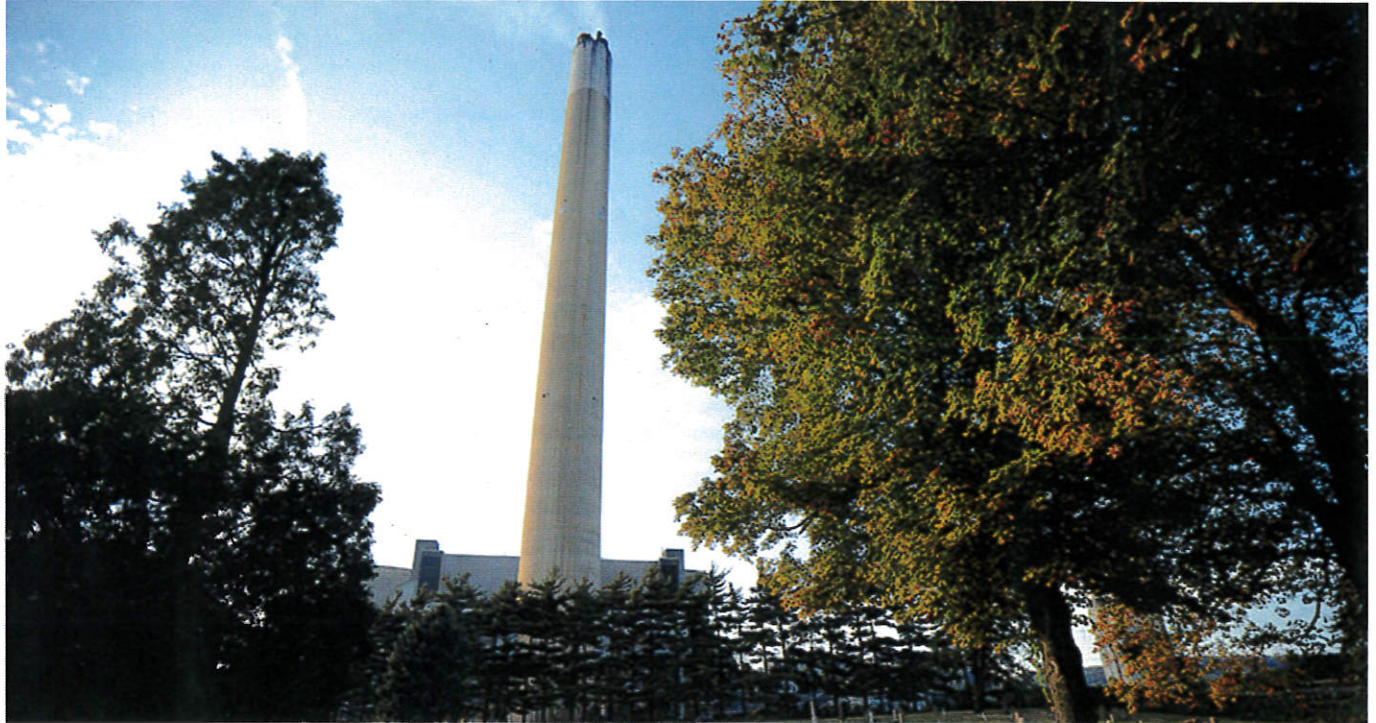


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EMISSIONS

Power-sector trends point to higher GHGs

Benjamin Storrow, E&E News reporter • Published: Monday, June 3, 2019



The Bruce Mansfield Power Plant is scheduled to close this year. The 2,500-megawatt facility is seen behind a church graveyard in Monaca, Pa. Brian Snyder/Reuters/Newscom

This year is starting to look a lot like 2018 for America's power sector. That's good news for natural gas, less so for coal and power-sector carbon emissions.

Coal generation has continued to plummet in 2019. Electricity generation from coal fell 8% in the first quarter of 2019 compared with the same time last year, according to figures from the U.S. Energy Information Administration. The black rock represented just 26% of U.S. electricity production in the first three months of the year.

The number is especially notable because winter is traditionally a strong season for coal. Cold temperatures in the Northeast and Midwest once brought increases in coal production. These days, natural gas is more likely to pick up the slack. Gas generation was up 10% in the first quarter over 2018 levels, and now accounts for 34% of American electricity production. Total electricity generation through the first three months of 2019 was essentially flat.

The trend bodes poorly for carbon emissions. In 2018, natural gas generation increased to meet rising electricity demand, offsetting the emissions reductions associated with coal plant retirements ([Climatewire](#), Jan. 10).

Power-sector emissions rose 1.1% on the year, according to final annual [figures](#) released last week by the Rhodium Group, an economic consulting firm. That amounted to a setback for U.S. climate efforts. Where transportation and industrial emissions have increased in recent years, the power sector has been a consistent source of emissions reductions.

"From a power perspective, the early signs are pointing to 2019 repeating 2018," said John Larsen, who leads power-sector research at Rhodium. "If we have significant heat waves through the summer, one would expect emissions to be at least flat from last year."

Power demand generally increases during hot spells, as more people turn on air conditioners. But the weather is just one factor that will determine the emissions trajectory for 2019.

Another big question is whether robust economic growth continues in the face of a growing trade war with China. New economic storm clouds are also forming. Last week, President Trump announced he was also weighing tariffs against Mexico, prompting markets to fall.

Over the long term, the emissions picture is mixed. On the one hand, the U.S. power sector is expected to get cleaner in the next couple of years. Wind will account for 45% of all new power plant capacity in 2019 and 36% in 2020, according to EIA data. Solar will represent 20% and 28% of additions in 2019 and 2020, respectively. Natural gas will make up 33% of capacity additions this year and 34% of additions next year.

Coal plant retirements are expected to continue, though at a slower pace than last year, when shutdowns were roughly 14 gigawatts ([Climatewire](#), Jan. 2). EIA lists 6.6 GW in retirements for 2019 and 3.2 GW for 2020.

Rhodium estimates power-sector emissions will decline 42% of 2005 levels by 2022, far exceeding the 32% emissions reduction sought by 2030 under the Clean Power Plan, former President Obama's proposal for cutting emissions from power plants.

Wood Mackenzie, a second consulting firm, [estimates](#) power-sector emissions will fall 38% by 2020. Much of that can be attributed to energy efficiency, with standards for new lightbulbs and other appliances absorbing a decade of power demand, said Robert Whaley, an analyst who tracks the power sector at Wood

Mackenzie.

"You combine lighting standards with low gas prices and incremental renewable policy and the Clean Power Plan was redundant," Whaley said.

But future emissions reductions are less certain. Federal tax incentives for wind and solar will expire in the coming years. Much of the gains in energy efficiency have already been realized. And the cheap natural gas prices that eliminated coal also pose a threat to nuclear facilities, a zero-carbon source of energy that now provides a fifth of U.S. electricity generation.

Then there's this: Emissions from transportation, the largest source of greenhouse gases nationally, are rising. In its 2018 Taking Stock Report, Rhodium **estimated** the United States is currently on track to cut emissions 12% to 20% of 2005 levels by 2025, falling short of the 2% to 28% reduction envisioned by Obama under the Paris climate accord.

The slow pace of reductions speaks to the need for stronger climate regulations, said Daniel Cohan, a professor who studies the power sector at Rice University in Houston.

"I don't think the market is bringing us reductions as quickly as we need to address climate change," Cohan said. "The electricity sector is the easiest to clean up. If we're aiming for net-zero emissions by 2050, we need to be aiming for a decarbonized electricity sector sooner than that."

Twitter: [@bstorrow](#) | Email: bstorrow@eenews.net

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