

**Table 7.8d Capacity Factors and Usage Factors at Electric Generators: Industrial Sector**  
(Percent)

	Capacity Factors <sup>a</sup>											Usage Factors <sup>b</sup>		
	Coal <sup>c,d</sup>	Petro- leum <sup>c,e</sup>	Natural Gas <sup>f</sup>			Nuclear Electric Power	Conven- tional Hydro- electric Power	Bio- mass <sup>c,g</sup>	Geo- thermal	Solar		Wind <sup>i</sup>	Hydro- electric Pumped Storage	Battery Storage
			Com- bined Cycle	Gas Turbine	Steam Turbine					Photo- voltaic <sup>h</sup>	Thermal			
2008 Year .....	51.8	32.6	55.2	53.1	45.2	—	54.9	63.1	—	—	—	—	—	—
2009 Year .....	46.6	33.4	52.9	54.3	46.9	—	61.6	61.7	—	—	—	—	—	—
2010 Year .....	54.3	33.9	62.4	69.6	54.3	—	55.9	62.2	—	19.3	—	—	—	—
2011 Year .....	50.6	29.5	61.1	69.7	56.8	—	61.0	60.2	—	30.3	—	11.6	—	—
2012 Year .....	48.8	38.2	64.5	71.0	57.0	—	43.4	60.9	—	25.2	—	25.6	—	—
2013 Year .....	49.8	30.0	70.7	75.1	50.2	—	61.1	60.7	—	25.6	—	25.6	—	—
2014 Year .....	49.9	27.5	67.5	71.0	48.8	—	52.4	60.9	—	24.3	—	26.4	—	—
2015 Year .....	48.2	28.1	66.1	72.7	41.2	—	57.6	62.2	—	20.6	—	25.1	—	—
2016 Year .....	46.3	25.2	69.7	73.0	40.3	—	51.4	61.7	—	16.7	—	25.3	—	—
2017 Year .....	46.7	24.4	68.9	74.9	37.7	—	55.9	62.7	—	14.8	—	27.0	—	.9
2018 Year .....	45.6	26.2	71.8	75.3	40.8	—	62.8	63.6	—	12.1	—	25.8	—	.8
2019 Year .....	41.6	26.3	73.4	75.9	44.2	—	55.0	62.2	—	17.2	—	25.3	—	15.3
2020 Year .....	41.9	23.2	67.0	74.5	44.0	—	53.2	61.2	—	16.3	—	39.7	—	2.4
2021 Year .....	42.0	19.6	63.8	74.1	45.1	—	49.9	62.1	—	16.3	—	23.2	—	(s)
2022 January .....	42.5	26.9	72.7	74.0	45.7	—	49.3	63.0	—	12.8	—	29.6	—	2.9
February .....	42.5	30.4	66.5	74.3	39.2	—	59.0	63.2	—	16.8	—	36.4	—	2.8
March .....	42.4	21.8	65.2	68.5	41.4	—	71.2	60.0	—	19.7	—	34.7	—	2.5
April .....	38.6	26.0	61.9	65.4	43.8	—	68.1	58.7	—	22.8	—	33.8	—	3.1
May .....	44.0	28.3	62.6	70.2	41.3	—	54.4	57.7	—	25.5	—	27.9	—	3.0
June .....	45.2	26.6	64.2	77.1	43.2	—	42.1	59.6	—	27.1	—	20.3	—	2.5
July .....	44.8	25.2	68.2	81.8	43.8	—	33.9	60.4	—	26.0	—	17.3	—	2.3
August .....	44.4	26.4	69.0	82.4	44.2	—	39.1	58.8	—	24.0	—	12.3	—	2.3
September .....	40.6	25.3	64.3	75.5	39.7	—	40.2	56.2	—	21.4	—	15.3	—	2.4
October .....	38.4	25.5	67.6	68.0	38.3	—	33.1	52.7	—	19.0	—	26.8	—	2.4
November .....	38.3	28.7	72.5	70.4	41.9	—	41.1	58.4	—	14.3	—	33.3	—	2.4
December .....	41.8	24.7	69.1	70.5	37.4	—	58.9	59.0	—	9.9	—	27.9	—	2.4
Average .....	42.0	26.3	67.0	73.2	41.7	—	49.1	59.0	—	19.9	—	26.2	—	2.6
2023 January .....	41.0	18.7	67.1	69.9	37.6	—	55.0	58.9	—	12.1	—	25.3	—	—
February .....	38.8	16.9	67.6	72.5	40.7	—	61.6	57.6	—	15.8	—	35.1	—	—
March .....	34.9	18.1	64.6	69.9	45.5	—	66.7	56.1	—	18.9	—	31.2	—	—
April .....	35.6	13.4	54.6	63.6	41.8	—	58.1	52.8	—	26.8	—	27.3	—	—
May .....	36.9	14.1	58.9	71.9	41.8	—	54.4	54.8	—	26.6	—	20.8	—	—
June .....	40.0	13.4	67.1	79.2	45.3	—	45.6	53.5	—	27.7	—	17.4	—	—
July .....	39.5	15.2	68.8	80.5	46.3	—	44.2	52.8	—	28.2	—	11.2	—	—
August .....	37.5	15.1	68.3	83.6	45.1	—	36.4	55.7	—	25.6	—	15.3	—	—
September .....	37.6	13.1	69.0	79.8	46.6	—	30.8	54.2	—	22.9	—	11.7	—	—
October .....	34.9	12.8	65.7	70.9	43.7	—	26.0	51.8	—	18.4	—	23.2	—	—
November .....	35.0	13.8	68.8	74.2	47.9	—	30.1	58.0	—	15.2	—	30.2	—	—
December .....	37.1	13.5	70.9	75.2	45.2	—	46.9	60.8	—	11.6	—	24.8	—	—
Average .....	37.4	14.8	65.9	74.3	44.0	—	46.3	55.6	—	20.7	—	22.7	—	—
2024 January .....	37.2	16.4	71.0	80.7	50.4	—	55.6	60.7	—	13.1	—	23.7	—	—
February .....	37.5	15.2	68.4	74.6	47.1	—	54.3	59.2	—	17.8	—	28.7	—	—
March .....	38.3	13.8	61.8	68.5	45.6	—	53.6	58.0	—	20.7	—	31.9	—	—
April .....	31.9	14.5	64.4	71.6	44.6	—	48.7	58.9	—	25.2	—	31.9	—	—
May .....	35.7	13.0	60.5	71.7	46.1	—	51.6	58.5	—	27.7	—	24.4	—	—
June .....	39.0	15.6	59.6	71.3	50.0	—	50.4	57.2	—	30.2	—	24.6	—	—
July .....	39.6	16.7	64.3	75.7	50.9	—	42.5	58.0	—	28.6	—	16.5	—	—
August .....	38.5	13.7	71.1	76.2	52.2	—	48.7	59.3	—	28.0	—	17.3	—	—
September .....	36.5	13.8	65.4	74.2	48.9	—	42.7	56.9	—	24.0	—	19.2	—	—
October .....	32.9	14.6	56.1	66.9	45.5	—	39.0	52.2	—	21.8	—	25.4	—	—

<sup>a</sup> 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).

<sup>b</sup> 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).

<sup>c</sup> Steam turbine, gas turbine, internal combustion engine, combined-cycle, and other plants.

<sup>d</sup> Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal syrefuel.

<sup>e</sup> Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

<sup>f</sup> 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.

<sup>g</sup> 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).

<sup>h</sup> Solar photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic generators.

<sup>i</sup> Onshore wind plants, and, beginning in 2017, offshore wind plants.

—=No data reported. (s)=Less than 0.5 percent.

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."