42	3.52	5.8	3.42	
September	0	0	--	--	--	0.0	744	723	3.38	3.48	6.3	3.38	
October	0	0	--	--	--	0.0	792	770	3.36	3.45	7.2	3.33	
November	0	0	--	--	--	0.0	723	701	3.41	3.52	6.6	3.37	
December	0	0	--	--	--	0.0	756	732	3.41	3.52	6.6	3.39	
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	

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

Beginning in January 2013, the threshold for reporting fuel receipts data was changed from 50 megawatts to 200 megawatts of nameplate capacity for plants primarily fueled by natural gas, petroleum coke, distillate fuel oil, and residual fuel oil. In addition, the requirement to report self-produced and minor fuels, i.e., blast furnace gas, other manufactured gases, kerosene, jet fuel, propane, and waste oils was eliminated. The threshold for coal plants remained at 50 megawatts. The following caveats for each fuel type should be noted:
 PETROLEUM COKE - includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
 NATURAL GAS - includes natural gas only. Prior to 2011, includes Other Gases.

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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, 2010 - 2020

Period	Coal						Petroleum Liquids					
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Barrels)	(Dollars per MMBtu)	(Dollars per Barrel)		
Annual Totals												
2010	468,991	21,492	2.75	60.08	1.26	87.2	33,276	5,554	13.21	79.15	0.93	125.6
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	146,524	7,088	2.55	52.69	1.19	65.1	1,684	275	13.19	80.82	1.47	14.5
2020	134,323	6,515	2.49	51.38	1.27	68.9	1,700	277	10.52	64.54	1.20	17.0
Year 2018												
January	15,751	758	2.46	51.13	1.18	61.0	408	65	12.64	79.32	1.32	13.7
February	14,274	683	2.48	51.82	1.32	60.9	187	30	11.38	71.32	1.20	15.9
March	15,612	747	2.51	52.40	1.31	67.4	234	38	12.59	78.52	1.32	23.5
April	13,476	643	2.52	52.79	1.35	67.0	153	24	13.24	83.77	1.23	17.6
May	14,544	704	2.51	51.92	1.24	71.9	149	24	14.33	87.27	1.47	16.1
June	14,489	697	2.49	51.65	1.28	71.9	107	17	13.54	84.39	1.48	10.5
July	14,900	724	2.41	49.69	1.32	75.3	138	22	14.64	89.87	1.42	13.2
August	13,930	668	2.48	51.76	1.31	70.4	135	22	14.45	89.97	1.39	15.5
September	12,593	600	2.53	53.10	1.35	63.7	155	25	14.38	89.73	1.12	19.7
October	12,410	598	2.47	51.18	1.38	67.1	180	29	14.50	91.01	1.37	14.9
November	14,259	701	2.50	50.92	1.15	69.1	206	33	14.01	87.74	1.58	15.0
December	14,492	701	2.35	48.52	1.47	64.1	268	43	13.75	85.58	1.46	19.7
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

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Notes:

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COAL - includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas. Prior to 2011, synthesis gas was included in the category of Other Gases.

PETROLEUM LIQUIDS - includes distillate fuel oil and residual fuel oil. Prior to 2013, petroleum liquids included distillate fuel oil, residual fuel oil, kerosene, jet fuel, waste oil, and, beginning in 2011, propane. Prior to 2011, propane was included in the category of Other Gases.

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Table 7.12. Receipts, Average Cost, and Quality of Fossil Fuels: Industrial Sector, 2010 - 2020 (continued)

Period	Petroleum Coke							Natural Gas					All Fossil Fuels Average Cost (Dollars per MMBtu)
	Receipts		Average Cost		Average Sulfur Percent by Weight	Percentage of Consumption	Receipts		Average Cost		Percentage of Consumption		
	(Billion Btu)	(Thousand Tons)	(Dollars per MMBtu)	(Dollars per Ton)			(Billion Btu)	(Thousand Mcf)	(Dollars per MMBtu)	(Dollars per Mcf)			
Annual Totals													
2010	35,866	1,269	2.46	69.38	4.90	100.5	1,166,768	1,135,917	4.64	4.77	110.4	4.24	
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	
Year 2018													
January	0	0	--	--	--	0.0	69,164	67,045	3.59	3.70	58.1	3.42	
February	0	0	--	--	--	0.0	60,810	58,990	3.41	3.52	58.6	3.26	
March	0	0	--	--	--	0.0	61,164	59,423	2.85	2.94	56.5	2.81	
April	0	0	--	--	--	0.0	61,184	59,457	2.92	3.01	58.4	2.87	
May	0	0	--	--	--	0.0	63,410	61,557	2.99	3.08	58.8	2.92	
June	0	0	--	--	--	0.0	65,879	64,032	3.14	3.23	59.8	3.03	
July	160	6	1.70	45.10	5.83	6.8	68,296	66,523	3.03	3.11	57.4	2.93	
August	260	10	1.78	46.99	5.55	12.2	69,386	67,341	3.12	3.21	58.1	3.03	
September	664	25	1.78	47.54	6.02	31.0	67,825	66,022	3.12	3.20	60.1	3.04	
October	477	17	1.76	48.96	5.45	20.6	66,419	64,687	3.75	3.85	59.0	3.56	
November	172	6	1.69	46.62	5.85	8.4	71,469	69,556	3.97	4.08	61.6	3.75	
December	178	6	1.70	47.00	5.53	7.3	67,289	65,157	4.70	4.85	56.6	4.31	
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	28	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	

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Notes:

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 PETROLEUM COKE - includes petroleum coke-derived synthesis gas. Prior to 2011, petroleum coke-derived synthesis gas was included in Other Gases.
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**Table 7.13. Receipts of Coal Delivered for Electricity Generation by State, 2020 and 2019
(Thousand Tons)**

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	147	159	-7.8%	89	90	58	69	0	0	0	0
Connecticut	0	0	--	0	0	0	0	0	0	0	0
Maine	58	69	-16.0%	0	0	58	69	0	0	0	0
Massachusetts	0	0	--	0	0	0	0	0	0	0	0
New Hampshire	89	90	-1.2%	89	90	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	12,135	19,758	-39.0%	37	0	12,014	19,682	0	0	84	76
New Jersey	494	562	-12.0%	0	0	494	562	0	0	0	0
New York	0	105	-100.0%	0	0	0	105	0	0	0	0
Pennsylvania	11,641	19,091	-39.0%	37	0	11,520	19,015	0	0	84	76
East North Central	92,214	121,130	-24.0%	54,460	70,966	35,712	48,299	0	0	2,042	1,865
Illinois	24,163	34,332	-30.0%	3,815	6,705	18,320	25,845	0	0	2,028	1,781
Indiana	22,436	26,275	-21.0%	20,077	26,185	2,359	2,091	0	0	0	0
Michigan	15,479	21,214	-27.0%	15,245	20,965	233	247	0	0	1	2
Ohio	16,800	22,722	-26.0%	2,000	2,606	14,800	20,117	0	0	0	0
Wisconsin	13,337	14,587	-8.8%	13,323	14,505	0	0	0	0	13	82
West North Central	96,451	106,926	-9.8%	93,801	103,914	0	0	6	8	2,645	3,004
Iowa	12,805	16,988	-20.0%	10,806	13,745	0	0	0	0	1,999	2,242
Kansas	11,239	11,291	-0.5%	11,239	11,291	0	0	0	0	0	0
Minnesota	7,894	11,460	-31.0%	7,894	11,460	0	0	0	0	0	0
Missouri	29,919	31,097	-3.8%	29,913	31,088	0	0	6	8	0	0
Nebraska	12,522	13,430	-6.8%	11,876	12,669	0	0	0	0	646	761
North Dakota	21,023	21,882	-3.9%	21,023	21,882	0	0	0	0	0	0
South Dakota	1,050	1,778	-41.0%	1,050	1,778	0	0	0	0	0	0
South Atlantic	50,125	76,973	-35.0%	43,806	67,945	5,746	8,259	0	0	573	768
Delaware	0	71	-100.0%	0	0	0	71	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	6,721	9,218	-27.0%	6,690	9,166	0	0	0	0	31	53
Georgia	7,201	15,353	-53.0%	7,092	15,217	0	0	0	0	109	136
Maryland	1,341	2,881	-53.0%	0	0	1,341	2,788	0	0	0	92
North Carolina	8,041	12,803	-37.0%	7,755	12,535	63	55	0	0	224	213
South Carolina	4,535	7,317	-38.0%	4,323	7,099	190	198	0	0	21	19
Virginia	1,470	2,617	-44.0%	1,282	2,071	0	292	0	0	188	255
West Virginia	20,816	26,712	-22.0%	16,665	21,857	4,151	4,855	0	0	0	0
East South Central	43,087	56,572	-22.0%	40,025	52,421	2,537	2,561	0	0	525	590
Alabama	11,756	15,107	-22.0%	11,756	15,107	0	0	0	0	0	0
Kentucky	22,666	29,987	-24.0%	22,666	29,987	0	0	0	0	0	0
Mississippi	3,915	4,124	-5.1%	1,378	1,563	2,537	2,561	0	0	0	0
Tennessee	4,751	6,354	-25.0%	4,226	5,763	0	0	0	0	525	590
West South Central	72,780	91,089	-20.0%	33,972	46,260	38,727	44,600	0	0	81	229
Arkansas	9,789	14,098	-31.0%	7,746	11,854	1,993	2,184	0	0	50	61
Louisiana	3,584	5,843	-39.0%	2,273	4,456	1,311	1,387	0	0	0	0
Oklahoma	3,734	4,833	-23.0%	3,704	4,665	0	0	0	0	30	169
Texas	55,672	66,315	-16.0%	20,249	25,286	35,424	41,029	0	0	0	0
Mountain	67,007	80,585	-17.0%	60,425	70,392	6,562	10,192	0	0	0	0
Arizona	8,397	13,396	-37.0%	8,397	13,396	0	0	0	0	0	0
Colorado	11,552	13,935	-17.0%	11,552	13,935	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	5,359	8,917	-40.0%	217	256	5,142	8,661	0	0	0	0
Nevada	1,087	1,697	-36.0%	496	1,093	590	604	0	0	0	0
New Mexico	7,356	8,495	-13.0%	7,356	8,495	0	0	0	0	0	0
Utah	12,456	11,481	8.5%	12,133	11,079	322	402	0	0	0	0
Wyoming	20,800	22,663	-8.2%	20,273	22,138	527	525	0	0	0	0
Pacific Contiguous	4,616	6,950	-34.0%	525	1,599	3,526	4,795	0	0	565	555
California	565	555	1.8%	0	0	0	0	0	0	565	555
Oregon	525	1,599	-67.0%	525	1,599	0	0	0	0	0	0
Washington	3,526	4,795	-26.0%	0	0	3,526	4,795	0	0	0	0
Pacific Noncontiguous	1,073	1,011	6.2%	348	327	725	683	0	0	0	0
Alaska	348	327	6.3%	348	327	0	0	0	0	0	0
Hawaii	725	683	6.1%	0	0	725	683	0	0	0	0
U.S. Total	439,636	560,153	-22.0%	327,488	413,915	105,627	139,141	6	8	6,515	7,088

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 Totals may not equal sum of components because of independent rounding. Percentage change is calculated before rounding.
 Coal includes anthracite, bituminous, subbituminous, lignite, waste coal, and coal-derived synthesis gas.

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

Table 7.14. Receipts of Petroleum Liquids Delivered for Electricity Generation by State, 2020 and 2019
(Thousand Barrels)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Power Sector				Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Electric Utilities		Independent Power Producers		Year 2020	Year 2019	Year 2020	Year 2019
New England	414	357	16.0%	13	21	401	336	0	0	0	0
Connecticut	103	10	948.0%	0	0	103	10	0	0	0	0
Maine	175	152	15.0%	0	0	175	152	0	0	0	0
Massachusetts	111	155	-28.0%	10	8	101	147	0	0	0	0
New Hampshire	14	13	12.0%	3	13	12	0	0	0	0	0
Rhode Island	10	28	-63.0%	0	0	10	28	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	629	1,293	-51.0%	100	653	459	567	0	0	70	73
New Jersey	78	77	1.3%	0	0	78	77	0	0	0	0
New York	250	823	-70.0%	100	653	150	168	0	0	0	1
Pennsylvania	300	393	-24.0%	0	0	231	321	0	0	70	72
East North Central	764	901	-15.0%	489	555	248	313	0	0	27	33
Illinois	57	90	-36.0%	3	4	55	86	0	0	0	0
Indiana	255	215	19.0%	255	215	0	0	0	0	0	0
Michigan	188	153	23.0%	172	140	0	0	0	0	17	13
Ohio	222	393	-43.0%	26	153	186	220	0	0	10	20
Wisconsin	41	51	-20.0%	34	44	7	8	0	0	0	0
West North Central	605	617	-1.9%	605	614	0	3	0	0	0	0
Iowa	115	115	0.2%	115	115	0	0	0	0	0	0
Kansas	149	146	1.8%	149	146	0	0	0	0	0	0
Minnesota	36	76	-52.0%	36	73	0	3	0	0	0	0
Missouri	181	177	2.1%	181	177	0	0	0	0	0	0
Nebraska	35	19	90.0%	35	19	0	0	0	0	0	0
North Dakota	78	71	10.0%	78	71	0	0	0	0	0	0
South Dakota	10	13	-22.0%	10	13	0	0	0	0	0	0
South Atlantic	1,717	1,699	1.0%	1,210	1,315	341	221	0	0	165	163
Delaware	28	7	312.0%	0	0	28	7	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	175	423	-59.0%	144	387	0	0	0	0	31	36
Georgia	297	234	27.0%	253	156	5	4	0	0	39	73
Maryland	257	186	38.0%	0	0	257	186	0	0	0	0
North Carolina	190	243	-22.0%	136	207	0	4	0	0	55	32
South Carolina	116	110	5.5%	95	99	3	2	0	0	18	9
Virginia	408	247	65.0%	338	218	49	18	0	0	22	12
West Virginia	244	248	-1.6%	244	248	0	0	0	0	0	0
East South Central	280	287	-2.7%	260	267	4	14	0	0	15	7
Alabama	10	32	-69.0%	6	18	4	14	0	0	0	0
Kentucky	168	142	19.0%	168	142	0	0	0	0	0	0
Mississippi	10	23	-55.0%	10	23	0	0	0	0	0	0
Tennessee	91	90	0.5%	76	84	0	0	0	0	15	7
West South Central	247	230	7.6%	193	184	55	46	0	0	0	0
Arkansas	83	75	11.0%	62	53	22	22	0	0	0	0
Louisiana	16	37	-58.0%	16	37	0	0	0	0	0	0
Oklahoma	63	35	81.0%	63	35	0	0	0	0	0	0
Texas	85	83	3.1%	52	59	33	24	0	0	0	0
Mountain	353	362	-2.4%	326	337	27	25	0	0	0	0
Arizona	79	124	-36.0%	79	124	0	0	0	0	0	0
Colorado	6	5	17.0%	6	5	0	0	0	0	0	0
Idaho	0	0	--	0	0	0	0	0	0	0	0
Montana	19	18	4.0%	0	0	19	18	0	0	0	0
Nevada	12	25	-53.0%	9	20	3	5	0	0	0	0
New Mexico	53	48	8.9%	53	48	0	0	0	0	0	0
Utah	90	69	31.0%	85	66	5	2	0	0	0	0
Wyoming	94	72	31.0%	94	72	0	0	0	0	0	0
Pacific Contiguous	18	28	-35.0%	7	11	11	17	0	0	0	0
California	0	0	--	0	0	0	0	0	0	0	0
Oregon	0	4	-100.0%	0	4	0	0	0	0	0	0
Washington	18	23	-23.0%	7	6	11	17	0	0	0	0
Pacific Noncontiguous	7,837	8,937	-12.0%	6,168	7,054	1,669	1,883	0	0	0	0
Alaska	25	27	-5.7%	25	27	0	0	0	0	0	0
Hawaii	7,812	8,910	-12.0%	6,143	7,027	1,669	1,883	0	0	0	0
U.S. Total	12,864	14,711	-13.0%	9,371	11,010	3,216	3,425	0	0	277	275

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 Petroleum Liquids includes distillate and residual fuel oils.
 See the Technical Notes for fuel conversion factors.

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

Table 7.15. Receipts of Petroleum Coke Delivered for Electricity Generation by State, 2020 and 2019
(Thousand Tons)

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
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	411	325	27.0%	411	325	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	364	280	30.0%	364	280	0	0	0	0	0	0
Ohio	0	0	--	0	0	0	0	0	0	0	0
Wisconsin	47	45	5.6%	47	45	0	0	0	0	0	0
West North Central	80	73	9.1%	0	0	0	0	0	0	80	73
Iowa	80	73	9.1%	0	0	0	0	0	0	80	73
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	599	429	40.0%	599	429	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	599	429	40.0%	599	429	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	1,307	1,142	14.0%	1,307	1,142	0	0	0	0	0	0
Arkansas	0	0	--	0	0	0	0	0	0	0	0
Louisiana	1,307	1,142	14.0%	1,307	1,142	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	2,396	1,969	22.0%	2,317	1,896	0	0	0	0	80	73

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 Petroleum Coke includes petroleum coke-derived synthesis gas.
 See the Technical Notes for fuel conversion factors.

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

**Table 7.16. Receipts of Natural Gas Delivered for Electricity Generation by State, 2020 and 2019
(Million Cubic Feet)**

Census Division and State	Electric Power Sector										
	All Sectors			Electric Utilities		Independent Power Producers		Commercial Sector		Industrial Sector	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	353,707	338,041	4.6%	1,293	646	352,414	337,395	0	0	0	0
Connecticut	155,098	140,794	10.0%	0	0	155,098	140,794	0	0	0	0
Maine	10,418	9,373	11.0%	0	0	10,418	9,373	0	0	0	0
Massachusetts	103,157	110,879	-7.0%	1,083	567	102,074	110,313	0	0	0	0
New Hampshire	26,082	25,487	2.3%	210	79	25,872	25,408	0	0	0	0
Rhode Island	58,951	51,509	14.0%	0	0	58,951	51,509	0	0	0	0
Vermont	0	0	--	0	0	0	0	0	0	0	0
Middle Atlantic	1,422,159	1,299,674	9.4%	103,835	88,480	1,308,193	1,201,102	0	0	10,130	10,092
New Jersey	219,140	285,788	-23.0%	0	0	219,140	285,788	0	0	0	0
New York	392,927	358,271	9.7%	103,835	88,480	282,064	262,557	0	0	7,028	7,234
Pennsylvania	810,093	655,615	24.0%	0	0	806,990	652,757	0	0	3,103	2,858
East North Central	1,215,636	1,140,342	6.6%	426,360	382,520	768,653	736,954	6,057	6,889	14,565	13,979
Illinois	187,047	159,869	17.0%	18,041	11,328	168,971	148,518	0	0	35	22
Indiana	220,701	211,990	4.1%	106,817	99,028	113,884	112,961	0	0	0	0
Michigan	280,514	258,751	8.4%	98,339	80,521	170,304	165,409	6,057	6,889	5,815	5,932
Ohio	371,678	365,929	1.6%	61,626	61,895	304,210	298,611	0	0	5,842	5,423
Wisconsin	155,696	143,803	8.3%	141,537	129,747	11,285	11,454	0	0	2,873	2,602
West North Central	247,509	267,715	-7.5%	198,962	222,855	42,536	37,931	2,131	2,197	3,879	4,732
Iowa	56,882	67,408	-16.0%	53,002	62,676	0	0	0	0	3,879	4,732
Kansas	19,526	23,307	-16.0%	19,526	23,307	0	0	0	0	0	0
Minnesota	77,818	83,832	-7.2%	50,787	63,047	27,015	20,773	16	12	0	0
Missouri	60,046	59,690	0.6%	42,410	40,347	15,521	17,158	2,115	2,185	0	0
Nebraska	10,753	11,470	-6.3%	10,753	11,470	0	0	0	0	0	0
North Dakota	15,793	14,877	6.2%	15,793	14,877	0	0	0	0	0	0
South Dakota	6,692	7,131	-6.2%	6,692	7,131	0	0	0	0	0	0
South Atlantic	2,856,503	2,775,146	2.9%	2,362,009	2,289,939	455,858	449,301	0	0	38,636	35,906
Delaware	26,676	25,354	5.2%	0	0	26,676	25,354	0	0	0	0
District of Columbia	0	0	--	0	0	0	0	0	0	0	0
Florida	1,332,771	1,289,171	3.4%	1,285,460	1,243,206	43,241	41,287	0	0	4,070	4,677
Georgia	427,935	434,294	-1.5%	325,139	328,913	93,400	96,900	0	0	9,395	8,482
Maryland	94,281	96,466	-2.3%	20,250	23,002	74,031	72,313	0	0	0	1,151
North Carolina	308,427	308,738	-0.1%	247,818	240,733	57,328	65,194	0	0	3,281	2,812
South Carolina	181,066	178,437	1.5%	175,817	173,081	3,107	4,403	0	0	2,142	954
Virginia	456,561	419,047	9.0%	306,326	276,888	137,949	131,541	0	0	12,286	10,618
West Virginia	28,786	23,638	22.0%	1,199	4,117	20,125	12,309	0	0	7,462	7,212
East South Central	1,000,655	1,019,264	-1.8%	756,066	737,878	216,535	256,884	0	0	28,054	24,502
Alabama	370,265	399,066	-7.2%	159,727	146,717	210,538	252,349	0	0	0	0
Kentucky	102,350	113,295	-9.7%	96,489	108,870	5,861	4,426	0	0	0	0
Mississippi	395,158	363,823	8.6%	395,022	363,714	136	110	0	0	0	0
Tennessee	132,882	143,079	-7.1%	104,828	118,577	0	0	0	0	28,054	24,502
West South Central	3,174,113	3,240,210	-2.0%	1,075,661	1,082,072	1,441,159	1,485,951	0	0	657,293	672,187
Arkansas	133,521	158,293	-16.0%	118,428	143,446	12,457	12,136	0	0	2,636	2,711
Louisiana	567,921	558,627	1.7%	320,706	289,838	33,104	43,595	0	0	214,111	225,194
Oklahoma	333,311	337,151	-1.1%	214,419	220,793	112,383	110,846	0	0	6,509	5,511
Texas	2,139,361	2,186,139	-2.1%	422,109	427,995	1,283,216	1,319,374	0	0	434,036	438,770
Mountain	887,272	828,014	7.2%	742,388	692,679	144,511	134,995	0	0	373	341
Arizona	385,349	348,973	10.0%	301,616	267,937	83,733	81,036	0	0	0	0
Colorado	133,151	122,200	9.0%	112,006	105,000	21,145	17,140	0	0	0	0
Idaho	25,101	25,908	-3.1%	13,640	13,721	11,461	12,187	0	0	0	0
Montana	2,349	2,780	-16.0%	2,337	2,749	12	31	0	0	0	0
Nevada	183,561	173,732	5.7%	183,561	173,732	0	0	0	0	0	0
New Mexico	90,785	89,193	1.8%	62,642	64,609	28,143	24,584	0	0	0	0
Utah	61,318	62,078	-1.2%	60,945	61,738	0	0	0	0	373	341
Wyoming	5,658	3,149	80.0%	5,642	3,133	16	16	0	0	0	0
Pacific Contiguous	802,978	769,534	4.3%	323,650	318,521	449,078	422,364	0	0	30,251	28,649
California	585,827	528,794	11.0%	193,667	183,436	361,909	316,709	0	0	30,251	28,649
Oregon	130,565	143,846	-9.2%	67,323	70,838	63,242	73,008	0	0	0	0
Washington	86,586	96,895	-11.0%	62,660	64,247	23,926	32,648	0	0	0	0
Pacific Noncontiguous	10,527	15,546	-32.0%	10,527	15,546	0	0	0	0	0	0
Alaska	10,527	15,546	-32.0%	10,527	15,546	0	0	0	0	0	0
Hawaii	0	0	--	0	0	0	0	0	0	0	0
U.S. Total	11,971,059	11,693,486	2.4%	6,000,750	5,831,134	5,178,938	5,062,877	8,188	9,087	783,182	790,388

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

**Table 7.17. Average Cost of Coal Delivered for Electricity Generation by State, 2020 and 2019
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019
New England	W	W	W	3.11	3.35	W	W
Connecticut	--	--	--	--	--	--	--
Maine	W	W	W	--	--	W	W
Massachusetts	--	--	--	--	--	--	--
New Hampshire	3.11	3.35	-7.2%	3.11	3.35	--	--
Rhode Island	--	--	--	--	--	--	--
Vermont	--	--	--	--	--	--	--
Middle Atlantic	1.73	1.88	-8.0%	2.99	--	1.72	1.88
New Jersey	W	W	W	--	--	W	W
New York	--	W	W	--	--	--	W
Pennsylvania	W	W	W	2.99	--	W	W
East North Central	1.90	1.98	-4.0%	2.00	2.11	1.74	1.80
Illinois	W	W	W	1.61	1.97	W	W
Indiana	W	W	W	2.08	2.12	W	W
Michigan	W	W	W	2.03	2.09	W	W
Ohio	1.77	1.79	-1.1%	1.87	1.82	1.75	1.79
Wisconsin	1.96	2.22	-12.0%	1.96	2.22	--	--
West North Central	1.56	1.63	-4.3%	1.56	1.63	--	--
Iowa	1.51	1.54	-1.9%	1.51	1.54	--	--
Kansas	1.55	1.62	-4.3%	1.55	1.62	--	--
Minnesota	1.94	2.02	-4.0%	1.94	2.02	--	--
Missouri	1.56	1.67	-6.6%	1.56	1.67	--	--
Nebraska	1.24	1.23	0.8%	1.24	1.23	--	--
North Dakota	1.61	1.63	-1.2%	1.61	1.63	--	--
South Dakota	1.87	1.78	5.1%	1.87	1.78	--	--
South Atlantic	2.38	2.57	-7.4%	2.44	2.59	1.91	2.38
Delaware	--	W	W	--	--	--	W
District of Columbia	--	--	--	--	--	--	--
Florida	2.49	2.83	-12.0%	2.49	2.83	--	--
Georgia	2.69	2.69	0.0%	2.69	2.69	--	--
Maryland	W	2.66	W	--	--	W	2.66
North Carolina	W	W	W	2.54	2.80	W	W
South Carolina	W	W	W	3.13	3.20	W	W
Virginia	2.48	W	W	2.48	2.77	--	W
West Virginia	2.00	2.08	-3.8%	2.12	2.11	1.51	1.96
East South Central	W	W	W	1.95	W	W	W
Alabama	2.12	2.29	-7.4%	2.12	2.29	--	--
Kentucky	1.85	1.91	-3.1%	1.85	1.91	--	--
Mississippi	W	W	W	2.62	2.94	W	W
Tennessee	1.91	2.14	-11.0%	1.91	2.14	--	--
West South Central	1.86	1.83	1.6%	2.14	2.07	1.59	1.58
Arkansas	W	W	W	1.87	1.97	W	W
Louisiana	W	W	W	4.79	3.11	W	W
Oklahoma	1.60	1.73	-7.5%	1.60	1.73	--	--
Texas	W	W	W	2.04	1.99	W	W
Mountain	W	W	W	1.95	2.01	W	W
Arizona	2.14	2.56	-16.0%	2.14	2.56	--	--
Colorado	1.69	1.74	-2.9%	1.69	1.74	--	--
Idaho	--	--	--	--	--	--	--
Montana	W	W	W	2.27	1.95	W	W
Nevada	W	W	W	2.34	2.76	W	W
New Mexico	2.54	2.49	2.0%	2.54	2.49	--	--
Utah	2.04	1.97	3.6%	2.04	1.97	--	--
Wyoming	W	W	W	1.70	1.63	W	W
Pacific Contiguous	W	W	W	2.18	2.27	W	W
California	--	--	--	--	--	--	--
Oregon	2.18	2.27	-4.0%	2.18	2.27	--	--
Washington	W	W	W	--	--	W	W
Pacific Noncontiguous	W	W	W	3.46	3.51	W	W
Alaska	3.46	3.51	-1.4%	3.46	3.51	--	--
Hawaii	W	W	W	--	--	W	W
U.S. Total	1.91	2.01	-5.0%	1.96	2.08	1.74	1.81

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 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, 2020 and 2019
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019
New England	W	11.62	W	9.58	16.64	W	11.32
Connecticut	W	16.68	W	--	--	W	16.68
Maine	W	W	W	--	--	W	W
Massachusetts	W	11.61	W	7.68	14.70	W	11.45
New Hampshire	W	17.80	W	16.32	17.80	W	--
Rhode Island	W	W	W	--	--	W	W
Vermont	--	--	--	--	--	--	--
Middle Atlantic	10.24	W	W	9.49	12.01	10.40	W
New Jersey	8.67	13.81	-37.0%	--	--	8.67	13.81
New York	10.92	12.64	-14.0%	9.49	12.01	11.79	15.20
Pennsylvania	10.02	W	W	--	--	10.02	W
East North Central	10.22	15.15	-33.0%	10.05	14.70	10.56	15.93
Illinois	W	W	W	10.76	15.71	W	W
Indiana	10.33	14.86	-30.0%	10.33	14.86	--	--
Michigan	9.67	13.95	-31.0%	9.67	13.95	--	--
Ohio	10.47	15.44	-32.0%	11.10	15.44	10.38	15.44
Wisconsin	W	W	W	9.12	13.68	W	W
West North Central	9.98	14.72	-32.0%	9.98	14.72	--	--
Iowa	9.65	14.56	-34.0%	9.65	14.56	--	--
Kansas	10.45	14.92	-30.0%	10.45	14.92	--	--
Minnesota	9.76	14.83	-34.0%	9.76	14.83	--	--
Missouri	9.19	14.73	-38.0%	9.19	14.73	--	--
Nebraska	12.32	14.87	-17.0%	12.32	14.87	--	--
North Dakota	10.59	14.49	-27.0%	10.59	14.49	--	--
South Dakota	8.65	14.19	-39.0%	8.65	14.19	--	--
South Atlantic	10.83	14.52	-25.0%	11.31	14.60	9.03	14.06
Delaware	W	W	W	--	--	W	W
District of Columbia	--	--	--	--	--	--	--
Florida	9.07	15.33	-41.0%	9.07	15.33	--	--
Georgia	W	W	W	10.89	14.98	W	W
Maryland	8.77	14.20	-38.0%	--	--	8.77	14.20
North Carolina	10.62	W	W	10.62	14.67	--	W
South Carolina	W	W	W	10.31	15.13	W	W
Virginia	12.20	W	W	12.51	11.78	9.90	W
West Virginia	12.15	15.51	-22.0%	12.15	15.51	--	--
East South Central	W	W	W	10.94	14.55	W	W
Alabama	W	W	W	9.56	15.13	W	W
Kentucky	11.32	14.68	-23.0%	11.32	14.68	--	--
Mississippi	10.26	14.35	-29.0%	10.26	14.35	--	--
Tennessee	10.29	14.27	-28.0%	10.29	14.27	--	--
West South Central	9.67	W	W	9.63	14.71	9.81	W
Arkansas	W	W	W	9.88	14.74	W	W
Louisiana	9.15	14.61	-37.0%	9.15	14.61	--	--
Oklahoma	8.62	15.28	-44.0%	8.62	15.28	--	--
Texas	W	W	W	10.73	14.41	W	W
Mountain	12.69	16.89	-25.0%	12.72	16.96	12.37	15.98
Arizona	12.96	16.89	-23.0%	12.96	16.89	--	--
Colorado	11.65	17.67	-34.0%	11.65	17.67	--	--
Idaho	--	--	--	--	--	--	--
Montana	W	W	W	--	--	W	W
Nevada	W	W	W	14.28	16.25	W	W
New Mexico	13.08	19.01	-31.0%	13.08	19.01	--	--
Utah	W	W	W	12.80	16.75	W	W
Wyoming	12.17	16.08	-24.0%	12.17	16.08	--	--
Pacific Contiguous	W	W	W	13.73	14.80	W	W
California	--	--	--	--	--	--	--
Oregon	--	12.45	--	--	12.45	--	--
Washington	W	W	W	13.73	16.52	W	W
Pacific Noncontiguous	W	W	W	9.36	12.87	W	W
Alaska	11.67	15.74	-26.0%	11.67	15.74	--	--
Hawaii	W	W	W	9.35	12.86	W	W
U.S. Total	9.74	13.63	-29.0%	9.84	13.40	9.44	14.40

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 Petroleum Liquids includes distillate and residual fuel oils.
 See the Technical Notes for fuel conversion factors.

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

**Table 7.19. Average Cost of Petroleum Coke Delivered for Electricity Generation by State, 2020 and 2019
(Dollars per MMBtu)**

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019
New England	--	--	--	--	--	--	--
Connecticut	--	--	--	--	--	--	--
Maine	--	--	--	--	--	--	--
Massachusetts	--	--	--	--	--	--	--
New Hampshire	--	--	--	--	--	--	--
Rhode Island	--	--	--	--	--	--	--
Vermont	--	--	--	--	--	--	--
Middle Atlantic	--	--	--	--	--	--	--
New Jersey	--	--	--	--	--	--	--
New York	--	--	--	--	--	--	--
Pennsylvania	--	--	--	--	--	--	--
East North Central	1.27	1.58	-20.0%	1.27	1.58	--	--
Illinois	--	--	--	--	--	--	--
Indiana	--	--	--	--	--	--	--
Michigan	1.19	1.54	-23.0%	1.19	1.54	--	--
Ohio	--	--	--	--	--	--	--
Wisconsin	1.89	1.86	1.6%	1.89	1.86	--	--
West North Central	--	--	--	--	--	--	--
Iowa	--	--	--	--	--	--	--
Kansas	--	--	--	--	--	--	--
Minnesota	--	--	--	--	--	--	--
Missouri	--	--	--	--	--	--	--
Nebraska	--	--	--	--	--	--	--
North Dakota	--	--	--	--	--	--	--
South Dakota	--	--	--	--	--	--	--
South Atlantic	2.21	2.52	-12.0%	2.21	2.52	--	--
Delaware	--	--	--	--	--	--	--
District of Columbia	--	--	--	--	--	--	--
Florida	2.21	2.52	-12.0%	2.21	2.52	--	--
Georgia	--	--	--	--	--	--	--
Maryland	--	--	--	--	--	--	--
North Carolina	--	--	--	--	--	--	--
South Carolina	--	--	--	--	--	--	--
Virginia	--	--	--	--	--	--	--
West Virginia	--	--	--	--	--	--	--
East South Central	--	--	--	--	--	--	--
Alabama	--	--	--	--	--	--	--
Kentucky	--	--	--	--	--	--	--
Mississippi	--	--	--	--	--	--	--
Tennessee	--	--	--	--	--	--	--
West South Central	1.59	1.79	-11.0%	1.59	1.79	--	--
Arkansas	--	--	--	--	--	--	--
Louisiana	1.59	1.79	-11.0%	1.59	1.79	--	--
Oklahoma	--	--	--	--	--	--	--
Texas	--	--	--	--	--	--	--
Mountain	--	--	--	--	--	--	--
Arizona	--	--	--	--	--	--	--
Colorado	--	--	--	--	--	--	--
Idaho	--	--	--	--	--	--	--
Montana	--	--	--	--	--	--	--
Nevada	--	--	--	--	--	--	--
New Mexico	--	--	--	--	--	--	--
Utah	--	--	--	--	--	--	--
Wyoming	--	--	--	--	--	--	--
Pacific Contiguous	--	--	--	--	--	--	--
California	--	--	--	--	--	--	--
Oregon	--	--	--	--	--	--	--
Washington	--	--	--	--	--	--	--
Pacific Noncontiguous	--	--	--	--	--	--	--
Alaska	--	--	--	--	--	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	1.70	1.92	-11.0%	1.70	1.92	--	--

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 Petroleum Coke includes petroleum coke-derived synthesis gas.
 See the Technical Notes for fuel conversion factors.

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

Table 7.20. Average Cost of Natural Gas Delivered for Electricity Generation by State, 2020 and 2019
(Dollars per MMBtu)

Census Division and State	Electric Power Sector			Electric Utilities		Independent Power Producers	
	Year 2020	Year 2019	Percentage Change	Year 2020	Year 2019	Year 2020	Year 2019
New England	W	W	W	2.19	3.84	W	W
Connecticut	2.41	3.51	-31.0%	--	--	2.41	3.51
Maine	W	W	W	--	--	W	W
Massachusetts	3.23	4.37	-26.0%	2.00	3.32	3.25	4.38
New Hampshire	W	W	W	3.17	7.51	W	W
Rhode Island	2.32	3.22	-28.0%	--	--	2.32	3.22
Vermont	--	--	--	--	--	--	--
Middle Atlantic	1.80	2.61	-31.0%	2.33	3.23	1.75	2.56
New Jersey	1.79	2.80	-36.0%	--	--	1.79	2.80
New York	2.12	2.96	-28.0%	2.33	3.23	2.04	2.85
Pennsylvania	1.63	2.35	-31.0%	--	--	1.63	2.35
East North Central	2.03	2.62	-23.0%	2.18	2.70	1.95	2.58
Illinois	W	W	W	2.28	2.94	W	W
Indiana	2.04	2.59	-21.0%	2.11	2.71	1.99	2.49
Michigan	2.04	2.60	-22.0%	2.11	2.72	2.00	2.55
Ohio	1.87	2.44	-23.0%	1.86	2.55	1.87	2.41
Wisconsin	W	W	W	2.40	2.74	W	W
West North Central	W	W	W	2.35	2.70	W	W
Iowa	2.03	2.48	-18.0%	2.03	2.48	--	--
Kansas	2.58	2.78	-7.2%	2.58	2.78	--	--
Minnesota	W	W	W	2.58	2.92	W	W
Missouri	W	W	W	2.23	2.47	W	W
Nebraska	2.35	2.93	-20.0%	2.35	2.93	--	--
North Dakota	2.73	3.07	-11.0%	2.73	3.07	--	--
South Dakota	2.39	2.54	-5.9%	2.39	2.54	--	--
South Atlantic	2.86	3.42	-16.0%	2.99	3.52	2.05	2.79
Delaware	W	--	W	--	--	W	--
District of Columbia	--	--	--	--	--	--	--
Florida	W	3.72	W	3.19	3.73	W	3.40
Georgia	2.32	2.88	-19.0%	2.36	2.87	2.16	2.91
Maryland	2.37	3.11	-24.0%	2.50	3.54	2.34	2.98
North Carolina	3.24	3.58	-9.5%	3.49	3.79	2.16	2.79
South Carolina	2.70	3.17	-15.0%	2.70	3.17	--	--
Virginia	2.38	3.15	-24.0%	2.65	3.37	1.62	2.47
West Virginia	1.59	2.20	-28.0%	1.91	2.19	1.57	2.20
East South Central	2.39	2.84	-16.0%	2.41	2.85	2.30	2.80
Alabama	W	W	W	2.46	2.88	W	W
Kentucky	W	W	W	2.86	3.22	W	W
Mississippi	W	W	W	2.28	2.73	W	W
Tennessee	2.44	2.85	-14.0%	2.44	2.85	--	--
West South Central	2.15	2.40	-10.0%	2.22	2.38	2.08	2.42
Arkansas	W	W	W	2.33	2.61	W	W
Louisiana	W	W	W	2.25	2.70	W	W
Oklahoma	W	W	W	2.28	2.39	W	W
Texas	2.10	2.33	-9.9%	2.13	2.09	2.09	2.43
Mountain	2.51	2.62	-4.2%	2.49	2.58	2.83	3.02
Arizona	W	W	W	2.42	2.14	W	W
Colorado	W	W	W	2.83	3.07	W	W
Idaho	2.68	4.09	-34.0%	2.68	4.09	--	--
Montana	W	W	W	1.74	1.59	W	W
Nevada	2.65	3.06	-13.0%	2.65	3.06	--	--
New Mexico	1.60	1.26	27.0%	1.60	1.26	--	--
Utah	2.53	3.07	-18.0%	2.53	3.07	--	--
Wyoming	W	W	W	2.28	3.07	W	W
Pacific Contiguous	3.02	3.45	-12.0%	2.97	3.47	3.08	3.43
California	3.27	3.76	-13.0%	3.39	4.10	3.18	3.50
Oregon	W	W	W	2.02	2.21	W	W
Washington	W	W	W	2.86	3.32	W	W
Pacific Noncontiguous	6.41	6.95	-7.8%	6.41	6.95	--	--
Alaska	6.41	6.95	-7.8%	6.41	6.95	--	--
Hawaii	--	--	--	--	--	--	--
U.S. Total	2.41	2.89	-17.0%	2.63	3.03	2.10	2.70

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.

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, 2020**

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	147	2.02	7.2	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	58	0.59	6.1	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	89	3.03	8.0	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	7,460	2.66	10.0	0	--	--	0	--	--
New Jersey	494	1.69	7.7	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	6,966	2.73	10.1	0	--	--	0	--	--
East North Central	48,516	3.23	10.6	43,698	0.23	4.7	0	--	--
Illinois	8,551	3.41	20.7	15,612	0.21	4.6	0	--	--
Indiana	20,875	2.89	9.1	1,561	0.24	4.5	0	--	--
Michigan	1,842	2.20	7.4	13,637	0.26	4.7	0	--	--
Ohio	16,706	3.68	8.9	94	0.46	5.1	0	--	--
Wisconsin	543	2.35	7.8	12,794	0.23	4.8	0	--	--
West North Central	702	2.90	9.4	74,726	0.27	4.9	21,023	0.78	9.9
Iowa	304	2.94	9.1	12,501	0.25	4.8	0	--	--
Kansas	124	2.73	11.7	11,115	0.31	5.0	0	--	--
Minnesota	0	--	--	7,894	0.35	6.0	0	--	--
Missouri	274	2.92	8.7	29,644	0.24	4.8	0	--	--
Nebraska	0	--	--	12,522	0.24	4.7	0	--	--
North Dakota	0	--	--	0	--	--	21,023	0.78	9.9
South Dakota	0	--	--	1,050	0.64	5.2	0	--	--
South Atlantic	45,646	2.48	9.5	3,968	0.31	4.9	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	6,721	2.64	8.3	0	--	--	0	--	--
Georgia	3,233	2.53	8.4	3,968	0.31	4.9	0	--	--
Maryland	1,341	2.27	12.2	0	--	--	0	--	--
North Carolina	8,041	1.60	9.3	0	--	--	0	--	--
South Carolina	4,535	1.74	9.0	0	--	--	0	--	--
Virginia	1,470	1.40	15.9	0	--	--	0	--	--
West Virginia	20,305	3.01	9.7	0	--	--	0	--	--
East South Central	25,300	2.69	9.3	15,249	0.28	5.2	2,537	0.50	13.8
Alabama	2,259	0.83	10.1	9,496	0.29	5.3	0	--	--
Kentucky	18,613	2.96	9.4	4,053	0.24	5.1	0	--	--
Mississippi	167	1.46	7.9	1,211	0.30	5.2	2,537	0.50	13.8
Tennessee	4,261	2.44	8.4	490	0.21	5.0	0	--	--
West South Central	470	2.58	10.2	52,434	0.28	5.1	19,876	1.01	16.7
Arkansas	50	0.48	10.3	9,739	0.22	4.8	0	--	--
Louisiana	394	2.93	8.9	2,655	0.26	4.8	535	0.55	14.7
Oklahoma	26	0.55	52.7	3,709	0.20	4.6	0	--	--
Texas	0	--	--	36,331	0.31	5.2	19,341	1.02	16.7
Mountain	16,160	0.58	13.6	50,307	0.50	8.7	217	0.57	9.3
Arizona	0	--	--	8,397	0.67	10.5	0	--	--
Colorado	1,192	0.49	10.6	10,360	0.33	5.8	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	5,142	0.69	9.2	217	0.57	9.3
Nevada	472	0.41	9.7	615	0.29	5.2	0	--	--
New Mexico	2,932	0.89	23.9	4,425	0.71	20.3	0	--	--
Utah	11,564	0.52	11.8	569	0.96	9.0	0	--	--
Wyoming	0	--	--	20,800	0.42	6.8	0	--	--
Pacific Contiguous	565	0.41	9.1	4,050	0.38	7.9	0	--	--
California	565	0.41	9.1	0	--	--	0	--	--
Oregon	0	--	--	525	0.25	4.6	0	--	--
Washington	0	--	--	3,525	0.40	8.4	0	--	--
Pacific Noncontiguous	0	--	--	725	0.27	4.9	209	0.15	9.3
Alaska	0	--	--	0	--	--	209	0.15	9.3
Hawaii	0	--	--	725	0.27	4.9	0	--	--
U.S. Total	144,966	2.57	10.3	245,158	0.32	5.8	43,862	0.86	13.1

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 7.22. Receipts and Quality of Coal by Rank Delivered for Electricity Generation: Electric Utilities by State, 2020

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	89	3.03	8.0	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	0	--	--	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	89	3.03	8.0	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	37	3.20	8.5	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	37	3.20	8.5	0	--	--	0	--	--
East North Central	23,619	2.88	9.0	30,841	0.24	4.7	0	--	--
Illinois	966	2.74	10.6	2,849	0.21	4.6	0	--	--
Indiana	18,516	2.86	9.1	1,561	0.24	4.5	0	--	--
Michigan	1,608	2.38	7.5	13,637	0.26	4.7	0	--	--
Ohio	2,000	3.65	8.8	0	--	--	0	--	--
Wisconsin	529	2.39	7.7	12,794	0.23	4.8	0	--	--
West North Central	393	2.86	9.6	72,385	0.27	4.9	21,023	0.78	9.9
Iowa	0	--	--	10,806	0.25	4.9	0	--	--
Kansas	124	2.73	11.7	11,115	0.31	5.0	0	--	--
Minnesota	0	--	--	7,894	0.35	6.0	0	--	--
Missouri	268	2.92	8.7	29,644	0.24	4.8	0	--	--
Nebraska	0	--	--	11,876	0.24	4.7	0	--	--
North Dakota	0	--	--	0	--	--	21,023	0.78	9.9
South Dakota	0	--	--	1,050	0.64	5.2	0	--	--
South Atlantic	39,838	2.45	9.5	3,968	0.31	4.9	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	6,690	2.65	8.3	0	--	--	0	--	--
Georgia	3,124	2.59	8.4	3,968	0.31	4.9	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	7,755	1.64	9.4	0	--	--	0	--	--
South Carolina	4,323	1.77	9.0	0	--	--	0	--	--
Virginia	1,282	1.52	17.4	0	--	--	0	--	--
West Virginia	16,665	2.95	9.8	0	--	--	0	--	--
East South Central	24,776	2.73	9.3	15,249	0.28	5.2	0	--	--
Alabama	2,259	0.83	10.1	9,496	0.29	5.3	0	--	--
Kentucky	18,613	2.96	9.4	4,053	0.24	5.1	0	--	--
Mississippi	167	1.46	7.9	1,211	0.30	5.2	0	--	--
Tennessee	3,736	2.67	8.6	490	0.21	5.0	0	--	--
West South Central	420	2.86	10.2	28,450	0.25	4.9	5,102	1.50	20.8
Arkansas	0	--	--	7,746	0.22	4.6	0	--	--
Louisiana	394	2.93	8.9	1,344	0.23	4.8	535	0.55	14.7
Oklahoma	26	0.55	52.7	3,679	0.20	4.6	0	--	--
Texas	0	--	--	15,681	0.28	5.1	4,568	1.63	21.6
Mountain	16,160	0.58	13.6	44,048	0.49	8.7	217	0.57	9.3
Arizona	0	--	--	8,397	0.67	10.5	0	--	--
Colorado	1,192	0.49	10.6	10,360	0.33	5.8	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	0	--	--	217	0.57	9.3
Nevada	472	0.41	9.7	25	0.44	8.6	0	--	--
New Mexico	2,932	0.89	23.9	4,425	0.71	20.3	0	--	--
Utah	11,564	0.52	11.8	569	0.96	9.0	0	--	--
Wyoming	0	--	--	20,273	0.42	6.9	0	--	--
Pacific Contiguous	0	--	--	525	0.25	4.6	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	525	0.25	4.6	0	--	--
Washington	0	--	--	0	--	--	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	209	0.15	9.3
Alaska	0	--	--	0	--	--	209	0.15	9.3
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	105,331	2.35	9.9	195,466	0.31	5.8	26,551	0.90	11.8

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:
 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, 2020

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	58	0.59	6.1	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	58	0.59	6.1	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	7,338	2.66	10.0	0	--	--	0	--	--
New Jersey	494	1.69	7.7	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	6,844	2.73	10.2	0	--	--	0	--	--
East North Central	23,506	3.57	12.3	12,206	0.21	4.5	0	--	--
Illinois	6,208	3.52	26.0	12,112	0.21	4.5	0	--	--
Indiana	2,359	3.18	8.9	0	--	--	0	--	--
Michigan	233	0.87	6.8	0	--	--	0	--	--
Ohio	14,706	3.68	8.9	94	0.46	5.1	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	5,235	2.94	9.9	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	0	--	--	0	--	--	0	--	--
Georgia	0	--	--	0	--	--	0	--	--
Maryland	1,341	2.27	12.2	0	--	--	0	--	--
North Carolina	63	0.73	6.1	0	--	--	0	--	--
South Carolina	190	1.14	9.4	0	--	--	0	--	--
Virginia	0	--	--	0	--	--	0	--	--
West Virginia	3,640	3.32	9.2	0	--	--	0	--	--
East South Central	0	--	--	0	--	--	2,537	0.50	13.8
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	2,537	0.50	13.8
Tennessee	0	--	--	0	--	--	0	--	--
West South Central	0	--	--	23,954	0.32	5.3	14,774	0.85	15.4
Arkansas	0	--	--	1,993	0.24	5.3	0	--	--
Louisiana	0	--	--	1,311	0.30	4.8	0	--	--
Oklahoma	0	--	--	0	--	--	0	--	--
Texas	0	--	--	20,650	0.33	5.3	14,774	0.85	15.4
Mountain	0	--	--	6,260	0.63	8.5	0	--	--
Arizona	0	--	--	0	--	--	0	--	--
Colorado	0	--	--	0	--	--	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	5,142	0.69	9.2	0	--	--
Nevada	0	--	--	590	0.28	5.0	0	--	--
New Mexico	0	--	--	0	--	--	0	--	--
Utah	0	--	--	0	--	--	0	--	--
Wyoming	0	--	--	527	0.35	5.3	0	--	--
Pacific Contiguous	0	--	--	3,525	0.40	8.4	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	3,525	0.40	8.4	0	--	--
Pacific Noncontiguous	0	--	--	725	0.27	4.9	0	--	--
Alaska	0	--	--	0	--	--	0	--	--
Hawaii	0	--	--	725	0.27	4.9	0	--	--
U.S. Total	36,137	3.27	11.4	46,670	0.34	5.7	17,311	0.81	15.2

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 7.24. Receipts and Quality of Coal by Rank Delivered for Electricity Generation:
Commercial Sector by State, 2020**

Census Division and State	Bituminous			Subbituminous			Lignite		
	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight	Receipts (Thousand Tons)	Average Sulfur Percent by Weight	Average Ash Percent by Weight
New England	0	--	--	0	--	--	0	--	--
Connecticut	0	--	--	0	--	--	0	--	--
Maine	0	--	--	0	--	--	0	--	--
Massachusetts	0	--	--	0	--	--	0	--	--
New Hampshire	0	--	--	0	--	--	0	--	--
Rhode Island	0	--	--	0	--	--	0	--	--
Vermont	0	--	--	0	--	--	0	--	--
Middle Atlantic	0	--	--	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	0	--	--	0	--	--	0	--	--
East North Central	0	--	--	0	--	--	0	--	--
Illinois	0	--	--	0	--	--	0	--	--
Indiana	0	--	--	0	--	--	0	--	--
Michigan	0	--	--	0	--	--	0	--	--
Ohio	0	--	--	0	--	--	0	--	--
Wisconsin	0	--	--	0	--	--	0	--	--
West North Central	6	2.93	7.9	0	--	--	0	--	--
Iowa	0	--	--	0	--	--	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	6	2.93	7.9	0	--	--	0	--	--
Nebraska	0	--	--	0	--	--	0	--	--
North Dakota	0	--	--	0	--	--	0	--	--
South Dakota	0	--	--	0	--	--	0	--	--
South Atlantic	0	--	--	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	0	--	--	0	--	--	0	--	--
Georgia	0	--	--	0	--	--	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	0	--	--	0	--	--	0	--	--
South Carolina	0	--	--	0	--	--	0	--	--
Virginia	0	--	--	0	--	--	0	--	--
West Virginia	0	--	--	0	--	--	0	--	--
East South Central	0	--	--	0	--	--	0	--	--
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	0	--	--
Tennessee	0	--	--	0	--	--	0	--	--
West South Central	0	--	--	0	--	--	0	--	--
Arkansas	0	--	--	0	--	--	0	--	--
Louisiana	0	--	--	0	--	--	0	--	--
Oklahoma	0	--	--	0	--	--	0	--	--
Texas	0	--	--	0	--	--	0	--	--
Mountain	0	--	--	0	--	--	0	--	--
Arizona	0	--	--	0	--	--	0	--	--
Colorado	0	--	--	0	--	--	0	--	--
Idaho	0	--	--	0	--	--	0	--	--
Montana	0	--	--	0	--	--	0	--	--
Nevada	0	--	--	0	--	--	0	--	--
New Mexico	0	--	--	0	--	--	0	--	--
Utah	0	--	--	0	--	--	0	--	--
Wyoming	0	--	--	0	--	--	0	--	--
Pacific Contiguous	0	--	--	0	--	--	0	--	--
California	0	--	--	0	--	--	0	--	--
Oregon	0	--	--	0	--	--	0	--	--
Washington	0	--	--	0	--	--	0	--	--
Pacific Noncontiguous	0	--	--	0	--	--	0	--	--
Alaska	0	--	--	0	--	--	0	--	--
Hawaii	0	--	--	0	--	--	0	--	--
U.S. Total	6	2.93	7.9	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, 2020

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	84	2.57	8.3	0	--	--	0	--	--
New Jersey	0	--	--	0	--	--	0	--	--
New York	0	--	--	0	--	--	0	--	--
Pennsylvania	84	2.57	8.3	0	--	--	0	--	--
East North Central	1,391	3.43	8.8	651	0.22	5.7	0	--	--
Illinois	1,377	3.46	8.8	651	0.22	5.7	0	--	--
Indiana	0	--	--	0	--	--	0	--	--
Michigan	1	0.47	6.3	0	--	--	0	--	--
Ohio	0	--	--	0	--	--	0	--	--
Wisconsin	13	0.50	10.4	0	--	--	0	--	--
West North Central	304	2.94	9.1	2,341	0.22	4.3	0	--	--
Iowa	304	2.94	9.1	1,695	0.23	4.3	0	--	--
Kansas	0	--	--	0	--	--	0	--	--
Minnesota	0	--	--	0	--	--	0	--	--
Missouri	0	--	--	0	--	--	0	--	--
Nebraska	0	--	--	646	0.21	4.4	0	--	--
North Dakota	0	--	--	0	--	--	0	--	--
South Dakota	0	--	--	0	--	--	0	--	--
South Atlantic	573	0.79	7.5	0	--	--	0	--	--
Delaware	0	--	--	0	--	--	0	--	--
District of Columbia	0	--	--	0	--	--	0	--	--
Florida	31	0.74	7.4	0	--	--	0	--	--
Georgia	109	0.91	9.6	0	--	--	0	--	--
Maryland	0	--	--	0	--	--	0	--	--
North Carolina	224	0.78	7.0	0	--	--	0	--	--
South Carolina	21	0.75	6.3	0	--	--	0	--	--
Virginia	188	0.75	7.1	0	--	--	0	--	--
West Virginia	0	--	--	0	--	--	0	--	--
East South Central	525	0.94	6.9	0	--	--	0	--	--
Alabama	0	--	--	0	--	--	0	--	--
Kentucky	0	--	--	0	--	--	0	--	--
Mississippi	0	--	--	0	--	--	0	--	--
Tennessee	525	0.94	6.9	0	--	--	0	--	--
West South Central	50	0.48	10.3	30	0.21	4.4	0	--	--
Arkansas	50	0.48	10.3	0	--	--	0	--	--
Louisiana	0	--	--	0	--	--	0	--	--
Oklahoma	0	--	--	30	0.21	4.4	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	565	0.41	9.1	0	--	--	0	--	--
California	565	0.41	9.1	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	3,493	1.94	8.3	3,022	0.22	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,
2010 through 2020 (Btu per Kilowatthour)**

Year	Coal	Petroleum	Natural Gas	Nuclear
2010	10,415	10,984	8,185	10,452
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	7,878	10,458
2016	10,493	10,811	7,870	10,459
2017	10,465	10,834	7,812	10,459
2018	10,481	11,095	7,821	10,455
2019	10,551	11,205	7,732	10,442
2020	10,655	11,259	7,732	10,446

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, 2010 - 2020

(Btu per Kilowatt-hour)

Prime Mover	Coal	Petroleum	Natural Gas	Nuclear
2010				
Steam Generator	10,142	10,249	10,416	10,452
Gas Turbine	--	13,386	11,590	--
Internal Combustion	--	10,429	9,917	--
Combined Cycle	W	10,474	7,619	--
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	--

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, 2010 through 2020 (Million Dollars)

Description	2010	2011	2012	2013	2014	2015
Utility Operating Revenues	285,512	280,520	270,912	281,901	298,430	282,695
.....Electric Utility	260,119	255,573	249,166	257,718	271,832	260,121
.....Other Utility	25,393	24,946	21,745	24,183	26,598	22,574
Utility Operating Expenses	253,022	247,118	235,694	244,316	258,936	242,728
.....Electric Utility	234,173	228,873	220,722	227,483	240,643	228,366
.....Operation	166,922	161,460	152,379	156,077	165,989	149,939
.....Production	128,831	122,520	111,714	115,046	123,366	107,201
.....Cost of Fuel	44,138	42,779	38,998	41,127	42,545	34,711
.....Purchased Power	67,284	61,447	54,570	55,529	62,066	52,970
.....Other	17,409	18,294	18,146	18,390	18,755	19,521
.....Transmission	6,948	6,876	7,183	7,881	8,902	9,624
.....Distribution	4,007	4,044	4,181	4,197	4,331	4,406
.....Customer Accounts	5,091	5,180	5,086	5,107	5,255	5,184
.....Customer Service	4,741	5,311	5,640	5,906	6,396	6,445
.....Sales	185	185	221	203	208	201
.....Administrative and General	17,120	17,343	18,353	17,738	17,532	16,878
.....Maintenance	14,957	15,772	15,489	15,505	16,801	16,392
.....Depreciation	20,951	22,555	23,677	24,723	25,919	26,847
.....Taxes and Other	31,343	29,086	29,177	31,179	31,934	35,188
.....Other Utility	18,849	18,245	14,972	16,833	18,293	14,362
Net Utility Operating Income	32,490	33,402	35,218	37,585	39,494	39,968

Description	2016	2017	2018	2019	2020
Utility Operating Revenues	282,499	286,501	293,868	293,000	294,756
.....Electric Utility	261,047	263,265	268,421	266,876	269,869
.....Other Utility	21,451	23,235	25,447	26,124	24,888
Utility Operating Expenses	239,037	240,041	253,944	250,136	240,802
.....Electric Utility	226,457	226,110	238,526	234,892	227,084
.....Operation	145,077	142,000	163,479	157,265	144,335
.....Production	100,852	98,859	104,185	99,518	93,505
.....Cost of Fuel	32,621	32,165	33,592	29,614	25,856
.....Purchased Power	49,962	49,030	53,060	50,378	50,407
.....Other	18,269	17,664	17,533	19,526	17,242
.....Transmission	10,447	10,804	11,387	11,941	12,949
.....Distribution	4,734	4,358	4,806	5,218	5,480
.....Customer Accounts	5,077	4,789	4,969	4,978	5,775
.....Customer Service	6,187	5,961	6,019	6,156	5,868
.....Sales	205	213	203	204	211
.....Administrative and General	17,575	17,016	31,911	29,248	20,546
.....Maintenance	16,982	17,996	17,786	19,898	20,030
.....Depreciation	30,097	30,323	32,125	34,883	38,208
.....Taxes and Other	34,301	35,791	25,136	22,846	24,510
.....Other Utility	12,579	13,931	15,418	15,245	13,718
Net Utility Operating Income	43,462	46,460	39,924	42,864	53,954

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, 2010 through 2020 (Mills per Kilowatthour)

Year	Operation				Maintenance			
	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale
2010	10.50	4.04	5.33	2.79	6.80	3.99	3.81	2.73
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

Year	Fuel				Total			
	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale	Nuclear	Fossil Steam	Hydro-electric	Gas Turbine and Small Scale
2010	6.68	27.73	--	43.21	23.98	35.76	9.15	48.74
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

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 2010 through 2020 (Thousand Metric Tons)

Year	Carbon Dioxide (CO2)	Sulfur Dioxide (SO2)	Nitrogen Oxides (NOx)
2010	2,388,596	5,400	2,491
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	1,657	1,506
2018	1,874,346	1,571	1,485
2019	1,724,396	1,267	1,342
2020	1,553,037	1,023	1,211

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, 2010 - 2020

Year	Flue Gas Desulfurization Systems		Electrostatic Precipitators		Baghouses		Select Catalytic and Non-Catalytic Reduction Systems		Activated Carbon Injection Systems		Direct Sorbent Injection Systems	
	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)
2010	717	201,079	1,411	310,849	610	83,407	1,362	315,598	262	54,183	67	8,857
2011	731	211,781	1,369	307,406	633	98,507	1,410	331,618	274	59,057	76	9,113
2012	727	219,359	1,292	298,788	629	101,593	1,455	345,633	287	63,709	84	10,754
2013	705	219,359	1,219	289,545	637	104,331	1,460	351,609	262	61,215	98	13,121
2014	702	223,835	1,173	284,303	621	105,990	1,474	358,802	280	69,287	105	16,913
2015	693	224,143	1,038	265,268	623	110,820	1,482	360,261	364	106,450	123	23,443
2016	697	228,583	944	253,267	613	112,581	1,486	362,898	482	153,800	126	26,815
2017	682	222,592	887	244,450	601	109,495	1,495	366,296	477	151,208	128	25,916
2018	663	214,161	841	229,766	582	105,282	1,489	365,917	455	143,471	121	26,415
2019	618	203,115	783	217,703	535	101,839	1,461	363,096	431	136,597	116	25,615
2020	594	193,201	748	207,507	511	98,081	1,438	359,733	410	130,761	112	23,917

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, 2010 - 2020

Energy Source	Once-Through Cooling Systems		Recirculating Cooling Systems		Cooling Ponds		Dry Cooling Systems		Hybrid Wet and Dry Cooling Systems		Other Cooling System Types	
	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)	Quantity	Associated Net Summer Capacity (MW)
2010												
Coal	437	129,554	371	162,953	101	48,929	2	435	1	766	9	3,086
Natural Gas	180	48,398	427	83,120	58	22,786	54	13,078	3	542	3	1,172
Nuclear	49	51,465	39	43,363	13	14,996	--	--	--	--	7	7,901
Petroleum	80	21,232	17	5,513	3	4,064	--	--	--	--	2	2,022
Other	17	1,190	26	2,546	2	344	4	356	--	--	2	63
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	16	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	21,877	66	15,271	4	801	6	3,172
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	8,579	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	46,853	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

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 syngas 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, 2010 - 2020

Year	Average Operation and Maintenance Costs (Dollars per Megawatthour)	Average Installed Capital Costs (Dollars per Kilowatt)
2010	1.52	358.20
2011	1.79	335.16
2012	1.87	266.40
2013	1.74	255.86
2014	1.84	186.45
2015	2.03	158.82
2016	1.96	303.32
2017	2.15	242.88
2018	2.08	--
2019	2.11	452.20
2020	2.21	--

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, 2019 and 2020 (Thousand Metric Tons)

Census Division and State	Carbon Dioxide (CO2)		Sulfur Dioxide (SO2)		Nitrogen Oxides (NOx)	
	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	25,060	24,813	9	10	24	23
Connecticut	10,186	9,517	0	0	6	5
Maine	1,824	1,823	6	7	5	5
Massachusetts	7,958	8,519	2	2	7	8
New Hampshire	1,728	1,952	0	1	1	2
Rhode Island	3,357	2,996	0	0	3	2
Vermont	8	7	0	0	1	1
Middle Atlantic	113,958	121,032	44	62	73	82
New Jersey	14,902	18,869	3	3	9	10
New York	26,772	24,807	7	8	26	26
Pennsylvania	72,284	77,357	35	51	38	45
East North Central	265,945	301,403	230	309	210	218
Illinois	47,512	63,036	56	86	25	33
Indiana	64,851	77,844	35	44	55	62
Michigan	53,183	57,232	41	74	58	51
Ohio	67,225	68,113	84	88	50	50
Wisconsin	33,174	35,179	14	16	21	22
West North Central	167,298	188,298	187	202	145	153
Iowa	21,135	28,989	17	27	17	24
Kansas	20,346	20,884	4	4	13	15
Minnesota	20,957	25,291	13	16	18	21
Missouri	54,133	57,516	84	81	48	42
Nebraska	20,950	23,660	37	42	18	20
North Dakota	27,415	28,668	32	31	28	29
South Dakota	2,362	3,289	1	1	1	1
South Atlantic	292,443	325,159	172	203	186	215
Delaware	2,667	2,650	0	0	1	1
District of Columbia	108	110	0	0	1	1
Florida	96,717	98,945	35	40	48	51
Georgia	39,865	51,074	42	48	32	40
Maryland	10,219	13,109	3	9	5	7
North Carolina	38,462	47,372	30	37	38	46
South Carolina	23,081	25,110	19	21	11	13
Virginia	31,807	29,965	11	13	21	22
West Virginia	49,518	56,823	30	35	28	34
East South Central	144,079	161,993	93	115	75	93
Alabama	44,803	50,842	26	32	21	26
Kentucky	49,750	58,805	37	48	28	40
Mississippi	26,744	25,018	11	12	16	16
Tennessee	22,782	27,328	19	23	10	12
West South Central	296,149	326,425	188	237	233	262
Arkansas	23,469	32,514	29	48	16	22
Louisiana	44,417	48,116	25	37	54	59
Oklahoma	25,817	28,239	7	9	18	19
Texas	202,445	217,556	127	143	144	163
Mountain	173,413	197,936	63	80	138	163
Arizona	35,714	43,562	8	11	25	34
Colorado	29,071	33,912	8	10	17	20
Idaho	2,221	2,293	4	4	4	5
Montana	10,416	16,348	7	12	9	17
Nevada	13,481	13,921	2	4	10	11
New Mexico	18,656	20,386	3	4	13	15
Utah	26,297	28,316	7	8	28	31
Wyoming	37,556	39,199	25	26	31	32
Pacific Contiguous	64,814	66,530	20	27	94	95
California	43,444	40,874	1	1	66	63
Oregon	9,371	11,029	6	7	15	15
Washington	11,999	14,628	13	19	13	16
Pacific Noncontiguous	9,877	10,807	18	21	35	37
Alaska	3,459	3,470	2	3	20	20
Hawaii	6,418	7,337	16	18	15	17
U.S. Total	1,553,037	1,724,396	1,023	1,267	1,211	1,342

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 Administration.

Chapter 10

Demand-Side Management and Advanced Metering

**Table 10.1. Energy Efficiency
Category, by Sector, 2013 through 2020**

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
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
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
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

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 2020

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
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
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
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

* = 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 2020

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
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
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
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

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 2020**

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
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

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

Table 10.05. Advanced Metering Count by Technology Type, 2011 through 2020

Year	Residential	Commercial	Industrial	Transportation	Total
Automated Meter Reading (AMR)					
2011	41,451,888	4,341,105	172,692	77	45,965,762
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
Advanced Metering Infrastructure (AMI)					
2011	33,453,548	3,682,159	154,659	7	37,290,373
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
Standard (non-AMR/AMI) Meters					
2011	--	--	--	--	--
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
Total Number of Meters					
2011	--	--	--	--	--
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

Prior to 2010, the count was the number of customers, not number of meters.
 Starting in 2013 Standard (Non-AMR/AMI) meter data was collected on the EIA-861.
 This data is not collected on the EIA-861S.

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

Chapter 11

Distribution System Reliability

Table 11.1 Reliability Metrics of U.S. Distribution System

Year	IEEE									Any Method					
	All Events (With Major Event Days)			Without Major Event Days			Loss of Supply Removed			All Events (With Major Events)			Without Major Events		
	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)	SAIDI (minutes per year)	SAIFI (times per year)	CAIDI (minutes per interruption)
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

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, 2020 and 2019

Census Division and State	Percent of Customers Reported		All Events (With Major Event Days)						Without Major Event Days						Loss of Supply Removed					
	Year 2020	Year 2019	SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)	
			Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	68.0%	68.4%	1,272.9	351.5	2.0	1.4	643.0	258.6	101.9	95.0	1.0	0.9	99.0	103.0	1,284.0	351.7	1.9	1.3	677.0	270.7
Connecticut	78.5%	78.8%	3,033.8	246.6	2.0	1.0	1,531.0	247.1	70.2	67.5	0.7	0.7	101.7	102.6	3,032.5	246.6	2.0	1.0	1,545.5	248.1
Maine	102.8%	101.9%	1,725.0	908.1	3.9	2.5	446.5	359.6	244.8	213.7	2.1	1.7	115.7	127.3	1,718.4	881.8	3.8	2.3	458.2	384.8
Massachusetts	50.9%	52.0%	224.1	244.3	1.2	1.1	184.4	219.1	63.6	67.5	0.8	0.8	79.3	87.7	231.0	256.4	1.2	1.1	199.3	235.5
New Hampshire	88.4%	88.6%	408.5	219.6	1.5	1.2	269.7	188.0	99.0	84.9	0.9	0.8	108.4	110.9	407.9	219.6	1.5	1.2	271.2	188.0
Rhode Island	99.0%	98.1%	548.4	236.5	2.0	1.4	278.9	169.3	69.1	68.2	0.9	1.0	73.1	66.6	452.9	223.8	1.4	1.2	314.1	179.5
Vermont	10.5%	10.5%	158.4	334.0	1.6	2.0	97.2	170.4	158.4	170.4	1.6	1.5	97.2	114.4	151.0	329.4	1.6	1.9	96.8	173.4
Middle Atlantic	58.9%	58.8%	588.9	262.5	1.5	1.3	406.2	203.0	105.0	115.1	1.0	1.0	109.3	115.2	573.1	253.6	1.3	1.2	427.3	212.5
New Jersey	99.0%	98.6%	943.3	249.7	1.6	1.2	596.4	209.2	86.5	86.4	0.9	0.9	92.1	91.7	911.3	240.2	1.4	1.1	633.9	222.2
New York	20.2%	20.3%	447.4	323.7	1.5	1.5	302.4	219.5	142.1	136.9	1.1	1.0	131.9	131.2	455.1	327.5	1.5	1.5	304.0	220.2
Pennsylvania	84.4%	84.5%	355.4	252.5	1.3	1.3	286.1	192.6	107.5	130.5	0.9	1.0	114.5	126.9	343.6	240.3	1.2	1.2	282.8	202.4
East North Central	90.6%	91.4%	311.1	315.3	1.2	1.3	283.9	241.3	113.8	135.4	0.9	1.0	125.2	135.4	294.2	301.3	1.1	1.2	274.8	254.8
Illinois	95.8%	96.2%	335.6	116.3	0.9	0.9	382.7	128.1	57.1	73.8	0.7	0.8	87.5	96.8	333.9	110.3	0.9	0.9	369.8	121.7
Indiana	84.2%	85.4%	294.3	266.6	1.3	1.5	224.7	174.9	127.6	147.5	1.0	1.2	127.0	125.9	205.1	217.4	1.0	1.2	202.9	174.2
Michigan	93.2%	93.9%	416.7	570.2	1.4	1.5	303.1	369.7	168.3	213.9	1.1	1.2	157.5	184.1	414.3	565.5	1.3	1.5	309.5	375.8
Ohio	96.5%	97.3%	283.6	303.8	1.4	1.5	209.1	206.1	129.2	145.2	1.1	1.1	120.5	127.8	261.5	277.4	1.2	1.2	224.0	226.7
Wisconsin	72.6%	73.6%	119.9	383.5	0.8	1.1	144.0	341.8	89.1	90.0	0.7	0.7	125.4	124.5	114.0	377.5	0.8	1.1	147.3	359.4
West North Central	74.9%	77.2%	226.8	195.2	1.0	1.2	217.1	169.7	87.6	95.4	0.9	0.9	102.5	105.7	249.4	194.8	1.0	1.1	253.2	183.3
Iowa	52.0%	54.9%	1,066.5	126.0	1.5	1.1	716.5	111.7	85.7	83.7	0.9	0.9	99.1	89.4	1,053.0	111.0	1.3	1.0	785.4	115.5
Kansas	79.8%	83.0%	106.6	241.2	0.9	1.4	112.8	177.2	91.8	117.2	0.9	1.0	103.2	114.0	100.7	266.1	0.9	1.3	110.7	198.3
Minnesota	86.1%	88.7%	128.0	148.9	1.0	1.0	123.5	150.9	84.7	79.9	0.9	0.8	94.6	100.7	124.4	137.6	1.0	0.9	129.2	156.6
Missouri	82.0%	84.1%	154.1	261.0	1.0	1.3	153.8	200.6	96.7	113.6	0.9	1.0	112.1	111.5	159.8	372.9	1.0	1.6	164.9	239.5
Nebraska	64.8%	65.7%	115.4	78.9	0.8	0.7	145.7	119.7	67.4	59.2	0.6	0.5	122.1	107.7	96.1	54.9	0.9	0.7	104.9	83.8
North Dakota	58.8%	58.5%	123.3	132.6	1.2	1.0	107.2	131.8	86.8	77.1	1.0	0.8	86.9	92.6	113.3	131.6	0.8	0.8	139.3	167.6
South Dakota	64.7%	67.1%	97.4	311.4	1.1	1.6	89.0	191.5	71.5	108.2	0.9	1.1	79.9	98.3	86.7	250.6	0.7	1.1	116.3	225.0
South Atlantic	79.2%	79.0%	321.4	206.0	1.5	1.3	219.5	159.0	122.6	124.2	1.1	1.1	111.0	114.5	283.3	196.5	1.3	1.2	223.0	167.6
Delaware	87.2%	85.4%	271.9	102.0	1.5	1.0	180.0	104.0	84.9	74.2	1.0	0.9	89.3	85.9	276.1	102.0	1.5	1.0	184.1	104.0
District of Columbia	98.2%	98.9%	44.0	77.0	0.4	0.6	110.0	130.5	39.0	55.0	0.4	0.5	105.4	112.2	44.0	77.0	0.4	0.6	110.0	130.5
Florida	84.0%	84.3%	200.4	88.9	1.1	1.0	175.9	90.3	72.5	74.0	0.9	0.9	81.2	81.8	194.9	83.2	1.1	0.9	184.2	90.5
Georgia	83.0%	83.1%	521.7	149.8	2.0	1.4	267.2	110.1	130.5	125.8	1.3	1.2	98.3	103.0	509.8	117.2	1.7	1.2	291.9	94.9
Maryland	91.7%	91.9%	113.8	143.8	0.9	1.0	123.8	137.1	76.2	89.0	0.8	0.9	98.9	103.0	109.2	139.3	0.9	1.0	123.8	136.8
North Carolina	87.2%	85.4%	437.4	287.5	1.7	1.4	254.6	198.4	146.0	147.0	1.2	1.1	120.7	132.0	414.4	266.1	1.5	1.3	271.8	208.3
South Carolina	90.6%	89.9%	332.6	338.2	1.5	1.5	224.4	228.0	121.3	106.3	1.1	1.0	107.5	105.7	308.9	319.8	1.2	1.3	251.8	248.9
Virginia	25.9%	26.9%	337.7	478.0	1.8	2.1	186.8	228.6	250.6	285.4	1.6	1.7	155.8	167.9	308.6	439.2	1.7	1.9	182.0	226.1
West Virginia	98.1%	98.8%	604.2	755.2	2.4	2.8	247.9	269.6	467.9	471.3	2.2	2.4	216.3	200.4	538.6	691.2	2.1	2.5	254.9	278.0
East South Central	66.9%	63.8%	825.2	289.4	2.0	1.9	420.5	141.8	147.6	160.3	1.4	1.5	108.9	103.7	798.5	266.7	1.8	1.8	437.5	149.2
Alabama	21.8%	22.7%	3,320.4	183.7	3.5	1.8	948.8	103.0	144.6	106.8	1.4	1.1	105.4	97.4	3,440.8	158.4	3.4	1.5	1,023.0	103.7
Kentucky	95.0%	93.3%	284.7	204.2	1.4	1.6	210.2	126.3	125.3	148.9	1.1	1.4	113.7	107.1	275.0	192.1	1.2	1.4	224.5	134.8
Mississippi	70.5%	70.3%	1,611.7	466.1	2.4	2.0	677.5	231.7	203.9	214.3	1.4	1.6	144.9	135.0	1,558.2	537.3	2.4	2.2	656.3	249.4
Tennessee	81.1%	72.7%	618.4	252.9	2.1	2.1	290.6	118.5	144.5	160.4	1.5	1.8	93.9	90.0	601.1	251.6	2.0	2.1	299.9	121.8
West South Central	64.2%	64.1%	1,018.2	309.0	1.9	1.8	530.9	175.9	153.5	162.3	1.3	1.4	117.8	119.3	1,044.4	286.5	1.8	1.6	581.5	177.7
Arkansas	80.6%	80.6%	771.6	451.2	1.9	1.9	415.3	232.5	210.6	228.0	1.4	1.5	146.5	149.8	727.9	376.1	1.7	1.7	436.2	224.3
Louisiana	72.5%	74.2%	4,331.9	521.2	3.3	2.1	1,297.0	244.4	217.9	223.5	1.6	1.6	134.1	138.6	4,204.5	441.5	3.1	2.0	1,345.8	222.3
Oklahoma	45.0%	45.6%	565.1	186.2	1.8	1.6	316.2	116.4	139.3	138.4	1.2	1.3	116.2	103.4	475.5	153.5	1.4	1.3	332.9	120.8
Texas	63.6%	63.2%	419.4	254.8	1.6	1.7	256.3	153.5	132.7	141.4	1.2	1.3	108.5	110.4	426.3	248.4	1.5	1.5	276.4	160.4
Mountain	89.7%	90.9%	178.8	131.1	1.0	1.0	175.8	129.1	87.3	91.2	0.8	0.9	104.4	101.3	179.7	125.3	1.0	0.9	186.1	134.3
Arizona	95.7%	98.1%	70.6	83.3	0.8	0.9	88.6	96.3	62.0	64.0	0.7	0.7	83.5	85.6	65.0	71.6	0.8	0.8	86.7	91.5
Colorado	86.7%	86.2%	136.4	184.5	1.0	1.1	132.1	165.9	83.4	84.3	0.9	0.9	95.5	95.5	131.5	181.9	1.0	1.0	137.4	176.9
Idaho	91.4%	93.6%	286.5	155.4	1.6	1.2	180.3	125.0	158.1	132.3	1.2	1.1	130.5	115.7	173.6	122.9	1.2	1.0	148.0	127.9
Montana	71.3%	72.7%	275.3	165.8	1.3	1.3	204.9	123.3	136.0	121.7	1.1	1.2	129.0	98.4	240.7	138.9	1.1	1.0	210.6	135.9
Nevada	103.1%	102.8%	73.3	87.0	0.7	0.8	101.6	106.8	55.3	77.5	0.6	0.8	95.1	100.3	54.4	92.0	0.6	0.9	97.5	104.6
New Mexico	83.3%	84.4%	140.1	158.2	0.9	1.1	152.2	142.1	113.6	121.5	0.9	1.0	131.4	118.2	136.4	141.6	0.9	0.9	158.6	151.7
Utah	87.1%	88.8%	591.8	144.4	1.3	1.0	448.7	144.2	100.9	110.8	0.9	0.9	115.9	118.6	614.0	140.5	1.3	1.0	466.5	138.6
Wyoming	63.8%	69.2%	293.4	166.8	1.9	1.5	155.1	114.6	105.1	134.0	1.1	1.4	96.5	97.8	263.5	151.1	1.7	1.4	154.8	106.5
Pacific Contiguous	92.3%	92.9%	282.8	528.9	1.1	1.2	249.5	431.4	110.4	106.1	0.9	0.8	126.0	125.3	266.3	522.5	0.7	0.9	382.7	575.6
California	94.2%	94.7%	280.7	610.7	1.1	1.3	256.8	485.2	107.6	106.7	0.9	0.9	121.9	122.3	266.0	615.7	0.4	0.9	600.9	708.4
Oregon	86.1%	86.2%	325.9	230.4	1.1	1.0	288.4	232.9	103.4	101.6	0.7	0.7	138.1	136.1	317.9	224.4	1.1	0.9	295.7	244.1
Washington	87.6%	88.4%	268.6	310.9	1.3	1.2	202.4	258.0	126.9	105.8	0.9	0.8	139.4	135.1	237.8	292.2	1.1	1.1	209.0	274.0
Pacific Noncontiguous	85.0%	87.3%	174.0	218.0	1.5	1.7	116.5	125.0	140.8	134.1	1.4	1.3	98.0	102.5	157.1	209.3	1.1	1.4	139.1	145.1
Alaska	74.8%	79.1%	256.9	279.0	2.0	1.9	130.5	145.3	245.5	184.1	2.2	1.6	110.7	116.0	251.4	317.1	1.5	1.6	167.5	201.0

Table 11.3 Reliability Metrics Using Any Method of U.S. Distribution System by State, 2020 and 2019

Census Division and State	Percent of Customers Reported		All Events (With Major Events)						Without Major Events					
			SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)		SAIDI (minutes per year)		SAIFI (times per year)		CAIDI (minutes per interruption)	
	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019	Year 2020	Year 2019
New England	96.7%	97.4%	1,067.1	335.8	1.9	1.4	575.0	242.2	144.5	104.4	1.1	0.9	131.2	111.5
Connecticut	100.0%	100.4%	2,642.6	236.4	1.8	1.0	1,446.4	243.3	64.6	60.9	0.7	0.6	98.1	98.2
Maine	102.8%	101.9%	1,725.0	908.1	3.9	2.5	446.5	359.6	244.8	213.7	2.1	1.7	115.7	127.3
Massachusetts	93.7%	94.6%	318.9	250.2	1.3	1.2	244.9	204.4	168.1	96.1	1.0	0.8	166.5	114.1
New Hampshire	99.5%	99.6%	499.4	292.0	1.8	1.4	274.3	204.3	121.8	111.0	1.1	0.9	112.3	120.8
Rhode Island	99.0%	98.1%	548.4	236.5	2.0	1.4	278.9	169.3	69.1	68.2	0.9	1.0	73.1	66.6
Vermont	87.2%	93.2%	255.6	443.8	1.9	2.0	134.7	224.0	255.6	170.1	1.9	1.5	132.7	116.2
Middle Atlantic	97.1%	97.3%	512.4	213.6	1.2	1.1	420.5	196.5	90.4	96.4	0.8	0.8	110.3	116.0
New Jersey	100.7%	100.3%	965.2	247.7	1.6	1.2	609.8	208.1	87.0	86.8	0.9	0.9	92.8	92.1
New York	97.3%	97.6%	407.7	171.0	1.0	0.9	418.1	195.2	79.8	78.9	0.7	0.6	116.9	124.2
Pennsylvania	94.5%	94.7%	334.2	249.1	1.3	1.3	257.6	190.4	107.8	127.7	0.9	1.0	116.1	124.6
East North Central	95.4%	96.8%	301.9	310.4	1.2	1.3	258.6	239.3	112.8	134.8	0.9	1.0	124.3	134.8
Illinois	97.3%	98.4%	331.1	116.2	0.9	0.9	358.4	125.5	57.1	73.9	0.7	0.8	87.3	96.8
Indiana	91.9%	93.9%	280.1	260.6	1.3	1.5	217.3	173.4	124.8	146.2	1.0	1.2	125.3	125.0
Michigan	97.1%	98.4%	410.7	554.9	1.4	1.5	296.8	361.5	167.2	211.1	1.1	1.2	154.6	181.7
Ohio	96.6%	97.8%	283.4	305.2	1.4	1.5	209.0	207.1	129.2	146.0	1.1	1.1	120.4	128.5
Wisconsin	90.4%	92.5%	113.3	356.2	0.8	1.1	141.3	325.3	86.4	93.0	0.7	0.8	122.8	123.1
West North Central	83.9%	88.1%	372.0	187.2	1.1	1.1	350.8	165.4	87.6	95.8	0.8	0.9	103.2	105.5
Iowa	84.8%	90.0%	1,758.7	122.8	1.5	1.1	1,183.1	113.7	87.9	89.8	0.8	0.9	103.5	94.9
Kansas	81.9%	85.9%	107.1	240.0	0.9	1.4	113.3	175.4	92.3	117.3	0.9	1.0	104.2	113.4
Minnesota	88.1%	93.7%	127.6	150.1	1.0	1.0	123.1	151.0	85.6	81.2	0.9	0.8	95.0	100.9
Missouri	86.6%	89.9%	152.6	255.2	1.0	1.3	153.1	196.8	95.1	112.8	0.9	1.0	111.6	110.9
Nebraska	72.0%	75.1%	113.4	84.0	0.8	0.7	143.6	128.4	68.8	62.4	0.6	0.5	123.8	114.1
North Dakota	84.9%	84.5%	101.1	107.1	1.0	0.9	104.0	123.0	82.5	74.3	1.0	0.8	86.6	90.7
South Dakota	70.7%	76.4%	97.3	295.0	1.1	1.6	88.8	187.2	73.2	106.7	0.9	1.1	81.8	97.5
South Atlantic	95.8%	96.0%	307.2	205.6	1.5	1.3	208.3	155.6	121.5	123.7	1.1	1.1	107.4	112.4
Delaware	87.2%	86.2%	271.9	101.6	1.5	1.0	180.0	104.0	84.9	74.0	1.0	0.9	89.3	86.0
District of Columbia	98.2%	98.9%	44.0	77.0	0.4	0.6	110.0	130.5	39.0	55.0	0.4	0.5	105.4	112.2
Florida	99.8%	99.9%	188.7	89.0	1.2	1.0	161.2	87.9	73.0	74.2	1.0	0.9	76.7	79.1
Georgia	86.5%	86.5%	509.9	152.3	2.0	1.4	259.6	110.2	133.3	127.7	1.4	1.2	98.0	102.9
Maryland	98.5%	98.7%	120.3	141.3	1.0	1.0	125.9	134.7	80.9	90.6	0.8	0.9	100.5	103.1
North Carolina	95.5%	95.3%	417.9	287.6	1.7	1.4	246.3	200.1	143.7	146.2	1.2	1.1	119.2	131.9
South Carolina	95.1%	95.1%	323.8	326.5	1.5	1.5	219.6	220.2	119.9	105.6	1.1	1.0	106.7	105.2
Virginia	96.1%	97.3%	308.6	309.0	1.6	1.7	189.0	178.9	165.3	182.1	1.3	1.3	124.9	135.8
West Virginia	98.1%	98.8%	604.2	755.2	2.4	2.8	247.9	269.6	467.9	471.3	2.2	2.4	216.3	200.4
East South Central	88.1%	85.3%	902.2	269.5	2.0	1.8	444.6	149.1	146.2	156.0	1.3	1.5	110.3	106.2
Alabama	80.3%	82.4%	1,743.5	174.1	2.4	1.4	732.4	123.5	127.3	120.2	1.1	1.1	112.6	109.3
Kentucky	96.6%	94.9%	282.4	203.3	1.4	1.6	209.0	126.3	125.1	148.5	1.1	1.4	113.8	107.4
Mississippi	82.4%	82.2%	1,496.7	536.5	2.5	2.1	595.7	255.9	211.3	220.0	1.5	1.6	142.1	136.9
Tennessee	91.0%	82.5%	588.0	266.9	2.1	2.2	274.8	124.1	148.4	161.4	1.6	1.8	94.4	90.0
West South Central	95.1%	94.7%	1,101.8	330.0	2.3	1.7	477.9	189.4	171.3	142.4	1.5	1.2	116.5	116.5
Arkansas	89.9%	89.9%	708.4	437.7	1.8	1.9	386.5	226.3	204.7	221.9	1.4	1.5	142.7	147.1
Louisiana	93.6%	95.3%	3,624.4	472.3	3.2	2.2	1,122.7	218.0	216.4	208.1	1.7	1.6	125.7	126.3
Oklahoma	90.5%	91.2%	2,922.0	334.9	2.1	1.5	1,384.5	218.9	144.3	139.0	1.1	1.1	131.1	121.0
Texas	96.7%	95.8%	432.7	290.7	2.2	1.7	194.8	173.8	163.7	121.8	1.5	1.1	110.2	108.9
Mountain	93.3%	94.9%	181.6	134.4	1.0	1.0	177.0	131.1	90.7	94.5	0.8	0.9	107.4	104.2
Arizona	96.6%	99.0%	71.9	85.8	0.8	0.9	88.0	96.8	63.6	67.2	0.8	0.8	82.9	86.8
Colorado	92.5%	92.4%	134.2	180.5	1.0	1.1	134.5	167.3	82.6	83.6	0.8	0.9	97.5	97.4
Idaho	93.3%	95.4%	324.9	166.6	1.6	1.2	204.5	134.1	180.7	143.9	1.2	1.1	149.1	125.8
Montana	78.3%	81.8%	271.3	169.3	1.4	1.3	199.0	127.6	140.9	127.0	1.1	1.2	133.4	102.2
Nevada	103.1%	102.8%	73.3	87.0	0.7	0.8	101.6	106.8	55.3	77.5	0.6	0.8	95.1	100.3
New Mexico	90.6%	92.6%	148.2	170.2	1.0	1.2	146.7	140.3	118.8	128.4	0.9	1.1	127.3	116.9
Utah	90.2%	92.4%	575.1	146.2	1.3	1.0	435.6	146.5	101.5	115.4	0.9	0.9	115.1	122.6
Wyoming	77.6%	84.9%	289.7	164.5	1.8	1.5	157.8	110.4	111.3	130.0	1.0	1.3	108.7	101.2
Pacific Contiguous	98.6%	99.4%	270.2	507.7	1.1	1.2	241.3	415.0	107.7	104.2	0.9	0.9	123.4	122.6
California	100.1%	100.8%	267.1	587.6	1.1	1.3	247.9	465.9	104.0	103.9	0.9	0.9	118.3	118.6
Oregon	93.0%	94.0%	311.0	221.6	1.1	1.0	272.4	222.5	104.4	103.6	0.8	0.7	138.6	139.0
Washington	95.0%	96.2%	261.6	300.0	1.3	1.2	200.9	255.6	127.0	105.6	0.9	0.8	140.1	135.6
Pacific Noncontiguous	91.2%	93.7%	174.3	226.2	1.6	2.1	110.2	107.6	140.8	134.1	1.4	1.3	98.0	102.5
Alaska	79.0%	83.8%	268.0	280.1	2.2	2.2	122.1	127.8	245.5	184.1	2.2	1.6	110.7	116.0
Hawaii	100.4%	100.6%	118.7	195.2	1.2	2.1	97.5	95.2	97.3	113.4	1.1	1.2	87.5	95.1
U.S. Total	94.7%	95.3%	491.9	284.6	1.4	1.3	341.7	214.8	119.0	118.6	1.0	1.0	114.7	116.6

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/0Vh9LQK1TU>.
 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 - 2020

Census Division and State	IEEE																				Any Method																				
	All Events (With Major Event Days)										Without Major Event Days										All Events (With Major Event Days)										Without Major Event Days										
	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	
New England	44.4	30.7	14.7	23.2	77.6	72.6	35.1	1,272.9	109.7	109.4	99.2	126.3	107.9	119.1	95.0	101.9	429.4	303.4	140.0	229.4	780.4	721.4	351.7	1,284.0	439.4	319.6	173.3	211.1	682.4	715.4	336.8	1,067.1	117.9	114.5	100.3	131.9	114.3	124.2	104.4	144.5	
Connecticut	176.6	93.7	112.5	201.1	348.9	781.6	246.6	3,033.8	88.8	93.7	78.0	103.2	78.1	80.9	67.5	70.2	171.5	93.6	117.7	199.6	348.6	799.0	246.6	3,032.5	179.6	98.3	103.3	174.0	291.3	655.5	236.4	2,642.6	87.9	86.3	70.2	92.0	68.2	75.8	60.9	64.6	
Maine	97.3	1,049.3	213.6	535.4	2,492.6	666.3	908.1	1,726.0	246.6	246.6	198.7	264.4	238.3	272.0	213.7	244.6	916.5	1,046.1	171.3	510.3	2,440.6	639.3	891.8	1,718.4	97.3	1,049.3	213.6	535.4	2,492.6	666.3	908.1	1,726.0	246.6	246.6	198.7	264.4	238.3	272.0	213.7	244.6	
Massachusetts	435.5	126.8	86.4	148.6	179.7	865.3	244.3	224.1	85.7	84.1	71.1	91.6	72.7	81.3	67.5	63.6	422.4	128.1	87.6	153.3	186.1	907.0	256.6	231.0	427.3	124.5	91.2	144.9	275.5	813.3	250.2	318.9	84.8	83.2	76.6	115.1	92.2	99.0	96.1	168.1	
New Hampshire	209.3	815.3	117.3	192.5	915.4	408.0	541.0	1,366.0	104.8	135.3	120.5	122.0	84.9	99.0	206.5	82.9	117.0	190.9	915.0	449.7	219.0	409.7	249.7	260.5	149.2	162.8	172.5	138.2	141.1	151.1	151.7	111.0	111.0	121.8	121.8	121.8	121.8	121.8	121.8	121.8	121.8
Rhode Island	783.2	54.0	34.1	168.9	729.3	594.8	236.5	548.4	57.3	64.3	69.1	59.1	65.1	68.2	69.1	782.9	54.2	34.1	163.2	716.8	537.4	223.8	452.9	783.2	54.2	34.1	168.9	729.3	594.8	236.5	548.4	57.3	64.3	69.1	59.1	65.1	68.2	69.1	782.9	54.2	34.1
Vermont	20.0	24.0	19.4	198.8	1,792.4	929.9	334.0	158.4	180.0	193.4	198.8	196.2	357.7	170.4	158.4	240.0	240.0	240.0	179.4	187.4	1,782.7	732.1	329.4	151.0	436.0	745.0	204.2	359.4	879.9	897.6	443.8	255.6	258.6	216.4	205.6	273.2	246.4	262.1	170.1	256.6	
Middle Atlantic	176.5	283.1	193.6	150.0	172.6	516.4	282.5	588.9	111.0	96.5	97.8	110.1	96.2	113.2	115.1	105.0	169.9	276.6	186.8	133.5	163.7	568.5	253.6	573.1	134.2	199.6	148.7	120.3	178.8	465.4	213.6	512.4	94.5	79.0	80.8	89.2	83.7	94.0	96.4	90.4	
New Jersey	167.7	111.7	263.3	137.5	85.5	505.5	249.7	943.3	126.6	78.3	84.0	85.0	71.0	87.4	86.4	86.5	152.4	109.1	250.0	115.0	80.4	491.6	240.2	911.3	165.8	112.0	266.0	137.2	85.8	509.7	247.7	965.2	123.4	75.7	64.6	85.7	71.4	87.7	86.8	87.0	
New York	274.1	198.0	144.6	206.1	344.5	806.5	323.7	447.4	121.7	116.0	137.6	145.0	132.1	145.2	136.9	142.1	294.2	196.0	143.0	185.1	350.0	402.7	327.5	455.1	421.1	92.7	86.5	107.2	227.3	405.5	171.0	407.7	65.1	63.4	62.0	72.2	79.2	78.8	79.8		
Pennsylvania	143.2	343.3	166.2	132.3	184.5	564.0	252.5	355.4	102.5	104.1	102.1	105.1	108.4	122.6	128.0	103.5	136.7	426.9	157.4	122.1	169.1	551.3	240.3	343.6	138.6	399.6	156.7	126.2	176.8	518.0	249.1	334.2	99.5	99.7	98.8	101.4	108.7	119.3	127.7	107.8	
East North Central	338.4	289.4	219.4	189.9	332.1	254.0	315.3	311.1	120.5	129.7	125.5	124.4	128.5	128.1	135.4	117.8	342.8	271.9	210.1	178.1	322.9	239.8	301.3	294.2	327.6	278.1	214.2	189.1	323.5	249.5	310.4	301.9	119.3	123.8	124.1	124.3	123.0	127.4	134.8	112.8	
Illinois	182.1	197.6	170.9	136.1	120.0	143.8	116.3	336.6	82.5	91.9	88.4	80.7	72.9	72.5	73.9	57.1	183.1	197.3	168.1	133.0	117.1	140.5	110.3	333.9	161.6	195.7	169.3	134.9	119.7	142.9	116.3	331.1	83.3	92.5	86.8	80.8	73.3	72.6	73.9	57.1	
Indiana	246.9	236.5	257.4	254.2	223.5	302.4	266.6	294.3	112.1	122.2	119.7	129.4	135.4	146.1	147.5	127.6	213.9	218.7	244.0	234.4	197.5	263.0	217.4	205.1	231.8	239.9	244.0	252.5	212.4	285.9	260.6	280.1	109.1	120.5	120.1	127.4	131.1	142.0	146.2	124.8	
Michigan	791.0	592.5	374.5	268.4	803.2	450.2	570.2	416.7	199.1	183.3	183.4	194.2	186.4	213.9	166.3	793.9	580.0	363.7	262.6	798.2	448.0	565.5	414.3	782.3	574.7	363.4	267.8	778.8	442.9	554.9	410.7	198.6	180.0	178.8	193.1	179.4	185.0	211.1	167.2		
Ohio	214.8	185.5	167.5	169.5	246.8	240.3	303.8	283.6	110.6	131.4	139.4	127.1	141.8	150.1	145.2	129.2	205.5	142.1	149.9	144.2	215.3	108.8	525.6	114.0	146.2	144.7	106.3	136.6	203.5	122.8	396.2	283.4	111.9	131.8	141.0	128.9	143.4	151.6	146.0	129.2	
Wisconsin	162.9	154.1	107.8	147.8	219.2	117.0	383.5	119.9	79.5	78.0	68.8	76.3	69.1	76.4	90.0	88.1	161.5	152.9	102.9	142.9	142.1	225.3	108.8	327.6	151.0	146.2	144.7	106.3	136.6	203.5	122.8	396.2	113.3	77.9	79.9	70.3	79.2	78.8	75.6	93.0	86.4
West North Central	317.3	133.1	178.0	222.1	221.0	140.2	195.2	226.8	95.7	92.3	95.6	95.1	90.3	91.1	95.4	87.6	326.6	127.2	170.1	189.9	218.7	128.1	194.8	249.4	291.5	134.8	167.7	200.9	210.2	139.8	167.2	372.0	91.3	91.9	91.7	93.5	80.4	92.1	95.8	87.6	
Iowa	140.5	151.3	98.0	136.5	128.1	115.4	128.0	1,066.9	90.1	91.1	88.1	96.0	103.8	92.9	83.7	85.7	129.5	136.3	85.7	122.5	109.7	102.8	111.0	1,053.3	124.6	164.7	96.8	117.7	119.0	126.8	122.8	1,758.7	79.1	93.4	85.5	92.0	95.2	92.6	89.8	87.9	
Kansas	258.2	163.4	350.5	169.1	368.0	156.6	121.0	114.9	131.5	132.3	130.9	105.6	117.2	91.8	237.9	138.5	242.1	151.4	359.5	140.0	266.1	107.0	255.5	152.4	347.3	167.8	366.8	154.8	240.0	607.1	121.0	114.9	130.7	131.9	131.0	102.8	119.3	92.3			
Minnesota	388.1	133.1	160.8	308.9	129.8	127.2	181.9	128.0	88.0	77.1	79.4	88.6	71.7	87.8	79.7	84.7	392.8	118.8	159.9	302.6	129.1	120.2	137.6	124.4	367.2	119.4	154.5	301.2	129.7	127.4	150.1	127.6	94.7	70.4	77.8	87.7	73.5	87.6	81.2	85.6	
Missouri	291.1	124.3	164.9	215.4	307.2	151.2	261.0	154.1	93.6	101.2	98.3	86.6	90.8	91.8	113.6	96.7	317.0	136.8	249.2	149.8	445.9	174.1	372.9	159.8	319.9	136.7	171.1	205.7	305.8	149.6	255.2	152.6	98.2	76.4	78.2	86.7	93.3	94.6	112.8	95.1	
Nebraska	104.3	98.9	67.9	81.7	186.7	186.7	78.9	115.4	75.9	60.7	50.2	49.3	72.3	78.8	59.2	67.4	63.2	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3	49.3		
North Dakota	98.7	102.5	113.6	152.8	91.2	111.2	132.6	123.3	93.2	91.6	101.0	110.4	70.4	96.0	77.1	86.8	91.8	76.7	80.2	147.1	81.8	83.8	131.6	113.3	108.3	87.0	113.9	123.8	85.9	94.4	107.1	101.1	88.9	87.0	90.0	108.3	67.5	95.2	74.3	82.5	
South Dakota	1,010.0	120.6	136.0	255.6	101.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7	93.1	311.4	91.7
South Atlantic	194.7	200.9	195.4	167.6	1,241.6	1,639.0	321.4	123.3	119.7	123.2	123.3	122.4	133.3	124.2	122.6	185.7	379.2	183.5	599.7	1,237.8	630.8	196.5	263.3	190.9	281.2	186.6	518.9	1,118.6	615.0	205.6	307.2	112.3	115.5	119.3	128.6	119.9	131.9	123.7	121.5		
Delaware	156.5	169.9	181.4	148.7	154.6	136.2	102.0	271.9	129.3	113.9	115.5	102.3	83.3	73.8	74.2	84.9	152.6	162.7	180.0	147.3	153.1	135.3	102.0	276.5	157.7	169.1	189.9	148.1	153.9	135.9	101.6	271.9	128.8	113.7	114.7	103.2	83.2	74.1	74.0	84.9	
District of Columbia	149.7	163.9	112.4	159.2	193.7	109.2	170.4	44.0	124.9	92.0	112.4	115.0	57.9	55.0	39.0	117.0	95.0	112.4	115.0	57.9	55.0	39.0	117.0	95.0	112.4	115.0	57.9	55.0	39.0	117.0	95.0	112.4	115.0	57.9	55.0	39.0	117.0	95.0	112.4	115.0	57.9
Florida	79.3	89.4	86.1	388.2	2,693.2	305.5	88.9	200.4	75.3	86.6	79.3	82.7	76.7	79.6	74.0	72.5	77.9	122.4	80.3	387.0	2,696.6	302.8	83.2	194.9	87.0	92.1	85.4	352.1	2,504.2	325.4	89.0	188.7	77.8	85.5	77.9	81.8	76.8	77.4	74.2	73.0	
Georgia	124.9	252.3	248.2	424.0	1,030.8	230.7	149.8	82.1	97.8	108.5	120.6	115.2	116.8	125.8</																											

Table 11.5 SAIFI Values (Times Per Year) of U.S. Distribution System by State, 2013 - 2020

Census Division and State	IEEE																								Any Method																
	All Events (With Major Event Days)												Without Major Event Days												All Events (With Major Event Days)								Without Major Event Days								
	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	
New England	1.4	1.6	1.1	1.4	1.5	1.8	1.4	2.0	1.1	1.0	1.2	0.9	1.1	0.9	1.0	1.3	1.5	1.0	1.3	1.4	1.7	1.3	1.9	1.5	1.6	1.0	1.3	1.5	1.7	1.4	1.9	1.1	1.1	1.0	1.1	0.9	1.1	0.9	1.1		
Connecticut	0.9	0.8	0.8	1.2	1.0	1.3	1.0	2.0	0.9	0.8	0.7	0.7	0.7	0.9	0.8	0.7	1.2	1.0	1.3	1.0	2.0	0.9	0.7	0.7	1.1	0.9	1.3	1.0	1.8	0.9	0.7	0.8	0.9	0.7	0.7	0.7	0.6	0.7			
Maine	2.3	5.1	1.9	2.7	2.8	2.8	2.5	3.9	2.0	2.0	1.8	2.3	1.9	2.0	1.7	2.1	2.6	5.1	1.7	2.4	2.6	2.6	2.3	3.8	2.9	5.1	1.9	2.7	2.8	2.8	2.5	3.9	2.0	2.0	1.8	2.3	1.9	2.0	1.7	2.1	
Massachusetts	1.1	1.0	0.8	1.0	1.0	1.7	1.1	1.2	0.9	0.8	0.7	0.9	0.3	0.9	0.8	0.8	1.1	1.0	0.8	0.9	1.0	1.6	1.1	1.2	1.1	1.0	0.8	1.0	1.1	1.6	1.2	1.3	0.9	0.8	0.7	0.9	0.8	0.7	0.9	0.8	1.0
New Hampshire	2.0	2.0	1.1	1.5	2.0	1.9	1.2	1.5	1.1	1.4	1.1	1.1	0.8	0.9	1.1	1.8	1.1	1.5	2.0	1.9	1.9	1.2	1.5	2.2	2.3	1.4	1.5	2.3	2.2	1.4	1.8	1.3	1.6	1.4	1.4	1.3	1.3	0.9	1.1		
Rhode Island	1.3	0.8	1.2	1.2	1.2	1.6	1.4	2.0	0.7	0.8	0.9	1.0	0.8	1.0	1.0	0.9	1.2	0.8	1.2	1.0	1.1	1.4	1.2	1.4	1.3	0.8	1.2	1.2	1.2	1.6	1.4	2.0	0.7	0.8	0.9	1.0	0.8	1.0	1.0	0.9	
Vermont	2.8	2.5	1.8	1.6	2.6	3.4	2.0	1.6	1.9	1.4	1.8	1.6	1.6	2.3	1.8	1.6	2.8	2.3	1.5	1.4	2.5	2.9	1.9	1.6	2.4	2.2	1.7	1.8	2.4	2.6	2.0	1.9	1.9	1.5	1.7	1.8	1.9	1.9	1.5	1.9	
Middle Atlantic	1.1	1.1	1.0	1.2	1.1	1.5	1.3	1.5	1.0	0.9	0.9	1.0	0.9	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.0	1.4	1.2	1.3	0.9	0.9	0.8	1.0	1.0	1.2	1.1	1.2	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	
New Jersey	1.4	1.0	1.0	1.2	0.9	1.4	1.2	1.6	1.2	0.9	0.8	1.0	0.9	0.9	1.0	0.9	0.9	1.2	0.9	1.0	1.1	0.9	1.3	1.1	1.4	1.3	1.0	1.2	0.9	1.4	1.2	1.6	1.2	0.9	0.8	1.0	0.9	1.0	0.9	0.9	
New York	1.3	1.2	1.2	1.3	1.4	1.5	1.5	0.9	1.0	1.1	1.2	1.0	1.1	1.0	1.1	1.3	1.2	1.1	1.4	1.5	1.5	1.5	1.5	0.7	0.6	0.7	0.8	0.7	0.6	0.6	0.7	0.6	0.6	0.7	0.6	0.6	0.7	0.6	0.6	0.7	
Pennsylvania	1.0	1.3	1.0	1.1	1.1	1.5	1.3	0.9	1.0	0.9	1.0	0.9	1.0	0.9	0.9	1.1	0.9	1.0	1.0	1.4	1.2	1.2	1.0	1.2	1.0	1.1	1.1	1.4	1.3	1.3	0.9	0.9	0.9	1.0	0.9	1.0	1.0	1.0	0.9		
East North Central	1.2	1.2	1.2	1.1	1.2	1.2	1.3	1.2	0.9	1.0	1.0	0.9	0.9	1.0	1.0	0.9	1.1	1.1	1.0	1.0	1.1	1.1	1.2	1.1	1.2	1.1	1.2	1.2	1.3	1.2	0.9	1.0	0.9	1.0	0.9	1.0	1.0	1.0	0.9		
Illinois	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.8	0.7	0.8	0.8	0.7	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	1.1	1.1	1.1	1.0	0.9	0.9	0.9	0.9	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.8		
Indiana	1.2	1.3	1.3	1.3	1.3	1.5	1.5	1.3	1.0	1.0	1.0	1.1	1.0	1.2	1.2	1.0	0.9	1.1	1.1	1.2	1.1	1.2	1.2	1.0	1.2	1.3	1.3	1.3	1.3	1.3	1.5	1.3	0.9	1.0	1.0	1.0	1.0	1.1	1.2	1.0	
Michigan	1.5	1.2	1.2	1.1	1.4	1.4	1.5	1.4	0.9	0.9	1.0	1.0	1.1	1.2	1.1	1.5	1.2	1.1	1.1	1.4	1.3	1.5	1.3	1.5	1.2	1.1	1.1	1.4	1.4	1.5	1.4	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.1		
Ohio	1.2	1.2	1.2	1.2	1.4	1.4	1.5	1.4	0.9	1.1	1.1	1.1	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.4	1.5	1.4	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.1	
Wisconsin	0.9	0.8	1.5	0.9	0.9	0.8	1.1	0.8	0.7	0.7	1.2	0.7	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.7	1.1	0.8	0.8	0.8	1.3	0.8	0.8	1.1	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.8	0.7	
West North Central	1.3	1.1	1.1	1.2	1.1	1.0	1.2	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	1.2	1.0	1.1	1.0	0.9	1.1	1.0	1.3	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	
Iowa	1.1	1.2	1.0	1.2	1.1	1.0	1.1	1.5	0.9	1.0	1.0	1.0	1.0	0.9	0.9	0.9	1.1	0.8	0.9	0.9	0.9	1.0	1.3	1.0	1.2	1.0	1.0	1.0	1.0	1.1	1.5	0.8	1.0	0.9	0.9	0.9	0.9	0.9	0.9		
Kansas	1.6	1.4	1.6	1.4	1.5	1.2	1.4	1.9	1.3	1.2	1.3	1.2	1.1	1.0	1.0	0.9	1.3	1.2	1.4	1.3	1.2	1.0	1.3	0.9	1.6	1.3	1.6	1.4	1.5	1.2	1.4	0.9	1.2	1.2	1.3	1.2	1.1	1.0	1.0	0.9	
Minnesota	1.2	1.0	1.0	1.2	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.9	0.8	0.9	0.8	0.9	1.2	1.0	0.9	1.1	0.9	0.9	0.9	1.0	1.2	1.0	1.0	1.2	0.9	1.0	1.0	0.9	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.9	
Missouri	1.1	1.1	1.0	1.0	1.2	1.0	1.3	1.0	0.9	0.8	0.8	0.8	0.8	0.8	0.9	1.1	1.1	1.3	1.0	1.3	1.1	1.6	1.0	1.1	1.1	1.1	1.2	1.0	1.3	1.0	0.9	1.0	1.0	0.8	0.8	0.8	0.9	1.0	0.9		
Nebraska	0.8	0.7	0.7	0.7	0.9	1.1	0.7	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.8	0.6	0.7	0.7	0.8	0.6	0.7	0.7	0.8	0.6	0.6	0.7	0.7	0.8	0.6	0.7	0.8	0.6	0.7	0.8	0.6	0.7	0.8	0.6	0.7		
North Dakota	1.6	1.8	2.4	2.1	1.0	1.0	1.0	1.2	1.6	1.7	2.3	1.9	0.9	0.9	0.8	1.0	0.9	1.0	0.7	1.0	0.7	0.7	0.8	0.8	2.8	1.4	2.1	1.6	1.0	0.9	1.0	3.4	1.7	2.3	1.9	0.9	0.9	0.8	1.0		
South Dakota	1.9	1.0	1.1	1.4	1.2	1.1	1.6	1.1	1.0	1.0	0.9	1.0	1.1	0.9	1.1	0.9	1.4	0.7	0.9	0.9	0.7	1.1	0.7	1.9	1.0	1.1	1.4	1.2	1.1	1.1	0.9	0.9	1.0	1.0	0.9	1.1	0.9	1.1	0.9		
South Atlantic	1.2	1.4	1.3	1.6	1.8	1.6	1.3	1.5	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.4	1.2	1.5	1.6	1.5	1.2	1.3	1.3	1.4	1.3	1.6	1.7	1.6	1.3	1.5	1.1	1.2	1.2	1.1	1.2	1.1	1.1		
Delaware	1.5	1.4	1.5	1.3	1.1	1.0	1.5	1.3	1.2	1.3	1.1	1.0	0.9	0.9	1.0	1.4	1.3	1.4	1.3	1.1	1.0	1.0	1.5	1.5	1.4	1.5	1.4	1.1	1.0	1.5	1.3	1.2	1.3	1.2	1.0	0.9	0.9	0.9	1.0		
District of Columbia	0.9	0.7	0.7	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6		
Florida	1.0	1.1	1.1	1.4	2.1	1.1	1.0	1.1	0.9	1.1	1.0	1.1	1.0	1.0	0.9	0.9	0.9	1.5	1.0	1.3	2.0	1.1	0.9	1.1	1.1	1.1	1.4	2.0	1.1	1.0	1.2	1.0	1.1	1.1	1.1	1.0	1.0	0.9	1.0		
Georgia	1.3	1.5	1.6	1.5	2.2	1.5	1.4	2.0	1.1	1.2	1.3	1.2	1.2	1.2	1.3	1.8	1.3	1.4	1.2	2.1	1.4	1.2	1.7	1.3	1.5	1.5	1.5	2.4	1.6	1.4	2.0	1.2	1.2	1.3	1.3	1.2	1.3	1.2	1.4		
Maryland	1.1	1.3	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.0	1.0	1.0	0.8	0.9	0.8	1.0	1.2	1.0	1.1	0.9	1.2	1.0	0.9	1.1	1.3	1.1	1.1	1.0	1.3	1.0	1.0	1.0	1.0	1.0	0.9	1.0	0.9	0.8			
North Carolina	1.4	1.5	1.4	1.9	1.4	2.3	1.4	1.7	1.0	1.0	1.1	1.1	1.2	1.2	1.1	1.2	1.3	1.2	1.8	1.2	2.0	1.3	1.5	1.3	1.5	1.3	1.8	1.3	2.2	1.4	1.7	1.0	1.0	1.1	1.1	1.1	1.1	1.1			
South Carolina	1.1	1.9	1.5	2.4	1.6	1.8	1.5	1.5	1.0	1.1	1.2	1.2	1.5	1.0	1.1	1.0	1.6	1.2	2.2	1.5	1.5	1.3	1.2	1.0	1.8	1.5	2.4	1.6	1.7	1.5	1.5	1.0	1.1	1.2	1.2	1.1	1.2	1.0	1.1		
Virginia	2.1	1.6	1.5	1.7	1.8	2.6	2.1	1.8	1.6	1.4	1.4	1.5	1.4	1.7	1.7	1.6	1.9	1.4	1.4	1.3	1.5	2.4	1.9	1.7	1.6	1.4	1.4	1.5	1.4	1.8	1.7	1.6	1.2	1.2	1.2	1.3	1.2	1.4	1.3	1.3	
West Virginia	2.3	2.4	2.4	2.4	2.3	2.6	2.8	2.4	1.7	2.1	2.2	2.1	2.1	2.4	2.4	2.2	1.7	2.1	2.2	2.1	2.0	2.4	2.5	2.1	2.3	2.4	2.4	2.4	2.3	2.6	2.8	2.4	1.7	2.1	2.2	2.1	2.1	2.4	2.4	2.2	
East South Central	1.6	1.8	1.8	1.7	1.7	1.9	1.9	2.0	1.4	1.4	1.5	1.3	1.5	1.8	1.4	1.4	1.5	1.8	1.5	1.6	1.7	1.8	1.8	1.6	1.7	1.7	1.7	1.8	1.8	2.0	1.4	1.3	1.4	1.4	1.3	1.4	1.3	1.4	1.5	1.3	
Alabama	2.0	2																																							

Table 11.6 CAIDI Values (Minutes Per Interruption) of U.S. Distribution System by State, 2013 - 2020

Census Division and State	IEEE																				Any Method																				
	All Events (With Major Event Days)										Without Major Event Days										All Events (With Major Event Days)										Without Major Event Days										
	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	2013	2014	2015	2016	2017	2018	2019	2020	
New England	317.4	195.7	137.9	163.9	521.7	405.4	258.6	643.0	104.5	105.7	100.3	105.1	125.8	110.8	103.0	99.0	329.3	196.3	138.2	177.7	542.0	423.1	270.7	677.0	299.6	203.8	133.5	161.4	470.8	410.3	242.2	575.0	106.8	108.4	103.2	114.9	125.8	114.4	111.5	131.2	
Connecticut	193.0	120.6	148.6	173.4	331.8	592.4	247.1	1,531.0	96.9	120.6	111.6	103.9	102.9	110.7	102.8	101.7	187.5	120.5	149.4	173.5	336.7	604.1	248.1	1,545.5	193.0	116.3	147.6	163.8	307.7	522.5	243.3	1,446.4	97.2	116.3	108.4	101.3	100.1	107.4	98.2	98.1	
Maine	335.7	204.6	114.2	116.8	885.7	237.4	359.8	446.5	126.3	115.3	109.1	122.0	123.0	134.0	127.9	115.3	350.9	205.1	102.2	215.4	927.4	246.1	394.8	458.2	337.1	204.9	114.2	198.9	85.1	237.5	359.9	446.5	138.3	116.3	109.1	122.0	123.0	134.0	127.9	115.3	
Massachusetts	382.1	130.9	110.6	144.7	174.2	521.1	219.1	184.4	94.0	100.5	95.4	100.6	286.4	95.3	87.7	79.3	372.3	134.2	112.1	174.8	188.3	562.7	235.5	199.3	378.4	130.2	115.8	146.3	253.4	524.1	204.4	244.9	93.7	100.3	101.3	122.5	159.8	107.8	114.1	165.5	
New Hampshire	105.7	114.2	103.9	125.5	456.7	238.6	188.0	269.7	132.5	100.2	95.7	79.5	105.1	112.8	110.9	106.4	45.6	192.2	111.1	128.1	461.7	240.4	188.0	211.2	114.9	381.1	107.9	124.9	484.7	234.2	204.3	274.3	125.2	100.1	102.1	102.1	116.7	119.7	120.8	112.3	
Rhode Island	821.6	71.1	277.7	140.0	614.6	378.8	169.3	278.9	79.6	71.1	68.6	71.0	76.3	65.0	66.8	73.1	669.1	71.3	277.7	156.0	649.8	385.5	179.5	314.1	621.6	71.1	277.7	140.0	614.6	378.8	169.3	278.9	79.6	71.1	68.6	71.0	76.3	65.0	66.8	73.1	
Vermont	64.6	95.2	109.6	128.1	687.1	274.3	170.4	97.2	94.0	129.7	109.6	128.1	114.1	152.8	114.4	97.2	84.6	103.0	117.2	136.6	715.5	256.0	175.4	364.8	180.9	339.3	193.1	362.1	342.8	224.0	134.7	138.7	145.1	117.6	151.8	130.4	137.0	116.2	132.7		
Middle Atlantic	155.5	247.8	184.9	129.1	157.2	352.2	203.9	406.2	111.7	104.6	104.5	107.7	106.0	111.4	115.2	109.3	163.9	260.9	183.8	123.2	160.9	317.9	212.5	427.3	151.6	221.1	173.1	125.3	186.2	376.3	195.9	420.5	110.5	105.8	105.6	105.6	107.2	111.9	116.0	110.3	
New Jersey	123.5	117.2	265.1	118.7	91.3	357.2	209.2	596.4	102.3	90.3	76.8	85.6	81.0	90.9	91.7	92.1	129.0	119.4	217.7	106.9	91.3	382.1	222.2	633.9	124.4	117.5	262.9	118.9	91.8	358.8	208.1	609.8	102.5	90.7	77.5	87.5	81.7	90.9	92.1	92.8	
New York	209.5	172.2	124.8	157.0	246.6	261.2	219.5	149.8	128.2	120.8	121.2	134.7	129.5	137.4	131.2	131.9	223.4	172.2	251.9	497.9	247.9	262.8	220.2	604.0	171.6	145.8	269.8	137.0	269.3	403.4	195.2	418.1	114.4	114.0	116.8	118.5	116.0	120.3	124.2	116.9	
Pennsylvania	143.2	341.8	162.9	121.2	163.8	378.8	192.6	266.1	109.4	109.4	112.3	107.9	115.9	117.6	126.9	114.5	151.5	373.7	173.0	207.0	169.4	408.3	202.4	282.8	142.3	328.0	157.7	118.2	159.3	362.0	190.4	257.6	110.3	105.6	110.8	105.6	115.9	116.7	124.6	116.1	
East North Central	281.3	248.2	182.6	171.7	276.3	211.9	241.3	263.9	135.5	131.1	121.2	132.5	133.1	131.4	135.4	125.2	302.3	254.5	201.7	174.7	292.7	220.7	254.8	274.8	275.6	242.7	180.4	171.2	273.4	208.9	239.3	238.6	134.8	129.4	120.7	132.4	133.8	130.7	134.8	124.3	
Illinois	166.6	175.9	153.7	134.0	130.2	157.7	128.1	362.7	85.9	96.9	94.3	97.2	97.3	93.3	96.9	87.5	166.0	178.5	156.7	133.2	130.2	165.5	121.7	369.8	165.3	173.9	152.4	132.0	129.3	156.0	125.9	358.4	96.2	96.9	94.4	97.2	97.2	93.3	96.9	87.5	
Indiana	204.8	188.0	198.9	188.7	170.2	202.8	174.9	224.7	116.5	116.8	115.0	121.6	129.6	126.7	125.9	127.0	231.2	197.6	213.7	202.1	173.9	213.5	174.2	202.9	196.3	187.5	193.3	189.1	167.3	196.3	173.4	217.3	115.6	114.9	117.6	121.6	129.8	125.4	125.0	125.3	
Michigan	516.5	481.9	325.4	237.5	567.8	327.6	369.7	303.1	218.0	204.2	187.3	193.5	183.0	176.8	184.1	157.5	527.9	491.4	324.9	237.1	574.9	332.7	574.9	309.5	513.6	473.8	315.6	233.6	550.9	322.6	361.5	296.8	217.1	201.5	194.8	190.8	181.5	175.4	181.7	154.6	
Ohio	183.8	165.0	140.4	143.5	182.7	170.7	206.1	209.1	117.1	118.7	123.6	120.2	125.0	127.9	127.5	120.1	141.3	146.8	143.7	195.9	181.3	226.7	224.0	184.7	155.4	142.8	147.1	183.6	171.6	207.1	209.0	117.6	118.5	123.6	121.0	126.1	128.6	128.5	120.4		
Wisconsin	187.5	184.7	74.1	171.2	236.2	152.3	341.8	144.0	111.1	115.9	58.6	114.2	118.5	117.7	124.8	125.4	192.9	188.4	136.8	175.0	243.2	147.5	359.4	164.3	179.2	172.8	79.6	162.3	224.0	151.3	325.3	141.3	120.0	109.9	64.0	115.4	126.1	113.6	123.1	122.8	
West North Central	232.2	117.8	157.6	184.5	189.4	135.2	169.7	217.1	100.4	92.3	95.7	101.1	105.0	103.8	105.7	102.5	355.9	124.1	165.7	188.8	219.8	137.2	183.3	253.2	232.7	122.0	151.2	176.9	191.0	136.2	165.4	360.8	93.8	93.0	95.1	100.6	104.3	104.4	105.3	103.2	
Iowa	131.5	123.6	96.2	117.1	119.4	112.9	111.7	716.5	95.3	91.8	91.5	97.0	107.2	99.5	89.4	99.1	141.1	128.8	110.0	136.6	129.0	120.7	115.5	785.4	129.8	137.2	100.4	112.1	118.8	125.0	113.7	1183.1	93.8	94.2	92.5	96.2	104.9	98.7	94.9	103.5	
Kansas	163.0	113.3	215.2	118.8	247.7	130.1	177.2	112.8	96.8	95.2	100.7	106.8	114.3	107.1	114.0	103.2	181.1	113.7	174.2	118.2	288.1	139.1	119.5	116.2	116.0	213.3	119.1	246.3	132.6	175.4	113.3	96.9	95.0	96.6	107.1	114.4	110.2	113.4	104.2		
Minnesota	311.2	121.1	165.4	253.7	136.2	124.1	150.9	123.5	100.5	83.5	95.9	102.9	93.1	98.8	100.7	94.6	334.0	124.2	177.1	276.2	147.2	132.5	156.6	129.2	302.1	120.1	159.4	252.4	137.1	124.1	151.0	102.3	101.7	84.8	95.7	102.6	94.8	98.9	100.0	96.0	
Missouri	268.0	124.5	161.3	205.8	264.7	155.3	200.6	153.8	115.2	104.6	105.5	111.6	116.0	110.5	111.5	112.1	282.3	129.4	195.3	155.6	342.3	157.2	239.3	164.8	282.2	126.7	167.1	195.9	254.6	153.8	196.8	153.1	114.3	103.6	103.3	108.5	113.4	112.5	110.9	111.6	
Nebraska	134.7	142.4	103.6	89.9	117.9	168.8	119.7	145.7	114.8	83.9	87.1	85.1	101.7	108.2	112.1	118.5	161.6	93.6	164.2	147.6	83.8	104.9	150.9	141.3	117.8	124.9	175.7	131.4	143.6	93.7	95.5	93.8	93.6	143.8	83.7	95.5	93.8	93.6	105.0	114.1	129.8
North Dakota	61.6	57.0	47.7	74.0	87.8	116.8	131.8	107.2	59.4	53.1	43.6	57.1	74.7	109.8	92.6	86.9	107.4	80.2	112.4	140.6	121.2	120.6	126.7	139.3	39.3	61.3	54.9	76.7	89.9	103.4	123.0	104.0	26.1	50.5	42.7	58.5	75.2	107.2	90.7	86.6	
South Dakota	88.0	115.1	120.4	187.8	88.0	84.1	191.5	114.6	84.5	75.4	78.6	88.3	79.9	75.0	53.4	112.8	135.3	94.2	108.5	225.0	116.3	514.2	114.9	117.0	162.2	87.3	84.9	187.2	88.8	90.1	119.9	114.9	84.6	77.4	80.9	97.5	81.7	88.1			
South Atlantic	155.9	217.9	146.4	360.4	702.1	403.4	159.0	102.1	114.7	104.1	105.0	108.2	110.1	117.8	114.5	111.0	166.8	269.7	155.5	382.0	771.5	429.4	167.6	223.0	147.7	203.1	141.1	332.2	384.4	156.8	263.3	103.7	100.3	102.3	107.2	107.5	114.4	112.4	107.4		
Delaware	102.8	120.1	125.1	110.7	136.8	131.3	104.0	180.0	100.8	96.9	89.0	89.2	83.8	85.9	89.3	110.9	122.2	131.5	113.0	140.4	138.0	104.0	164.1	108.6	119.4	124.8	110.4	136.5	131.7	104.0	180.0	100.6	96.4	88.8	89.3	83.8	86.5	86.0	89.3		
District of Columbia	143.2	149.1	163.9	149.7	100.9	105.4	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	110.0	148.9	130.5	
Florida	82.2	75.9	78.6	282.9	130.2	274.7	90.3	175.9	80.7	78.4	76.2	75.7	76.8	83.3	81.8	81.2	83.3	81.8	79.1	302.9	1,337.8	276.5	90.5	184.2	77.3	80.2	78.3	259.4	1,241.6	288.2	87.9	161.2	76.4	75.2	73.6	75.3	75.3	79.7	79.1	76.7	
Georgia	96.7	165.0	158.8	278.1	465.8	149.7	110.1	267.2	77.7	83																															

Chapter 12

U.S. Territories

**Table 12.1 Puerto Rico- Number of Ultimate Customers Served:
by Sector, 2010 through 2020**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	1,339,703	133,029	790	--	1,473,522
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
Year 2018					
January	1,343,369	126,955	605	--	1,470,929
February	1,342,510	126,695	606	--	1,469,811
March	1,343,914	126,640	607	--	1,471,161
April	1,344,684	126,489	606	--	1,471,779
May	1,344,960	126,396	604	--	1,471,960
June	1,344,798	126,278	604	--	1,471,680
July	1,345,450	126,221	601	--	1,472,272
August	1,346,380	126,283	598	--	1,473,261
September	1,347,298	126,375	599	--	1,474,272
October	1,348,855	126,492	597	--	1,475,944
November	1,349,924	126,702	595	--	1,477,221
December	1,351,082	126,800	596	--	1,478,478
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

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, 2010 through 2020 (Megawatthours)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	6,975,149	9,041,424	2,967,817	--	18,984,390
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
Year 2018					
January	389,090	558,621	141,787	--	1,089,498
February	393,230	760,068	174,720	--	1,328,018
March	450,083	531,455	98,406	--	1,079,945
April	466,218	784,445	273,377	--	1,524,040
May	565,759	801,950	165,300	--	1,533,009
June	507,497	591,959	208,432	--	1,307,888
July	577,748	680,752	145,339	--	1,403,840
August	577,416	688,524	209,353	--	1,475,293
September	527,390	722,248	186,217	--	1,435,855
October	697,731	847,420	191,078	--	1,736,230
November	456,854	593,194	172,051	--	1,222,099
December	493,964	642,258	162,293	--	1,298,515
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

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, 2010 through 2020 (Thousand Dollars)

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	1,520,584	2,102,942	564,218	--	4,187,744
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
Year 2018					
January	86,018	159,397	31,640	--	277,056
February	75,989	170,895	32,231	--	279,115
March	109,809	148,653	22,060	--	280,522
April	84,357	161,256	54,292	--	299,904
May	103,994	165,295	22,768	--	292,057
June	107,787	132,963	40,090	--	280,839
July	122,329	165,585	28,750	--	316,664
August	114,400	148,958	38,757	--	302,114
September	109,452	162,472	33,858	--	305,781
October	136,653	181,005	35,721	--	353,379
November	101,917	142,385	33,635	--	277,937
December	112,475	154,467	31,372	--	298,314
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

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, 2010 through 2020 (Cents per Kilowatthour)**

Period	Residential	Commercial	Industrial	Transportation	All Sectors
Annual Totals					
2010	21.80	23.26	19.01	--	22.06
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
Year 2018					
January	22.11	28.53	22.32	--	25.43
February	19.32	22.48	18.45	--	21.02
March	24.40	27.97	22.42	--	25.98
April	18.09	20.56	19.86	--	19.68
May	18.38	20.61	13.77	--	19.05
June	21.24	22.46	19.23	--	21.47
July	21.17	24.32	19.78	--	22.56
August	19.81	21.63	18.51	--	20.48
September	20.75	22.50	18.18	--	21.30
October	19.59	21.36	18.69	--	20.35
November	22.31	24.00	19.55	--	22.74
December	22.77	24.05	19.33	--	22.97
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

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, 2010 through 2020**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2010	10,475	1,404	5	--	11,884
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2010	45,269	76,014	20,587	--	141,870
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2010	14,336	23,651	5,751	--	43,737
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2010	31.67	31.11	27.93	--	30.83
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

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

**Table 12.6. Guam
By Sector, 2010 through 2020**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2010	40,633	6,700	--	--	47,333
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2010	486,962	1,150,700	--	--	1,637,662
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2010	101,892	262,998	--	--	364,890
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2010	20.92	22.86	--	--	22.28
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

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

**Table 12.7. Northern Mariana Islands
By Sector, 2011 through 2020**

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
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
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
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

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

**Table 12.8. Virgin Islands
By Sector, 2010 through 2020**

Year	Residential	Commercial	Industrial	Transportation	Total
Number of Ultimate Customers					
2010	44,711	8,320	1,038	--	54,069
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
Sales of Electricity to Ultimate Customers (megawatthours)					
2010	264,932	120,988	368,867	--	754,787
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
Revenue from Sales of Electricity to Ultimate Customers (thousand dollars)					
2010	112,891	42,486	132,097	--	287,474
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
Average Price of Electricity to Ultimate Customers (cents per kilowatthour)					
2010	42.61	35.12	35.81	--	38.09
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

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

Appendix

Table A.1. Sulfur Dioxide Uncontrolled Emission Factors

Fuel, Code, Source and Emission Units				Combustion System Type / Firing Configuration						
Fuel	EIA Fuel Code	Source and Tables (As Appropriate)	Emissions Units Lbs = Pounds MMCF = Million Cubic Feet MG = Thousand Gallons	Cyclone Firing Boiler	Fluidized Bed Firing Boiler	Stoker Boiler	Tangential Firing Boiler	All Other Boiler Types	Combustion Turbine	Internal Combustion Engine
Distillate Fuel Oil*	DFO	Source: 2, Table 3.1-2a, 3.4-1 & 1.3-1	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Jet Fuel*	JF	Assumed to have emissions similar to DFO.	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Kerosene*	KER	Assumed to have emissions similar to DFO.	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Other Biomass Liquids*	OBL	Source: 1 (including footnotes 3 and 16 within source)	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Residual Fuel Oil*	RFO	Source: 2, Table 1.3-1; Combustion turbines and internal combustion engines assumed to have emissions similar to DFO.	Lbs per MG	157.00	15.70	157.00	157.00	157.00	140.00	140.00
Wood Waste Liquids*	WDL	Source: 1 (including footnotes 3 and 16 within source)	Lbs per MG	142.00	14.20	142.00	142.00	142.00	140.00	140.00
Waste Oil*	WO	Source: 2, Table 1.11-2; Combustion turbines and internal combustion engines assumed to have emissions similar to DFO.	Lbs per MG	147.00	14.70	147.00	147.00	147.00	140.00	140.00
Blast Furnace Gas	BFG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Landfill Gas	LFG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Natural Gas	NG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Other Biomass Gas	OBG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Other Gases	OG	Source: 1 (including footnote 7 within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Other	OTH	Assumed to have emissions similar to Natural Gas.	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Propane Gas	PG	Sources: 1 (including footnote 7 within source); 2, Table 1.4-2 (including footnote d within source)	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Coal-Derived Synthesis Gas	SGC	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Synthesis Gas from Petroleum Coke	SGP	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	0.60	0.06	0.60	0.60	0.60	0.60	0.60
Agricultural Byproducts	AB	Source: 1	Lbs per ton	0.08	0.01	0.08	0.08	0.08	N/A	N/A
Bituminous Coal*	BIT	Source: 2, Table 1.1-3	Lbs per ton	38.00	3.80	38.00	38.00	38.00	N/A	N/A
Lignite Coal*	LIG	Source: 2, Table 1.7-1	Lbs per ton	30.00	3.00	30.00	30.00	30.00	N/A	N/A
Municipal Solid Waste	MSW	Source: 1	Lbs per ton	1.70	0.17	1.70	1.70	1.70	N/A	N/A
Other Biomass Solids	OBS	Source: 1 (including footnote 11 within source)	Lbs per ton	0.23	0.02	0.23	0.23	0.23	N/A	N/A
Petroleum Coke*	PC	Source: 1	Lbs per ton	39.00	3.90	39.00	39.00	39.00	N/A	N/A
Refined Coal*	RC	Assumed to have the emissions similar to Bituminous Coal.	Lbs per ton	38.00	3.80	38.00	38.00	38.00	N/A	N/A
Subbituminous Coal*	SUB	Source: 2, Table 1.1-3	Lbs per ton	35.00	3.50	35.00	35.00	35.00	N/A	N/A
Tire-Derived Fuel*	TDF	Source: 1 (including footnote 13 within source)	Lbs per ton	38.00	3.80	38.00	38.00	38.00	N/A	N/A
Waste Coal*	WC	Source: 1 (including footnote 20 within source)	Lbs per ton	30.00	3.00	30.00	30.00	30.00	N/A	N/A
Wood Waste Solids	WDS	Source: 1	Lbs per ton	0.29	0.08	0.08	0.29	0.29	N/A	N/A
Black Liquor	BLQ	Source: 1	Lbs per ton **	7.00	0.70	7.00	7.00	7.00	N/A	N/A
Sludge Waste	SLW	Source: 1 (including footnote 11 within source)	Lbs per ton **	2.80	0.28	2.80	2.80	2.80	N/A	N/A

Notes:

* For these fuels, emissions are estimated by multiplying the emissions factor by the physical volume of fuel and the sulfur percentage of the fuel (other fuels do not require the sulfur percentage in the calculation). Note that EIA data do not provide the sulfur content of TDF. The value used (1.56 percent) is from U.S. EPA, Control of Mercury Emissions from Coal-Fired Electric Utility Boilers, April 2002, EPA-600/R-01-109, Table A-11 (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											
Fuel	EIA Fuel Code	Source and Tables (As Appropriate)	Emissions Units Lbs = Pounds MMCF = Million Cubic Feet MG = Thousand Gallons	Tangential Boiler						All Other Boiler Types		Combustion Turbine	Internal Combustion Engine	
				Cyclone Firing Boiler	Fluidized Bed Firing Boiler	Stoker Boiler	Dry-Bottom Boilers	Wet-Bottom Boilers	Dry-Bottom Boilers	Wet-Bottom Boilers				
Distillate Fuel Oil	DFO	Source: 2, Tables 1.3-1, 3.1-1, & 3.4-1	Lbs per MG	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	122.00	443.80
Jet Fuel	JF	Source: 2, Tables 1.3-1, 3.1-1, & 3.4-1	Lbs per MG	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	118.80	432.00
Kerosene	KER	Source: 2, Tables 1.3-1, 3.1-1, & 3.4-1	Lbs per MG	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	118.80	432.00
Other Biomass Liquids	OBL	Source: 1 (including footnote 3 within source); EIA estimates	Lbs per MG	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	112.30	408.30
Residual Fuel Oil	RFO	Source: 2, Table 1.3-1; EIA estimates	Lbs per MG	47.00	47.00	47.00	32.00	32.00	47.00	47.00	47.00	47.00	131.70	479.00
Wood Waste Liquids	WDL	Source: 1 (including footnote 16 within source); EIA estimates	Lbs per MG	5.43	5.43	5.43	5.43	5.43	5.43	5.43	5.43	5.43	230.50	838.10
Waste Oil	WO	Source: 2, Table 1.11-2; EIA estimates	Lbs per MG	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	92.20	335.20
Blast Furnace Gas	BFG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	15.40	15.40	15.40	15.40	15.40	15.40	15.40	15.40	15.40	30.40	256.55
Landfill Gas	LFG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	72.44	72.44	72.44	72.44	72.44	72.44	72.44	72.44	72.44	144.00	1,215.22
Natural Gas	NG	Source: 2, Tables 1.4-1, 3.1-1, and 3.4-1	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	280.00	328.00	2,768.00
Other Biomass Gas	OBG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	112.83	112.83	112.83	112.83	112.83	112.83	112.83	112.83	112.83	313.60	2,646.48
Other Gases	OG	Sources: 1 (including footnote 7 within source); EIA estimates	Lbs per MMCF	152.82	152.82	152.82	152.82	152.82	152.82	152.82	152.82	152.82	263.82	2,226.41
Other	OTH	Assumed to have emissions similar to Natural Gas.	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	280.00	328.00	2,768.00
Propane Gas	PG	Sources: 3; EIA estimates	Lbs per MMCF	522.26	522.26	522.26	522.26	522.26	522.26	522.26	522.26	522.26	803.36	6,779.57
Synthesis Gas from Petroleum Coke	SGC	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	280.00	328.00	2,768.00
Coal-Derived Synthesis Gas	SGP	Assumed to have emissions similar to Natural Gas	Lbs per MMCF	280.00	280.00	280.00	170.00	170.00	280.00	280.00	280.00	280.00	328.00	2,768.00
Agricultural Byproducts	AB	Source: 1	Lbs per ton	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	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	31.00	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	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	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	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	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	31.00	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	24.00	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	31.00	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	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	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	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	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	93.17	
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	98.08	
Municipal Solid Waste	MSW	41.69	
Natural Gas	NG	52.91	
Petroleum Coke	PC	102.12	
Propane Gas	PG	62.88	
Refined Coal	RC	93.17	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	93.17	Assumed to have emissions similar to Bituminous Coal.
Waste Oil	WO	74.00	

Notes:

* Factors for synthesis gas derived from coal and synthesis gas derived from petroleum coke are based on the fuel source used to produce the synthesis gas.

** CO2 factors do not vary by combustion system type or boiler firing configuration.

Source: Energy Information Administration estimates:

http://www.eia.gov/environment/emissions/co2_vol_mass.cfm

Table A.4. Nitrogen Oxides Control Technology Emissions Reduction Factors

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

Nitrogen Oxides Control Technology	EIA Code	Source of Selected Reduction Factor							
		Coal	Residual Fuel Oil and Distillate Fuel Oil	Natural Gas	Wood	Other Solids	Other Liquids	Other 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 Reduction and Selective Noncatalytic Reduction

Source 7: Minimum of other technologies for fuel group

Source 8: Matches Other selection

Source 9: Assumed to have reduction similar to coal

Source 10: Assumed to have reduction similar to Residual Fuel Oil and Distillate Fuel Oil

Source 11: Assumed to have reduction similar to natural gas

Notes:

Coal reduction factors are applied to Bituminous Coal, Subbituminous Coal, Lignite Coal, and Waste Coal.

Wood reduction factors are applied to Wood Waste Solids, Black Liquor, and Wood Waste Liquids.

Other Solids reduction factors are applied to Petroleum Coke, Municipal Solid Waste, Tire-Derived Fuels, Sludge Waste, Agricultural Byproducts, and Other Biomass Solids.

Other Liquids reduction factors are applied to Jet Fuel, Kerosene, Waste Oil, and Other Biomass Liquids.

Other 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:

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

where $x(t_1)$ and $x(t_2)$ denote the quantity at period t_1 and subsequent period t_2 .

Data Sources for Electric Power Annual

Data published in the EPA are compiled from forms filed annually or aggregated to an annual basis from monthly forms (see figure on EIA Electric Industry Data Collection in Appendix A). The respondents to these forms include electric utilities, other generators and sellers of electricity, and North American Electric Reliability Corporation (NERC) reliability entities. The EIA forms used are:

- Form EIA-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:

<http://www.eia.gov/cneaf/electricity/page/forms.html>.

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;"

In addition to the above-named forms, the historical data published in the EPA are compiled from the following inactive forms:

- Form EIA-412, “Annual Electric Industry Financial Report,” FERC Form 423, “Cost and Quality of Fuels for Electric Plants,”
- Form EIA-423, “Monthly Cost and Quality of Fuels for Electric Plants Report;”
- Form EIA-759, “Monthly Power Plant Report,”
- Form EIA-767, “Steam-Electric Plant Operation and Design Report;”
- Form EIA-860A, “Annual Electric Generator Report–Utility,”
- Form EIA-860B, “Annual Electric Generator Report–Nonutility,”
- Form EIA-867, “Annual Nonutility Power Producer Report,”
- Form EIA-900, “Monthly Nonutility Power Report,”
- Form EIA-906, “Power Plant Report;” and
- Form EIA-920, “Combined Heat and Power Plant Report.”

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-412 (Terminated)

The Form EIA-412 was used annually to collect accounting, financial, and operating data from publicly owned electric utilities engaged in the generation, transmission, or distribution of electricity which had 150,000 megawatthours of sales to ultimate consumers and/or 150,000 megawatthours of sales for resale for the two previous years. Data was collected annually.

Beginning with the 2001 data collection, the plant statistics reported on Schedule 9 were also collected from unregulated entities that own plants with a nameplate capacity of 10 megawatts or greater. Beginning with the 2003 collection, the transmission data reported in Schedules 10 and 11 were collected from each generation and transmission cooperative owning transmission lines having a nominal voltage of 132 kilovolts or greater.

Instrument and Design History: The FPC created the FPC Form 1M in 1961 as a mandatory survey. It became the responsibility of the EIA in October 1977 when the FPC was merged with DOE and renamed the Federal Energy Regulatory Commission (FERC). In 1979, the FPC Form 1M was superseded by the Economic Regulatory Administration (ERA) Form ERA-412 and in January 1980 by the Form EIA-412.

The criteria used to select the respondents for this survey fit approximately 500 publicly owned electric utilities. Federal electric utilities were required to file the Form EIA-412. The financial data for the U.S. Army Corps of Engineers (except for Saint Mary's Falls at Sault Ste. Marie, Michigan); the U.S. Department of Interior, Bureau of Reclamation; and the U.S. International Boundary and Water Commission were collected on the Form EIA-412 from the Federal power marketing administrations. The form was terminated after the 2003 data year.

Issues within Historical Data Series: For 2001 - 2003, the California Department of Water Resources (CDWR) Electric Energy Fund data were included in the EIA-412 data tables. In response to the energy shortfall in California, in 2001 the California State legislature authorized the CDWR, using its undamaged borrowing capability, to enter the wholesale markets on behalf of the California retail customers effective on January 17, 2001 and for the period ending December 31, 2002. Their 2001 revenue collected was \$5,501,000,000 with purchased power costs of \$12,055,000,000. Their 2002 revenue collected was \$4,210,000,000 with purchased power costs of \$3,827,749,811. Their 2003 revenue collected was \$4,627,000,000 with purchased power costs of \$4,732,000,000. The California Public Utility Commission was required by statute to establish the procedures for retail revenue recovery mechanisms for their purchase power costs in the future.

Sensitive Data: The nonutility data collected on Schedule 9 “Electric Generating Plant Statistics” for “Cost of Plant” and “Production Expenses,” are considered business sensitive. .

Form EIA-423 (Replaced in 2008 by the Form EIA-923)

The Form EIA-423, “Monthly Cost and Quality of Fuels for Electric Plants Report,” collected the cost and quality of fossil fuels delivered to nonutility plants to produce electricity. These plants included independent power producers (including those facilities that formerly reported on the FERC Form 423) and commercial and industrial combined heat and power (CHP) producers whose total fossil-fueled nameplate generating capacity was 50 or more megawatts (MW). (CHP plants are sometimes referred to as co-generators. They produce heat, such as steam for use in a manufacturing process, along with electricity).

Instrument and Design History: The Form EIA-423² was implemented in January 2002 to collect monthly cost and quality data for fossil fuel receipts from owners or operators of nonutility electricity generating plants. It was terminated on January 1, 2008, and replaced by the Form EIA-923, “Power Plant Operations Report.”

Issues within Historical Data Series: Natural gas values do not include blast furnace gas or other gas.

Sensitive Data: Plant fuel cost data collected on the survey are considered business sensitive. State- and national-level aggregations are published if sufficient data are available to avoid disclosure of individual company and plant level costs.

FERC Form 423 (Replaced in 2008 by Form EIA-923)

The FERC Form 423, “Monthly Report of Cost and Quality of Fuels for Electric Plants,” was administered by FERC. The data were downloaded from the Commission’s website into an EIA database. The Form was filed by approximately 600 regulated plants. To meet the criteria for filing, a plant must have had a total steam turbine electric generating capacity and/or combined-cycle (gas turbine with associated steam turbine) generating capacity of 50 or more megawatts. Only fuel delivered for use in steam-turbine and combined-cycle units was reported. Fuel received for use in gas-turbine or internal-combustion units that was not associated with a combined-cycle operation was not reported. The FERC Form 423 was replaced after 2007 by the Form EIA-923.

Instrument and Design History: On July 7, 1972, the FPC issued Order Number 453 enacting the New Code of Federal Regulations, Section 141.61, creating the FPC Form 423. Originally, the form was used to collect data only on fossil steam plants, but was amended in 1974 to include data on internal-combustion and combustion-turbine units. When DOE was formed in 1977, most of FPC became FERC. The FERC Form 423 replaced the FPC Form 423 in January 1983. The FERC Form 423 dropped stand-alone combustion turbines. In addition, the generator nameplate capacity threshold was changed from 25 megawatts to 50 megawatts. This reduction in coverage eliminated approximately 50 utilities and 250 plants. All historical FPC Form 423 data in this publication were revised to reflect the new generator-nameplate-capacity threshold of 50 or more megawatts reported on the FERC Form 423. In January 1991, the collection of data on the FERC Form 423 was extended to include combined cycle units. Historical data have not been revised to include these units. On January 1, 2008, EIA assumed responsibility for collection of these data and both the utility and nonutility plants began to report their cost and quality of fuels information on Schedule 2 of Form EIA-923, "Power Plant Operations Report."

Issues within Historical Data Series: 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 survey. The data were quality reviewed by EIA and when possible quality issues were resolved with FERC.

Natural gas values for 2001 forward do not include blast furnace gas or other gas.

Due to the estimation procedure described below in the discussion of the Form EIA-923, 2003 and later data cannot be directly compared to previous years' data.

Sensitive Data: Data collected on FERC Form 423 are not business sensitive.

Form EIA-767 (Replaced by Forms EIA-860 and EIA-923)

The Form EIA-767 was used to collect data annually on plant operations and equipment design, including boiler, generator, cooling system, air pollution control equipment, and stack characteristics. Data were collected from a mandatory restricted-universe census of all electric power plants with a total existing or planned organic-fueled or combustible renewable steam-electric generator nameplate rating of 10 or more megawatts. The entire form was filed by approximately 800 power plants with a nameplate capacity of 100 or more megawatts. An additional 600 power plants with a nameplate capacity under 100 megawatts submitted information only on fuel consumption and quality, boiler and generator configuration, and nitrogen oxides, mercury, particulate matter, and sulfur dioxide controls.

Instrument and Design History: The Federal Energy Administration Act of 1974 (Public Law 93-275) defines the legislative authority to collect these data. The predecessor form, FPC-67, "Steam-Electric Plant Air and Water Quality Control Data," was used to collect data from 1969 to 1980, when the form number was changed to Form EIA-767. In 1982, the form was completely redesigned and re-titled Form EIA-767, "Steam-Electric Plant Operation and Design Report." In 1986, the respondent universe of 700 plants was increased to 900 plants to include plants with nameplate capacity from 10 megawatts to 100 megawatts. In 2002, the respondent universe was increased by almost 1,370 plants with the addition of nonutility plants.

Collection of data via the form was suspended for the 2006 data year. Starting with the collection of 2007 calendar year data, most of the Form EIA-767 information is now collected on either the revised Form EIA-860, "Annual Electric Generator Report" or the new Form EIA-923, "Power Plant Operations Report."

Estimation of EIA-767 Data: No estimation of Form EIA-767 data was performed. Normally the survey had no non-response.

Issues within Historical Data Series: As noted above, no data were collected for calendar year 2006.

Sensitive Data: Latitude and longitude data collected on the Form EIA-767 were considered business sensitive.

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 was 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
CE	Energy Storage, Compressed Air
CP	Energy Storage, Concentrated Solar Power
FW	Energy Storage, Flywheel
PS	Energy Storage, Reversible Hydraulic Turbine (Pumped Storage)
ES	Energy Storage, Other
ST	Steam Turbine, including nuclear, geothermal and solar steam (does not include combined cycle)
GT	Combustion (Gas) Turbine (including jet engine design)
IC	Internal Combustion Engine (diesel, piston, reciprocating)
CA	Combined Cycle Steam Part

CT	Combined Cycle Combustion Turbine Part
CS	Combined Cycle Single Shaft
CC	Combined Cycle Total Unit
HA	Hydrokinetic, Axial Flow Turbine
HB	Hydrokinetic, Wave Buoy
HK	Hydrokinetic, Other
HY	Hydroelectric Turbine (including turbines associated with delivery of water by pipeline)
BT	Turbines Used in a Binary Cycle (including those used for geothermal applications)
PV	Photovoltaic
WT	Wind Turbine, Onshore
WS	Wind Turbine, Offshore
FC	Fuel Cell
OT	Other

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
Coal	ANT	Anthracite Coal
	BIT	Bituminous Coal
	LIG	Lignite Coal
	SUB	Subbituminous Coal
	SGC	Coal-Derived Synthesis Gas
	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	Gaseous Propane
	RFO	Residual Fuel Oil (including No. 5, and No. 6 fuel oils, and bunker C fuel oil)
	SG	Synthesis Gas from Petroleum Coke
	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
Nuclear	NUC	Nuclear (including Uranium, Plutonium, and Thorium)
Hydroelectric Conventional	WAT (Prime Mover = HY)	Water at a Conventional Hydroelectric Turbine, and water used in Wave Buoy Hydrokinetic Technology, Current Hydrokinetic Technology, and Tidal Hydrokinetic Technology
	WAT (Prime Mover = PS)	Pumping Energy for Reversible (Pumped Storage) Hydroelectric Turbine
Wood and Wood-Derived Fuels	WDS	Wood/Wood Waste Solids (including paper pellets, railroad ties, utility poles, wood chips, bark, and wood waste solids)
	WDL	Wood Waste Liquids (excluding Black Liquor but including red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids)
	BLQ	Black Liquor
Other Biomass	AB	Agricultural By-Products
	MSW	Municipal Solid Waste
	OBG	Other Biomass Gas (including digester gas, methane, and other biomass gases)
	OBL	Other Biomass Liquids
	OBS	Other Biomass Solids
	LFG	Landfill Gas
	SLW	Sludge Waste
	SUN	Solar (including solar thermal)
Other Renewable Energy Sources	WND	Wind
	GEO	Geothermal
	PUR	Purchased Steam
Other Energy Sources	WH	Waste heat not directly attributed to a fuel source
	TDF	Tire-Derived Fuels
	MWH	Electricity used for energy storage
	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.

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, NYSEDA, 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 520 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 3,300 respondents, serves as a frame from which the Form 826 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.

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.

Forms EIA-906 and EIA-920 (Replaced in 2008 by Form EIA-923)

The Form EIA-906 was used to collect plant-level data on generation, fuel consumption, stocks, and fuel heat content, from electric utilities and nonutilities. Data were collected monthly from a model-based sample of approximately 1,700 utility and nonutility electric power plants. The form was also used to collect these statistics from another 2,667 plants (i.e., all other generators 1 MW or greater) on an annual basis. The form was ended after the 2007 data collection and replaced by the Form EIA-923.

Instrument and Design History: The Bureau of Census and the U.S. Geological Survey collected, compiled, and published data on the electric power industry prior to 1936. After 1936, the FPC assumed all data collection and publication responsibilities for the electric power industry and implemented the Form FPC-4. The Federal Power Act, Section 311 and 312, and FPC Order 141 defined the legislative authority to collect power production data. The Form EIA-759 replaced the Form FPC-4 in January 1982. In 1996, the Form EIA-900 was initiated to collect sales for resale data from unregulated entities. In 1998, the Form EIA-900 was modified to collect sales for resale, gross generation, and sales to end user data. In 1999, the form was modified to collect net generation, consumption, and ending stock data. In 2000, the form was modified to include data on the production of useful thermal output (typically process steam) by combined heat and power (CHP) plants.

In January 2001, Form EIA-906 superseded Forms EIA-759 and EIA-900. In January 2004, Form EIA-920 superseded Form EIA-906 for those plants defined as CHP plants; all other plants that generated electricity continued to report on Form EIA-906. The Federal Energy Administration Act of 1974 (Public Law 93 275) defines the legislative authority to collect these data. In January 2008, the Form EIA-923 superseded this form.

Issues within Historical Data Series: A relatively small number electric commercial- and industrial-only plants are, for the purposes of this report, included in the CHP data categories. The small number of electric utility plants that are CHP units are reported together with other utility plants. No information on the production of useful thermal output (UTO) or fuel consumption for UTO was collected or estimated for the electric utility CHP plants.

Sensitive Data: The only business sensitive data element collected on the Forms EIA-906 and EIA-920 was fuel stocks at the end of the reporting period.

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 2,150 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 7,800 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
<u>Prime Movers:</u>
Combined Cycle Steam - 0.97
Combined Cycle Single Shaft - 0.97
Combined Cycle Combustion Turbine - 0.97
Compressed Air - 0.97
Fuel Cell - 0.99
Gas Turbine - 0.98
Hydroelectric Turbine - 0.99
Hydroelectric Pumped Storage - 0.99
Internal Combustion Engine - 0.98
Other - 0.97
Photovoltaic - 0.99
Steam Turbine - 0.97
Wind Turbine - 0.99
<u>Environmental Equipment:</u>
Flue Gas Desulfurization - 0.97
Flue Gas Particulate 0.99
All Others - 0.97

For stocks, a linear combination of the prior month's ending stocks value and the current month's consumption and receipts values is used.

Receipts of Fossil Fuels: Receipts data, including cost and quality of fuels, are collected at the plant level from selected electric generating plants and fossil-fuel storage terminals in the United States. Power plants include independent power producers, electric utilities, and commercial and industrial CHP facilities with a total fossil-fueled nameplate capacity of 50 megawatts or more. 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:³ Municipal Solid Waste (MSW) consumption for generation of electric power is split into its biogenic and non-biogenic components beginning with 2001 data by the following methodology:

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 Environmental Protection Agency (EPA) publication, *Municipal Solid Waste in the United States: 2005 Facts and Figures*. The Btu contents of the components of MSW were obtained from various sources.

In 2011, the components of MSW as a percentage of the total were updated. The updated values were applied to final 2011 data and to preliminary 2012 and 2013 data. Although updated component percentages for 2006 through 2010 were available, historical EIA data series for consumption of MSW and net generation were not revised for 2005 to 2010. The tables below are the percentages applied to the EIA data for each year.

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 to non-biogenic components (see Table 1 and 2, below).⁴

These values are used to allocate consumption of municipal solid waste and net generation published in the Electric Power Monthly 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	2010	2011
Biogenic	57	56	55	55	56	56	56	56	56	56	51
Non-biogenic	43	44	45	45	44	44	44	44	44	44	49

Table 2. Tonnage consumption for biogenic and non-biogenic municipal solid waste (percent)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Biogenic	77	77	76	76	75	75	75	75	75	75	64
Non-biogenic	23	23	24	24	25	25	25	25	25	25	36

Useful Thermal Output (UTO): With the implementation of the Form EIA-923, “Power Plant Operations Report,” in 2008, combined heat and power (CHP) plants were required to report total fuel consumed and electric power generation. Beginning with preliminary January 2008 data, EIA estimated the allocation of the total fuel consumed at CHP plants between electric power generation and UTO.

The estimated allocation methodology is summarized in the following paragraphs. The methodology was retroactively applied to 2004-2007 data. Prior to 2004, UTO was collected on the Form EIA-906 and an estimated allocation of fuel for electricity was not necessary.

First, an efficiency factor is determined for each plant and prime mover type. Based on data for electric power generation and UTO collected in 2003 (on Form EIA-906, “Power Plant Report”), efficiency was calculated for each prime mover type at a plant. The efficiency factor is the total output in Btu, including electric power and UTO, divided by the total input in Btu. Electric power is converted to Btu at 3,412 Btu per kilowatthour.

Second, to calculate the amount of fuel for electric power, the gross generation in Btu is divided by the efficiency factor. The fuel for UTO is the difference between the total fuel reported and the fuel for electric power generation. UTO is calculated by multiplying the fuel for UTO by the efficiency factor.

In addition, if the total fuel reported is less than the estimated fuel for electric power generation, then the fuel for electric power generation is equal to the total fuel consumed, and the UTO will be zero.

Beginning with 2016 Form EIA-923 data, reported efficiency factors by survey respondents replaced the previously EIA estimated efficiency factors used in the fuel allocation process. For the processing of 2016 CHP data, EIA used for each plant an average of the efficiency factors reported by the CHP plants on the 2013, 2014, and 2015 Form EIA-923, "Power Plant Operations Report" surveys. An average was used to smooth out variations in any one year's data. Once efficiency of each plant was established, the value was input into the above methodology to allocate the consumption of fuel between electric power and UTO. This update applies to the 2016 data and going forward but was not retroactively applied to previous years.

Issues within Historical Data Series for Receipts and Cost and Quality of Fossil Fuels: Values for receipts of natural gas for 2001 forward do not include blast furnace gas or other gas.

Historical data collected on FERC Form 423 and published by EIA have been reviewed for consistency between volumes and prices and for their consistency over time. However, these data were collected by FERC for regulatory rather than statistical and publication purposes. EIA did not attempt to resolve any late filing issues in the FERC Form 423 data. In 2003, EIA introduced a procedure to estimate for late or non-responding entities that were required to report on the FERC Form 423. Due to the introduction of this procedure, 2003 and later data cannot be directly compared to previous years' data.

Prior to 2008, regulated plants reported receipts data on the FERC Form 423. These plants, along with unregulated plants, now report receipts data on Schedule 2 of Form EIA-923. Because FERC issued waivers to Form 423 filing requirements to some plants who met certain criteria, and because not all types of generators were required to report (only steam turbines and combined cycle units reported), a significant number of plants either did not submit fossil fuel receipts data or submitted only a portion of their fossil fuel receipts. Since Form EIA-923 does not have exemptions based on generator type, or reporting waivers, receipts data from 2008 and later cannot be directly compared to previous years' data for the regulated sector. Also beginning with January 2008 data, tables for total receipts included imputed quantities for plants with capacity one megawatt or more, to be consistent with other electric power data. Previous published receipts data were from plants at or over a 50 megawatt threshold, which was a legacy of their original collection as information for a regulatory agency, not as a survey to provide more meaningful estimates of totals for statistical purposes. Totals appeared to become smaller as more electric production came from unregulated plants, until the Form EIA-423 was created to help fill that gap. As a further improvement, estimation of all receipts for the universe normally depicted in the Electric Power Annual (i.e., one megawatt and above), with associated relative standard errors, provides a more complete assessment of the market.

Issues within Historical Data Series for Generation and Consumption: Beginning in 2008, a new method of allocating fuel consumption between electric power generation and UTO was implemented

(see above). This new methodology evenly distributes a CHP plant's losses between the two output products (electric power and UTO). In the historical data, UTO was consistently assumed to be 80 percent efficient and all other losses at the plant were allocated to electric power. This change causes the fuel for electric power to be lower while the fuel for UTO is higher as both are given the same efficiency. This results in the appearance of an increase in efficiency of production of electric power between periods.

Sensitive Data: The total delivered cost of fuel delivered to nonutilities, the commodity cost of fossil fuels, and fuel stocks are considered business sensitive.

Capacity Factors and Usage Factors

This section describes the methodology for calculating capacity factors and usage factors by fuel and technology type for operating electric power plants. Capacity factor is a measure (expressed as a percent) of how often an electric generator operates over a specific period 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:

$$\text{capacity factor} = \frac{\sum_{x,m} \text{net generation}_{x,m}}{\sum_{x,m} \text{capacity}_{x,m} * \text{hours in month}_m}$$

where x represents generators of that fuel/technology combination and m represents individual months. Net generation and capacity are specific to a generator, and the generator is categorized by its primary fuel type as reported on the EIA-860. All generation from that generator is included, regardless of other fuels consumed. Net generation and capacity for a generator is excluded from the summations during the month that the generator initially began operation and if applicable during the month that the generator retired. Therefore, these published capacity factors will differ from a simple calculation using annual generation and capacity totals from the appropriate tables in this publication.

Usage factors are calculated for energy storage technologies using gross generation instead of net generation:

$$\text{usage factor} = \frac{\sum_{x,m} \text{gross generation}_{x,m}}{\sum_{x,m} \text{capacity}_{x,m} * \text{hours in month}_m}$$

Air Emissions

This section describes the methodology for calculating estimated emissions of carbon dioxide (CO₂) from electric generating plants for 1989 through the present, as well as the estimated emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) from electric generating plants for 2001 through the present. For a description of the methodology used for other years, see the technical notes to the EPA 2003.

Methodology Overview: Initial estimates of uncontrolled SO₂ and NO_x emissions for all plants are made by applying an emissions factor to fuel consumption data collected by EIA on the Form EIA-923. An emission factor is the average quantity of a pollutant released from a power plant when a unit of fuel is burned, assuming no use of pollution control equipment. The basic relationship is:

$$\text{Emissions} = \text{Quantity of Fuel Consumed} \times \text{Emission Factor}$$

Quantity is defined in physical units (e.g., tons of solid fuels, million cubic feet of gaseous fuels, and thousands of barrels of liquid fuels) for determining NO_x and SO₂ emissions. As discussed below, physical quantities are converted to millions of Btus for calculating CO₂ emissions.

For some fuels, the calculation of SO₂ emissions requires including in the formula the sulfur content of the fuel measured in percentage of weight. Examples include coal and fuel oil. In these cases the formula is:

$$\text{Emissions} = \text{Quantity of Fuel Consumed} \times \text{Emission Factor} \times \text{Sulfur Content}$$

The fuels that require the percent sulfur as part of the emissions calculation are indicated in Table A.1., which lists the SO₂ emission factors used for this report.

In the case of SO₂ and NO_x emissions, the factor applied to a fuel can also vary with the combustion system: a steam-producing boiler, a combustion turbine, or an internal combustion engine. In the case of boilers, NO_x emissions can also vary with the firing configuration of a boiler and whether or not the boiler is a wet-bottom or dry-bottom design.⁵ These distinctions are shown in Tables A.1. and A.2.

For SO₂ and NO_x, the initial estimate of uncontrolled emissions is reduced to account for the plant's operational pollution control equipment, when data on control equipment are available from the historical Form EIA-767 survey (i.e., data for the years 2005 and earlier) and the EIA-860 and EIA-923 surveys for the years 2007 through 2010. A special case for removal of SO₂ is the fluidized bed boiler, in which the sulfur removal process is integral with the operation of the boiler. The SO₂ emission factors shown in Table A.1. for fluidized bed boilers already account for 90 percent removal of SO₂ since, in effect, the plant has no uncontrolled emissions of this pollutant.

Although SO₂ and NO_x emission estimates are made for all plants, in many cases the estimated emissions can be replaced with actual emissions data collected by the U.S. Environmental Protection Agency's (U.S. EPA's) Continuous Emissions Monitoring System (CEMS) program. (CEMS data for CO₂ are incomplete and are not used in this report.) The CEMS data account for the bulk of SO₂ and NO_x emissions from the electric power industry. For those plants for which CEMS data are available, the EIA estimates of SO₂ and NO_x emissions are employed for the limited purpose of allocating emissions by fuel, since the CEMS data itself do not provide a detailed breakdown of plant emissions by fuel. For plants for which CEMS data are unavailable, the EIA-computed values are used as the final emissions estimates.

There are 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 CO₂ values. This revision occurred due to a change in the accepted methodology regarding adjustments made for the percentage combustion of fuels.

The emissions estimation methodologies are described in more detail below.

CO₂ Emissions: CO₂ emissions are estimated using the information on fuel consumption in physical units and the heat content of fuel collected on the Form EIA-923 and predecessors. Heat content information is used to convert physical units to millions of Btu (MMBtu) consumed. To estimate CO₂ emissions, the fuel-specific emission factor from Table A.3. is multiplied by the fuel consumption in MMBtu.

The estimation procedure calculates uncontrolled CO₂ emissions. CO₂ control technologies are currently in the early stages of research and there are no commercial systems installed. Therefore, no estimates of controlled CO₂ emissions are made.

SO₂ and NO_x Emissions: To comply with environmental regulations controlling SO₂ emissions, many coal-fired generating plants have installed flue gas desulfurization (FGD) units. Similarly, NO_x control regulations require many fossil-fueled plants to install low-NO_x burners, selective catalytic reduction systems, or other technologies to reduce emissions. It is common for power plants to employ two or even three NO_x control technologies; accordingly, the NO_x emissions estimation approach accounts for the combined effect of the equipment (Table A.4.). However, control equipment information is available only for plants that reported on the Form EIA-923 and for historical data from the Form EIA-767. The Form EIA-860, EIA-923, and the historical EIA-767 surveys are limited to plants with boilers fired by combustible fuels⁶ with a minimum generating capacity of 10 megawatts (nameplate). Pollution control equipment data are unavailable from EIA sources for plants that did not report on the historical EIA-767 survey, or the Forms EIA-860 and EIA-923.

The following method is used to estimate SO₂ and NO_x emissions:

- For steam electric plants, uncontrolled emissions are estimated using the emission factors shown in Tables A.1. and A.2. as well as reported data on fuel consumption, sulfur content, and boiler firing configuration. Controlled emissions are then determined when pollution control equipment is present. Although information on control equipment was not collected in 2006, updates for new installations during this period were made based on EPA data. Beginning in 2007, these data were collected on the Forms EIA-860 and EIA-923. For SO₂, the reported efficiency of the plant's FGD units is used to convert uncontrolled to controlled emission estimates. For NO_x, the reduction percentages shown in Table A.4. are applied to the uncontrolled estimates.
- For plants and prime movers not reported on the historical Form EIA-767 survey or Forms EIA-860 and EIA-923, uncontrolled emissions are estimated using the Table A.1. and Table A.2. emission factors and the following data and assumptions:
 - Fuel consumption is taken from the Form EIA-923 and predecessors.
 - The sulfur content of the fuel is estimated from fuel receipts for the plant reported on the Form EIA-923. When plant-specific sulfur content data are unavailable, the national average sulfur content for the fuel, computed from the Form EIA-923 is applied to the plant.
 - As noted earlier, the emission factor for plants with boilers depends in part on the type of combustion system, including whether a boiler is wet-bottom or dry-bottom, and the boiler firing configuration. However, this boiler information is unavailable for steam electric plants that did not report on the historical Forms EIA-767 or EIA-860. For these cases, the plant is assumed to have a dry-bottom, non-cyclone boiler using a firing method that falls into the "All Other" category shown on Table A.1.⁷

For the plants that did not report on the historical Form EIA-767 or EIA-860, pollution control equipment data are unavailable and the uncontrolled estimates are not reduced.

- If actual emissions of SO₂ or NO_x are reported in the EPA's CEMS data, the EIA estimates are replaced with the CEMS values, using the EIA estimates to allocate the CEMS plant-level data by fuel. If CEMS data are unavailable, the EIA estimates are used as the final values.

Conversion Factors for Propane, Petroleum Coke, and Synthesis Gases.

The quantity conversion for petroleum coke is 5 barrels (of 42 U.S. gallons each) per short ton (2,000 pounds), propane is 1.53 thousand cubic feet per barrel, coal-derived synthesis gas is 98.06 thousand cubic feet per ton, and petroleum coke-derived synthesis gas is 107.31 thousand cubic feet per ton.

Relative Standard Error

The relative standard error (RSE) statistic, usually given as a percent, describes the magnitude of sampling error that might reasonably be incurred. The RSE is the square root of the estimated variance, divided by the variable of interest. The variable of interest may be the ratio of two variables, or a single variable.

The sampling error may be less than the non-sampling error. In fact, large RSE estimates found in preliminary work with these data have often indicated non-sampling errors, which were then identified and corrected. Non-sampling errors may be attributed to many sources, including response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding data obtained, and other errors of collection, response, or coverage. These non-sampling errors also occur in complete censuses.

Using the Central Limit Theorem, which applies to sums and means such as are applicable here, there is approximately a 68 percent chance that the true total or mean is within one RSE of the estimated total. Note that reported RSEs are always estimates, themselves, and are usually, as here, reported as percents. As an example, suppose that a net generation from coal value is estimated to be 1,507 total million kilowatthours with an estimated RSE of 4.9 percent. This means that, ignoring any non-sampling error, there is approximately a 68 percent chance that the true million kilowatthour value is within approximately 4.9 percent of 1,507 million kilowatthours (that is, between 1,433 and 1,581 million kilowatthours). Also under the Central Limit Theorem, there is approximately a 95 percent chance that the true mean or total is within 2 RSEs of the estimated mean or total.

Note that there are times when a model may not apply, such as in the case of a substantial reclassification of sales, when the relationship between the variable of interest and the regressor data does not hold. In such a case, the new information represents only itself, and such numbers are added to model results when estimating totals. Further, there are times when sample data may be known to be in error, or are not reported. Such cases are treated as if they were never part of the model-based sample, and values are imputed.

Business Classification

Nonutility power producers consist of entities that own or operate electric generating units but are not subject to direct economic regulation of rates, such as by state utility commissions. Nonutility power producers do not have a designated franchised service area. In addition to entities whose primary

business is the production and sale of electric power, entities with other primary business classifications can and do sell electric power. These can consist of, for example, manufacturing facilities and paper mills.

The EIA, in the Electric Power Annual and other data products, classifies nonutility power producers into the following categories:

- **Electric Utility (Sector 1):** All regulated plants with a primary purpose of selling electricity in the public markets (NAICS = 22).
- **Independent Power Producers (Sector 2):** All non-regulated plants with a primary purpose of electric power generation and a primary purpose of selling electricity in the public markets (NAICS = 22) with no ability to cogenerate heat and power.
- **Electric Power, Combined Heat and Power (Sector 3):** All non-regulated plants with a primary purpose of electric power generation and a primary purpose of selling electricity in the public markets (NAICS = 22) with the ability to cogenerate heat and power.
- **Commercial, Non-Combined Heat and Power (Sector 4):** All plants with a commercial primary purpose with no ability to cogenerate heat and power.
- **Commercial, Combined Heat and Power (Sector 5):** All plants with a commercial primary purpose with the ability to cogenerate heat and power.
- **Industrial, Non-Combined Heat and Power (Sector 6):** All plants with an industrial primary purpose with no ability to cogenerate heat and power.
- **Industrial, Combined Heat and Power (Sector 7):** All plants with an industrial primary purpose with the ability to cogenerate heat and power.

The following is a list of the North American Industry Classification System (NAICS) classifications used by EIA.

	Agriculture, Forestry, Fishing and Hunting
111	Crop Production
112	Animal Production
113	Forestry and Logging
114	Fishing, Hunting and Trapping
115	Support Activities for Agriculture and Forestry
	Mining, Quarrying, and Oil and Gas Extraction
211	Oil and Gas Extraction
2121	Coal Mining
2122	Metal Ore Mining
2123	Nonmetallic Mineral Mining and Quarrying
	Utilities
22	Electric Power Generation, Transmission and Distribution (other than 2212, 2213, 22131, 22132 or 22133)
2212	Natural Gas Distribution
22131	Water Supply and Irrigation Systems
22132	Sewage Treatment Facilities
22133	Steam and Air-Conditioning Supply

	Manufacturing
311	Food Manufacturing
312	Beverage and Tobacco Product Manufacturing
313	Textile Mills (Fiber, Yarn, Thread, Fabric, and Textiles)
314	Textile Product Mills
315	Apparel Manufacturing
316	Leather and Allied Product Manufacturing
321	Wood Product Manufacturing
322	Paper Manufacturing (other than 322122 or 32213)
322122	Newsprint Mills
32213	Paperboard Mills
323	Printing and Related Support Activities
324	Petroleum and Coal Products Manufacturing (other than 32411)
32411	Petroleum Refineries
325	Chemical Manufacturing (other than 32511, 32512, 325193, 325188, 3252 325211, 3253 or 325311)
32511	Petrochemical Manufacturing
32512	Industrial Gas Manufacturing
325193	Ethyl Alcohol Manufacturing (including Ethanol)
325188	Industrial Inorganic Chemicals
3252	Resin, Synthetic Rubber, and Artificial Synthetic Fibers and Filaments Manufacturing (other than 325211)
325211	Plastics Material and Resin Manufacturing
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing (other than 325311)
325311	Nitrogenous Fertilizer Manufacturing
326	Plastics and Rubber Products Manufacturing
327	Nonmetallic Mineral Product Manufacturing (other than 32731)
32731	Cement Manufacturing
331	Primary Metal Manufacturing (other than 331111 or 331312)
331111	Iron and Steel Mills
331312	Primary Aluminum Production
332	Fabricated Metal Product Manufacturing
333	Machinery Manufacturing
334	Computer and Electronic Product Manufacturing
335	Electrical Equipment, Appliance, and Component Manufacturing
336	Transportation Equipment Manufacturing
337	Furniture and Related Product Manufacturing
339	Miscellaneous Manufacturing
421	Wholesale Trade
441	Retail Trade
	Transportation and Warehousing
481	Air Transportation
482	Rail Transportation
483	Water Transportation
484	Truck Transportation
485	Transit and Ground Passenger Transportation
486	Pipeline Transportation
487	Scenic and Sightseeing Transportation
488	Support Activities for Transportation (other than 4881, 4882, 4883 or 4884)
4881	Support Activities for Air Transportation (including Airports)
4882	Support Activities for Rail Transportation (including Rail Stations)

4883	Support Activities for Water Transportation (including Marinas)
4884	Support Activities for Road Transportation
491	Postal Service
492	Couriers and Messengers
493	Warehousing and Storage
	Information
511	Publishing Industries (except Internet)
512	Motion Picture and Sound Recording Industries
515	Broadcasting (except Internet)
517	Telecommunications
518	Data Processing, Hosting, and Related Services
519	Other Information Services
521	Finance and Insurance
53	Real Estate and Rental and Leasing (including Convention Centers and Office Buildings)
541	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
	Administrative and Support and Waste Management and Remediation Services
561	Administrative and Support Services
562	Waste Management and Remediation Services (other than 562212 or 562213)
562212	Solid Waste Landfill
562213	Solid Waste Combustors and Incinerators
611	Educational Services
	Health Care and Social Assistance
621	Ambulatory Health Care Services
622	Hospitals
623	Nursing and Residential Care Facilities
624	Social Assistance
	Arts, Entertainment, and Recreation
711	Performing Arts, Spectator Sports, and Related Industries
712	Museums, Historical Sites, and Similar Institutions
713	Amusement, Gambling, and Recreation Industries
	Accommodation and Food Services
721	Accommodation
722	Food Services and Drinking Places
	Other Services (except Public Administration)
811	Repair and Maintenance
812	Personal and Laundry Services
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations
814	Private Households
	Public Administration (other than 921, 922, 92214 or 928)
92	Executive, Legislative, and Other General Government Services
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

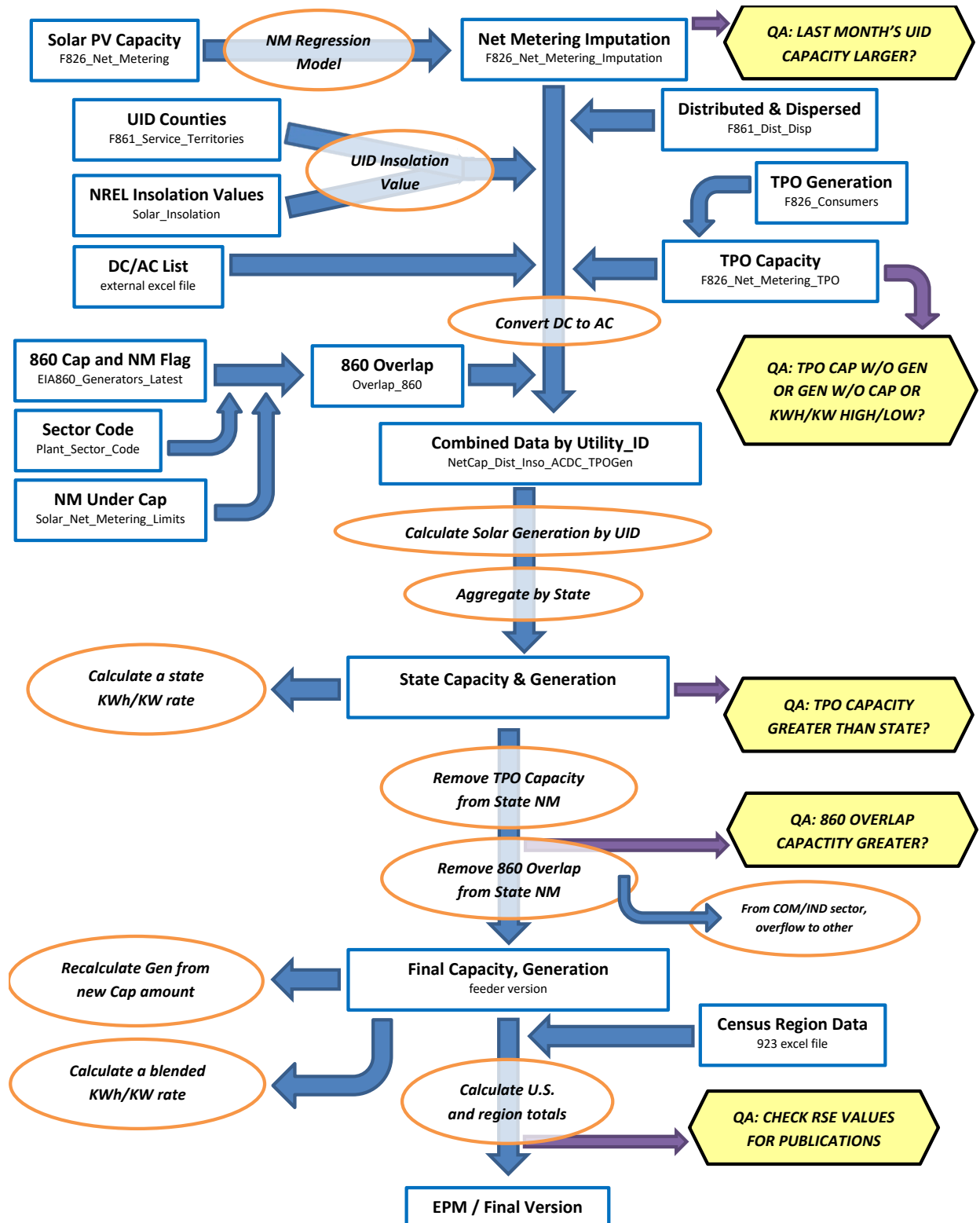
TMY3 (1991-2005) Weather Stations by MSA

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 Worcester Regional Airport	Worcester, MA-CT MSA
59	USA NM Albuquerque Intl Airport	Albuquerque, NM MSA
60	USA NE Omaha Eppley Airfield	Omaha-Council Bluffs, NE-IA MSA
61	USA NY Albany County Airport	Albany-Schenectady-Troy, NY MSA
62	USA CA Bakersfield Meadows Field	Bakersfield, CA MSA
63	USA CT New Haven Tweed Airport	New Haven-Milford, CT MSA
64	USA TN Knoxville McGhee Tyson Airport	Knoxville, TN MSA
65	USA SC Greenville Downtown Airport	Greenville-Anderson-Mauldin, SC MSA
66	USA CA Oxnard Airport	Oxnard-Thousand Oaks-Ventura, CA MSA
67	USA TX El Paso Int'l Airport	El Paso, TX MSA
68	USA PA Allentown Lehigh Valley Intl	Allentown-Bethlehem-Easton, PA-NJ MSA
69	USA LA Baton Rouge Ryan Airport	Baton Rouge, LA MSA
70	USA TX McCallen Miller Intl Airport	McAllen-Edinburg-Mission, TX MSA
71	USA OH Dayton Int'l Airport	Dayton, OH MSA
72	USA SC Columbia Metro Airport	Columbia, SC MSA
73	USA NC Greensboro Piedmont Triad Int'l Airport	Greensboro-High Point, NC MSA
74	USA FL Sarasota Bradenton	North Port-Sarasota-Bradenton, FL MSA
75	USA AR Little Rock Adams Field	Little Rock-North Little Rock-Conway, AR MSA
76	USA SC Charleston Intl Airport	Charleston-North Charleston, SC MSA
77	USA OH Akron Akron-canton Reg. Airport	Akron, OH MSA
78	USA CA Stockton Metropolitan Airport	Stockton-Lodi, CA MSA

79	USA CO Colorado Springs Muni Airport	Colorado Springs, CO MSA
80	USA NY Syracuse Hancock Int'l Airport	Syracuse, NY MSA
81	USA FL Fort Myers Page Field	Cape Coral-Fort Myers, FL MSA
82	USA NC Winston-Salem Reynolds Airport	Winston-Salem, NC MSA
83	USA ID Boise Air Terminal	Boise City, ID MSA
84	USA KS Wichita Mid-continent Airport	Wichita, KS MSA
85	USA WI Madison Dane Co Regional Airport	Madison, WI MSA
86	USA MA Worcester Regional Airport	Springfield, MA MSA
87	USA FL Lakeland Linder Regional Airport	Lakeland-Winter Haven, FL MSA
88	USA UT Ogden Hinkley Airport	Ogden-Clearfield, UT MSA
89	USA OH Toledo Express Airport	Toledo, OH MSA
90	USA FL Daytona Beach Intl Airport	Deltona-Daytona Beach-Ormond Beach, FL MSA
91	USA IA Des Moines Intl Airport	Des Moines-West Des Moines, IA MSA
92	USA GA Augusta Bush Field	Augusta-Richmond County, GA-SC MSA
93	USA MS Jackson Int'l Airport	Jackson, MS MSA
94	USA UT Provo Muni	Provo-Orem, UT MSA
95	USA PA Wilkes-Barre Scranton Intl Airport	Scranton-Wilkes-Barre-Hazleton, PA MSA
96	USA PA Harrisburg Capital City Airport	Harrisburg-Carlisle, PA MSA
97	USA OH Youngstown Regional Airport	Youngstown-Warren-Boardman, OH-PA MSA
98	USA FL Melbourne Regional Airport	Palm Bay-Melbourne-Titusville, FL MSA
99	USA TN Chattanooga Lovell Field Airport	Chattanooga, TN-GA MSA
100	USA WA Spokane Int'l Airport	Spokane-Spokane Valley, WA MSA

Appendix 2 – Flow diagram of data sources and analysis



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 Due to the restructuring of the electric power industry, many plants which had historically submitted this information for utility plants on the FERC Form 423 (see subsequent section) were being transferred to the nonutility sector. As a result, a large percentage of fossil fuel receipts were no longer being reported. The Form EIA-423 was implemented to fill this void and to capture the data associated with existing nonregulated power producers. Its design closely follows that of the FERC Form 423.

³ 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

⁴ 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.

⁵ 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.

⁶ 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.

⁷ 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.