

# What the EPA's mercury decision means for public health

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Elsie Sunderland, the Gordon McKay Professor of Environmental Chemistry.  
Credit: Eliza Grinnell/Harvard SEAS

On April 16th, the Trump administration gutted a key component of the Mercury and Air Toxics Standards (MATS), a set of regulations

designed to compel the country's oil-and-coal-fired power plants to cut emissions of mercury and other hazardous air pollutants. The administration determined that it is not "appropriate and necessary" to regulate mercury under the Clean Air Act and that the costs of doing so would far outweigh the public health benefits.

However, environmental scientists and [public health](#) experts disagree with that rationale. There is strong evidence that rolling back [mercury](#) regulations will cost billions of dollars and will have a sweeping impact on public health in the United States, especially in the country's most vulnerable communities.

We spoke with Elsie Sunderland, the Gordon McKay Professor of Environmental Chemistry at the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) about the impact of this decision.

## **First, why is mercury so bad for human health?**

Sunderland: After mercury is emitted to the atmosphere from power plants, it is deposited to terrestrial ecosystems and the ocean, where some of it is converted to methylmercury, a potent neurotoxin that bioaccumulates in fish and other organisms—including us.

Methylmercury has been associated with impaired cardiovascular health, long term developmental delays, affects reproductive success, and is a suspected endocrine disrupter. Children exposed to methylmercury during a mother's pregnancy have been shown to experience persistent and lifelong IQ and motor function deficits. Not a single person thinks more methylmercury in the environment would be positive.

## **Has MATs been successful in reducing mercury emissions?**

Yes. Since it was implemented, mercury emissions from U.S. coal-fired [power plants](#) have declined by 85 percent. The estimated number of children born in the U.S. each year with high levels of prenatal exposure to methylmercury levels has decreased by half. Where mercury emissions have declined, health has improved.

## **What was the EPA's justification for weakening MATS?**

The EPA regulatory assessment was based on flawed and incomplete estimates of the benefits of reducing mercury. The EPA estimates that the yearly mercury-related health benefits of reducing emissions would be less than \$10 million, which is way too low. EPA came to that figure by only considering health impacts for the children of freshwater recreational anglers in the U.S., a tiny fraction of the total population exposure to methylmercury. Most benefits to human health and wildlife haven't been monetized yet. The biggest oversight in terms of health effects was that EPA did not quantify the potential for increased risk of mortality due to impaired cardiovascular health. If you consider all of the benefits of reducing coal-fired power plant mercury emissions, they are easily orders of magnitude greater than those quantified by EPA. For example, one recent study found that the cumulative benefits associated with implementation of MATS exceeded \$43 billion.

## **What about the administration's claims that the costs would far outweigh the benefits?**

The EPA overestimated the costs of MATS at \$9.6 billion. We know this is much higher than the actual cost because there were declines in natural gas prices and cheaper equipment and renewable energy costs. Even with the original overestimate, the EPA projected that MATS would increase the monthly electric bill of the average American

household by only \$2.71, which is well within the price fluctuation consumers experience. So, the mercury-related benefits of the MATS rule are much larger than the EPA estimated and the actual costs appear to be substantially lower.

## **Does this mean that there will be no regulations for mercury moving forward?**

MATS is still technically in place for now but this decision severely undermines its foundation and paves the way for lawsuits from companies opposed to it and could prevent similar regulations from being implemented in the future.

## **Is there anything that can be done to stop this decision from moving forward?**

At this point the next step is a lawsuit. This administration's decision to overturn MATS shows a blatant disregard for science and expert advice. For example, two days before the decision was announced, EPA's own Scientific Advisory Board suggested the regulatory impact assessment for MATS was outdated and flawed and should be redone.

Provided by Harvard University

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