Committee on Energy and Commerce
Subcommittee on Oversight and Investigations

Hearing on
"Undermining Mercury Protections: EPA Endangers Human Health and the Environment"

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The Honorable Frank Pallone, Jr. (D-NJ)

1. The 2011 Regulatory Impact Analysis estimated $37-90 billion annually in health benefits from the MATS rule, a great majority of which would come from estimated reductions in particulate matter emissions. Specifically, the estimates quantified health benefits of reducing particulate matter at levels both above and below the standard of 12 micrograms/cubic meter set by the National Ambient Air Quality Standards (NAAQS). In his testimony, Mr. Gustafson suggested that health benefits that accrue from reductions below the NAAQS standard for particulate matter should be discounted because that standard is already set to be sufficiently protective of human health.

   Are there studies that demonstrate whether there are health benefits to reducing particulate matter emissions below the current NAAQS standard? What do these studies conclude about such benefits?

Previous studies have demonstrated that mortalities from $PM_{2.5}$ exposure occur at levels below the NAAQS. The EPA's Integrated Science Assessment for Particulate Matter (2009) assessed scientific studies on the associations between $PM_{2.5}$ and health impacts, and found that there is little evidence to support a threshold below which $PM_{2.5}$ exposure is not harmful. This conclusion was based on a review of numerous available epidemiological studies, largely focused on the association between exposure and mortalities. More recent studies have provided even more evidence that low-level exposure is harmful. For example, a recent study focusing on air pollution and mortality among Medicare recipients showed significant evidence of adverse effects at levels below national standards (e.g. Di et al., 2017).

Citations:
Q. Di et al., Air Pollution and Mortality in the Medicare Population, New England Journal of Medicine 376:2513-22 (2017)
U.S. EPA. Integrated Science Assessment (ISA) For Particulate Matter (Final Report, Dec 2009). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F, 2009.

2. The U.N. Minamata Convention on Mercury, which the United States signed in 2013 following the issuance of the MATS rule, is a multilateral agreement that addresses specific human activities which are contributing to widespread mercury pollution. You have studied the potential benefits to the United States of reductions in mercury that would result from the Minamata Convention in your paper with co-author Amanda Giang, "Benefits of Mercury Controls for the United States," Proceedings of the National Academy of Sciences (2015).

    a. Please explain how the United States can benefit from reductions in mercury from global sources and summarize your findings with respect to the magnitude of benefits to the United States that would result from the global agreement.

Reduction of mercury pollution from both domestic and foreign sources is needed to protect the U.S. because mercury deposition in the U.S. originates from both domestic and foreign sources. In some parts of the U.S., such as some of the Northeast, most mercury deposition comes from domestic sources. However, in other regions of the U.S. such as the West and the Southeast, most mercury deposition comes from international sources. People in the U.S. also consume imported fish (for example, fish from the Pacific Ocean) that contains methylmercury originating from elsewhere. Thus, mercury emissions in other parts of the world affect people in the U.S.

Our study (Giang and Selin, 2016) calculated that benefits to the U.S. from the Minamata Convention would be more than twice those projected from domestic policy. The monetized annual benefit for MATS we calculated was $3.7 billion. We estimated $8.4 billion in annual benefits to the U.S. for reductions expected from other countries' actions under the Minamata Convention. This underscores the importance of global action in addressing the mercury exposure of the U.S. population.

However, we also calculated that the MATS standards have a larger benefit than the Minamata Convention for those Americans who primarily consume fish caught locally rather than imported fish.

Citations:
Giang, A. and Selin, N.E., 2016. Benefits of mercury controls for the United States. Proceedings of the National Academy of Sciences, 113(2), pp.286-291.

    b. In your opinion, could a change to the MATS rule have an impact on whether other countries meet their obligations under the Minamata Convention to reduce global sources of mercury?

The United States is a party to the Minamata Convention, and has been a leader in global efforts to address mercury pollution. Actions by the U.S., such as MATS, demonstrate that reducing mercury emissions is both beneficial and feasible across the world. U.S. action plays an important role in setting global standards for emission control technology, especially for mercury emissions from power generation, the focus of the MATS rule. For example, information about

U.S. experience with controlling mercury from the power sector is extensively cited in the guidance on best available techniques for mercury control developed under the Minamata Convention. The existence of the MATS standard in the U.S. thus encourages other countries to take meaningful actions to reduce mercury.

c. Could the benefits to the United States that you summarize in your 2015 paper be put at risk if there was a change to the MATS rule?

The benefits (now and in the future) to the U.S. from both domestic and international action on mercury would indeed be put at risk if the MATS rule were rolled back. Fewer controls on domestic mercury emissions would allow more mercury emission. This would reduce the benefits of domestic action, and would lessen pressure on other countries to take corresponding actions. Mercury emissions continue to affect populations for decades to centuries, and thus the impact of changes to MATS could be long-lasting.