
COAL FACTS

This paper includes information related to the nation's coal fleet. Most of the data are taken from independent sources, in particular, the Energy Information Administration (EIA). The paper relies on the most current information available as of August 2018.

ELECTRICITY SOURCES

- ✓ Coal was responsible for 30.1% of electricity generated in the U.S. during 2017. Natural gas was responsible for 31.7%, nuclear power 20%, and renewable energy (including hydroelectric power) 17.1%. Non-hydroelectric renewables (wind, solar, geothermal and biomass) were responsible for 9.7%.¹
- ✓ Coal is projected to provide 28.5% of U.S. electricity in 2018 and 27.3% in 2019. Natural gas is projected to generate 34% of U.S. electricity in 2018 and 34.7% in 2019.²
- ✓ In 2030, coal is projected to provide 29% of U.S. electricity generation, with natural gas providing 31%.³

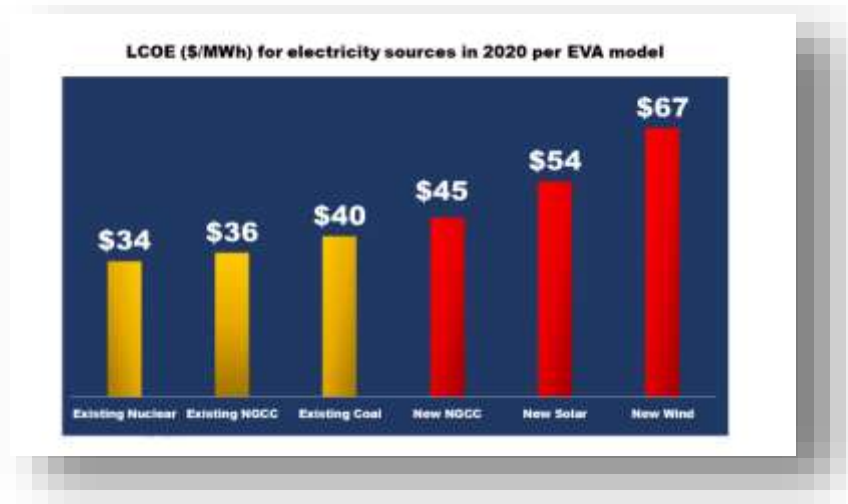
COAL FLEET

- ✓ At the end of 2016, there were 381 coal-fired power plants in the U.S.⁴ As of August 2018, there were 798 individual coal-fired electric generating units (EGUs) representing approximately 249,000 megawatts (MW) of generating capacity.⁵ There were 317,000 MW of coal-fired electric generating capacity in 2010.⁶
- ✓ About two-thirds of the coal fleet's generating capacity is located in RTO/ISO regions. The regions with the largest amounts of coal capacity are MISO (63,000 MW), PJM (57,400 MW), SPP (26,400 MW), and ERCOT (15,500 MW).⁷
- ✓ The average capacity factor of the U.S. coal fleet was 53.5% in 2017, compared to 68% in 2010.⁸
- ✓ As of May 2018, the average coal plant burning subbituminous coal had a stockpile that represented 78 days of burn; plants burning bituminous coal had a stockpile representing 75 days of burn. Over the last five years, the average subbituminous coal plant had a stockpile of 75 days of burn; the average bituminous plant had a stockpile of 81 days of burn.⁹
- ✓ Since 2010, owners of coal-fired EGUs have announced that 115,000 MW of coal-fired generating capacity have retired, will be retiring, or will be converting to other fuels. Nearly two-thirds of these shutdowns had occurred by the end of 2017. Ohio, Indiana, Pennsylvania, Texas, Illinois, Alabama, Florida, Michigan, North Carolina and Kentucky have the most retiring coal-fired generating capacity.¹⁰
- ✓ The average age at the time of retirement for the coal units that have retired through July 2018 was 54 years, and the average size of these units was 159

MW. The average age of the remaining coal fleet is 42 years, and the average size is 384 MW.¹¹

LOWER COST

- ✓ On average, the levelized cost of electricity for an existing coal-fired power plant is less than new natural gas combined cycle, wind or solar capacity. The chart below compares levelized costs in 2020.¹²



LOWER EMISSIONS

- ✓ Emissions per kWh of sulfur dioxide (SO₂), nitrogen oxides (NO_x) and particulate matter (PM) from coal-fired power plants have been reduced by 93% over the period 1970-2017.¹³
- ✓ Approximately \$122 billion had been invested in emission controls through 2017. Owners of coal-fired EGUs are expected to spend an additional \$5 billion for emission controls through 2020.¹⁴
- ✓ The coal fleet has installed at least 15 types of control technologies to reduce emissions of SO₂, NO_x, PM, mercury, acid gases and non-mercury metals.¹⁵

STATES

- ✓ Coal is used to generate electricity in 48 states. Only Rhode Island (mostly natural gas) and Vermont (mostly renewables) do not generate any electricity from coal.¹⁶
- ✓ During 2017, coal provided at least half the electricity in 13 states and at least one quarter of the electricity in 24 states.¹⁷
- ✓ During 2017, the ten states that generated the most electricity from coal were Texas, Indiana, Ohio, West Virginia, Missouri, Illinois, Kentucky, Pennsylvania, Michigan and Wyoming.¹⁸
- ✓ During 2017, the ten states with the highest percentage of electricity from coal were West Virginia (93%), Wyoming (86%), Missouri (81%), Kentucky (79%), Indiana (72%), Utah (72%), North Dakota (66%), Nebraska (60%), Ohio (58%) and Wisconsin (55%).¹⁹

COAL PRODUCTION

- ✓ In 2016, coal was mined in 25 states and was responsible for 52,000 U.S. jobs. In 2016, Wyoming was the largest coal-producing state, followed by West Virginia, Pennsylvania, Illinois and Kentucky. Slightly more than 60% of coal was produced west of the Mississippi River and slightly less than 40% from the east.²⁰
- ✓ According to EIA, domestic coal production totaled 728 million tons in 2016 and 772 million tons in 2017. EIA projects U.S. coal production will be 765 million tons in 2018 and 752 million tons in 2019.²¹

August 31, 2018

¹ U.S. Energy Information Administration (EIA), *Electric Power Monthly*, February 2018 edition, with data through December 2017. Percentages are for utility-scale generation and do not include EIA's estimate of distributed solar generation.

² EIA, *Short Term Energy Outlook*, August 7, 2018.

³ EIA, *Annual Energy Outlook 2018*.

⁴ EIA, "Count of Electric Power Industry Power Plants By Sector, by Predominant Energy Sources Within Plant, 2006-2016," *Electric Power Annual 2016*, December 2017.

⁵ EIA *Electric Power Monthly*, February 2018; SNL Energy data accessed March 5, 2018. Note that the count of units includes those 10 MW or greater in size.

⁶ EIA, *Electric Power Annual 2015*, November 2016.

⁷ SNL Energy data accessed August 21, 2018.

⁸ EIA, *Electric Power Monthly*, February 2018; February 2014 (for 2010 data).

⁹ EIA, Electricity Monthly Update with data for May 2018, July 24, 2018 (issued).

¹⁰ ACCCE, *Retirement of Coal-Fired Electric Generating Units as of July 10, 2018*. Sources for the retirements are EIA, SNL Energy, and company announcements.

¹¹ ACCCE, *Retirement of Coal-Fired Electric Generating Units as of July 10, 2018*; SNL Energy data as of July 10, 2018.

¹² Energy Ventures Analysis, *The Competitiveness of Coal in U.S. Electricity Markets: A 20-Year Outlook, 2018 Update*, June 2018.

¹³ EIA, *Electric Power Monthly*, February 2018; U.S. EPA, *National Emissions Inventory*, Air Pollutant Emissions Trends Data, 1970-2016, Fuel Combustion Electric Utilities; EPA Air Markets Program data queried March 7, 2018.

¹⁴ Energy Ventures Analysis, Inc., *Capital Investments in Emission Control Retrofits in the U.S. Coal-fired Generating Fleet through the Years – 2016 Update*, January 26, 2016.

¹⁵ SNL Energy data.

¹⁶ EIA, *Electric Power Monthly*, February 2018, Tables 1.3.B and 1.4.B.

¹⁷ *Ibid.*

¹⁸ *Ibid.*

¹⁹ *Ibid.*

²⁰ EIA, *Annual Coal Report*, November 2017.

²¹ EIA, *Short Term Energy Outlook*, August 2018.