

Table 7.8c Capacity Factors and Usage Factors at Electric Generators: Commercial Sector
(Percent)

	Capacity Factors ^a											Usage Factors ^b		
	Coal ^{c,d}	Petro- leum ^{c,e}	Natural Gas ^f			Nuclear Electric Power	Conven- tional Hydro- electric Power	Bio- mass ^{c,g}	Geo- thermal	Solar		Wind ⁱ	Hydro- electric Pumped Storage	Battery Storage
			Com- bined Cycle	Gas Turbine	Steam Turbine					Photo- voltaic ^h	Thermal			
2008 Average	36.5	3.6	52.2	43.9	36.8	—	31.6	56.2	—	9.9	—	—	—	—
2009 Average	28.1	3.6	53.6	43.1	33.6	—	38.0	57.3	—	4.8	—	2.0	—	—
2010 Average	34.5	3.2	54.6	53.8	32.2	—	42.7	55.7	—	11.1	—	17.6	—	—
2011 Average	32.1	2.3	50.9	58.8	33.4	—	17.0	60.1	—	18.7	—	24.2	—	—
2012 Average	31.8	1.9	54.5	52.2	26.7	—	17.0	60.0	—	19.5	—	21.1	—	—
2013 Average	31.7	1.9	52.8	51.9	33.7	—	28.2	60.3	—	20.6	—	22.4	—	—
2014 Average	30.2	2.4	48.6	55.1	31.5	—	20.5	57.4	—	19.9	—	25.5	—	—
2015 Average	35.0	2.6	51.7	53.2	28.6	—	18.6	56.0	—	18.7	—	24.4	—	—
2016 Average	29.4	1.5	53.3	49.7	32.1	—	33.3	52.5	—	20.5	—	26.3	—	4.8
2017 Average	29.8	1.3	53.4	54.0	29.5	—	36.5	52.2	—	19.5	—	26.8	—	5.4
2018 Average	31.4	.7	51.5	56.2	32.0	—	34.7	50.1	—	18.7	—	27.5	—	5.2
2019 Average	30.2	.7	51.0	52.6	35.1	—	28.7	52.3	—	18.2	—	27.8	—	1.0
2020 Average	27.4	.4	43.3	50.1	32.2	—	32.8	52.0	—	17.4	—	28.3	—	4.4
2021 Average	30.8	.4	40.7	54.2	25.5	—	34.1	49.3	—	17.0	—	28.3	—	.7
2022 Average	29.7	.6	44.6	55.1	24.5	—	34.7	60.8	—	17.4	—	28.1	—	1.1
2023 Average	38.7	.3	46.1	54.3	22.7	—	38.2	57.3	—	15.8	—	21.4	—	.8
2024 January	44.9	.6	45.0	53.9	25.6	—	46.1	61.2	—	7.2	—	19.6	—	3.5
February	43.3	.3	46.2	49.9	24.7	—	46.6	57.1	—	11.3	—	21.4	—	3.3
March	43.1	.4	42.7	44.7	24.2	—	47.8	53.7	—	15.2	—	26.5	—	3.3
April	38.5	.3	42.0	42.3	21.3	—	48.2	55.0	—	18.4	—	32.8	—	4.2
May	19.2	.2	42.5	41.4	18.6	—	48.8	59.5	—	20.3	—	25.1	—	4.4
June	28.2	.2	51.3	49.2	20.6	—	36.9	58.9	—	21.5	—	23.5	—	5.1
July	32.8	.2	54.8	59.7	23.5	—	36.9	59.7	—	19.8	—	16.2	—	5.5
August	40.3	.2	54.3	55.0	23.2	—	35.9	60.3	—	19.0	—	16.1	—	4.5
September	37.9	.2	51.5	46.2	22.3	—	31.3	58.1	—	15.6	—	17.8	—	4.7
October	35.7	.2	42.5	44.2	18.8	—	34.6	57.0	—	14.3	—	18.1	—	5.5
November	42.2	.3	42.0	46.5	23.6	—	38.5	58.4	—	9.8	—	21.1	—	4.1
December	42.5	.8	41.5	46.9	25.9	—	41.7	58.5	—	7.6	—	25.2	—	3.2
Average	37.4	.3	46.3	48.4	22.7	—	41.1	58.1	—	15.0	—	21.9	—	4.3
2025 January	40.4	.4	45.1	50.1	29.1	—	49.1	57.4	—	11.5	—	26.9	—	.4
February	38.3	.3	40.9	50.1	27.3	—	44.5	61.2	—	13.1	—	23.7	—	.3
March	30.3	.3	40.3	47.4	22.5	—	42.6	57.3	—	18.1	—	26.6	—	.2
April	34.1	.3	38.0	39.5	18.8	—	54.5	56.2	—	20.6	—	25.5	—	—
May	42.5	.3	35.7	40.3	18.7	—	50.9	52.5	—	20.8	—	20.0	—	—
June	23.6	.5	49.3	49.1	22.6	—	48.2	57.5	—	23.6	—	16.9	—	.2
July	39.0	.7	51.9	54.3	28.9	—	41.4	57.8	—	23.7	—	14.8	—	.3
August	33.8	.3	51.9	52.6	25.6	—	45.6	59.3	—	22.6	—	15.9	—	—
September	41.0	.3	51.0	49.0	23.6	—	31.6	55.9	—	20.7	—	16.1	—	—
October	40.7	.6	48.4	42.3	25.4	—	34.9	59.0	—	16.9	—	28.7	—	—
November	40.0	.3	46.5	51.2	25.2	—	42.9	59.3	—	14.4	—	29.3	—	—
December	36.6	.3	45.5	50.9	26.2	—	54.2	58.7	—	10.1	—	32.3	—	—
Average	36.7	.4	45.4	48.1	24.5	—	45.1	57.7	—	18.0	—	23.1	—	.1
2026 January	30.7	.5	47.6	52.9	30.1	—	67.6	53.8	—	11.7	—	31.2	—	—
February	25.5	.4	47.4	50.4	32.2	—	57.2	49.2	—	15.0	—	27.8	—	—
March	21.0	.4	46.2	49.1	24.8	—	59.0	52.4	—	18.7	—	34.1	—	—
April	21.8	.3	41.5	43.1	21.8	—	55.9	46.3	—	21.7	—	32.7	—	—
May	22.5	.3	41.7	42.6	21.5	—	55.7	49.3	—	22.9	—	25.3	—	—

^a Capacity factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (net generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^b Usage factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (gross generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^c Steam turbine, gas turbine, internal combustion engine, combined-cycle, and other plants.

^d Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^e Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^f Natural gas, plus a small amount of supplemental gaseous fuels. Capacity factors for natural gas internal combustion engine, energy storage, fuel cell, and other plants are not displayed.

^g Wood and wood-derived fuels, municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic

sources, and tire-derived fuels).

^h Solar photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic generators.

ⁱ Onshore wind plants, and, beginning in 2017, offshore wind plants.

— = No data reported.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • Monthly factors are based on a time-adjusted total net summer capacity of generators in operation for the entire month. Annual factors are based on a time-weighted average of the monthly time-adjusted capacity. • For plants that use multiple energy sources or technologies, capacity is assigned to the reported combination of predominant energy source and technology. • See EIA's *Electric Power Annual*, "Technical notes," for further information. • See "Capacity factor" in Glossary. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 2008.

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