

Table 7.8d Capacity Factors and Usage Factors at Electric Generators: Industrial 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	51.8	32.6	55.2	53.1	45.2	—	54.9	63.1	—	—	—	—	—	—
2009 Average	46.6	33.4	52.9	54.3	46.9	—	61.6	61.7	—	—	—	—	—	—
2010 Average	54.3	33.9	62.4	69.6	54.3	—	55.9	62.2	—	19.3	—	—	—	—
2011 Average	50.6	29.5	61.1	69.7	56.8	—	61.0	60.2	—	30.3	—	11.6	—	—
2012 Average	48.8	38.2	64.5	71.0	57.0	—	43.4	60.9	—	25.2	—	15.3	—	—
2013 Average	49.8	30.0	70.7	75.1	50.2	—	61.1	60.7	—	25.6	—	25.6	—	—
2014 Average	49.9	27.5	67.5	71.0	48.8	—	52.4	60.9	—	24.3	—	26.4	—	—
2015 Average	48.2	28.1	66.1	72.7	41.2	—	57.6	62.2	—	20.6	—	25.1	—	—
2016 Average	46.3	25.2	69.7	73.0	40.3	—	51.4	61.7	—	16.7	—	25.3	—	—
2017 Average	46.7	24.4	68.9	74.9	37.7	—	55.9	62.7	—	14.8	—	27.0	—	.9
2018 Average	45.6	26.2	71.8	75.3	40.8	—	62.8	63.6	—	12.1	—	25.8	—	.8
2019 Average	41.6	26.3	73.4	75.9	44.2	—	55.0	62.2	—	17.2	—	25.3	—	15.3
2020 Average	41.9	23.2	67.0	74.5	44.0	—	53.2	61.2	—	16.3	—	39.7	—	2.4
2021 Average	42.0	19.6	63.8	74.1	45.1	—	49.9	62.1	—	16.3	—	23.2	—	.4
2022 Average	42.0	26.3	67.0	73.2	41.7	—	49.1	59.0	—	19.9	—	26.2	—	2.6
2023 Average	37.4	14.8	65.9	74.3	44.0	—	46.3	55.6	—	20.7	—	22.7	—	4.1
2024 January	37.3	17.6	71.2	78.8	50.3	—	58.9	62.0	—	11.4	—	23.7	—	.9
February	37.5	19.1	69.4	70.3	49.8	—	64.1	61.9	—	16.8	—	12.3	—	1.0
March	37.7	17.9	63.1	65.8	50.6	—	59.6	60.1	—	20.8	—	15.2	—	1.1
April	31.8	16.2	64.4	68.9	47.0	—	61.7	59.2	—	25.5	—	18.1	—	.9
May	36.1	15.0	60.9	71.0	46.7	—	57.1	59.0	—	29.5	—	16.9	—	.8
June	38.4	16.0	61.2	74.2	51.0	—	40.4	58.8	—	30.4	—	17.9	—	.7
July	39.2	18.6	64.8	80.2	48.2	—	32.4	60.2	—	28.3	—	12.5	—	.7
August	38.0	14.5	71.9	80.8	47.1	—	34.0	60.2	—	27.2	—	12.3	—	.2
September	36.7	13.8	65.1	76.4	42.5	—	25.0	57.7	—	24.3	—	15.8	—	.9
October	36.2	14.8	56.2	68.3	38.0	—	41.5	54.7	—	19.9	—	21.1	—	.7
November	38.7	15.1	62.6	71.1	38.5	—	35.1	62.1	—	14.5	—	27.8	—	.7
December	41.4	16.4	67.6	78.0	46.9	—	42.2	62.0	—	11.1	—	30.2	—	.5
Average	37.4	16.2	64.9	73.7	46.4	—	46.0	59.8	—	21.6	—	19.1	—	.8
2025 January	40.6	21.8	71.7	82.7	46.7	—	44.8	60.7	—	15.6	—	26.4	—	—
February	40.0	13.9	67.9	77.4	47.1	—	46.7	61.7	—	18.0	—	25.6	—	—
March	38.6	19.4	67.8	73.6	46.2	—	51.1	59.1	—	22.6	—	31.7	—	—
April	34.9	16.5	66.0	68.5	46.5	—	47.5	56.6	—	26.8	—	28.6	—	—
May	33.3	17.8	66.7	66.8	43.2	—	52.0	57.6	—	28.2	—	23.9	—	—
June	40.9	20.2	67.9	70.7	46.1	—	48.5	58.6	—	31.0	—	24.7	—	—
July	41.0	13.5	68.7	75.1	49.6	—	45.4	61.0	—	31.9	—	20.4	—	—
August	39.3	22.3	69.8	76.5	46.0	—	42.4	59.9	—	29.8	—	17.4	—	—
September	36.6	16.5	68.3	76.5	45.1	—	37.6	59.2	—	26.9	—	15.4	—	—
October	36.7	17.4	65.9	72.1	43.1	—	36.9	57.0	—	23.4	—	22.1	—	—
November	36.0	17.0	72.7	73.9	45.3	—	40.2	59.2	—	18.3	—	26.5	—	—
December	34.8	14.1	73.4	76.4	46.1	—	41.5	59.3	—	14.0	—	29.9	—	—
Average	37.7	17.6	68.9	74.2	45.9	—	44.5	59.1	—	23.5	—	24.4	—	—
2026 January	37.4	19.5	72.4	74.2	45.9	—	48.9	61.6	—	16.8	—	27.1	—	—
February	37.9	19.9	68.6	72.3	42.6	—	42.8	59.0	—	20.4	—	25.3	—	7.4
March	35.6	15.2	64.6	69.3	40.7	—	53.7	55.7	—	24.0	—	33.2	—	5.7
April	31.7	20.1	65.8	68.8	42.5	—	45.9	52.4	—	24.3	—	31.1	—	7.3
May	32.8	20.9	66.9	67.4	40.0	—	46.3	55.4	—	26.1	—	25.0	—	6.4

^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."