

## **New Analysis: U.S. Power Sector Continues March Away from Coal**

*In 2017, for first year ever, zero-carbon sources lead power generation*

BOSTON (June 17, 2019) - The U.S. power sector continues transitioning away from coal and toward zero-carbon energy resources, as the largest electricity producers continue to reduce air pollutant emissions and their corresponding contributions to climate change, according to a new [analysis](#) released today.

The analysis, [Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States](#), examines and compares key air pollutant emissions of nitrogen oxides, sulfur dioxide, carbon dioxide, and mercury from the 100 largest U.S. power producers, highlighting environmental performance and progress across the sector.

The report found that in 2017, for the first year ever, zero-carbon resources accounted for more electricity generation (35.4 percent) than either gas (32.1 percent) or coal (29.8 percent).

The chief difference in 2017 was the steadily rising amount of power produced in the U.S. from renewable wind and solar resources. In 2016, renewables, which include wind, solar, geothermal, and biomass, delivered 6.9 percent of U.S. energy; in 2017 that amount rose to 8 percent. Nuclear led all zero-carbon resources in 2017, generating 56.3 percent of non-emitting power, followed by 22.6 percent from renewables and 21.1 percent from hydro.

Despite a decrease in coal generation, carbon emissions from the electric power sector increased modestly in 2018 (1 percent increase); this is a departure from the prior years. Electric sector NO<sub>x</sub> and SO<sub>2</sub> emissions declined modestly in 2018 (3.7 and 5.5 percent, respectively) over the previous year.

“It’s encouraging to see so many of the largest power producers in the U.S. pivot toward lower-carbon and zero-carbon solutions,” said Dan Bakal, senior director of electric power at Ceres. “Yet, as the benchmark analysis continues to make clear, we must increase corporate ambition and find solutions to transform the power sector at a scope and scale that matches the climate crisis.”

The new analysis points to a continued decoupling of economic growth and carbon emissions, as well as to the efficacy of policy solutions in helping the U.S. power sector reduce emissions of sulfur dioxide and nitrogen oxides, which cause acid rain and smog. It identifies potential first steps towards deep decarbonization pathways for the U.S. power sector. Such steps would aim to significantly reduce carbon emissions by 2050 -- consistent with the goal called for in a 2018 Intergovernmental Panel on Climate Change (IPCC) special report to hold global temperature rise to well-below 2 degrees Celsius in order to avoid serious impacts from climate change.

“Entergy’s leadership in strategic, voluntary actions to reduce emissions since 2001 have helped drive the significant U.S. emissions reductions shared in this analysis,” said Entergy

Corporation Vice President of Sustainability and Environmental Policy Chuck Barlow. “As outlined in Entergy’s new climate report, now we are taking further steps to transform our generation portfolio to cleaner resources, retain our utility-owned nuclear assets and partner with other industries on innovative electrification opportunities. These initiatives allow net benefits for all our stakeholders – customers, communities, employees and owners.”

Other major findings include:

- Power plant sulfur dioxides and nitrogen oxides have decreased 92 percent and 84 percent, respectively, since Congress passed major amendments to the Clean Air Act in 1990.
- Mercury air emissions from power plants have decreased 90 percent since 2000, as first-ever federal limits on mercury and other hazardous air pollutants from coal-fired power plants went into effect in 2015.
- Despite a 1 percent increase in carbon dioxide (CO<sub>2</sub>) emissions between 2017 and 2018, carbon emissions from the U.S. power sector have decreased 20 percent since their peak in 2005, while gross domestic product (GDP) grew 41 percent -- signaling that carbon emissions reductions and economic growth can go hand in hand.
- In 2017, the nation’s largest power producers, together, released 1.16 million tons of sulfur dioxides, 0.90 million tons of nitrogen oxides and 1.64 billion tons of carbon dioxide.
- U.S. power producers have a wide variability of carbon emission rates, with 5 of the 20 largest generators emitting more than 1,500 lbs/MWh and 5 emitting less than 650 lbs/MWh.
- Since 2005, generation from renewables has doubled, occupying a 9 percent share of the U.S. total in 2018, due in part to the fact that 29 states, Washington, D.C., and three territories have adopted renewable portfolio standards, and eight states and one territory have set renewable energy goals.

“As harmful emissions from the U.S. power sector continue to decline, it’s clear that policy solutions, market forces, company leadership, and stakeholder engagement are successfully driving the clean energy transition,” said Starla Yeh, director of the Policy Analysis Group of the Climate and Clean Energy program at NRDC. “However, the sector must ensure it recovers the ground it lost in 2018 with consistent and steep reductions in climate and air pollution over the coming decades in order to do its part in meeting domestic and global decarbonization goals.”

“As the largest producer of zero-carbon energy in the United States, Exelon stands with the overwhelming majority of our customers who want cleaner air and affordable, reliable energy,” said Exelon Senior Vice President, Corporate Strategy and Chief Innovation and Sustainability Officer Chris Gould. “The valuable insights and analysis from this report will help us continue to drive the deep decarbonization necessary to address the climate crisis facing our customers and communities.”

The latest Benchmarking Air Emissions analysis is the 15th such report released since 1997. The benchmarking analysis is a collaborative effort between Ceres; Bank of America; power producers Entergy and Exelon; and the Natural Resources Defense Council (NRDC). It is authored by M. J. Bradley & Associates.

The analysis is based on publicly reported generation and emissions data from the U.S. Energy Information Administration (EIA) and the U.S. Environmental Protection Agency (EPA). It also provides detailed fuel mix information for all of the producers -- including their share of fossil fuel, nuclear, natural gas, and renewable sources used to generate electricity.

The full report can be accessed [here](#).

Explore *Benchmarking Air Emissions* data using our interactive dashboard [here](#).

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### **About Ceres**

Ceres is a sustainability nonprofit organization working with the most influential investors and companies to build leadership and drive solutions throughout the economy. Through powerful

networks and advocacy, Ceres tackles the world's biggest sustainability challenges, including climate change, water scarcity and pollution, and human rights abuses. For more information, visit [www.ceres.org](http://www.ceres.org) and follow @CeresNews.

### **About the Natural Resources Defense Council (NRDC)**

The Natural Resources Defense Council (NRDC) is an international nonprofit environmental organization with more than 3 million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC has offices in New York City, Washington, D.C., Los Angeles, San Francisco, Chicago, Bozeman, MT, and Beijing. Visit us at [www.nrdc.org](http://www.nrdc.org) and follow us on Twitter @NRDC.

### **About Entergy Corporation**

Entergy Corporation is an integrated energy company engaged primarily in electric power production and retail distribution operations. Entergy owns and operates power plants with approximately 30,000 megawatts of electric generating capacity, including 9,000 megawatts of nuclear power. Entergy delivers electricity to 2.9 million utility customers in Arkansas, Louisiana, Mississippi and Texas. Entergy has annual revenues of \$11 billion and nearly 13,700 employees. Learn more at [www.entergy.com](http://www.entergy.com) and follow @Entergy on social media.

### **About Exelon**

Exelon Corporation (NYSE: EXC) is a Fortune 100 energy company with the largest number of electricity and natural gas customers in the U.S. Exelon does business in 48 states, the District of Columbia and Canada and had 2018 revenue of \$36 billion. Exelon serves approximately 10 million customers in Delaware, the District of Columbia, Illinois, Maryland, New Jersey and Pennsylvania through its Atlantic City Electric, BGE, ComEd, Delmarva Power, PECO and Pepco subsidiaries. Exelon is one of the largest competitive U.S. power generators, with more than 32,000 megawatts of nuclear, gas, wind, solar and hydroelectric generating capacity comprising one of the nation's cleanest and lowest-cost power generation fleets. The company's Constellation business unit provides energy products and services to approximately 2 million residential, public sector and business customers, including more than two-thirds of the Fortune 100. Follow Exelon on Twitter @Exelon.

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