

October 31, 2018

U.S. Environmental Protection Agency
EPA Docket Center
Docket ID No. EPA–HQ–OAR–2017– 0355
Mail Code 28221T
1200 Pennsylvania Avenue NW
Washington, DC 20460 (submitted via regulations.gov)

Re: Emissions Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program

Dear Acting Administrator Wheeler:

We represent environmental and energy agencies from 14 states that comprise more than 120 million people and more than 42 percent of the U.S. economy. We are submitting comments on the U.S. Environmental Protection Agency’s (EPA’s) proposal to replace the Clean Power Plan (CPP) with revised emission guidelines (the Affordable Clean Energy (ACE) rule or Proposed Rule) for state plans to reduce greenhouse gas (GHG) emissions from existing electric generating units (EGUs). As leaders of states’ environmental and energy agencies, we play a critical role in protecting our residents’ health and the environment in collaboration with the federal government. We have extensive experience working with the federal government developing and implementing regulations and guidance authorized by the Clean Air Act. These actions have reduced harmful air emissions to a fraction of historical levels even as national GDP has grown. In fact, our collective experience demonstrates that reduction of carbon dioxide (CO₂) emissions can occur as our economies grow. Taking steps now to achieve meaningful CO₂ reductions is critical to reducing dangerous disruptions to the climate and to address the climate change effects our states and residents are already experiencing.

However, EPA’s own analysis shows that the proposed approach has the potential to *increase* CO₂ and other pollutant emissions, worsen air quality, cause and exacerbate illnesses, and even contribute to deaths. A statutory requirement for a regulatory framework to *reduce* emissions cannot be satisfied with one that has the potential to *increase* emissions.¹ Rather, given EPA’s legal obligation to *reduce* CO₂ emissions from existing fossil fuel-fired EGUs, any final rule must fulfill EPA’s duty to identify the best system of emission reduction (BSER) and ensure that it achieves meaningful reductions in light of the danger posed by climate change to human health and the environment.

¹ 42 USC § 7411(d).

For the following reasons, we urge EPA to abandon this proposal and instead to maintain or update the CPP, which will fulfill EPA's statutory obligations under the Clean Air Act and support states' efforts to address and mitigate the effects of climate change.

- EPA's approach conflicts with scientific evidence regarding climate impacts and with experience in our states that climate action can foster economic development and job growth.
- EPA fails to consider all available emission reduction strategies to determine the BSER. The Agency ignores the primary methods deployed by states and power companies to meaningfully reduce GHG and other emissions from existing power plants. (C-2)
- EPA's proposed emissions guideline would achieve significantly fewer emissions reductions than the CPP at equivalent or greater cost. This cannot represent the best system of emission reduction under the statute.²
- EPA fails to establish a minimum standard to ensure that dangerous pollution is addressed in every state and fails to require compliance by specific dates. These flaws could facilitate a "race to the bottom" and endanger public health and welfare.
- EPA's approach in the proposal forecloses compliance flexibility, ignores successful state experience with cost-effective state and regional trading approaches, and fails to reflect the *best* system of emission reductions.
- EPA's proposed regulatory changes will lead to unnecessary delays in submission and approval of compliance plans. More importantly, these changes will delay reductions in dangerous air pollution.
- EPA's proposed revisions to the New Source Review program would endanger public health and are contrary to the Clean Air Act's statutory language.³
- EPA's technical analysis and engagement with states and stakeholders have been inadequate, particularly when compared to the extensive engagement and analysis undertaken to develop the Clean Power Plan.

We elaborate on these points in more detail below. These comments, drafted with support of the Georgetown Climate Center, are offered in response to the specific questions posed by the

² *Id.*

³ *Id.*

Proposed Rule and are based on our states' continued calls for a federal framework to ensure the power sector achieves the emission reductions necessary on a nationwide basis.

I. EPA's approach in the proposal conflicts with scientific evidence on climate impacts and with real-world experience from our states that climate action can foster economic development and job growth.

As we have noted in our prior comments, which are referenced below,⁴ our states and residents are already suffering the impacts of climate change, which is causing an increase in the frequency and intensity of extreme weather events. As a result of extreme weather, our residents have lost businesses, been displaced from their homes, and even lost loved ones. For example, Hurricane Michael made landfall in the Florida Panhandle in early October, while Florida was still recovering from Tropical Storm Gordon, and registered as the third strongest storm to make landfall in the U.S. The hurricane wreaked havoc throughout Georgia and the Carolinas and made it all the way to Virginia before finally dissipating. Michael's economic impact could reach upwards of \$25 billion.⁵ NOAA estimates that Hurricane Sandy caused damages of \$71 billion and projected damages from Hurricane Harvey total \$125 billion.⁶ In Connecticut, New Jersey, and New York, Hurricane Sandy caused the deaths of over 90 people, power outages affected more than 4,000,000 customers and tens of thousands of people in the three states were forced to evacuate or saw their homes destroyed or severely damaged.⁷ Even inland states are experiencing historic damages from recent hurricanes. For example, Vermont incurred an estimated \$733 million in damages from Tropical Storm Irene.⁸ In the first ten months of 2018, more than 620,743 acres of California land burned in wildfires—more than double the acreage burned over the past five years during the same months.⁹ Meanwhile, four of California's five

⁴ *State Comments on Proposed Repeal and Replacement of the Clean Power Plan*, GEORGETOWN CLIMATE CENTER (October 31, 2018), <https://www.georgetownclimate.org/articles/states-press-for-meaningful-regulation-of-carbon-emissions-from-the-power-sector.html>

⁵ Brian K Sullivan, *Hurricane Michael's Price Tag Could Reach \$25 Billion*, BLOOMBERG (Oct. 11, 2018), <https://www.bloomberg.com/news/articles/2018-10-11/hurricane-michael-s-price-tag-could-reach-25-billion>.

⁶ *Hurricane Costs*, NOAA (2017), <https://coast.noaa.gov/states/fast-facts/hurricane-costs.html>.

⁷ See Mark Pazniokas, *Connecticut Roads Reopen, But More Than 600,000 Without Power*, CT MIRROR (Oct. 30, 2012), <https://ctmirror.org/2012/10/30/connecticut-roads-reopen-more-600000-without-power/>;

Centers for Disease Control and Prevention (May 24, 2013); Press Release, *Deaths Associated with Hurricane Sandy — October–November 2012*, CENTERS FOR DISEASE CONTROL (May 24, 2013),

<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6220a1.htm>; *Hurricane Sandy Situation Report #6*, UNITED STATES DEPARTMENT OF ENERGY OFFICE OF ELECTRICITY DELIVERY & ENERGY RELIABILITY (Oct. 31, 2012), <https://www.energy.gov/articles/hurricane-sandy-noreaster-situation-reports>; Sarah Crichton, *Officials: Sandy destroys more than 2,000 LI homes*, Newsday (Dec. 10, 2012), <https://www.newsday.com/long-island/officials-sandy-destroys-more-than-2-000-li-homes-1.4316744>.

⁸ Governor's Highway Safety Program, *Annual Report of Governor's Highway Safety Program*, STATE OF VERMONT (2012), <http://ghsp.vermont.gov/sites/ghsp/files/documents/2012%20Annual%20Report.pdf>.

⁹ Cal Fire, *Incident Information for January 1, 2018 through October 21, 2018*, CAL.GOV (Jan. 24, 2018), http://cdfdata.fire.ca.gov/incidents/incidents_stats?year=2018.

most destructive wildfires on record have burned in the last 15 years.¹⁰ In addition to the damage caused by intensified storms and storm surges, droughts, and wildfires, the increased frequency and duration of extreme heat events, shorter winters, and rising sea levels are already affecting our infrastructure and economies.¹¹ Our states' economies rely on weather-dependent industries, such as agriculture, fishing, and recreational tourism, and these have been affected by drought, shorter winters, and extreme weather including changes in precipitation. Additionally, these impacts threaten the health of our residents, including through extreme heat and changing patterns of infectious diseases.¹²

These and other impacts are expected to become more severe as global temperatures rise. An October 2018 IPCC Report found that limiting global warming to 1.5 degrees Celsius can meaningfully reduce the risk associated with increases in heavy precipitation events and the frequency and magnitude of floods and droughts, forest fires, extreme weather events, desert expansion, and the spread of invasive species, pests, and diseases, compared to 2 degrees Celsius of warming.¹³ The new IPCC report is an urgent call for immediate action. Limiting temperature increases as the report urges necessitates dramatic reductions in GHG emissions, and the report makes clear that those emission reductions must begin now. The report—and all of the climate science that came before it—makes this proposal's failure to secure meaningful emission reductions from one of the largest sources of those emissions in the country unacceptable.

Moreover, even the Administration's own recent analysis notes that global mean surface temperatures could rise by close to 4 degrees Celsius (7 degrees Fahrenheit),¹⁴ which would have catastrophic consequences; the U.S. Global Change Research Program projects global average sea levels will rise by up to four feet by 2100, noting that "a rise as much as 8 feet by 2100 cannot be ruled out."¹⁵ One study projected that if emissions continue to increase unabated, the annual economic impact of more severe hurricanes, residential property damages due to sea-level rise, and growing water and energy costs could reach \$271 billion (2006\$) in 2025 and \$1.9 trillion (2006\$) in 2100, or 1.4 and 1.8 percent of U.S. gross domestic product (GDP)

¹⁰ Press Release, *Governor Brown and Legislative Leaders Issue Statement on Formation of Wildfire Preparedness and Response Conference Committee*, OFFICE OF CALIFORNIA GOVERNOR EDMUND G. BROWN JR. (Jul. 2, 2018), <https://www.gov.ca.gov/2018/07/02/governor-brown-and-legislative-leaders-issue-statement-on-formation-of-wildfire-preparedness-and-response-conference-committee/>.

¹¹ See generally, D.J. Wuebbles et al., *Executive Summary of the Climate Science Special Report: Fourth National Climate Assessment, Volume I*, U.S. GLOBAL CHANGE RESEARCH PROGRAM (2017) https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf

¹² See generally, Lancet Countdown & American Public Health Association, *Lancet Countdown 2017 Report: U.S. Briefing*, APHA (Oct. 31, 2017).

¹³ *Id.*

¹⁴ *Draft Environmental Impact Statement*, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (2018), https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_my2021-26_deis_0.pdf.

¹⁵ See generally, Wuebbles et al., *supra* note 11.

respectively.¹⁶ While climate change impacts are already underway and some future changes are unavoidable, limiting the increase of global average temperatures to less than 2 degrees Celsius would greatly improve our chances of avoiding the most devastating climate impacts and our ability to adapt to the changes that do occur.¹⁷ Reaching such a temperature goal necessitates immediate and dramatic reductions in GHG emissions. This would require the U.S. to do its part to reduce emissions from major sectors such as the power sector, joining other countries in focused efforts to reduce global emissions. The Supreme Court has recognized that “Agencies, like legislatures, do not generally resolve massive problems in one fell regulatory swoop.”¹⁸ It is essential that EPA finalize a rule that provides the regulatory certainty for the power sector to make the investments needed and to facilitate technology innovation in clean energy. The fact that such a regulation will only address one sector or takes only an initial step does not make it any less vital. To the contrary, addressing *all* major emission sources is critically important. As EPA itself states, regulations must correct the “market failure by causing affected EGUs to begin to internalize the negative externality associated with CO₂ emissions.”¹⁹

And we know this can be done. Our states have a long history of working to reduce GHGs both individually and collectively. For example, North Carolina’s Renewable Energy and Energy Efficiency Portfolio Standard,²⁰ in combination with timely market drivers, state laws regarding emissions from coal-fired power plants,²¹ and favorable Public Utility Regulatory Policies Act (PURPA) requirements have resulted in GHG reductions beyond the 2030 CPP mass goal for the state.²² Minnesota’s GDP grew by 23.1 percent between 2000 and 2014, while its emissions

¹⁶ Frank Ackerman and Elizabeth A. Stanton, *The Cost of Climate Change*, NRDC (May 2008), <https://www.nrdc.org/sites/default/files/cost.pdf>. An additional study estimated the likely combined direct economic effects from estimated coastal damages, labor productivity, energy demand, mortality, and agricultural production could reach 0.7 to 2.4 percent of the U.S. gross domestic product per year by the end of this century. The report also estimated that expected sea-level rise would increase average annual losses from hurricanes and other coastal storms by \$2 to \$3.7 billion on average by 2020-2039 and \$6 to \$12 billion by 2040-2059. See Rhodium Group, LLC., *American Climate Prospectus: Economic Risks in the United States* (Oct. 2014).

¹⁷ See generally Ana Maria Vicedo-Cabrera et al., *Temperature-related mortality impacts under and beyond Paris Agreement climate change scenarios*, 150 CLIMATIC CHANGE 1 (Sept. 2018), <https://doi.org/10.1007/s10584-018-2274-3>; Myles Allen et al., *Global Warming of 1.5° C*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Oct. 8, 2018), http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

¹⁸ *Massachusetts v. EPA*, 549 U.S. 497, at 524 (2007).

¹⁹ Emissions Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44,749 (Aug. 31, 2018).

²⁰ *Annual Report Regarding Renewable Energy and Energy Efficiency Portfolio Standard in North Carolina Required Pursuant to G.S. 62-133.S(J)*, NORTH CAROLINA UTILITIES COMMISSION (Oct. 1, 2017), <http://www.ncuc.commerce.state.nc.u.s/reports/repsreport2017.pdf>

²¹ Clean Smokestacks Act, S.B 1078, North Carolina General Assembly (2001).

²² Joseph Bebon, *How PURPA Helped Boost Utility-Scale Solar in North Carolina*, SOLAR INDUSTRY (Aug. 23, 2016), <https://solarindustrymag.com/how-purpa-helped-boost-utility-scale-solar-in-north-carolina/>.

decreased by 3.6 percent.²³ During the same period, CO₂ emissions from Minnesota's electric sector declined by 14 percent.²⁴ Minnesota added more than 1,500 clean energy jobs since 2016, and this growth is more than two times faster than overall job growth for the state.²⁵ Since the 2005 base year, CO₂ emissions from power plants in the multi-state Regional Greenhouse Gas Initiative (RGGI) region have decreased by more than 50 percent.²⁶ Meanwhile, since the launch of the RGGI program, the combined economy of the participating states has grown by 12 percent in real terms.²⁷ Any final rule under Section 111 of the Clean Air Act must take into account this significant progress and the effective and affordable measures used by our states to reduce carbon pollution from the power sector. (C-1)²⁸

The power sector is currently one of the largest sources of GHG emission in the United States, second only to the transportation sector. However, numerous studies have shown that significant decarbonization across all sectors of the economy will be required to limit the impacts of climate change. To this end, the electric power sector must play a critical role as low- and no-carbon electricity is used to reduce emissions from other sectors, including transportation, buildings, and industry. The “beneficial electrification” of these sectors will be one of the most important strategies to achieve significant GHG reductions going forward. (C-1)

II. EPA's analysis to determine the Best System of Emission Reduction must consider all available emission reduction strategies and reflect the methods being deployed by states and power companies to meaningfully reduce GHG and other emissions from existing power plants. (C-1 through C-4)

The CPP's application of BSER reflected the significant emission reductions that the power sector could achieve, as well as the way the interconnected power grid actually operates and how power companies have been cost-effectively reducing power sector emissions (both GHG and non-GHG) for decades. They have accomplished this by reducing the use of high-emitting plants and increasing the use of lower- or zero-emitting plants. (C-1) As demonstrated by the fact that the power sector continues to transition to cleaner generation, the CPP targets—and indeed, deeper targets—are eminently achievable, without compromising reliability or affordable electricity. In fact, according to data from the Consumer Expenditure Survey of the U.S. Bureau

²³ Devashree Saha & Mark Muro, *Growth, Carbon, and Trump: State progress and drift an economic growth and emissions 'decoupling,'* THE BROOKINGS INSTITUTION (Dec. 8, 2016) <https://www.brookings.edu/research/growth-carbon-and-trump-state-progress-and-drift-on-economic-growth-and-emissions-decoupling/>.

²⁴ MJB&A analysis based on EPA air markets program data.

²⁵ *59,000+ Clean Energy Jobs*, CLEAN ENERGY ECONOMY MN, <https://www.cleanenergyeconomy.org/mn-clean-jobs-numbers> (last visited Oct. 22, 2018).

²⁶ *The Investment of RGGI Proceeds in 2016*, Regional Greenhouse Gas Initiative, Inc. (September 2018), https://www.rggi.org/sites/default/files/Uploads/Proceeds/RGGI_Proceeds_Report_2016.pdf

²⁷ MJB&A analysis based on Bureau of Economic Analysis data.

²⁸ Throughout these comments, we note the comment number in the Proposed Rule to which the comments are responding.

of Labor Statistics, over the short- and long term, electric bills paid by American households have shrunk in proportion to expenditures overall.²⁹ Furthermore, electric bills for U.S. households have actually declined between 2011 and 2017,³⁰ even as electricity generation has more than doubled from wind and increased seven-fold from solar.³¹

By “decoupling” pollution from economic growth, our states have shown that we can make our air cleaner while creating jobs, spurring innovation, and attracting investment.³² With low natural gas prices, declining costs of renewables, and energy efficiency investments, our states have seen positive economic benefits from reducing emissions. For example, Maryland cut its emissions 28 percent between 2000 and 2014, while its GDP grew by 32 percent.³³ The story is similar in Minnesota and North Carolina, as noted above. The CPP was designed to amplify these trends such that emission reductions would be more cost-effective by increasing the demand for clean energy and creating economies of scale while empowering states to use trading frameworks that would ensure meaningful emission reductions were secured flexibly and at the lowest cost. Moreover, the CPP was designed to accommodate the multiple benefits of renewable energy and emerging smart-grid technologies such as energy storage for improved electric reliability, improved energy efficiency, and new and emerging customer services such as smart appliances.

EPA’s Proposed Rule is incompatible with how emissions are being reduced in the power sector, where the percentage of generation from coal has declined from about 53 percent in 1990 to just under 30 percent in 2017³⁴ and is expected to decline even further. (C-1) The experience of our states and power companies within our states confirms that the best system for cost-effective reduction of carbon pollution necessarily includes optimizing the generation of electricity to reduce emissions—reducing the use of higher emitting sources of power generation to allow the deployment of lower-emitting generation sources. As explained to the D.C. Circuit by former state environmental and energy officials as well as electric power companies, grid operators routinely make decisions about how to economically dispatch available generating capacity, typically bringing generators with low operating costs online first, followed by units with higher operating costs as needed.³⁵ Both companies and states have put in place policies to adjust that

²⁹ *Electric Bills Fall Below 2011 Level*, PUBLIC UTILITIES FORTNIGHTLY (Sept. 20, 2018), <https://mailchi.mp/fortnightly/today-from-puf-847429?e=9d7a98a48c>.

³⁰ *Id.*

³¹ *Renewable and Alternative Fuels*, U.S. ENERGY INFORMATION ADMINISTRATION, <https://www.eia.gov/renewable/data.php> (last visited Oct. 22, 2018).

³² Saha & Muro, *supra* note 22, at Fig. 3.

³³ *Id.*

³⁴ MJB&A analysis based on EIA annual generation data, https://www.eia.gov/electricity/data/state/annual_generation_state.xls (last visited Sept. 30, 2018).

³⁵ Brief of Amici Curiae Former State Environmental and Energy Officials in Support of Respondents, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. argued Sept. 27, 2016); Final Brief of Intervenors Calpine Corp. Et. Al, In Support of Respondents, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. argued Sept. 27, 2016).

dispatch across existing sources and the investment in new sources to optimize for emission reductions. Electricity providers shift generation among affected units and to zero-emitting sources as a means of achieving emission reductions because such strategies can achieve greater reductions at lower cost than by relying on control technology alone.³⁶ Such generation shifting is consistent with industry practice and has already led to a system-wide decrease in emissions of criteria air pollutants and GHGs, including CO₂. This approach gives states and their utility regulators maximum flexibility to tailor emission reduction compliance plans to their resources and policy priorities.

We know of no state that is now or has previously required investment in heat rate improvements at coal-fired power plants as the means to reduce emissions of air pollutants in order to achieve a state goal of reducing its emissions of GHGs (or any other air pollutant). Focusing standards only on boiler heat rate improvement (HRI) measures will direct investment into a technology that would otherwise not attract such investments due to economics and market trends. Further, EPA's proposal arbitrarily fails to appropriately consider and fully evaluate other systems of emission reduction that EPA has previously evaluated as available systems of emission reduction for GHGs from existing power plants that would achieve far greater pollution abatement, including generation shifting, co-firing with natural gas or converting to natural gas, and carbon capture and sequestration. All of these systems would achieve far greater emissions abatement, and thus be superior candidates for the "best" system of emission reduction than EPA's proposed approach. (C-2)

Finally, the Proposed Rule does not require emission reductions from natural gas-fired combustion turbines. EPA states that additional studies would be needed to adequately determine the systems of emissions reduction that might constitute BSER for such sources. However, these natural-gas sources represent a large portion of emissions, and therefore, we urge EPA to put in place a BSER that recognizes the potential to reduce utilization of these sources to the extent that their generation can be replaced by non-emitting generation sources, and the potential for the utilization of higher-emitting power plants to be reduced to the extent that their generation can be replaced by these sources and non-emitting generation sources. If EPA were to continue along the path of heat-rate improvements alone, which we believe fails to meet the statutory criteria, we nonetheless urge EPA to initiate a data collection process to obtain the necessary information to develop a regulatory approach for these sources. (C-3, C-4).

³⁶ Final Brief of Intervenors Calpine Corp. Et. Al, In Support of Respondents, *West Virginia v. EPA*, No. 15-1363 (D.C. Cir. argued Sept. 27, 2016).

III. As the RIA demonstrates, EPA is proposing to replace the CPP with an emission guideline that would achieve significantly fewer emissions reductions at equivalent or greater cost. This cannot represent the best system of emission reduction under the statute. (C-2, C-9, C-65)

A. Emissions may increase under EPA’s proposed approach, which is in conflict with the statute.

EPA’s proposed approach will not achieve meaningful emission reductions, and the limited reductions it may achieve could easily be eroded or even eliminated through emissions increases due to increased dispatch in certain situations (the “rebound effect”). Additionally, through the investments made to achieve the HRI, a coal plant may extend the years it operates, further increasing overall emissions, potentially very significantly. (C-9) We have significant concerns that any emissions reductions that are achieved through HRIs by a unit would be overwhelmed by its increase in overall emissions, and those concerns are amplified by the proposed NSR reforms discussed below.

EPA’s own Regulatory Impact Analysis (RIA) demonstrates that a BSER based on HRI is not an effective emission reduction system. (C-2) EPA’s RIA projects that some coal fired EGUs would increase their overall emissions with HRI measures. This increase in emissions can result when the HRI requirements increase the plant’s efficiency and reduce the amount of coal required to produce each unit of electricity. This increased efficiency lowers the coal plant’s marginal cost, which in turn causes the plant to be run more hours to produce more electricity. In other words, even if the HRI requirements reduce a coal plant’s emissions rate slightly, overall emissions (in tons of CO₂) from the plant may *increase* as the plant is dispatched more by electric system operators. Not surprisingly, analysis of EPA’s emphasis on coal plant HRI for BSER show this “rebound effect.” For example, the RIA for the Proposed Rule shows increases in emissions under its illustrative policy scenarios³⁷ in several states. For example, under the scenario for a 4.5 percent HRI at \$50/kW, several states are projected to see a measurable *increase* in emissions driven by an increase in coal-fired electric power generation including: Kentucky, Kansas, Texas, Illinois, Arkansas, Tennessee, Georgia, Wisconsin, and West Virginia.³⁸ Such an outcome would mean that states with increased emissions and downwind states, including many of our own, would bear the public health burdens associated with these additional emissions. (C-9) A recent Resources for the Future (RFF) analysis of standards similar to what EPA is proposing also found that HRI measures were accompanied by an increase in emissions in eight states (Arizona, Florida, Idaho, Mississippi, New Jersey, Nevada, Oregon, and

³⁷ Illustrative policy scenarios modeled in EPA’s regulatory impact assessment of the proposed ACE rule include 2 percent HRI at \$50/kW, 4.5 percent HRI at \$50/kW, and 4.5 percent HRI at \$100/kW.

³⁸ EPA ACE RIA IPM run files, <https://www.epa.gov/airmarkets/analysis-proposed-ace-rule> (last visited Sept. 3, 2018).

Washington).³⁹ Given that the approach EPA has proposed effectively requires assessment of the “best system of emission reduction” at the level of each plant, this assessment cannot plausibly fulfill the statutory criteria if it results in an emission increase at that plant.

As discussed more fully below, EPA’s proposed New Source Review regulations would have the potential to exacerbate this risk of increased emissions, and at the very least, overwhelm any potential emission rate improvements given the long-lived nature of GHGs. A statutory obligation to design a regulatory framework that is intended to *reduce* emissions cannot be satisfied with one that has the potential to *increase* emissions.⁴⁰ EPA has examined the potential for coal-fired power plants that receive heat-rate investments to have increased lifetimes as a result of the need to recoup those investments and due to increased operational efficiency. Given the high emissions of coal-fired power plants relative to other generation sources on the grid and the marginal hourly emission reductions achieved via heat-rate improvements, EPA must conduct, and seek public comment on, a full analysis of the effects of this Proposed Rule on lifetime coal-fired power plant emissions. It is highly possible that the Proposed Rule would in fact lead to significant increases in GHG emissions, which would be a clear violation of the statute.⁴¹ (C-65)

B. Compliance costs may be higher than costs to comply with the CPP and with less emission reductions.

EPA explains in the Proposed Rule that the estimated costs to comply with the CPP have reduced significantly since the CPP was finalized due to market factors and that declining emission trends have continue to develop “even in the absence of implementation of the CPP.”⁴² At the same time, under certain scenarios, EPA estimates that compliance costs may increase compared to the CPP.⁴³ Relative to the emission reductions under the CPP, EPA also projects emission increases in 2030 for CO₂, sulfur dioxide (SO₂), and nitrogen oxides (NO_x).⁴⁴ Additionally, for the Proposed Rule, EPA continues to change the way demand side energy efficiency costs and benefits are calculated, which leads to an artificial increase of the compliance costs attributed to

³⁹ Amelia T. Keyes et al., *Carbon Standards Examined: A Comparison of At-the -Source and Beyond-the-Source Power Plant Carbon Standards*, RESOURCES FOR THE FUTURE (Aug. 2018), <http://www.rff.org/files/document/file/RFF%20WP%2018-20.pdf>.

⁴⁰ 42 USC § 7411(d).

⁴¹ 42 U.S.C. §7411(a)(1).

⁴² Emission Guidelines for Greenhouse Gas Emissions from existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program, 83 Fed. Reg. 44751 (Aug. 31, 2018).

⁴³ Specifically, estimates that compliance costs may increase compared to the CPP – by \$100 million in 2035 for the 2 percent HRI scenario at \$50/kW and by \$0.5 billion in 2025 and \$0.5 billion in 2035 under the 4.5 percent HRI at \$100/kW scenario.

⁴⁴ Relative to the emission reductions under the CPP, EPA projects emission increases in 2030 of 47 million to 61 million tons of CO₂, as well as 45 thousand to 53 thousand tons of sulfur dioxide (SO₂), and 32 thousand to 39 thousand tons of nitrogen oxides (NO_x).

the CPP based on the costs of generating electricity that, due to energy efficiency investments, is not actually generated.

EPA cannot lawfully replace an emission reduction framework with one that will achieve *fewer* emission reductions and potentially involve *greater* compliance costs. (C-2) These facts highlight the clear failure of this proposal to address the danger to human health and welfare posed by GHG emissions as required by the Act. Of course, given that EPA proposes to simply list candidate technologies as BSER, we recognize that any emission reductions projected in the RIA are hypothetical, and may well not be achieved. Additionally, we recognize that any emission reductions achieved through HRI would likely be more than reversed through rebound and plant life extensions. (C-9)

As indicated in our prior comments to EPA, it is essential that any rulemaking consider the effects on air quality and public health and the full social cost of carbon in identifying BSER and developing emission guidelines. We continue to object to EPA's changes to the RIA's methodology for projecting economic costs and benefits of complying with the regulations as they unjustifiably diminish the health, environmental, and economic benefits of reducing CO₂ emissions and other pollutants. EPA's own analysis concludes that the Proposed Rule would result in an increased number of premature deaths relative to the CPP—up to 1,400 annually beginning in 2030.⁴⁵ This is simply unacceptable.

C. Calculating the social cost of carbon

The social cost of carbon (SCC) is a measure of the benefits to society of reducing CO₂ emissions. It reflects impacts across economic sectors and public health caused by CO₂ emissions—e.g., net changes in agricultural productivity, property damage from rising sea levels and increased flood risk, public health impacts, and higher energy costs from increased use of air conditioning. It is used to estimate the benefits of a rule that would reduce CO₂ emissions, and therefore, reduce climate impacts and associated costs, and it should reflect the full cost of CO₂ emissions' contribution to climate change. In the Proposed Rule, EPA continues to make several changes to its calculation of the SCC, compared to the 2015 RIA of the CPP, none of which are supported by the best available, peer-reviewed scientific literature, the independent conclusions of experts, the extensive work conducted by the Interagency Working Group (IWG) composed of relevant experts across the federal government, or by the National Academy of Sciences' reviews of the IWG analyses and SCC estimates. All of the changes serve to understate the benefits of the CPP, and of CO₂ reductions more generally. EPA has not provided an adequate explanation for changing its previous approach, and ignoring such significant factors in estimating the full social cost of carbon.

⁴⁵ U.S. Environmental Protection Agency, Regulatory Impact Analysis for the Proposed Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program (Aug. 2018), 4-33.

1) Consideration of global climate change

First, EPA's decision to narrowly focus on domestic costs fails to fully account for the real costs our states will experience and are already experiencing due to global climate change and does not reflect the physical reality of climate change impacts. Climate change is a global problem and will require global action and cooperation to address. By choosing to disregard global impacts in its estimation of the value of reducing carbon EPA not only drastically underestimates the benefits the CPP would have produced, but also discourages other countries from making the commitments needed to address climate change.⁴⁶

Volume 1 of the Fourth National Climate Assessment is the latest authoritative scientific assessment of climate change published by the federal government. That report, published in 2017, concludes that the observed climate changes in the United States—including changing temperature, precipitation, extreme weather, and sea level rise—are driven by changes in the global climate system.⁴⁷ The U.S. is not isolated either physically or economically from the rest of the world. Droughts and extreme weather events in other countries create social instability that affects our national security and affect the global economy through changes in commodity prices, disrupted supply chains, international migration and tourism patterns, in addition to the physical impacts of individual events. The National Academy of Sciences—created by Congress in 1863 to provide objective, non-partisan scientific advice to the federal government⁴⁸ concluded in 2017 that “[c]limate damages to the United States cannot be accurately characterized without accounting for consequences outside U.S. borders.”⁴⁹

As the world's largest economy with a military presence in numerous countries, the U.S. is more exposed to risks associated with global climate disruptions than other countries.⁵⁰ The Department of Defense's 2014 Defense Review declared that climate effects “are threat multipliers that will aggravate stressors abroad such as poverty, environmental degradation, political instability, and social tensions—conditions that can enable terrorist activity and other forms of violence,” and as a result “climate change may increase the frequency, scale, and complexity of future missions, including defense support to civil authorities, while at the same

⁴⁶ Iliana Paul, Peter Howard, and Jason A. Schwartz, Institute for Policy Integrity, *The Social Cost of Greenhouse Gases and State Policy* 6, INSTITUTE FOR POLICY INTEGRITY (Oct. 2017), https://policyintegrity.org/files/publications/SCC_State_Guidance.pdf.

⁴⁷ See generally, *About NCA4 Vol. I*, U.S. GLOBAL CHANGE RESEARCH PROGRAM, <https://www.globalchange.gov/content/cssr> (last visited Oct. 22, 2018); Wuebbles *supra* note 10.

⁴⁸ *Frequently Asked Questions*, THE NATIONAL ACADEMIES OF SCIENCES, ENGINEERING & MEDICINE <http://www.nationalacademies.org/about/faq/index.htm> (last visited Oct. 22, 2018).

⁴⁹ Committee on Assessing Approaches to Updating the Social Cost of Carbon, et al., *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* 53, THE NATIONAL ACADEMIES OF SCIENCES, ENGINEERING & MEDICINE (2017).

⁵⁰ Paul, et al., *supra* note 44.

time undermining the capacity of our domestic installations to support training activities.”⁵¹ The U.S. Department of Defense is already expending resources to respond to persistent changes in environmental conditions, more frequent and severe extreme weather events, sea level rise, and decreases in Arctic sea ice cover as significant and growing national security risks.⁵²

2) Discount rate

Second, in the Proposed Rule, EPA applies discount rates ranging from 3 to 7 percent to the estimated benefits from reducing carbon emissions, compared to the 3 percent discount rate used in the 2013 RIA. The use of a 7 percent discount rate is wholly inappropriate in this context, and it should be abandoned. EPA’s approach understates the real costs to our states, and our residents—particularly future generations—will suffer. EPA’s approach ensures that the SCC estimates reflect only a small portion of those future costs by discounting them year over year, such that extremely harmful impacts with high economic costs in the future have tiny monetary value in the SCC. This is bad benefit-cost analysis and inconsistent with economic and government standards. Economic experts have pointed out that applying such a high discount rate to intergenerational effects is not the standard practice, and OMB itself has concluded that a discount rate of 7 percent is not appropriate for effects experienced on a long time horizon, such as climate change.⁵³ OMB Circular A-4, issued on September 17, 2003, suggests that for rules that have intergenerational benefits or costs, lower rates should be considered.⁵⁴ EPA’s own “Guidelines for Preparing Economic Analyses” (December 2010) notes that long-time horizon policies should use consumption rates of interest as discount rates, which may be even lower than the standard 3 percent discount rate (and certainly far below the short term 7 percent rate).⁵⁵

⁵¹ U.S. Dep’t of Defense, *Quadrennial Defense Review 2014* vi, 8 (2014).; see also U.S. Dep’t of Defense, *Report to Congress: National Security Implications of Climate-Related Risks and a Changing Climate* (2015), <http://archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery> (“Global climate change will have wide-ranging implications for U.S. national security interests over the foreseeable future because it will aggravate existing problems—such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions—that threaten domestic stability in a number of countries.”).

⁵² *National Security Implications of Climate-Related Risks and a Changing Climate* 4-5, U.S. DEPARTMENT OF DEFENSE, (July 23, 2015), <https://archive.defense.gov/pubs/150724-congressional-report-on-national-implications-of-climate-change.pdf?source=govdelivery>.

⁵³ *Response to Comments: Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12,866* 36, INTERAGENCY WORKING GROUP ON THE SOCIAL COST OF CARBON (Jul. 2015), <https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/scc-response-to-comments-final-july-2015.pdf>.

⁵⁴ OMB Circular A-4 (Sept. 17, 2003) (stating that agencies “[...] consider a further sensitivity analysis using a lower [than 3 percent] but positive discount rate in addition to calculating net benefits using discount rates of 3 and 7 percent.”)

⁵⁵ *Discounting Future Benefits and Costs*, ch. 6 in *Guidelines for Preparing Economic Analyses* 6-1 – 6-20, EPA (Dec. 2010), <https://www.epa.gov/sites/production/files/2017-09/documents/ee-0568-06.pdf>.

A recent report by the Council of Economic Advisors found that a discount rate of about 2 percent, which is lower than that used in the 2015 CPP RIA, may be more appropriate for these types of impacts.⁵⁶ By applying a discount rate of 7 percent, more than twice the rate recommended by OMB most recently, the Proposed Rule's RIA inappropriately and unjustifiably understates the true value of emission reductions to our states and the people we serve, including today's children and future generations.

D. Valuing the health benefits of PM_{2.5} reductions

Similar to the Advanced Notice of Proposed Rulemaking, EPA's RIA provides no scientific basis for the change in analysis for EPA's estimate of health benefits of PM_{2.5} reductions. Section 111(a) of the Act requires EPA to consider the health impacts in setting emission guidelines.⁵⁷ EPA must endeavor to provide an inclusive consideration of the regulatory impacts and costs,⁵⁸ and that analysis must be based on the best available science. The RIA for the Proposed Rule fails to meet these legal requirements.

We know from experience that programs that reduce carbon emissions from the electricity sector also reduce PM_{2.5} emissions from the electric sector, saving lives. An independent study found that the first six years of the RGGI program saved hundreds of lives, prevented thousands of asthma attacks, and provided total public health benefits valued at \$5.7 billion (2015 dollars).⁵⁹ These benefits include avoided premature deaths, heart attacks, asthma attacks, and hospital admissions, and tens of thousands of avoided cases of other health symptoms, lost work days, and restricted activities. Additionally, the Minnesota Pollution Control Agency, Department of Health, Department of Commerce, and Public Utilities Commission have each addressed the question of whether potential health impacts from PM_{2.5} exist below the current NAAQS. In all instances, these Minnesota agencies recognized the scientific evidence of high potential for health impacts from PM_{2.5} levels below the NAAQS.⁶⁰

⁵⁶ Richard G. Newell, *Resources for the Future, Unpacking the Administration's Revised Social Cost of Carbon*, RESOURCES FOR THE FUTURE (Oct. 10, 2017), <http://www.rff.org/blog/2017/unpacking-administration-s-revised-social-cost-carbon>.

⁵⁷ 42 U.S.C. §7411(a).

⁵⁸ See *Michigan v. EPA*, 135 S. Ct. 2699 (2015).

⁵⁹ M. Manion, et al., *Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative, 2000-2014* 35, ABT ASSOCIATES (Jan. 11, 2017), <https://www.abtassociates.com/insights/publications/report/analysis-of-the-public-health-impacts-of-the-regional-greenhouse-gas>.

⁶⁰ *Life and Breath*, MINNESOTA POLLUTION CONTROL AGENCY (Jul. 10, 2015), <https://www.pca.state.mn.us/featured/life-and-breath>; *In the Matter of the Further Investigation into Environmental and Socioeconomic Costs Under Minnesota Statutes Section 2168.2422* 103, MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS (2016), https://mn.gov/oah/assets/2500-31888-environmental-and-socioeconomic-costs-criteria-pollutants-report_tcm19-245843.pdf.

The World Health Organization (WHO) has found that exposure to PM_{2.5} aggravates asthma and respiratory symptoms and increases hospitalizations as well as deaths from cardiovascular and respiratory disease and from lung cancer.⁶¹ Children, the elderly, and those who have pre-existing lung or heart disease are particularly vulnerable.⁶² The WHO has stated “[t]here is no evidence of a safe level of exposure or a threshold below which no adverse health effects occur. The exposure is ubiquitous and involuntary, increasing the significance of this determinant of health.”⁶³ EPA has similarly concluded that there is scientific evidence to show that PM_{2.5} poses a serious health threat to our residents, including below NAAQS levels.⁶⁴ In accordance with the scientific research, EPA’s 2015 RIA for the CPP included the health benefits of reducing PM_{2.5} at any level, including to levels below the NAAQS standards.

Now, EPA is including sensitivity analyses that ignore these potential health benefits of PM_{2.5} reductions below the established NAAQS thresholds and below the lowest measured level (LML) threshold. While EPA is now arguing that these changes reflect the uncertainties associated with estimating such benefits, EPA has a long practice of including the health benefits for reductions at all levels when there is no safe level of exposure to a specific pollutant.⁶⁵ To ignore those benefits ignores the real lives of those who would be saved from those reductions. We urge EPA to fulfill its obligations under the Clean Air Act and ensure there is a full consideration of the many health benefits of PM_{2.5} reductions.

IV. EPA fails to establish a minimum standard to ensure that dangerous pollution is addressed in every state. (C-2, C-7, C-13, C-14, C-15, C-22, C-24, C-26)

The Clean Air Act divides responsibility between EPA and states: EPA creates a federal framework for regulation and identifies a consistent level of emission reductions that is needed, and states determine the best way to achieve those targets based on the cost-effective emission reduction opportunities in their states.

⁶¹ *Health Effects of Particulate Matter* 6, (2013), http://www.euro.who.int/_data/assets/pdf_file/0006/189051/Health-effects-of-particulate-matter-final-Eng.pdf, 6.

⁶² *Id.*

⁶³ *Id.*; See also, *Ambient air pollution: A global assessment of exposure and burden of disease* 20, WORLD HEALTH ORGANIZATION (2016), <http://apps.who.int/iris/bitstream/10665/250141/1/9789241511353-eng.pdf?ua=1>.

⁶⁴ See generally, *Summary of Expert Opinions on the Existence of a Threshold in the Concentration-Response Function for PM_{2.5}-related Mortality*, EPA (Jun. 2010), <https://www3.epa.gov/ttn/ecas/regdata/Benefits/thresholdstd.pdf>; *Health Effects of Particulate Matter*, *supra* 59.

⁶⁵ For example, in the RIA for proposed revisions to the NAAQS for lead, EPA notes that, “[t]here is no level of [lead] exposure that can yet be identified, with confidence, as clearly not being associated with some risk of deleterious health effects”; *Regulatory Impact Analysis of the Proposed Revisions to the National Ambient Air Quality Standards for Lead*, EPA (2008), <https://www3.epa.gov/ttnecas1/regdata/RIAs/finalpbria.pdf>. Another example: in the RIA for the final revisions to NAAQS for ozone, EPA notes: “Though there are greater uncertainties at lower ozone and PM_{2.5} concentrations, there is no evidence of a threshold in short-term ozone or PM_{2.5}-related health effects in the epidemiology literature.” *Regulatory Impact Analysis of the Final Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone*, EPA (2015), <https://www.epa.gov/sites/production/files/2016-02/documents/20151001ria.pdf>.

EPA's Proposed Rule fails to identify BSER in that it only lists candidate technologies and does not identify either an actual best system of emission reduction or the emission reductions that could be achieved by deploying that system. (C-2) The Clean Air Act requires EPA to ensure the protection of public health and avoid a regulatory "race to the bottom" by establishing a national level of performance for affected sources. While states have the authority to establish more stringent standards under CAA Section 111 and determine the most effective compliance strategies, EPA's obligation is to set a consistent minimum standard – a regulatory floor.⁶⁶ This is EPA's duty, and EPA's proposed approach is a radical departure from its historical role of administering Section 111(d) regulations. EPA's regulations must be more than an "informational pamphlet" for states. EPA's proposal fails to meet EPA's obligation under Section 111 to mitigate pollution that it finds endangers public health and welfare by ensuring that state standards of performance reflect the emission reductions achievable using the best system of emission reduction.

The risks of EPA's failure to meet this requirement are clear. Without EPA setting the minimum emissions reduction performance standard, some states will opt to determine that little to no emission reductions are cost-effective or required. Such an outcome can drive investments in higher emitting sources rather than driving investments in lower-cost emission reduction opportunities. This would also allow sources in states with weak or no requirements to emit more pollution, which can lead to cross-border impacts and negate the benefits of the emission reductions achieved by other states. This emission leakage increases overall emissions and impedes our states' ability to protect the health of our residents.

The Proposed Rule also fails to provide states the guidance we need to effectively establish standards of performance for existing power plants that will meet the statutory requirements.⁶⁷ EPA's Advance Notice of Proposed Rulemaking notes that the draft State Plan proposed by North Carolina in 2015 is a "useful example" of an "inside the fenceline" unit-by-unit heat-rate improvement analysis. However, as North Carolina has explained in prior comments,⁶⁸ the emission reduction potential identified then by the state from heat-rate improvements were far less than the percentage improvements considered by EPA for the Proposed rule. North Carolina identified only a potential 0.4 percent improvement compared to 2012 levels. Thus, it is clear that the North Carolina plan would not have achieved meaningful reductions, and those it did achieve would be realized at a \$23/ton social cost of carbon referenced in the CPP for inside the fenceline measures. Under EPA's new, much lower social cost of carbon, it is highly conceivable that a similar analysis done today would reveal few, if any options for North Carolina sources to

⁶⁶ 42 USC § 7411(d).

⁶⁷ 42 USC § 7411(d).

⁶⁸ Roy Cooper, *Comments on Advance Notice of Proposed Rulemaking: State Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units*, NORTH CAROLINA ENVIRONMENTAL QUALITY (Feb. 26, 2018), <https://www.regulations.gov/document?D=EPA-HQ-OAR-2017-0545-0249>.

cost effectively invest in HRI measures. With a revised analysis, emission reductions would be even less than 0.4 percent quantified four years ago. Indeed, this plan demonstrates the significant risks of EPA failing to set a minimum standard and failing to identify a BSER after a thorough evaluation of all measures of potential emission reductions, going well beyond just HRI measures. A reference to the North Carolina plan does nothing to guide states in identifying which heat-rate improvements would be feasible at which plants, what level of emissions reduction will result and can form the basis for a standard of performance, or to clarify what will be acceptable to EPA as fulfilling the statutory requirements. The Proposed Rule, therefore, fails to fulfill EPA's duty under the statute. (C-2)

We are also concerned that the proposed approach of simply listing candidate technologies will impose a significant administrative burden to states in a manner that is inconsistent with the Act. Under EPA's proposal, states would be required to undertake unit-by-unit determinations of the best system of emission reduction—inappropriately delegating to states what the statute mandates as EPA's duty. In addition, we expect this approach will result in some stakeholder challenges to each state plan (and each unit determination within each plan) leading to significant regulatory and legal uncertainty and increased costs for our states and other stakeholders, including those in the electric sector who have been requesting regulatory certainty. (C-2)

While states will have the flexibility to consider “remaining useful life” of a unit consistent with the language in Section 111, the Act does not allow a state to use this phrase to avoid achieving emission reductions—the overall objective of the statutory framework. (C-22, C-24, C-26). Of course, there will be circumstances under which greater emission reductions could be achieved by an enforceable commitment to an early retirement than would be achieved by the implementation of an emission reduction system and the continued operation of the plant. EPA should provide this framework for state consideration of remaining useful life if it finalizes this proposal. Moreover, as discussed below, had EPA proposed rigorous standards like the Clean Power Plan that required at least minimum levels of performance based on the full suite of tools used by states to reduce power sector emissions, the use of market-based tools and trading would have been justified to facilitate emissions reductions as a component of BSER. This would have allowed companies to consider the remaining useful life of units in determining least-cost compliance options. In other words, companies could be able to choose between making investments at the unit or reducing emissions through other means, and a unit's compliance obligation would perfectly track its remaining useful life. However, this reasonable, market-based, and cost-effective approach is foreclosed by EPA's narrow proposal that fails to establish a minimum standard.

Finally, the Proposed Rule and the proposed regulatory changes fail to require compliance by specific dates or to ensure states require emission reductions as soon as achievable. Again, this will potentially lead to a “race to the bottom” for states and regulated sources as states delay

compliance requirements to give their sources an unfair market advantage. (C-13) This result conflicts with the Clean Air Act obligation to reduce and prevent pollution endangering the health and welfare of Americans. EPA has the authority to extend any deadlines as needed, and the Proposed Rule does not include any information from a state or regulated entity that would suggest additional time is needed for this proposal.

V. EPA’s foreclosure of compliance flexibility fails to reflect BSER and is contrary to states’ rights to use the most cost-effective compliance approaches. (C-17, C-25 through 43)

The clear fact that additional reductions can be achieved at lower costs through the use of market-based trading systems using emission allowances or credits demonstrates that EPA’s definition of BSER is arbitrary and fails to reflect the *best* system of emissions reduction. Our states have experience with trading programs and have seen significant benefits including achieving meaningful emission reductions at lower costs for consumers. Stakeholders, including our states, universally supported these flexibilities in the CPP rulemaking process because they enable the power sector to achieve emission reduction at the lowest compliance cost.

Throughout the Proposed Rule, EPA asks several questions for comment that highlight the fact that EPA continues to recognize that trading can lower compliance costs by providing such flexibilities. EPA’s consideration of the benefits of flexible, market-based approaches simply underscores why such approaches should be considered in evaluating the “best system of emission reduction.” However, without a rigorous standard that requires achieving at least a minimum level of performance, we are concerned that any trading would only dilute a standard that is likely to achieve little to no emission reductions. By contrast, our states’ existing state and regional GHG reduction programs ensure meaningful emission reductions through explicit caps and the opportunity for affected sources to identify cost-effective compliance opportunities through trading across states. We have leveraged these programs to create important economic and health benefits for our residents.⁶⁹

By limiting BSER to only HRI measures, we are very concerned that a final rule would preclude using RGGI or Western Climate Initiative (WCI) or a single state market-based GHG reduction policy to comply with the standard. As discussed throughout these comments, RGGI and WCI have achieved significant emission reductions while creating benefits for residents of those states. Since the 2005 base year, CO₂ emissions from power plants in the RGGI region have decreased by more than 50 percent.⁷⁰ Over the past three years (2015-2017), RGGI led to

⁶⁹ See generally, M. Manion, et al., *supra* note 57 (finding that RGGI has substantially reduced the number of premature deaths, heart attacks, and respiratory illnesses in the Northeast, since 2009, and the economic value of RGGI’s public health and productivity benefits through 2014 at a cumulative \$5.7 billion.)

⁷⁰ Regional Greenhouse Gas Initiative, Inc., *supra* note 26.

approximately \$1.4 billion in economic value added (NPV, 2018\$) as a result of program implementation during that period.⁷¹ Specifically in New York, its GDP has increased by approximately 15 percent since 2005⁷² and health impacts from power plants in the state were reduced by 87 to 88 percent since 2005.⁷³ California is on track to achieve its 2020 GHG target while its average annual growth rate has been double the national average.⁷⁴

VI. EPA’s proposed regulatory changes are not necessary and create unnecessary delays to reducing emissions. (C-48 through C-56)

We strongly oppose EPA’s proposed regulatory changes which will lead to delays in the submission and approval of state compliance plans and, as noted above, even longer delays in securing reductions of dangerous air pollution. EPA already has sufficient discretion to provide states and affected sources additional time when appropriate. The proposed extensions, however, only delay the critical reductions that are needed to address climate change and other harmful air pollution are contrary to the purpose of the Clean Air Act. Without any justification for these changes or an assessment of the environmental and health impacts of the delay, EPA has no foundation for making the proposed changes. We urge EPA to maintain the current default deadlines for state plan submission and approval and compliance.

VII. EPA’s proposed revisions to the New Source Review Program are contrary to the Clean Air Act’s statutory language and the core function of the program. (C-59 through C-71)

EPA’s proposed changes to the New Source Review (NSR) program would endanger public health and are in direct conflict with the statutory requirements and objectives of the program. The proposed changes are dramatic, and the effects would be far-reaching. A proposal this consequential for the entirely separate and vital NSR program should not be combined with a proposed change to guidelines for coal-fired EGUs issued under a separate part of the

⁷¹ Paul J. Hibbard et al., *The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States*, ANALYSIS GROUP (Apr. 17, 2018), [http://www.analysisgroup.com/uploadedfiles/content/news_and_events/news/analysis_group_rggi_report_april_2018_executive_summary\(2\).pdf](http://www.analysisgroup.com/uploadedfiles/content/news_and_events/news/analysis_group_rggi_report_april_2018_executive_summary(2).pdf).

⁷² *Regional Data*, U.S. DEPARTMENT OF COMMERCE, <https://apps.bea.gov/iTable/iTable.cfm?acrdn=1&isuri=1&reqid=70&step=1#reqid=70&step=1&isuri=1> (last visited Oct. 22, 2018).

⁷³ Specifically, the 2005 to 2012 rates of mortality, heart attacks, bronchitis, asthma and hospital visits linked to SO₂, NOX, and PM_{2.5}. Jonathan Banks & David Marshall, *Regulation Works: How Science, Advocacy, and Good Regulations Combined to Reduce Power Plant Pollution and Public Health Impacts; With A Focus on States in The Regional Greenhouse Initiative* 13, CLEAN AIR TASK FORCE, (2015), <http://www.catf.us/resources/publications/view/216>.

⁷⁴ California Air Resources Board, *California’s 2017 Climate Change Scoping Plan* ES3 (Nov. 2017).

Clean Air Act. We urge EPA to sever these proposals so that each can be given appropriately rigorous examination.

EPA describes the NSR program as one that is intended to protect “air quality when factories, industrial boilers and power plants are newly built or modified. NSR permitting also assures that new or modified industries are as clean as possible, and advances in pollution control occur concurrently with industrial expansion.”⁷⁵ By proposing that modified sources would not trigger NSR unless the modifications are causing *both* an increase in yearly emissions *and* an increase in the hourly emissions rate, EPA would allow such a unit to increase its annual capacity (i.e., the number of hours it operates each year), which would almost certainly increase the unit’s *actual* emissions, without being subject to an NSR review and therefore without ensuring that air quality is protected or that “modified industries are as clean as possible, and advances in pollution control occur concurrently with industrial expansion.” It was the recognition of this fundamental point that underpinned the D.C. Circuit’s directive that EPA must look at actual emissions.⁷⁶ This proposal cannot be reconciled with the court’s decision and should not be relitigated now.

The proposed approach of shifting to an hourly test has the potential to prevent states from maintaining or attaining the National Ambient Air Quality Standards (NAAQS), which is the fundamental purpose of the NSR program. Congress’ objective in enacting the NSR program was to ensure that major investments in, and changes to, existing sources that increase the pollution burden caused by sources and borne by our states’ residents is accompanied by a review to ensure that those sources are installing pollution control equipment to reduce emissions to enable attainment and maintenance of attainment with the NAAQS. The critical issue for addressing ambient air pollution is not only the hourly rate at which a source emits pollution, but the total amount of pollution emitted. This proposal is directly antithetical to the purpose of the NSR program and to the structure of the Clean Air Act.

While EPA seeks to justify these proposed NSR changes because the 111(d) rule “would mean that a source may no longer be in a position to forego a HRI project due to unwanted permitting costs,” the NSR changes would apply to all EGUs as defined by 40 CFR 51.124(q) and for all regulated NSR pollutants. In addition to opposing any of these proposed changes to the NSR program based on the danger it will pose to residents of our states, we also have significant concerns with these changes applying for units that would not even be subject to Section 111(d) HRI measures. (C-62). Without undertaking any modeling to fully assess the air quality and health implications of these changes, EPA is simply creating a loophole for high-emitting plants to make life-extending investments in their plants without installing available pollution control equipment, imperiling the attainment and maintenance of National Ambient Air Quality

⁷⁵ *New Source Review (NSR) Permitting*, EPA, <https://www.epa.gov/nsr> (last visited Oct. 22, 2018).

⁷⁶ *New York v. EPA*, 413 F.3d 3 (D.C. Cir. 2005), 10.

Standards and hobbling the Clean Air Act program that Congress enacted specifically to address this problem. If a state or unit elects to implement HRI measures, the Act mandates that those units install and operate pollution control equipment to protect the health and environment in our states if the unit will thereby increase the amount of pollution it is releasing into the ambient air.

Further, EPA cannot justify its proposal under the plain language of the Act. Allowing an increase in actual tons of emissions—as would be allowed under EPA’s proposal—is contrary to the plain language of the NSR provisions. Section 169 defines “major emitting facility” in part as sources emitting or having the potential to emit more than 100 or 250 *tons per year*.⁷⁷ This clearly indicates that the relevant measurement for triggering the program’s applicability is overall emissions. Additionally, Section 173(c)(1) requires offsets for new or modified source located in a nonattainment area to ensure that “the *total tonnage* of increased emissions of the air pollutant from the new or modified source shall be offset by an equal or greater reduction, as applicable, in the actual emissions of such air pollutant from the same or other sources in the area.”⁷⁸ It would make no sense for Congress to refer to total tonnage increases for implementing NSR but intend to provide EPA the discretion only to consider emission rate increases to determine if NSR is triggered by a modification.

We also disagree with EPA that the current NSR program conflicts with the New Source Performance Standards (NSPS) program. (C-69) Rather, the current programs complement each other. Congress intended the NSR program to ensure that pollution from new sources and additional pollution from modified existing sources is reduced as much as possible to ensure an area can continue to work toward achieving or maintaining a safe level of air quality. NSR also ensures that when new sources are built, or existing sources undergo major modifications, the pollution controls adopted by those sources are the most effective available for that particular source. By comparison, NSPS identifies the “best system of emission reduction” for the sector, providing a regulatory “floor” based on the systems of emission reduction available at the time the NSPS is promulgated or updated, but a unit specific analysis may identify additional measures appropriate for that unit or that are newly available, especially if the NSPS has not yet been updated by EPA as required every eight years.⁷⁹

The creation of a regulatory loophole in conflict with the Clean Air Act that would allow modified sources to increase their emissions without implementing the appropriate emission reduction measures would frustrate the purpose of the NSR program and harm our states’ ability to achieve NAAQS and protect our residents’ air quality and health. It would also exacerbate air pollution transport and interfere with Good Neighbor strategies based on the Cross State Air Pollution Rule and EPA’s forecast of EGUs’ emissions under the existing rules.

⁷⁷ 42 U.S.C. §7479(1) (*emphasis added*).

⁷⁸ 42 U.S.C §7503(c)(1) (*emphasis added*).

⁷⁹ 42 U.S.C. §7411(b)(1)(B).

VIII. EPA’s engagement with states and stakeholders on the proposal has been inadequate.

In developing the CPP, EPA undertook thorough and deliberate outreach to states, stakeholders, and other federal, state, and regional energy agencies and authorities. For example, EPA participated in more than 300 meetings before the rule was proposed and more than 300 after the proposal was released and continued to encourage, organize and participate in hundreds of meetings.⁸⁰ Through this engagement, EPA developed a rule that reflected that complete feedback from stakeholders, captured the emission reduction techniques that the power sector already implemented, and maintained the longstanding division of responsibility between EPA and the states in regulation under the Clean Air Act.

In contrast, the process for this Proposed Rule included one hearing, an Advanced Notice of Proposed Rulemaking with no technical analysis, and a very brief comment period. This Proposed Rule fails to seek the input necessary to develop the analysis needed to identify the *best* system of emission reduction. We urge EPA to undertake such analysis and provide additional opportunity for states and stakeholders to comment on updated analyses and refined proposals that are consistent with EPA’s statutory obligation.

IX. Conclusion

We urge EPA to fulfill its statutory obligation to protect human health and welfare by addressing GHG pollution caused by existing power plants. This requires EPA to promulgate standards that ensure emissions are meaningfully reduced. Our states and residents are already experiencing the harmful impacts of climate change. As a subset of U.S. states, we can only do so much on our own. We need, and the Clean Air Act mandates, a robust federal regulatory framework to achieve the necessary national reductions in carbon pollution.

Determining a BSER that reflects available cost-effective compliance strategies and reflects the way in which the electricity grid is managed can ensure the electric power system continues to be constructed, operated, and maintained in a reliable and resilient manner. Further, a diversified electric sector fleet that ensures the sector internalizes the negative externalities associated with CO₂ emissions will allow the energy market to drive investments in a power sector that continues to provide reliable electricity in the face of consumer demands and climate change impacts.

⁸⁰ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 C.F.R. 64662, 64704 (Oct. 23, 2015) (stating that “The agency’s outreach prior to proposal, as well as during the public comment period, was designed to solicit policy ideas, concerns, and technical information. The agency received 4.3 million comments about all aspects of the proposed rule and thousands of people participated in the agency’s public hearings, webinars, listening sessions, teleconferences and meetings held all across the country.”)

The Proposed Rule, on the other hand, fails to fulfill EPA's statutory obligations and ignores the nature of the electric grid and the system that power companies and states have been broadly deploying to reduce GHG and other power plant emissions. As a direct result, the proposal would secure minimal emission reductions or, very possibly, result in emission *increases* relative to having no federal program. This would result in worse air quality and greater harms to public health and further delay securing crucial reductions in GHG emissions. EPA's Proposed Rule is focused on the past instead of the present and future and ignores proven approaches that reduce emissions at lower costs today.

As leaders of states responsible for attaining and maintaining ambient air quality standards and reducing the impacts of carbon emissions, we urge the EPA to adopt emissions guidelines that ensure GHG emissions are meaningfully reduced and that are commensurate with their collective contribution to the total GHG inventory. This will only happen if EPA promulgates rigorous, cost-effective standards that encourage innovation and incorporate existing state-of-the-art technologies and approaches. Under the Proposed Rule, EPA would undoubtedly fail to fulfill the role it is obligated to serve under the Act. Instead of this proposal, EPA should maintain or update the CPP, which will fulfill the statutory requirements and support states' efforts to address and mitigate the effects of climate change.

Sincerely,



Mary D. Nichols
Chair
California Air Resources Board



Karin McGowan
Karin McGowan, Interim Executive Director
Colorado Department of Public Health and
Environment



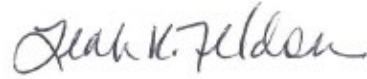
Robert Klee
Commissioner
Connecticut Department of Energy and
Environmental Protection




Shawn M. Garvin
Secretary
Delaware Department of Natural Resources and
Environmental Control



Ben Grumbles
Secretary
Maryland Department of the Environment



Leah K. Feldon
Deputy Director
Oregon Department of Environmental Quality



Martin Suuberg
Commissioner
Massachusetts Department of Environmental
Protection



Janet Coit
Director
Rhode Island Department of Environmental
Management



John Linc Stine
Commissioner
Minnesota Pollution Control Agency



Emily Boedecker
Commissioner
Vermont Department of Environmental
Conservation



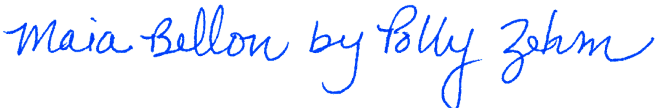
Basil Seggos
Commissioner
New York State Department of Environmental
Conservation



David Paylor
Director
Virginia Department of Environmental Quality



Michael S. Regan
Secretary
North Carolina Department of Environmental
Quality



Maia Bellon
Director
Washington Department of Ecology