



Trump's EPA Poised to Undo Progress on Mercury Pollution Reduction

By Sally Hardin and Angelica Lujan | December 18, 2018

Under Acting Administrator Andrew Wheeler, the Environmental Protection Agency (EPA) has relentlessly attacked and rolled back public health protections, including those aimed at limiting pollution from coal-fired power plants, decreasing potent methane pollution from oil and gas wells, and reducing harmful emissions from cars.¹ Now, Wheeler has signaled that he intends to take steps to undo the Mercury and Air Toxics Standards (MATS), protections that limit the amount of mercury and other toxins power plants are allowed to release into the air.² In the simplest terms, these safeguards protect children and families from exposure to mercury, which is a damaging neurotoxin, and other poisonous byproducts of burning coal.

At a time when the urgency of combating climate change is being underscored in significant report³ after significant report,⁴ undermining public health protections for clean air, such as these mercury safeguards, is tone-deaf and debilitating. Rolling back the MATS would not only be dangerous and costly, but it would also undo the significant progress made over the last decade to decrease the amount of mercury and heavy metals present in the nation's air. According to a Center for American Progress analysis of available data, from 2011 through 2017, the MATS have helped drastically reduce mercury pollution from power plants across the country.

As the MATS apply specifically to electricity generation facilities, this issue brief reviews EPA Toxic Release Inventory (TRI) data for mercury emissions from coal- and oil-fired facilities.⁵ It finds:

- The MATS, announced in 2011, have been hugely successful at decreasing toxic pollution. In fact, mercury air pollution from power plants declined more than 81 percent nationwide from 2011 through 2017.
- From 2011 through 2017, seven of the highest-polluting states successfully reduced mercury emissions by more than 2,000 pounds: Texas, Alabama, Pennsylvania, Michigan, Indiana, Ohio, and Missouri. For context, a decrease of 2,000 pounds is more than four times the top mercury-polluting plant in 2017—Martin Lake Steam Electric Station and Lignite Mine in Tatum, Texas, which emitted a total of 476.11 pounds of mercury that year.

This brief first provides background information on mercury pollution and the MATS standards. It then reviews the data and provides analysis of the MATS' effectiveness. This analysis demonstrates state-by-state decreases in toxic emissions and associated health and economic benefits.

Mercury pollution and the MATS

Mercury, a highly potent neurotoxin—along with acid gases and other hazardous air pollutants—is most commonly dispersed into the air when burned by coal- and oil-fired power plants.⁶ When in the atmosphere, mercury can travel for extended periods of time before being deposited in water through precipitation, where microorganisms convert it into its most toxic form, methylmercury.⁷ Generally, common exposure to mercury occurs through consuming fish or shellfish that have accumulated high levels of methylmercury in their tissue.⁸ According to a recent report from Harvard's Center for Climate, Health, and the Global Environment, there were mercury consumption advisories on bodies of water in all 50 states and one U.S. territory in 2013. However, concurrent with the MATS and the significant reductions in mercury emissions that they have in part spurred, there have been associated declines in mercury levels in the air and water, as well as in freshwater and Atlantic Ocean fisheries.⁹

When consumed, methylmercury can affect fetal and childhood neurological development, making mercury particularly toxic for pregnant women and children.¹⁰ Additional health impacts from methylmercury consumption include an increased risk of heart attacks and diabetes, as well as weakened immune functioning.¹¹ Moreover, avoiding these harmful health impacts may even result in an economic boon: A recent study found that mercury pollution cost the nation \$4.8 billion in 2017 in societal costs associated with the neurocognitive deficits from methylmercury exposure and poisoning.¹²

In 2011, the EPA developed the MATS rule to curb power plants' emissions of these toxic pollutants into the atmosphere, in order to catch up with reductions in other sectors that had previously released significant mercury. By 2011, medical waste incinerators and municipal waste combustors had reduced their mercury emissions by more than 95 percent in total thanks to sector-specific standards.¹³ As an added benefit, the technology for power plants to limit mercury emissions was already available.

At the time, the EPA projected that limiting mercury emissions from electricity generation would have the added benefit of also reducing 88 percent of acid gas emissions from power plants, as well as 41 percent of sulfur dioxide emissions.¹⁴ In its analysis accompanying the 2011 rule, the EPA found that the safeguards would bring about between \$37 billion and \$90 billion in annual benefits—far outweighing the estimated \$9.6 billion annual cost of implementing the rule to industry.

These benefits were attributed to a combination of reduced impacts from mercury pollution coupled with reductions in other pollutants from these power plants.¹⁵

Implementation of the MATS

When the EPA implemented the MATS rule in February 2012, the safeguards covered approximately 1,400 electricity-generating units at 600 power plants.¹⁶ The affected power plants were given a four-year timeline¹⁷ to comply with the standards, meaning that while the rule was promulgated in 2012, it was not until April 2015—or April 2016 for plants eligible for extended compliance—that most power plants across the country had fully installed control technology.¹⁸

When the EPA first issued the MATS, the coal and electric utility industries did not support implementing the rule. A group of representatives from these industries sued the EPA in 2013, saying that the agency did not have the proper authority under the Clean Air Act to issue the standards and that it needed to consider the costs of implementing the rule along with the projected benefits.¹⁹ In 2015, after hearing the case, the U.S. Supreme Court largely left the rule intact but remanded a small part back to the EPA, directing the agency to weigh the costs to industry alongside the benefits. In response to the Supreme Court's ruling, the EPA issued a supplemental finding in December 2015 showing that after consideration, cost still did not outweigh the benefits, particularly given the reductions in other hazardous pollutants that occur as a result of the MATS.²⁰ Furthermore, the Harvard Center for Climate, Health, and the Global Environment recent study notes that the health and societal benefits derived from the MATS are likely to be “orders of magnitude larger than previously estimated” by the EPA.²¹ Importantly, the court did not ever stay the rule and denied a request from industry to do so, meaning that it remained in effect throughout this process—and today.²²

Since then, the rule has had significant success in reducing mercury emissions. After making the initial investments, industry allies and many of the power plant utilities that have been affected are in favor of keeping the standards. In fact, a number of electric utilities and their industry colleagues, which have already paid more than \$18 billion combined²³ to install technology to reduce mercury emissions, have publicly stated that they want the standards to remain in place.²⁴ Even the Trump administration's own EPA website, as of publication of this brief, displays endorsements of the standards and their successes, including touting the health benefits of the standards and writing that the “Rule will improve public health.”²⁵

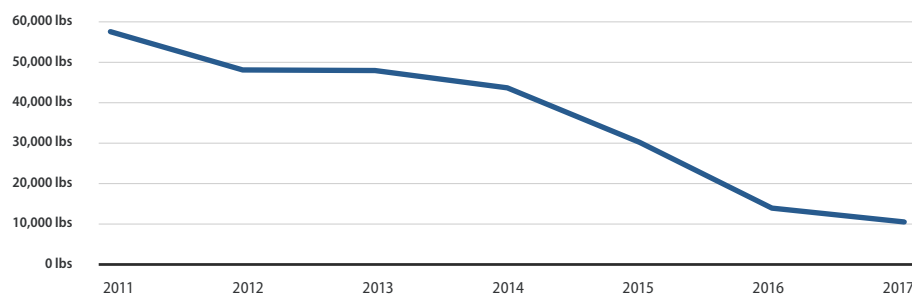
It is worth noting that over the seven-year period considered in this issue brief, a number of coal-fired power plants across the country closed or were retired. This is consistent with the nationwide trend of declining coal use in the electric power sector, due to competition from natural gas and renewable sources, as well as flattened demand for electricity overall.²⁶

The MATS have drastically decreased mercury pollution nationwide

Since the introduction of the MATS rule in 2011 and its full implementation in 2016, mercury emissions have decreased dramatically. According to a CAP analysis of the most recent available data, in just the three years from 2015 through 2017, nationwide mercury emissions from power plants dropped by 65 percent. If power plant emissions since 2011 are considered, that number jumps to an overall decline of 81.7 percent.

FIGURE 1
Total national annual mercury emissions from power plants, 2011 through 2017

Total annual mercury emissions from power plants across the United States that are covered by the Mercury and Air Toxics Standards

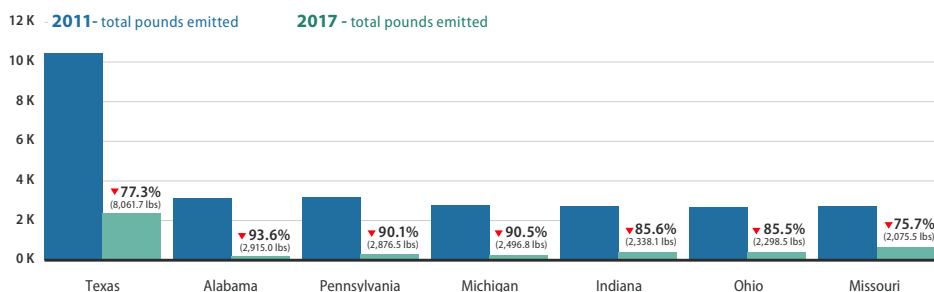


Source: U.S. Environmental Protection Agency, "Toxics Release Inventory (TRI) Program: TRI Basic Data Files: Calendar Years 1987-2017," available at <https://www.epa.gov/toxics-release-inventory-tri-program/tri-basic-data-files-calendar-years-1987-2017> (last accessed December 2018).

And such massive pollution reductions are not only evident at the national level; mercury emissions from power plants by U.S. state or territory have also dropped dramatically. At the state level, Texas is the biggest overall emitter of mercury from power plants: It contributed 10,424 pounds of mercury in 2011. Yet, that number fell to just 2,362 pounds in 2017, a decrease of more than 77 percent over just eight years. Given that mercury is so potent—just fractions of an ounce can poison a body of water²⁷—this 8,062-pound reduction has meaningful health implications. In addition, six other states that had significant mercury pollution from power plants in 2011 saw their pollution levels decrease by more than 2,000 pounds from 2011 through 2017 as a result of the standards.

FIGURE 2
Change in total annual pounds of mercury emitted in the 7 states that saw most significant decreases

Decrease in total pounds of mercury emitted, 2011 vs. 2017



Source: U.S. Environmental Protection Agency, "Toxics Release Inventory (TRI) Program: TRI Basic Data Files: Calendar Years 1987-2017," available at <https://www.epa.gov/toxics-release-inventory-tri-program/tri-basic-data-files-calendar-years-1987-2017> (last accessed December 2018).

These significant reductions underscore just how much the MATS serve as critical safeguards against mercury pollution, protecting both public health and the economy. In fact, the EPA found that the standards helped avoid 10,863 premature deaths across the United States in 2016, while creating nearly \$89.4 billion in health benefits.²⁸ In Texas alone, the MATS helped avoid 1,200 premature deaths in 2016—nearly 11 percent of all avoided premature deaths estimated for that year—as well as \$9.7 billion in 2016 health benefits.²⁹

Conclusion

The positive effects of the MATS and associated technologies are staggering. They include massive decreases in the mercury emitted from power plants, as well as decreases in other hazardous air pollutants from power plants. Yet, the Trump administration appears set on its course, which will cause children, pregnant women, and other vulnerable populations to suffer the greatest consequences.³⁰ With the potential rollback of the MATS, Acting Administrator Wheeler continues to relentlessly attack the environment—choosing polluters over people time and again. If and when Wheeler is formally nominated to lead the EPA in an official capacity, Americans will be counting on Congress to hold him accountable for an attack on the MATS through any nomination hearings and through investigation into who asked for these rollbacks and why. Wheeler will have to answer to why he chose to tick an item on his former client Murray Energy Corp.'s wish list,³¹ instead of protecting the health and well-being of the American public.

If the EPA rolls back the MATS standards, it will demonstrate that it is truly following the agenda of polluters, not protecting the nation's environment and public health.

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Methodological appendix

The findings in this issue brief are all based on emissions data available from the EPA's Toxic Release Inventory.³² Regulated facilities self-report all the data in the TRI. The authors downloaded the standard emissions data available for each year from 2011 through 2017. The data used from 2017 were only based on preliminary reporting from facilities and may change as the EPA updates it.

In order to measure mercury emissions from electricity generation specifically, given that this is the sector that the existing MATS regulate, the authors first selected all emitters from each year that were primarily involved in electricity generation. They did this by selecting all facilities whose industry sector identified as electric utilities—column P in the master data set, which can be found on the webpage. From that data set, the authors identified all facilities that emitted either mercury or mercury compounds into the air, listed in the chemical column, or column AD, in the master data set. This was the data set of mercury-emitting electricity generation facilities that the authors examined for each year.

In order to measure a facility's total mercury emissions from both fugitive emissions—those from leaks or other unintended releases—and what comes directly out of the facility's stacks on a regular basis, the authors added together the fugitive and stack emissions for a final emissions total. Fugitive emissions are found in column AN and stack emissions in column AO. The authors' totaled sum of the two—not found in the original reported EPA data—is in column AP. This analysis used this totaled sum to determine which plants in which locations within each state or territory were the biggest mercury emitters in a given year and then aggregated these results by state.

It is important to note that these data are representative only of the facilities that are required to self-report data to the EPA through the TRI and include only those facilities required to report because their total emissions are more than 10 pounds in a given year. Therefore, it is not categorically a full and comprehensive set of all mercury emitters and/or power plants in any given state.

Endnotes

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