May 15, 2017

Docket ID No. EPA–HQ– OA–2017–0190
Evaluation of Existing Regulations; 82 FR 17793

We, the undersigned, submit the following comments in response to the Federal Register Notice "Evaluation of Existing Regulations" (82 FR 17793).

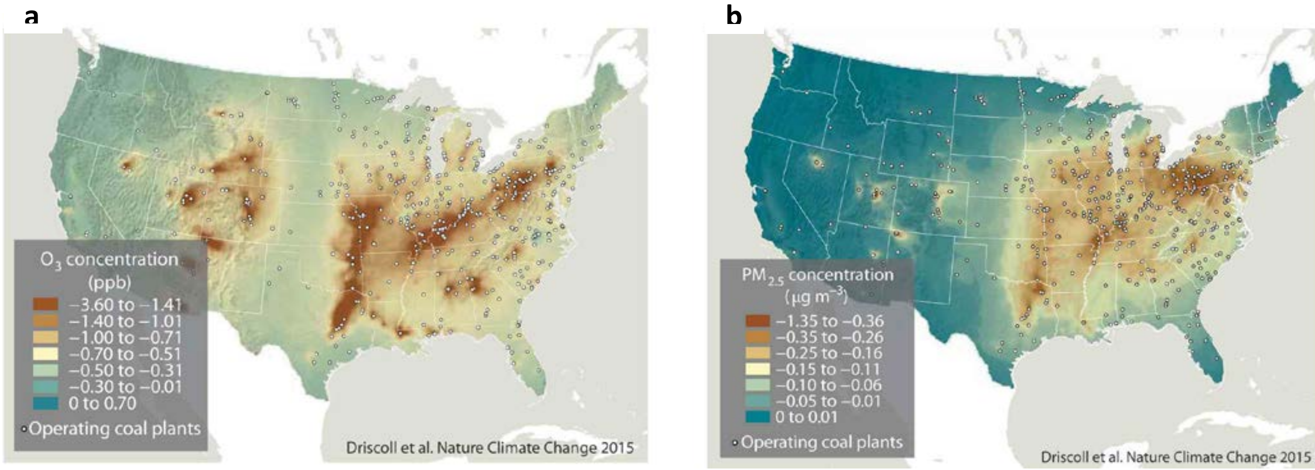
1. The clean air, clean water, and climate regulations in the United States are well-supported by peer-reviewed scientific literature and cost-benefit analyses. They confer substantial benefits by protecting public health and welfare and should *not* be repealed. In particular, the following regulations should be maintained or strengthened and enforced:

- Clean Power Plan. 80 FR 64509. Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units.
- Mercury and Air Toxics Standard (MATS). 77 FR 9303. National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units.
- Clean Water Rule: Definition of "Waters of the United States". 80 FR 37054.
- Methane Rule. 81 FR 35823. Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources.
- Cross-State Air Pollution Rule. 81 FR 74504. Cross-State Air Pollution Rule Update for the 2008 Ozone NAAQS.
- Corporate Average Fuel Economy (CAFÉ) Standards. 77 FR 62623. 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards.

2. Any review or evaluation of the Clean Power Plan (80 FR 64509) should take into account the following findings from peer-reviewed publications.

Driscoll et al. (2015) evaluated a carbon standard similar to the Clean Power Plan that reduces carbon dioxide emissions by 35% from 2005 levels and allows flexible compliance mechanisms such as demand side energy efficiency, renewable energy generation, heat rate improvements at existing power plants, and national emissions trading. The results show that a carbon standard like the Clean Power Plan would improve air quality, both peak summertime ground-level ozone and average annual fine particulate matter concentrations, in all regions of the coterminous U.S. (Driscoll et al. 2015).

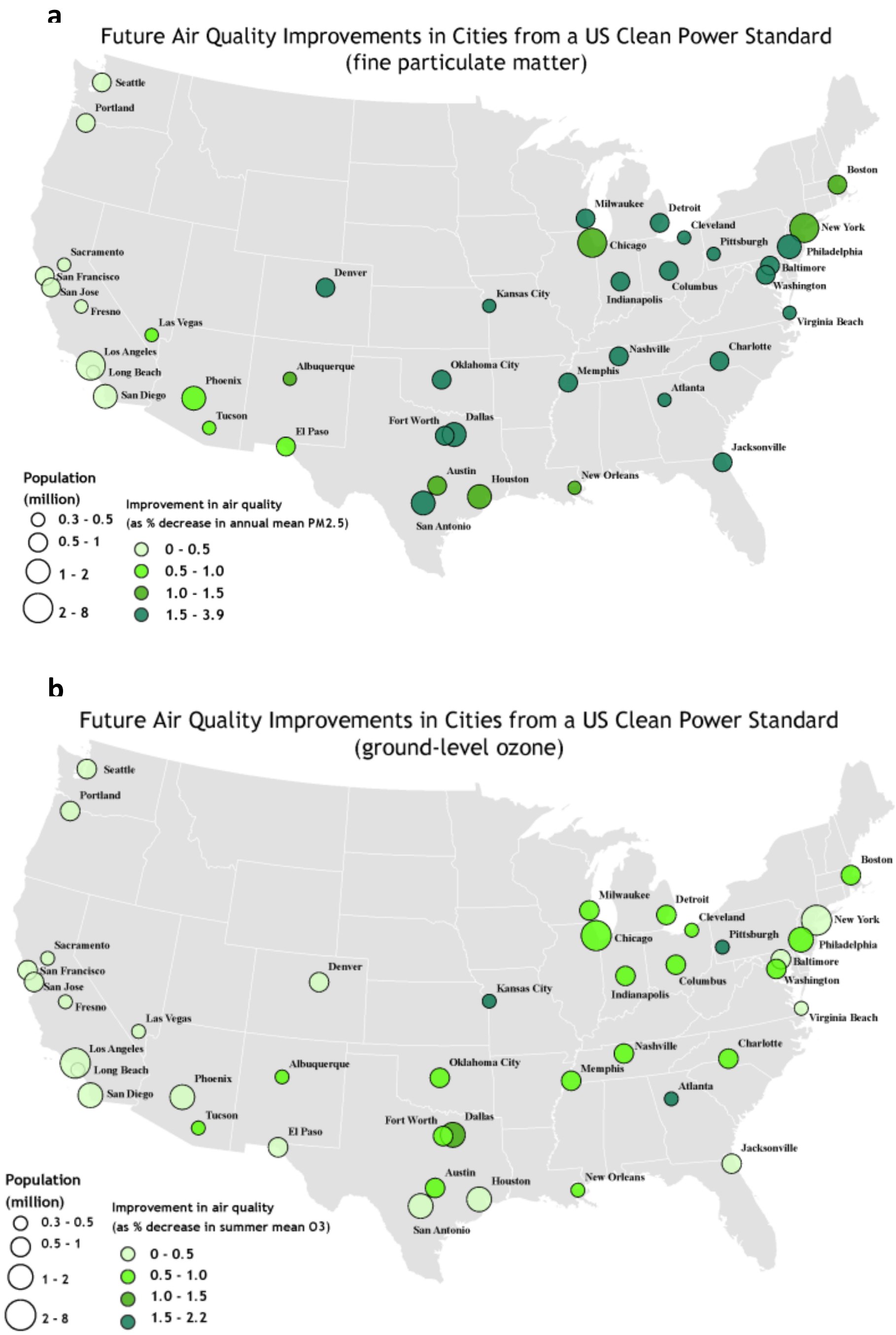
<u>Figure 1: Changes in Ozone and Fine Particulate Matter from a U.S. Clean Power Standard</u>



Map for the continental USA of projected differences from the business as usual reference case in annual average concentrations of peak summertime O_3 (Fig. 1a) and annual average concentrations of $PM_{2.5}$ (Fig. 1b) in 2020 for a power plant carbon standard similar to the Clean Power Plan. From Driscoll et al. 2015.

As a result of these anticipated air quality improvements, 41 million people in 41 large U.S. cities would experience cleaner air under a power plant carbon standard like the Clean Power Plan (based on Driscoll et al. 2015). The maps below depict changes in fine particulate matter and ozone concentrations in large cities that are expected to occur with the implementation of power plant standards like the Clean Power Plan. The resulting improvements in air quality are shown for 41 cities with populations greater than 330,000. Larger gains are indicated by darker shades of green. The size of the circle indicates the population of that city and therefore the number of people who will benefit from improved air quality in the location.

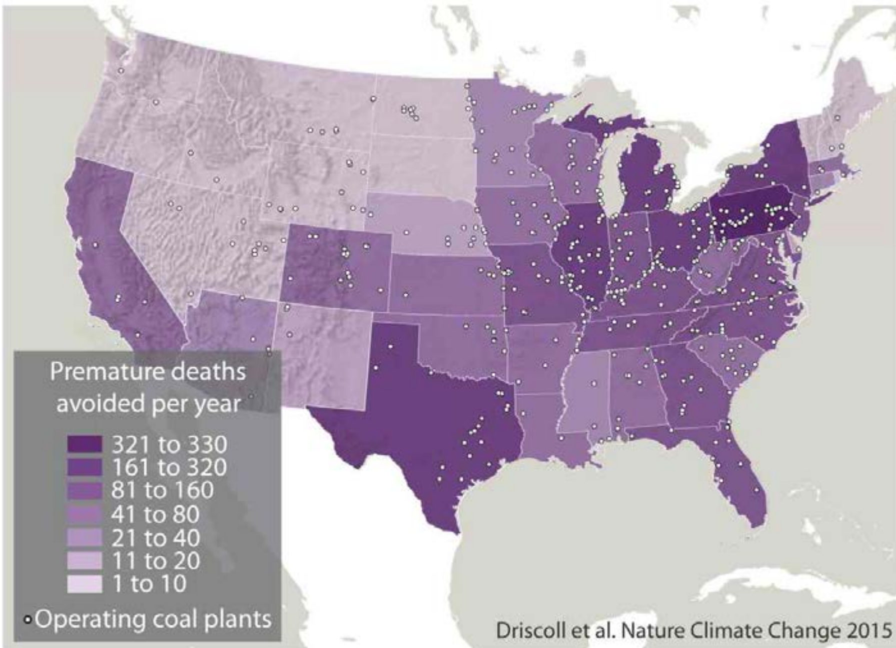
Figure 2: Air Quality Improvements from a U.S. Clean Power Standard



The maps depict changes in average annual $PM_{2.5}$ (Fig. 2a) and peak summertime O_3 concentrations in large cities that are expected to occur with the implementation of power plant standards like the Clean Power Plan for 41 cities with populations greater than 330,000. Larger gains are indicated by darker shades of green. The size of the circle indicates the population of that city and therefore the number of people who will benefit from improved air quality in the location. Based on Driscoll et al. 2015.

With these air quality improvements, 3500 premature deaths, 1,000 hospitalizations, and 220 heart attacks associated with air pollution would be prevented each year in the U.S. (based on central estimates from Driscoll et al. 2015). The air quality public health benefits would occur in every U.S. state.

Figure 3: Premature Deaths Avoided by a U.S Clean Power Standard



Map of the continental USA showing the number of premature deaths avoided for states for a power plant carbon standard similar to the Clean Power Plan. From Driscoll et al. 2015.

The economic value of carbon standards like the Clean Power Plan far outweighs the costs on an annual basis. The net benefits, including the social cost of carbon, are estimated at $33 billion per year (Buonocore et al. 2016).

In addition to the public health benefits, the anticipated air quality improvements from a clean power standard would mitigate productivity losses for some tree species by up to 8.4% and for some types of crops by as much as 15.6% compared to business as usual conditions (Capps et al. 2016). Depending on market value fluctuations of these crops over the next few years, that could add up to gains of tens of millions of dollars for farmers—especially in areas like the Ohio River Valley where power plants currently contribute to ground-level ozone (Capps et al. 2016).

3. Any review or evaluation of the Mercury and Air Toxics Standards (77 FR 9303) should take into account the following findings based on peer-reviewed scientific research and summarized in Sunderland et al. (2016).

The value of the societal benefits that have been quantified associated with decreases in mercury deposition that would occur from implementation of the Mercury and Air Toxics Standard have been updated are orders of magnitude higher than what EPA estimated in 2011. Specifically, EPA used the limited data available at the time to estimate the narrow benefits associated only with the value of IQ losses for children born to a limited population of recreational fishers who consume freshwater fish during pregnancy from watersheds where EPA had fish tissue data. As a result, the monetized benefit of mercury deposition declines for this small subpopulation was estimated at $4 to $6 million per year (U.S. EPA 2011). More recent research estimated the cumulative economy wide benefits of implementing MATS exceeded $43 billion (Giang et al. 2016); far greater than the estimated cost of implementing the regulation.

Human health and wildlife benefits from reductions in mercury emissions associated with the implementation of MATS that have not yet been fully quantified are substantial and were underestimated in the 2011 regulatory impact assessment (Sunderland et al. 2016). These additional benefits include the likely connection between methylmercury exposure and cardiovascular impacts, neurodevelopment effects beyond full IQ, benefits associated with lower methylmercury concentrations in coastal U.S. fisheries, and impacts to fish and wildlife that can occur even at low levels of environmental exposure.

The 2011 EPA regulatory impact assessment also underestimates the contribution of U.S. EGUs to locally deposited mercury. A recent correction in global mercury emission inventories (Zhang et al. 2016) shows that mercury sources and actions in the U.S. (as opposed to global sources) have a much greater influence on local and regional mercury deposition to U.S. ecosystems than previously assumed. This is consistent with findings from Castro and Sherwall (2015), Drevnick et al. (2012), Hutcheson et al. (2014), Cross et al. (2015), Gerson and Driscoll (2016), Lee et al.

(2016), and Zhou et al. (2016) that reported declines in mercury levels in the atmosphere, sediment, freshwater fish, and coastal fish in response to declines in U.S. mercury emissions.

4. To avoid delays and backlogs that could put human and environmental health at risk, the use of cost-benefit analysis in the review of existing rules and in future rule-making processes should follow the guidelines in the Regulatory Flexibility Act. The Act states that a cost-benefit analysis is not required if the agency head certifies that the rule will not have a “significant economic impact on a substantial number of small entities” (CRS 2014); where “significant economic impact” is generally defined as having an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities (Executive Order 12866 of September 20, 1993).

5. Cost-benefit analyses and any reconsideration or evaluation of existing rules should account for co-benefits that may occur as a result of the regulatory action. Co-benefits represent estimated improvements in environmental conditions or public welfare that are occur as a result of reductions in co-pollutants that are projected to occur in addition to declines in the pollutant(s) that are the specific target of a particular standard or regulation. The inclusion of co-benefits is essential to providing the public with a complete accounting of the benefits that are anticipated from a given regulation. As applicable, cost-benefit analyses or other methods used in the evaluation of existing rules should also incorporate the social cost of carbon.

6. Consistent with past executive orders, “Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider” (Executive Order 12866). In particular, environmental effects that have been documented but have not been given an economic value should be fully incorporated. Every effort should be made to estimate the benefits to all environmental endpoints and relative magnitude of the economic value of these benefits.

7. The evaluation process specifies that a Task Force should specifically identify for potential repeal regulations that “…rely in whole or in part on data, information, or methods that are not publicly available or that are insufficiently transparent to meet the standard of

reproducibility…”. This criterion is overly broad and would give the federal government unbridled discretion to disregard well-established science that has met or surpassed research standards applied to publications in independent peer-reviewed scientific journals. Disregarding well-established science could compromise public health as well as the clean water and clean air on which we depend.

Respectfully submitted by:

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