

0014-118 AB111

15/ENR/201512

Chemical Engineering

There are currently two main types of power plant operating in Nigeria: (1) hydro electric and (2) thermal or fossil fuel power plants. With a total installed capacity of 6453.6 MW (81 percent of total) in early 2014, thermal power plant (gas-fired plants) dominates the Nigerian power supply mix.

Hydro electric

Kainji power station, Kainji, Niger state produces a capacity of 500 MW

Jebba power station, Jebba, Niger state produces a capacity of 540 MW

Shiroro power station, Shiroro, Niger state produces a capacity of 600 MW

Zamfara power station, Zamfara state produces a capacity of 100 MW

coal

Hobe power plant, Ifo, Kogi state produces a capacity of 1200 MW
Completed first phase of 600 MW (2015-2018)

Therefore, power plants using coal produces a capacity of 1200 Mega watts while power plant using hydro electric produces a capacity ranging from 100 - 600 mega watts (Nigeria)

As of December 2013, total installed or name plate capacity (maximum capacity) of the power plant was 6953 megawatts. Available capacity was 4598 megawatts. Actual average generation was 3800 megawatts.

As of December 2014, total installed capacity of the power plants was 7445 megawatts. Available capacity was 4949 megawatts. Actual average generation was less than 3900 megawatts.

In 2019, about 4118 billion kilo watt hours (kWh) or about 4.12 trillion kWh of electricity were generated at utility-scale electricity generation facilities in the United States. About 63% of this electricity generation was from fossil fuels - coal, natural gas, petroleum and other gases. About 20% was from nuclear energy and about 18% was from renewable energy source. The United States Energy Information Administration estimates that an additional 35 billion kWh of electricity generation was from small-scale

Solar photovoltaic system in 2019

As Utility-scale electricity generation by source, amount and share of total in 2019

Energy Source	Amount Billion (kwh)	Share (%)
Total all sources	4118	
Fossil fuels (total)	2580	62.7%
Natural Gas	1562	38.0%
coal	966	23.5%
Petroleum (total)	19	0.5%
Petroleum Liquids	12	0.3%
Petroleum coke	7	0.2%
Other gases	14	0.3%
Nuclear	809	19.7%
Renewables (total)	720	17.5%
Hydropower	274	6.6%
Wind	300	7.3%
Biomass (total)	58	1.4%
Wood	40	1.0%
Landfill gas	10	0.2%
Municipal solid waste (biogenic)	6	0.1%
Other biomass waste	2	0.1%
Solar	72	1.8%
Photovoltaic	69	1.7%
Solar thermal	3	0.1%
Geothermal	16	0.4%
Pumped storage hydropower	-5	-0.1%
Other sources	12	0.3%

This, also shows that ~~usage~~ ^{the} use of fossil fuels to generate energy is greater (2580 billion kwh) than any other form of generating energy (United States).