



May 10, 2017

EPA Office of Office of Policy Regulatory Reform
Mail Code 1803A
1200 Pennsylvania Ave NW
Washington, DC 20460

Re: EPA's Regulatory Reform Pursuant to Executive Order 13777

To Whom It May Concern:

The Sabin Center for Climate Change Law submits these comments in response to the U.S. Environmental Protection Agency (EPA)'s request for input on regulations that may be appropriate for repeal, replacement, or modification pursuant to Executive Order 13777.

We appreciate that some regulations are unnecessarily redundant or impose unnecessary reporting obligations. For this reason Executive Order 13563 directed federal agencies to coordinate, simplify, and harmonize rules both within and across those agencies with a view towards reducing costs and easing regulatory burdens on certain sectors and industries. Previous administrations have also sought to "clean up" the universe of regulations, in ways consistent with the statutory limits on agency discretion, and the legal obligation to secure desired benefits for the public, enacted by Congress.

The purpose of our comments is to emphasize the importance and positive impacts of EPA regulations aimed at combatting global climate change and other environmental pollution problems. Our ultimate goal is to explain why EPA cannot repeal or weaken greenhouse gas (GHG) emission standards or other environmental protections that effectively protect public health and welfare and environmental quality as it seeks to implement the Executive Order's mandates.

I. Existing GHG Emission Standards are Necessary and Provide Important Public Benefits that Significantly Outweigh Costs

In 2007, the U.S. Supreme Court issued its decision in *Massachusetts v. EPA*, holding that anthropogenic greenhouse gas emissions constitute an "air pollutant" under the terms of the Clean Air Act, and that EPA has authority to regulate them if they "cause, or contribute to, air

pollution which may reasonably be anticipated to endanger public health or welfare.”¹ The Supreme Court also rejected a number of policy rationales offered by EPA that purported to justify a decision not to regulate GHG emissions, and directed the agency to undertake a review of the issue and form a “scientific judgment” as to whether or not such emissions endanger public health or welfare.

In 2009, EPA issued an Endangerment Finding in which it concluded that GHG emissions from motor vehicles can reasonably be anticipated to endanger public health and welfare in the United States, and that GHG emission standards are necessary in order to fulfill legal mandates under the Clean Air Act.² This finding was upheld by the D.C. Circuit Court of Appeals.³ EPA subsequently referred to its initial Endangerment Finding in determining that the GHG emissions from power plants, oil and gas operations, and aviation can reasonably be anticipated to endanger public health or welfare and that further regulations were mandated.⁴

EPA has repeatedly demonstrated that the benefits of GHG emissions standards far outweigh their costs. The types of benefits that accrue from climate and clean energy standards include: public health benefits, environmental benefits, energy system co-benefits (resulting from investments that improve the overall performance and efficiency of the electricity grid), economic co-benefits (accruing from reductions in energy costs), and employment benefits (from new jobs created in the clean energy sector).

For example, the Regulatory Impacts Analysis for the first GHG emissions standards, those set for light duty motor vehicles in the wake of *Mass. v. EPA*, concluded that the standards imposed a cost of \$52 billion, but would achieve benefits of \$240 billion – with the benefits outweighing costs by better than 4 to 1.⁵ These monetized benefits included environmental and public health impacts, such as reductions in CO₂ emissions and particulate matter (PM_{2.5}), as well as energy security benefits, and cost savings for consumers. EPA also recognized that the standards would generate non-monetized benefits such as reductions in toxic air pollutants, ozone, and non-CO₂ GHG emissions.⁶

¹ *Massachusetts v. EPA*, 549 U.S. 497, 500 (2007).

² Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (Dec. 15, 2009).

³ *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102, 121 (D.C. Cir. 2012).

⁴ Standards of Performance for Greenhouse Gas Emissions From New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64510, 64523 (Oct. 23, 2015); Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources, 81 Fed. Reg. 35824, 35839-40 (June 3, 2016); Finding that Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated to Endanger Public Health and Welfare; Final Rule, 81 Fed. Reg. 54422 (Aug. 15, 2016);

⁵ EPA Office of Transportation and Air Quality, Regulatory Announcement: EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks, EPA-420-F-10-014 (2010) at 3.

⁶ *Id.*

The Clean Power Plan is another prime example. EPA determined that the implementation of the plan would result in climate and public health benefits worth an estimated \$34 to \$54 billion annually in 2030, as compared with compliance costs ranging from \$5.1 to \$8.4 billion.⁷ This estimate was based on the direct effects of reducing CO₂ emissions, which were monetized using the Social Cost of Carbon, as well as the health co-benefits accruing from reductions in PM_{2.5} and ozone. Some of the anticipated health co-benefits included the avoidance of 3,600 premature deaths, 1,700 heart attacks, 90,000 asthma attacks, and 300,000 missed workdays and school days.⁸ EPA also found that the plan would be beneficial for consumers, reducing electricity bills in 2030 by an average of approximately 8% (or \$8 per month) as compared with a scenario without the plan.⁹ Finally, EPA found that it would provide positive employment impacts, creating approximately 52,000 to 83,000 new jobs in the demand-side energy efficiency sector in 2030. This would more than offset the predicted job losses in electricity, coal and natural gas sectors, which were expected to decrease by 30,900-33,700 jobs in 2030.¹⁰

There are many independent studies of the Clean Power Plan and similar policies which have also found that such policies would deliver substantial net benefits, in some cases exceeding what EPA has predicted, and minimal costs. These include:

- **Buonocore et al. (2016):** This study forecasted the impacts of a U.S. power plant carbon standard similar to the Clean Power Plan, finding that the net benefits of such a standard would be \$38 billion per year in 2020.¹¹
- **M.J. Bradley & Associates (2016):** This study analyzed 14 scenarios for implementing the Clean Power Plan and found that the plan was “very achievable” and that it would deliver substantial benefits to consumers – reducing electricity bills from 5% to 20% in 2030 – while preserving a diverse energy mix.¹²
- **Synapse Energy Economics (2016):** This study evaluated the effect of the Clean Power Plan on household electric bills and found that it would save consumers an average of \$17 per month in 2030.¹³
- **Resources for the Future (2016):** This study analyzed claims that the Clean Power Plan would create economic hardship for the coal industry and found that, contrary to those claims, the plan would result in near-zero costs beyond current trends until 2025

⁷ This figure (2011\$) is based on a rate-based approach to implementation and reflects a 3% discount rate for climate and health co-benefits. EPA, Regulatory Impact Analysis for the Clean Power Plan Final Rule (2015) at ES-20.

⁸ EPA, Fact Sheet: Clean Power Plan Benefits of a Cleaner, More Efficient Power Sector (2015).

⁹ RIA at 3-40.

¹⁰ RIA at 6-35.

¹¹ Jonathan J. Buonocore et al., *An Analysis of Costs and Health Co-Benefits for a U.S. Power Plant Carbon Standard*, 11(6) PLOS ONE e0158792 (2016).

¹² M.J. Bradley & Associates, *EPA's Clean Power Plan: Summary of IPM Modeling Results* (2016).

¹³ Pat Knight et al., Synapse Energy Economics, Inc., *Cutting Electric Bills with the Clean Power Plan - EPA's Greenhouse Gas Reduction Policy Lowers Household Bills: March 2016 Update* (2016).

in large part due to the plan's built in flexibility.¹⁴

EPA reached similar conclusions about the net benefits of other GHG standards. For the New Source Performance Standards (NSPS) for Electric Generating Units (EGUs), EPA estimated that the net monetized benefits would range from \$3.1 to \$18 per MWh for coal-fired power plants implementing carbon capture and \$1.5 to \$14 per MWh for coal-fired power plants co-firing with natural gas.¹⁵ For the NSPS for the Oil and Gas Sector, EPA estimated that the rule would produce climate benefits of \$690 million in 2025, which would outweigh the estimated costs of \$530 million.¹⁶ EPA also noted that the Oil and Gas NSPS would reduce other pollutants, including 210,000 tons of VOCs and 3,900 tons of air toxics in 2025, generating additional benefits not reflected in the monetized cost-benefit analysis. Finally, for the 2017-2025 Motor Vehicle Emission Standards, EPA estimated that the standards would save consumers an average of \$5,700 to \$7,400 in fuel savings and produce net benefits to society in the range of \$326 to \$451 billion.¹⁷

Experience with existing pollution control programs further supports the idea that these programs can have very beneficial economic effects. Consider the Regional Greenhouse Gas Initiative (RGGI): a recent study found that RGGI has produced approximately \$5.7 billion in public health benefits from improved air quality and \$2.9 billion in economic benefits from 2009 through 2014.¹⁸ Notably, these estimates do not include the benefits of reducing GHG emissions. A recent study of the impact of California's renewable energy, cap and trade, and energy efficiency programs through 2015 found that these programs had generated total net economic benefits of \$13.4 billion and created 40,700 jobs in the San Joaquin Valley region alone (which encompasses 11% of California's total population).¹⁹ These estimates are based purely on the direct economic effect of the program on state and local revenue, employment, and economic activity -- they do not reflect the value of GHG reductions or public health benefits stemming from improved air quality.

¹⁴ Joshua Linn et al., Resources for the Future (RFF), *An Economic Assessment of the Supreme Court's Stay of the Clean Power Plan and Implications for the Future*, RFF DP16-21 (2016).

¹⁵ These figures reflect benefits from reductions in CO₂ (calculated using the Social Cost of Carbon), PM_{2.5} and Ozone. EPA, Regulatory Impact Analysis for the Final Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units, EPA-452/R-15-005 (2005) at 5-21.

¹⁶ The climate benefits were calculated using the Social Cost of Methane. EPA, Regulatory Impact Analysis of the Final Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources, EPA-452/R-16-002 (2016) at 1-5.

¹⁷ EPA Office of Transportation and Air Quality, *Regulatory Announcement: EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks*, EPA-420-F-12-051 (2012).

¹⁸ Abt Associates, *Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative, 2009-2014* (2017).

¹⁹ Betony Jones et al., U.C. Berkeley, *The Economic Impacts of California's Major Climate Programs on the San Joaquin Valley, Analysis Through 2015 and Projections Through 2030* (2017).

Experience with environmental regulations has also shown that compliance costs can be much lower than regulators predict when they first promulgate those regulations. The Acid Rain Cap and Trade Program, introduced in 1990, is one of the best documented examples. A 2005 study of the program found that the compliance costs (approximately \$3 billion annually) were approximately half of what had originally been anticipated, and that those compliance costs were significantly outweighed by the environmental public health benefits of the program (approximately \$100 billion annually).²⁰

Notably, although Executive Order 13777 instructs agencies to only account for compliance costs when determining what rules may need to be rescinded or revised in order to justify the promulgation of a new rule, we are unaware of any statute administered by EPA that would permit it to only account for compliance costs. The Clean Air Act, for instance, does not permit EPA to consider compliance costs when forming a scientific judgment on whether an air pollutant endangers public health or welfare. Nor does it allow EPA to ignore public health and welfare benefits when making decisions about the level of standards for emission reductions from stationary and mobile sources. Rather, the statute requires EPA to balance costs and benefits in determining the proper standard for a particular pollutant from a source category.²¹ As noted by the Supreme Court, EPA cannot make regulatory decisions based on factors that are “divorced from the statutory text,”²² and there is no provision of the Clean Air Act that authorizes EPA to rescind or revise regulations in order to implement anything like the President’s deregulatory agenda. It would also be arbitrary and capricious for EPA to “put a thumb on the scale by undervaluing the benefits and overvaluing the costs” of regulatory action.²³

II. Additional GHG Emission Standards are Needed to Address the Problem of Global Climate Change

The GHG standards noted above represent an important step towards mitigating global climate change, but the U.S. needs to do more in order to address its contribution to total atmospheric concentrations of greenhouse gas emissions. Analyses suggest that the aggregate effect of federal GHG standards, combined with state GHG reduction policies, would put us on a pathway to reduce emissions by 22% by 2025.²⁴ This is insufficient for the purposes of meeting the United

²⁰ L. Chestnut & D. M. Mills, A Fresh Look at the Benefits and Costs of the US Acid Rain Program, 77 *Journal of Environmental Management* 252 (2006).

²¹ 42 U.S.C. §§ 7411, 7521.

²² *Massachusetts v. EPA*, 549 U.S. at 532.

²³ *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1198 (9th Cir. 2008).

²⁴ Doug Vine, Center for Climate and Energy Solutions (C2ES), *Achieving the United States’ Intended Nationally Determined Contribution* (2016). See also John Larsen et al., *Taking Stock: Progress Toward Meeting U.S. Climate Goals* (Rhodium Group, 2016) (also finding that additional policies are needed to meet the U.S. 2025 climate target).

States' intended nationally determined contribution (INDC) to the Paris Agreement, in which the nation pledged to reduce net GHG emissions 26% to 28% by 2025. It is also insufficient for the purposes of achieving an 80% or more reduction in GHG emissions by 2050, the average emission reduction that developed countries need to achieve in order to have a reasonable chance of limiting global warming to 2°C. The longer the United States delays its necessary emissions reductions, the more rapidly the nation will need to reduce emissions in the future.

A variety of policies targeting GHG emissions from all significant sources will be needed to meet the 80% reduction target by mid-century.²⁵ These will include policies aimed at achieving greater emissions reductions from power plants and motor vehicles, as well as policies to reduce emissions from sectors and sources that are not currently regulated for GHGs, such as petroleum refineries, coal mines, cement and steel manufacturing facilities, and agricultural and livestock operations. Policies aimed at increasing renewable energy, energy efficiency, carbon capture, and the electrification of vehicles and other fossil fuel-based systems will also be needed to achieve this target.

In sum: rather than repealing or revising existing GHG standards, EPA should be focusing on the promulgation of new standards or a more comprehensive emission reduction program. In deciding whether to promulgate new standards, EPA should account for the benefits of climate action (which included avoided costs as discussed below) as well as compliance costs.

III. The Costs of Inaction are Far Greater Than the Costs of Mitigation

When assessing the costs and benefits of rulemakings, EPA should account for the costs of inaction on climate change, which EPA has already concluded are far greater than the costs of reducing GHG emissions. In particular, EPA's Climate Change Impacts and Risk Analysis (CIRA) project²⁶ estimated that mitigation consistent with achieving the international goal of limiting global warming to 2°C would yield the following annual economic benefits, as compared with climate change likely to occur if the United States and other countries pursue an unmitigated climate change policy resulting in a "business-as-usual" emissions scenario:

- **Water shortages:** \$11 - \$180 billion in avoided damages in key economic sectors in 2100
- **Labor and heat impacts:** \$110 billion in avoided damages from lost labor due to extreme temperatures in 2100
- **Power systems:** \$10 - \$34 billion in savings on power system costs in 2050
- **Agriculture:** \$6.6 - \$11 billion in avoided damages in 2100

²⁵ James H. Williams et al., *Pathways to Deep Decarbonization in the United States* (2014).

²⁶ EPA, *Climate Change in the United States: Benefits of Global Action*, EPA 430-R-15-001 (2015).

- **Roads:** \$4.2 - \$7.4 billion in avoided adaptation costs in 2100
- **Urban drainage systems:** \$50 million - \$6.4 billion in avoided adaptation costs in 2100
- **Coastal property:** \$3.1 billion in avoided damages and adaptation costs from sea level rise and storm surge in 2100
- **Water quality:** \$2.6 - \$3.0 billion in avoided damages in 2100
- **Forestry:** \$520 million - \$1.5 billion in avoided damages in 2100

The CIRA report also highlighted important non-monetized health benefits accruing from mitigation, including an estimated 57,000 fewer deaths annually from poor air quality in 2100, and 12,000 fewer deaths from extreme temperature in 49 major U.S. cities in 2100.

Independent reports have similarly found that the costs of unmitigated climate change would far outweigh the costs of mitigation. For example, the 2014 “Risky Business” report found that \$238 to \$507 billion worth of coastal property will be below sea level by 2100 if we continue on our current emissions trajectory, and that there is a 1-in-20 chance that more than \$701 billion worth of coastal property will be below sea level by then.²⁷ A subsequent study found that unmitigated climate change could reduce global GDP by over 20% by 2100.²⁸

Conclusion

We urge EPA to consider all of these factors and to account for the full range of costs and benefits when deciding how to proceed with the implementation of Executive Order 13777 and whether to promulgate, repeal, or revise rules aimed at addressing climate change and other environmental pollution. We have attached the studies noted herein for your reference. Please do not hesitate to contact us if you have any questions about the points raised in this letter.

Sincerely,



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²⁷ Kate Gordon et al., *Risky Business: The Economic Risks of Climate Change in the United States* (2014).

²⁸ Marshall Burke et al., *Global Non-Linear Effect of Temperature on Economic Production*, 527 NATURE 235 (2015). See also: Nicholas Stern, *Stern Review: The Economics of Climate Change* (Grantham Research Institute on Climate Change and the Environment, London School of Economics, 2006).