

**OVERSIGHT OF
THE ENVIRONMENTAL PROTECTION AGENCY**

HEARING
BEFORE THE
**COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS**
UNITED STATES SENATE
ONE HUNDRED SIXTEENTH CONGRESS
SECOND SESSION

MAY 20, 2020

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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OVERSIGHT OF THE ENVIRONMENTAL PROTECTION AGENCY

WEDNESDAY, MAY 20, 2020

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The Committee, met, pursuant to notice, at 10:02 a.m. in room 406, Dirksen Senate Office Building, Hon. John Barrasso (Chairman of the Committee) presiding.

Present: Senators Barrasso, Carper, Inhofe, Capito, Cramer, Braun, Rounds, Sullivan, Boozman, Wicker, Ernst, Cardin, Whitehouse, Merkley, Gillibrand, Markey, Duckworth, and Van Hollen.

OPENING STATEMENT OF HON. JOHN BARRASSO, U.S. SENATOR FROM THE STATE OF WYOMING

Senator BARRASSO. Good morning. I call this hearing to order.

I would like to welcome the Administrator of the Environmental Protection Agency, Hon. Andrew Wheeler, to the Committee today.

Today's hearing is an opportunity to hear about the EPA's good work and a chance for Committee members to ask questions.

The Environmental Protection Agency is tasked with protecting the air we breathe, the water we drink, and the communities where our families live.

During the COVID-19 pandemic, the agency has worked hard to provide the public with updated information on which disinfectants and cleaning products can be safely used to kill the virus. In addition, the EPA has made grant funding available to the States and the tribes to help low income and minority communities address the coronavirus.

EPA has also provided thousands of pieces of personal protective equipment to aid emergency and health professionals during the pandemic, and EPA issued timely guidance to States and businesses about how it will enforce environmental laws when social distancing affects normal activities. I look forward to hearing more about the agency's work to combat the virus during today's hearing.

In addition to its work on the virus, the agency has pursued policies to protect the environment while supporting the economy. EPA has replaced punishing regulations that harm the coal industry, farmers and ranchers, and many small businesses in my home State of Wyoming and across the country.

In 2017, the Department of Commerce asked manufacturers which Federal agency generated the greatest regulatory burdens.

The answer was clear: It was the EPA. At the top of the list were the Waters of the U.S. Rule and the Clean Air Act Rules.

This year, the Trump administration replaced the Obama administration's illegal Waters of the U.S. Rule. Under the old rule, ponds, puddles, and prairie potholes would have fallen under Washington's control. The replacement of the Waters of the U.S. Rule, known as the Navigable Waters Protection Rule, is supported by States, as well as farmers, ranchers, and small businesses.

Last year, the EPA finalized the Affordable Clean Energy Rule as a common sense replacement to the overreaching Clean Power Plan. The new rule follows the law and will enable the U.S. to continue to lower emissions.

Under the current Administration, EPA has saved over \$5 billion in regulatory costs. Last year alone, the EPA saved Americans an estimated \$1.5 billion through the deregulatory actions.

In the challenging economic times ahead, reducing excessive regulatory burdens to promote and reinvigorate our economy has never been more important. At the same time, the EPA has focused its mission and refocused its mission on the basics of environmental protection and lowering pollution levels. This important work protects our Nation's air, land, and water.

EPA financing has allowed billions of dollars of upgrades to our aging water infrastructure to move forward. These investments ensure Americans have clean water for drinking and for recreation.

Over the past 3 years, the EPA has helped finance more than \$8 billion worth of infrastructure projects under the Water Infrastructure Finance and Innovation Act Program alone. In his written testimony today, Administrator Wheeler estimates these projects can create more than 16,000 jobs.

EPA has also made real progress in cleaning up some of our Nation's most contaminated sites. Last year, EPA completed its work on all or part of 27 Superfund sites on the National Priorities List. That is the most since 2007.

Under EPA's Brownfield and Land Revitalization Program, the agency has focused on cleaning up land in economically distressed communities, particularly those located in opportunity zones. The Tax Cuts and Jobs Act created opportunity zones as a way to spur economic development in the communities that need it the most.

I am pleased the EPA is taking actions to carry out its core mission of protecting public health and the environment while supporting economic growth. We can and we must do both.

I would now like to turn to Ranking Member Carper for his opening statement.

**OPENING STATEMENT OF HON. THOMAS R. CARPER,
U.S. SENATOR FROM THE STATE OF DELAWARE**

Senator CARPER. Thank you very much, Mr. Chairman.

I would like to begin my remarks this morning by welcoming Administrator Wheeler, who is somewhere about a hundred yards away from us in this enormous hearing room. I think I can recognize him by that beard and a full head of hair.

Andrew, welcome, and thank you for joining us today.

These are not just sobering times. For a lot of Americans and our neighbors around the world, they are scary times, really scary. For a lot of people, it is a time that is largely devoid of hope.

I was asked in an interview earlier this week what provides me with inspiration in times like these, and I responded without hesitation: It is the selfless service of extraordinary people. The selfless service of extraordinary people, people that we oftentimes think of as ordinary folks, but who, in times like these, become extraordinary.

I just want to start off, Mr. Chairman and colleagues, by talking a little bit about some of them. Thus far, at least 14 Capitol Police officers have tested positive for COVID-19. Some Members of Congress, their families, and their staff have as well.

These beautiful buildings here on Capitol Hill were opened this morning by people who serve our country by keeping us safe, by keeping the lights on, cleaning the office spaces we occupy, making the food that sustains us, or working behind the scenes to make events like this hearing possible.

None of these unseen public servants are guaranteed to work in a stunning room like the one which allows all of us to remain at least 60 feet apart, it seems, with face masks on and hand sanitizers at the ready. But many of these unsung public heroes have young children; they have no option for school or daycare for the children when duty calls, and few if any of them have the option to telework.

The Senators are here; the staff that helps keep these buildings open, operating, and safe must be here as well. They serve our country, each in their own way, just as we do. They deserve our gratitude and our protection in turn.

So on behalf of all 100 United States Senators from every corner of this country, I just want to start off this morning with a sincere and heartfelt thank you from all of us. Thank you.

Now turning to today's hearing, let me again welcome Andrew Wheeler. Ironically, when we last welcomed him before the Committee, we were in the midst of a Government shutdown, as I am sure you will recall.

Today, we are in the midst of a pandemic unlike anything we have seen in 100 years. During normal times, we would have been holding a budget hearing months ago, shortly after the proposed budget was released.

For those who may not recall, the proposed Federal budget for fiscal year 2021 cut EPA's budget by over 25 percent, a reduction of \$2.5 billion from last year's enacted appropriation.

Funding the EPA at that level would severely hamper programs that are important to protect water quality and drinking water, programs that are intended during the pandemic to ensure people have clean water to wash their hands with and to properly sanitize.

In a time when this pandemic is costing literally tens of millions of people their jobs, that budget would leave the EPA with its smallest work force in 30 years, while funding the agency at a level, in real dollars, not seen since the 1980s.

While the EPA is not on the front lines of responding to the COVID-19 pandemic, the agency does have a vital role to play, and

it requires funding that is commensurate with that role. EPA is charged with evaluating disinfectants used to keep us safe. It is charged with undertaking environmental research that can help us better understand the way this disease and others like it are impacted by weather, by climate, and by pollution.

Perhaps most important of all, the agency is charged with protecting everyone in this country from drinking unsafe water and breathing unsafe air. When it comes to that important mission, regrettably, too often the agency has done the opposite of what it should have been doing during this pandemic.

Earlier today, I released a report entitled Pandemic of Pollution. Mr. Chairman, I ask unanimous consent to submit it for the record if I could.

Senator BARRASSO. Without objection.

[The referenced information follows:]



A Pandemic of Pollution:

How EPA Air Pollution Actions Taken Since March 1, 2020

Will Harm Public Health and Potentially Add To COVID-19 Risks

Executive Summary

Extensive evidence has emerged indicating that adverse outcomes from COVID-19 are disproportionately experienced by residents of low income and minority communities. These same communities typically experience higher exposures to air and water pollution than others and bear a higher burden of disease due to many other contributing factors.

Research also shows a nexus between climate change and increases in air pollution, a link between exposure to air pollution and enhanced risk of respiratory and other disease, an added risk of adverse outcomes from coronaviruses such as SARS that is caused by exposure to air pollution, and an increased likelihood of additional animal- and other vector-borne pandemics, not to mention other diseases that climate change is expected to cause.

While research continues to emerge on whether there is also a connection between exposure to air pollution and adverse outcomes or more difficult recoveries from COVID-19, early indications seem to suggest that such a connection exists.

Yet, despite this and the devastating toll COVID-19 has taken in communities all across America and the rest of the world, the Trump Environmental Protection Agency (EPA) has continued its relentless march to weaken or repeal rules that were designed to remove greenhouse gas, soot, mercury and other pollution from our air. Indeed, since March 1, 2020, EPA has proposed or finalized several rules that will result in increased air pollution and could cause tens of thousands of premature deaths. EPA has, in short, unleashed a pandemic of pollution in the middle of an actual pandemic, the respiratory effects of which may be amplified by pollution exposure.

This report is not intended to exhaustively document these effects, but rather to summarize them. It also provides several basic recommendations that EPA should act on immediately in furtherance of its mission to protect human health and the environment.

The Connection between Coronavirus Outcomes and Air Pollution

Early evidence is emerging that reports a correlation between air pollution and COVID-19 mortality. A preliminary [April 2020](#) study conducted by the Harvard School of Public Health found that even a small increase of just one microgram per cubic meter of long-term exposure to particulate matter leads to an 8% increase in the likelihood of death in those infected by COVID-19. Another April 2020 [study](#) conducted by researchers from the University of Siena and Aarhus University examined COVID-19 fatalities in Germany, Spain, Italy and France and found the greatest number of deaths in areas of Northern Italy and Madrid that had the highest concentrations of nitrogen dioxide (NO₂) – a key contributor to [ground level ozone pollution, commonly known as smog](#). Three-quarters (78%) of COVID-19 deaths in countries under study were found within these areas with high NO₂ concentrations. Similar [findings](#) on COVID-19 fatalities in England were released in late April by researchers at the University of Cambridge. This preliminary research results “show that

nitrogen dioxide, nitrogen oxide and ozone are significant predictors of COVID-19 related death, after accounting for population density. This provides the first evidence that SARS-CoV-2 cases and deaths are associated with the levels of pollutants in England.”

Possible mechanisms suggested to explain this finding include individuals’ greater vulnerability to infection due to irritation of the upper respiratory airways as a result of pollution, and the potential of residents of these regions to have preexisting chronic respiratory conditions due to prolonged exposure to high levels of pollution. Air pollution has also been shown to contribute to the development of cardiovascular disease and diabetes, which in turn are pre-existing conditions that appear to [enhance susceptibility](#) to COVID-19. In the United States, these contributing factors are disproportionately prevalent in low income and minority communities, which have been severely impacted by the COVID-19 pandemic. The [CDC has found](#) that African Americans and Hispanic Americans have incurred higher rates of COVID-19 hospitalizations than the general public. Across the country, [multiple press outlets](#) and [others](#) have documented how these communities are suffering at higher rates and with greater severity. Many of these communities are also living in areas most inundated by air pollution. (See [Scientific American, April 20, 2020](#)) Public health experts have pointed to the need for further research to understand these contributing factors.

These findings are consistent with infectious disease research on the effects of air pollution on people infected with other coronaviruses, such as SARS. In 2003, a [study](#) conducted in China found a significant link between air pollution and SARS fatalities. In this study, researchers found that those infected with SARS that also had been exposed to higher levels of air pollution had significantly higher case fatality rates than SARS patients with lower exposure to air pollution. Researchers found that SARS patients who experienced short term exposure to air pollution had an 84% increased risk of death relative to those who had not experienced a short term exposure to air pollution. For long term exposure to air pollution, the effect was even greater, with a SARS case fatality rate that was twice as high for those who experienced long term exposure than those who had not.

The Connection between Climate Change, Air Pollution and Pandemics

The Fourth National Climate Assessment, released by the Trump Administration in 2018, [reports](#) that climate change is a significant contributor to deteriorating air quality. Changes in temperature, humidity, winds patterns, cloud cover and precipitation can lead to higher concentrations of both ground-level ozone and particulate matter. Increased wildfire activity caused by climate change also results in increases in particulate matter emissions and the formation of ozone. These increases have an overall negative effect on air quality, which results in adverse respiratory and cardiovascular effects, including increases in aggravated asthma, emergency rooms visits, and premature deaths. As [recent studies](#) have reported, poor air quality is also believed to be a contributing factor in patient mortality of COVID-19, which like all coronaviruses is a respiratory illness.

Climate change also contributes to the spread of vector-borne diseases. According to the [Fourth National Climate Assessment](#), the transmission of Lyme disease, West Nile, chikungunya, dengue and Zika and all impacted by changes in weather patterns and ecosystems. [Studies show](#) that new and emerging vector-borne pathogens, such as the Ebola virus and novel influenza strains, are also affected by climate change and can instigate outbreaks with pandemic potential. Higher temperatures and more frequent and intense extreme precipitation events alter the geographic ranges and behaviors of disease vectors (e.g., insects, migratory birds, and bats)

that carry the pathogens and increases the opportunity for diseases to cross over into human populations. Altogether, these conditions increase the risk of additional pandemic events in the future.

EPA Rules that Will Increase Air Pollution Proposed or Finalized Since March 1, 2020:

March 3: Strengthening Transparency in Regulatory Science [Supplemental Proposed Rule](#)

Although the so-called 'censoring science' proposed rule does not directly seek to regulate air pollution, it excludes key studies from informing "influential scientific information" and regulations. The proposal also places time-consuming barriers to and possibly even prevents EPA's use of scientific information that could be directly needed to respond to COVID-19 (i.e. research on the effectiveness of disinfectants or papers that describe a link between air pollution and COVID-19 outcomes).

March 25: New Source Review Redefinition [Guidance](#)

This draft guidance substantially narrows the definition of the term "begin actual construction" within the New Source Review (NSR) regulations for the Clean Air Act's pre-construction permitting program. Under this proposal, businesses would no longer need to first obtain NSR permits to begin construction on significant portions of the pollution-emitting facilities that are not the actual 'emitting unit.' As a consequence, many polluters will be able to complete major work on large scale construction projects before any kind of regulatory review takes place, greatly increasing the risk that projects will be locked into more polluting designs and eventually lead to substantial increases in emissions. This will make it more difficult to mitigate harms to air quality and public health that would be prevented under the more protective approach followed by EPA and states for more than four decades.

March 31: Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule

This final rule rolls back vehicle fuel economy and greenhouse gas emissions standards to require a stringency increase of merely 1.5% each year for each of model years 2021-26. This retreats from the 5% annual improvement under the Obama-era standards. According to the Trump Administration's own flawed analysis, this rule will result in up to 1,000 premature deaths attributable to increased air pollution. According to independent [analysis](#) reported by the Environmental Defense Fund, the rule will actually result in 18,500 premature deaths due to air pollution between now and 2050.

April 4: Mercury and Air Toxics Standards (MATS) Rule

This final rule undermines the legal basis for the MATS safeguards, potentially exposing them to new legal challenges. When these standards were finalized, they were [projected](#) to save up to 11,000 lives each year. The standards have been in effect since 2015.

April 10: Ozone Depleting Refrigerants [Final Rule](#)

This final rule revises the requirements of a 2016 rule on repair and disposal of refrigeration appliances and industrial refrigeration units under the Clean Air Act. Under this rollback, only ozone-depleting substances will be subject to the rule's requirements, therefore exempting other harmful substances that pose risks to climate change and air quality.

April 14: NAAQS Particulate Matter Standards [Proposal](#)

On April 14, EPA announced a proposal to retain the current national ambient air quality standards (NAAQS) for particulate matter (PM), without change, ignoring EPA's own scientists. After the

[examination](#) of just 30 metro areas in the U.S., agency scientists had concluded that strengthening the annual fine particle health standard from 12 to 9 µg/m³ would prevent up to 12,500 premature deaths each year. In October 2018, the EPA's Clean Air Scientific Advisory Committee's Particulate Matter Review Panel, which was tasked with reviewing potential changes to these standards, was summarily dismissed without notice. Members of this committee subsequently formed the Independent Particulate Matter Review Panel to finalize the work of reviewing evaluations of these standards prepared by EPA career scientists. In [their](#) report, this panel found that current fine particle health standards are not adequate to protect public health and that retaining the current standards was not scientifically justifiable. They recommended that the national health standards be strengthened to save thousands of lives and prevent tens of thousands of heart attacks.

May 15: Wood Heaters

On May 15, 2020, EPA issued a [proposal](#) in which EPA would use the COVID-19 emergency as a pretext to allow retailers to continue to sell residential wood heating systems that fail to meet the latest clean air standards until November 30, 2020, even though just weeks ago EPA concluded that doing so was not warranted. Nationwide, residential wood heaters emit five times more particulate matter pollution than the U.S. petroleum refineries, cement manufacturers and pulp and paper plants combined, while causing some areas of our country to be in, or close to, nonattainment for EPA's national ambient air quality standards (NAAQS) for particulate matter. [Based on EPA's Regulatory Impact Analysis of the 2015 residential wood heater New Source Performance Standards Rule](#), allowing the current standards to remain in place indefinitely would result in up to 810 additional premature deaths between 2015-2020 due to exposure to particulate matter.

Recommendations

In addition to reversing its deregulatory efforts, quickly and dramatically strengthening this country's protections from air pollution, and taking all possible action to address the climate crisis, EPA should also take a number of specific near-term steps to further confront COVID-specific risks enhanced by this pollution. These include:

- EPA should focus the Agency's Office of Research and Development as well as the Air, Climate and Energy Centers on determining whether exposure to air pollution - or having an underlying condition with a known link to air pollution- is linked to more adverse outcomes from COVID-19, a higher risk of contracting the disease, more difficult recovery from the disease, or a higher susceptibility to other diseases following COVID-19.
- Given the likelihood that COVID-19 will not be eradicated, if a link between air pollution (or underlying conditions with known links to air pollution) and COVID-19 is established, EPA should factor that link into all of its applicable rulemakings and policies going forward.
- EPA should re-focus its enforcement, compliance and monitoring activities in a manner that prioritizes the early detection of high exposure to air pollutants in communities that have both historically experienced such exposures and those at greatest risk of adverse outcomes from COVID-19.
- EPA should enhance its environmental justice grants, tools, and other policies and forms of assistance to address the disproportionate threats air pollution and COVID-19 pose to residents of lower-income and minority communities.

Senator CARPER. Thank you, sir.

This report paints a grim picture. It describes the clear links that have been found between climate change and the likelihood of future pandemics. It also describes the clear evidence that other coronaviruses like SARS are more likely to cause death in those who are also exposed to air pollution.

This report also documents some of the emerging scientific evidence that COVID-19 is more likely to kill people whose pre-existing conditions are worsened by breathing more heavily polluted air. We already know that lower income and minority communities who face more air and water pollution than others are also suffering the most from COVID-19.

Here in this city, this national capital, for example, African Americans account for almost 80 percent of COVID-19 related deaths, while making up less than half of the population. Yet despite this, the EPA has not spent these past months standing up an aggressive research program to better understand the nexus between the pandemic and pollution, or strengthening the environmental justice programs to examine the clear need to respond forcefully to front line communities. Instead, the EPA has spent much of this year proposing and finalizing rules that a lot of us believe will cause even more air pollution in the future.

Let me provide a couple of examples of what I am talking about. The EPA's own analysis shows that its rollback of the Clean Car Rule will actually kill more people prematurely because of air pollution than the number of people whose lives the rule purports to save. In fact, the Environmental Defense Fund estimates that there will be more than 18,000 premature deaths caused by this rollback alone. That is more than half the people who live in Dover, Delaware, the capital of my State.

Here is another example. The elimination of the legal underpinnings of the Mercury and Air Toxics Standard could ultimately result in thousands of additional premature deaths.

Here is a third example. According to EPA's Scientific Advisory Committee that the agency has disbanded, the failure to strengthen the standards for particulate matter could kill as many as 12,500 people prematurely every year.

To add insult to injury, the EPA is actually using the COVID-19 pandemic now to justify its proposal to allow the continued sale of antiquated wood stoves. Why is that important? Well, residential wood stoves in this country emit five times more soot pollution than the U.S. petroleum refineries in this country, cement manufacturers in this country, and pulp and paper plants combined. Five times more, think about that.

The new report I have just released earlier today and asked to be entered for the record found that the rollbacks the EPA has taken just since March 1st of this year could kill literally tens of thousands of people prematurely each year. These rollbacks are, in fact, a pandemic of pollution rather than attacking, the Environmental Protection Agency is actually contributing to, all in the middle of an actual pandemic. Heaven help us.

Last night, colleagues, EPA issued a press release in response to the report that I have been talking about, calling it "misleading" and "political propaganda." Yet in that release, the EPA failed to

provide a single mention of air pollution. It did not even attempt to address or rebut my report's fundamental conclusion, that the dangerous air pollution rollbacks that EPA has pursued in just the past 2 months will kill thousands of people, and that the potential link between air pollution and COVID-19 could make our ongoing battle against this pandemic all the more difficult and even more deadly. For thousands of people, it could even make this heart-breaking reality even more tragic.

This is not about politics; this is about people, and EPA owes the American people some answers. We hope we get those this morning.

Thank you all very much.

Senator BARRASSO. Thank you very much, Senator Carper.

I would point out that the minority paper released today is based on a non-peer reviewed Harvard study connecting COVID-19 mortality to particulate matter pollution. The Wall Street Journal published an editorial observing that "the study is riddled with flaws," and as two epidemiologists quoted in the Wall Street Journal piece stated, "When we look closely at the research, we saw so many shortcomings that we were not convinced of the results."

So I ask unanimous consent to enter this editorial into the record, and without objection, it is done so.

[The referenced information follows:]

5/8/2020

The Fossil Fuel-Virus Nexus? Not - WSJ

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<https://www.wsj.com/articles/the-fossil-fuel-virus-nexus-not-11588630987>

OPINION | REVIEW & OUTLOOK

The Fossil Fuel-Virus Nexus? Not

Biden embraces a flawed study to attack oil and gas production.

By [The Editorial Board](#)

May 4, 2020 6:23 pm ET



A man wearing a mask with downtown Los Angeles skyline in background, April 17.

PHOTO: RINGO CHIU/ZUMA PRESS

You knew it was coming—the political link between the coronavirus and climate change. And right on time the opponents of fossil fuels are flogging a sloppy study that ties pollutants to coronavirus deaths.

Harvard's T.H. Chan School of Public Health last week published a study claiming that an infinitesimal increase in long-term exposure to fine particulate matter (PM 2.5)—one microgram per cubic meter—increases the risk of dying from the coronavirus by 8%. The Environmental Protection Agency says that 35 micrograms of PM 2.5 is unhealthy for sensitive groups, so the study's findings would be alarming—if they were true.

5/8/2020

The Fossil Fuel-Virus Nexus? Not - WSJ



Joe Biden's Denial/Michael Flynn's Evidence



00:00 / 20:27



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Joe Biden cites the study in a new environmental justice policy paper, and liberals are attacking the EPA for deciding last month not to tighten PM 2.5 limits in its air quality standards. Michael Bloomberg and Obama EPA Administrator Gina McCarthy flogged the study in an op-ed Monday: "Scientists are warning us that air pollution makes Covid-19, which strikes at the lungs, more deadly. Nonetheless, in the space of about a month, the president has repeatedly undermined rules limiting air pollution. Tens of thousands of Americans will die as a result."

The study's conclusions are plausible at surface glance. Pollutants including PM 2.5 have been linked to higher incidences of respiratory diseases, which have also been found to increase the risk of dying from coronavirus. Mr. Biden's campaign notes that minorities tend to live in areas with higher pollution and are dying from coronavirus in greater numbers.

But drill deeper and the study is riddled with flaws. For starters, it utilizes county-wide data that doesn't adjust for individual health differences. The authors say they control for county population size, age distribution, beginning of the outbreak, time since a state's issuance of stay-at-home order, weather and socioeconomic status. Yet they don't examine how death rates differ among individuals who are exposed to different levels of PM 2.5 or how pollution levels vary across neighborhoods in cities. Nor do they count deaths after April 22, though fatalities have since increased by nearly 50% while the virus has spread to rural areas.

"As epidemiologists who have studied air pollution for more than two decades, we found [the study's] impacts staggering," note Carleton University's Paul Villeneuve and McGill University's Mark Goldberg. "When we looked closely at the research, we saw so many shortcomings that we were not convinced of the results." Mr. Goldberg, by the way, has supported a fracking moratorium.

PM 2.5 levels across the U.S. have fallen 40% since 2000 as power plants and cars have become more efficient, and coal has been replaced with cleaner-burning natural gas. Only nine or so counties now don't meet the EPA's PM 2.5 national standard. Hence the left is now pressing the EPA to tighten PM 2.5 limits.

<https://www.wsj.com/articles/the-fossil-fuel-virus-nexus-not-11588630987?emailToken=15ace692c84d0ff7050c49dcd61ce25czFsbiekvhXKvYxXDkQAf...> 2/3

5/8/2020

The Fossil Fuel-Virus Nexus? Not - WSJ

They know regulating PM 2.5 is a back door to restricting CO2 emissions from power plants, which the Supreme Court in 2015 blocked the Obama EPA from doing. It may be that long-term exposure to PM 2.5 modestly raises the coronavirus death risk, but more rigorous studies are needed to prove this, and shutting down fossil-fuel production now won't save lives. It will deny livelihoods to hundreds of thousands of people.

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Senator BARRASSO. We will now hear from our witness, Hon. Andrew Wheeler, Administrator of the Environmental Protection Agency.

I want to remind you that your full, written testimony will be made part of the official hearing record, so please try to keep your comments to 5 minutes so that we will have plenty of time for questions. We look forward to the testimony.

Thank you, Mr. Administrator.

**STATEMENT OF HON. ANDREW WHEELER, ADMINISTRATOR,
U.S. ENVIRONMENTAL PROTECTION AGENCY**

Mr. WHEELER. Thank you.

Good morning, Chairman Barrasso, Ranking Member Carper, and members of the Committee. I appreciate the opportunity to submit the statement regarding the EPA's proposed fiscal year 2021 budget request, which supports the goals and objectives of EPA's 5 year strategic plan.

The year 2020 marks the 50th anniversary of EPA. As a country, we have made remarkable strides over that time ensuring a clean environment for all of our citizens.

That said, 2020 has been a difficult year for all Americans as we deal with the COVID-19 pandemic. The agency has done a number of things in the past several months to help fight the outbreak.

The EPA approves the disinfectants that Americans use to safeguard their families, homes, and businesses. The agency started off on March 5th with 60 EPA approved disinfectants against COVID-19. At this time, we have approved over 400 products due to the hard work of our career scientists.

EPA requested that State Governors consider all water and wastewater workers as essential workers when enacting restrictions to curb COVID-19, and we have also started a number of research activities related to COVID-19. Through the amazing work of our IT office, we have more than doubled our capacity to telework within 1 week by increasing our VPN capacity from 7,500 to 17,500 lines.

Our list of accomplishments in the past several months will be considered impressive, even under normal circumstances. Since the middle of March, the EPA has published its final Safe Vehicles Rule.

We have published our MATS Mercury Rule, proposed retaining the current Obama NAAQS standard for particulate matter, published a Waters of the U.S. Replacement Rule, sent a cost-benefit rule to OMB for review, awarded brownfields grants to over 150 deserving communities across the country, ordered \$20 million in grants for the Great Lakes Restoration Initiative, and sent \$1 million in grants to help environmental justice communities address COVID-19 concerns from low income and minority communities.

We have also not let this deter our efforts to hire, and we have added 335 new employees during this time. Another 200 will be added by the end of June. Our agency's mission to protect human health and the environment is critical and needs to move forward, regardless of the circumstances. EPA employees have risen to the test of carrying out their duties during this challenging time, and I applaud all of them.

Our budget request includes over \$1 billion for the Superfund Account to continue progress to revitalize lands. EPA in the last fiscal year deleted all or part of 27 Superfund sites from the National Priorities List, which is the largest number of deletions in a single year since 2001.

Under President Trump, EPA has finalized 60 deregulatory actions, saving Americans nearly \$7 billion in regulatory costs. I want to be clear that we are not achieving this at the expense of environmental laws enacted by Congress. In fact, some of this important work is modernizing decades old regulations and bringing them up to date.

It is worth remembering that in the 1970s, more than 40 percent of our Nation's drinking water systems failed to meet even the most basic health standards. Today, over 93 percent of the community water systems meet all health based standards all the time, and our air today is over 74 percent cleaner than it was in 1970, with all six criteria air pollutants having decreased during this Administration.

But there is more to do. Our Nation's children are especially vulnerable to the health impacts of unsafe drinking water, especially lead exposure. The EPA is coordinating with our Federal partners to reduce children's exposure to lead through the new Lead Exposure Reduction Initiative included in this budget request, an additional \$45 million to build on current efforts that will help decrease lead exposure on multiple fronts.

The budget request also includes new resources for EPA to aggressively implement the PFAS Action Plan, the EPA's first multi-program National Research and Risk Communication Plan to address an emerging class of chemicals of concern. Never been done in our 50 year history.

The budget continues WIFIA loan support, which is producing tremendous results for the American people. Loans in total over \$4.2 billion have helped finance over \$8 billion for water infrastructure projects, creating 16,000 jobs.

EPA continues to meet the major statutory deadlines of the new TSCA Law. EPA is working its way through the final risk evaluation for the first 10 chemicals, and last December we identified the next 20 high priority chemicals.

As we approach EPA's 50th anniversary in December, we can proudly say that Americans now have significantly cleaner air, land, and water than in the past. The Trump administration is proving that environmental protection and economic health can go hand in hand. This message of hope for our environment, both today and in the future, is as important as ever during this challenging time.

We can be proud of the example EPA career employees and managers have set in the past several months, and be comforted by the fact that great progress in human and environmental health is being shared with all Americans everywhere, regardless of where they live.

Thank you.

[The prepared statement of Mr. Wheeler follows:]

**TESTIMONY OF
Andrew R. Wheeler**

**ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY**

**SUBMITTED TO THE
U.S. SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS**

MAY 20, 2020

Chairman Barrasso, Ranking Member Carper, and members of the Committee. I appreciate the opportunity to submit this statement regarding the U.S. Environmental Protection Agency's proposed Fiscal Year (FY) 2021 Budget Request, which supports the goals and objectives in the *FY 2018-FY 2022 EPA Strategic Plan*.

EPA is rising to the challenge before us regarding the COVID-19 pandemic. EPA is open for business and is at work meeting our mission of protecting human health and the environment. In response to the outbreak, the Agency has expanded our work under our Emerging Viral Pathogens Guidance for Antimicrobial Pesticides. Under the program, developed in 2016 and deployed for the first time against SARS-CoV-2, we expedited the review of submissions from companies requesting to add emerging viral pathogen claims to their already registered surface disinfectant labels. We are also adding to the EPA-approved disinfectant list products with demonstrated efficacy against harder-to-kill viruses and products with demonstrated efficacy against other human coronaviruses similar to SARS-CoV-2. In many cases, we have reduced the approval process time from 3-5 months to 2-3 weeks. The Agency started off on March 5 with 60 EPA-approved disinfectants to combat the coronavirus and as of May 1 we have now approved over 400 products. At this time, the Agency's goal is to update the website weekly to include products that have been added to the list. EPA's website includes important information to help consumers, including the product's active ingredient and the amount of time the surface should remain wet to be effective against the given pathogen. In addition, to make the list more consumer friendly, information is sortable, searchable, and printable, and it can be easily viewed on a mobile device.

We have also reduced regulatory burden in the face of supply chain disruption by releasing a list of over 360 commodity inert ingredients for which if manufacturers need to change their supplier source, they now may proceed without seeking EPA approval. EPA has implemented additional flexibilities to assist disinfectant manufacturers with other supply chain interruptions.

Ensuring that drinking water and wastewater services are fully operational is also critical to containing COVID-19 and protecting Americans from other public health risks. We want the American public to understand that they can drink water and wash their hands from their tap and be confident that both their drinking water and their wastewater are safe. The EPA is working with our state, local, and tribal partners to ensure that the 165,000 public water and wastewater treatment facilities in this country continue to protect public health and the environment. EPA has made a request to all governors that water and wastewater workers, as well as water and wastewater manufacturers and suppliers, be considered essential workers and businesses by state authorities when establishing restrictions to curb COVID-19. Our critical infrastructure and the operators who ensure the safe supply of water to our homes and hospitals depend on treatment chemicals, laboratory supplies, and related goods and materials. EPA is actively meeting with a wide range of stakeholders to acknowledge the importance of their work and to identify ways that EPA and its partners can support the water sector during the COVID-19 pandemic. EPA has been providing information on resources that water stakeholders—including states, tribes, municipalities, utilities, and their workforces—can use to support operations. These resources can be used to help maintain adequate staffing and laboratory capacity. This work is exactly the type of excellence Americans have come to expect from EPA over the past 50 years.

The year 2020 marks the 50th anniversary of the creation of EPA. As a country, we have made remarkable strides over that time in ensuring a clean environment for our citizens. The U.S. is a global leader with respect to clean air and access to safe drinking water, and we are accelerating cleaning up land and returning land to communities. In FY 2019, EPA deleted all or part of 27 Superfund sites from the National Priorities List—the largest number of deletions in a single year since FY 2001.

Earlier this year, we released the 2019 Year in Review, highlighting Agency accomplishments and environmental progress under President Trump. The report

outlined accomplishments from the past fiscal and calendar year such as the finalization of deregulatory actions, which are estimated to save Americans more than \$1.5 billion in regulatory costs, and the signing of a directive to prioritize Agency efforts to reduce animal testing across the Agency as appropriate. We are working with stakeholders from all perspectives to strive by 2035 to eliminate mammal study requests within the purview of the Agency and to replace them with equally reliable non-animal methods. I encourage everyone to read the full report to learn more about the strides that we have taken to protect public health and the environment over the past year.

The Trump Administration is proving that environmental protection and historic economic growth can go hand-in-hand. On the regulatory side, in January, EPA and Army Corps of Engineers finalized the Navigable Waters Protection Rule. This historic rule, decades in the making, delivers on the President's promise to finalize a revised definition for "waters of the United States" that is tethered to the Clean Water Act. The new rule will both protect navigable waters from pollution and foster economic growth by providing much needed certainty to the regulated community about where federal jurisdiction begins and ends.

This same approach of environmental protection combined with economic growth can be seen in both the finalized Affordable Clean Energy rule (ACE) and the Safer Affordable Fuel-Efficient (SAFE) Vehicle Rule. The ACE rule both adheres to EPA's statutory authority under the Clean Air Act and is expected to reduce carbon dioxide emissions by 11 million tons by 2030 from coal-fired power plants. The SAFE rule raises carbon dioxide emissions standards for new cars and light trucks by 1.5 percent a year through model year 2026, which is projected to cause average fuel economy to rise to 40 miles per gallon by 2026. SAFE also helps the Administration meet its goal of setting nationwide standards for automobile fuel economy for the first time in decades.

In FY 2019, EPA issued 18 deregulatory actions and six regulatory actions, exceeding the President's Executive Order 13771 mandate of two deregulatory actions for each regulatory action. With an additional 45 deregulatory actions in development, we are projected to save billions more in regulatory costs. But I want to be clear that we are not achieving this at the expense of implementing and enforcing the environmental laws enacted by Congress. In fact, some of this important deregulatory work is modernizing decades-old regulations and bringing them up to date.

Improving risk communication at EPA is one of my top priorities. Over the past year, we formed a Risk Communication Workgroup, charged with institutionalizing a thoughtful, cohesive approach for how EPA conducts risk communication across the Agency. We also prioritized hiring a career risk communication expert to provide the long-term support and continuity the Agency needs to effectively integrate risk communication into everything we do. Regardless of the type of threat they face, the public deserves to know and understand the risks. I believe this is especially true when it comes to human health and the environment.

The FY 2021 Budget Request provides \$6.6 billion and more than 12,600 FTE to continue the policy direction of past requests by focusing resources on core work, including fulfilling statutory and regulatory obligations. It also advances ongoing deregulatory work to foster environmental protection and economic growth. Our Budget Request includes funding in a number of focus areas that address National and global environmental challenges and advances EPA's *Strategic Plan*. These include reducing lead exposure, taking action on PFAS, addressing critical water issues, including reducing harmful algal blooms (HABs) and ocean pollution, investing in the Nation's water infrastructure, improving the Nation's recycling system, and reducing food loss and waste.

EPA and our implementing partners have made tremendous progress in providing clean and safe water to our citizens. In the 1970s, more than 40 percent of our Nation's drinking water systems failed to meet even the most basic health standards. Today, over 93 percent of community water systems meet all health-based standards, all the time.

In addition to the safety of our water supply, in February we launched our *National Water Reuse Action Plan*—the first initiative of this magnitude coordinated across our water sector to accelerate water recycling. Eighty percent of our states anticipate some freshwater shortages within the next decade, and all levels of government have a responsibility to ensure that Americans have access to reliable sources of clean and safe water. The *Action Plan* is intended to help facilitate adoption of water reuse to support improved water resiliency, sustainability, and security.

However, EPA recognizes that clean and safe water extends beyond the water we consume. In FY 2021, we are proposing a new \$15 million competitive grant program to fund prevention and response efforts for HABs that pose significant health or economic risks to our Nation's waters. In addition, the Budget Request funds geographic programs where EPA has a unique and critical role, including \$320 million for the Great Lakes and \$3.2 million for South Florida. These resources support environmental monitoring, cleanup, and protection. For example, due in part to South Florida funding, greater than 90 percent of homes and business in the Florida Keys are now on advanced wastewater treatment systems and more than 30,000 septic tanks have been eliminated.

The Budget Request includes an additional \$8.4 million with 7 FTE to reduce marine litter. Marine litter is quickly becoming an international issue and one where EPA is well positioned to provide global leadership. Last year at both the G-7 and G-20, I engaged foreign environmental ministers on the importance of working together to tackle marine litter—and in particular, plastic waste—as significant sources of pollution. Earlier this year, I travelled to Brazil, where Minister of the Environment Ricardo Salles and I not only discussed solutions to the issue but also helped clean trash at Ponta das Lajes beach in the Amazon. This Budget Request builds on that momentum through funding for programs like Trash Free Waters, where EPA is helping to capture marine litter or prevent it from reaching the ocean in the first place. These efforts are providing critical support to protect and restore our bodies of water, like the Great Lakes.

Our Nation's children are particularly vulnerable to the health impacts of unsafe drinking water, especially lead exposure. Through the *Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts* and the new, cross-cutting Lead Exposure Reduction Initiative included in the Budget Request, EPA is coordinating with our federal partners to reduce children's exposure to lead. The Lead Exposure Reduction Initiative provides an additional \$45 million to build on current efforts that will help address lead on multiple fronts, driving action to target lead-based paint, lead in drinking water, and lead-contaminated soil, among other sources. In the efforts to protect children from lead exposure, we see the need for further EPA support. In September 2019, all 50 states and the District of Columbia applied for grants to test

for lead in schools, including in the pipes of drinking water fountains. By January 2020, 43 of the grants were awarded, and we anticipate awarding all the grants soon.

EPA also is taking regulatory action to combat lead exposure. For the first time in nearly three decades, EPA has proposed a revision to the Lead and Copper Rule to reduce lead exposure in drinking water to better protect children and at-risk communities. The proposed rule will ensure that systems have plans in place to rapidly respond by taking actions to reduce elevated levels of lead in drinking water. EPA staff is currently monitoring and mapping the location of the highest-risk lead pipes so we can focus our work on the most impacted areas of the country first. Also, for the first time in nearly two decades, EPA issued new, tighter standards for lead dust in homes and child care facilities to protect children across the country from the harmful effects of lead exposure.

Another priority is to continue working to identify and, if necessary, to address potential emerging sources of drinking water contamination. The Budget Request includes additional resources to allow EPA to continue to aggressively implement the *Per- and Polyfluoralkyl substances (PFAS) Action Plan*—EPA’s first multi-media, multi-program, national research, management, and risk communication plan to address this extensive class of emerging chemicals of concern. Funding in FY 2021 will enable EPA to continue addressing the ongoing and immediate needs for any additional policy, regulatory, and enforcement actions that may be necessary across multiple statutory authorities, as well as to develop analytical methods, toxicity values, and additional treatment and remediation options that will help states and communities to address PFAS exposures.

We took another important step this year in implementing the Agency’s *PFAS Action Plan* by proposing regulatory determinations for PFOA and PFOS in drinking water. These preliminary determinations mark a key milestone in EPA’s extensive efforts under the *PFAS Action Plan* to help communities address these substances nationwide.

We also proposed regulations to close a loophole that allows imports of products including certain PFAS chemicals that have been phased out in the United States as part of surface coatings. This supplemental proposal would ensure that any new uses are

reviewed by EPA before any products with coatings containing these chemicals could be imported into the United States again.

The Budget Request includes approximately \$2 billion to continue to capitalize the two State Revolving Funds (SRFs) to assist our implementing partners in rebuilding aging water infrastructure. As part of our continued commitment to small communities, in FY 2019, 64 percent of total Drinking Water SRF assistance, or \$1.83 billion, was awarded to communities with populations of fewer than 100,000 people. The revolving nature of the Drinking Water and Clean Water SRFs, combined with substantial contributions from our state partners, has greatly expanded the scope of federal investment. EPA estimates for every federal dollar contributed to date, communities have received over \$3 of water infrastructure investments in return.

The Budget Request also includes \$25 million for the Water Infrastructure Finance and Innovation Act (WIFIA) program. This funding, including \$20 million in credit subsidy, could deliver more than \$2 billion in direct credit assistance. When combined with other funding resources, this could spur over \$4 billion in total infrastructure investments.

The WIFIA loan program is also producing tremendous results for the American people. EPA has issued 20 WIFIA loans totaling over \$4.2 billion in credit assistance in the past three years to help finance over \$8 billion for water infrastructure projects, which can create over 16,000 jobs. WIFIA loans are wide-ranging and have been issued to finance a variety of projects—from a new community drinking water plant in Tennessee, to expanding a groundwater replenishment system in California, to the development of a long-term water supply for Oregon communities that will be built to the highest seismic safety standards for earthquake resiliency. On the wastewater side, many of the projects will reduce the size and number of sanitary sewer overflows into surface waters that occur with storms, advancing efforts to achieve total maximum daily load (TMDL) goals, and reducing nutrient discharges that can contribute to HABs.

While most water systems consistently provide safe and reliable drinking water, many small systems face their own unique challenges. To address these needs, President Trump signed the bipartisan America's Water Infrastructure Act of 2018 (AWIA). In FY 2021, the Budget Request includes \$82 million for grants to continue implementing the mandates included in AWIA that support water system resiliency, technical

assistance, remediation for schools with lead in their drinking water, the water workforce, and water infrastructure, including innovative technologies and sewer overflow control. The combined funding of the SRFs, WIFIA loans, Water Infrastructure Improvements for the Nation Act (WIIN) grants, and the new AWIA grant programs will enable the Agency to make significant water infrastructure investments in communities in every state.

Water infrastructure is just one aspect of EPA's infrastructure investment agenda. The cleanup and redevelopment of contaminated lands play a crucial role in revitalizing communities throughout the country. We are in the process of cleaning up some of the Nation's largest, most complex contaminated sites and returning them to communities for productive use.

The Budget Request includes over \$1 billion in the Superfund account to continue progress to revitalize lands. When talking about the Superfund program, it is important to remember that annual appropriations are just one source of funding to help facilitate the cleanup and restoration of contaminated lands. In 2019, the Superfund Enforcement Program secured private party commitments for cleanup and cost recovery, ultimately billing more than \$961 million for EPA's oversight of the process.

The Budget Request provides nearly \$130 million for Brownfields work, including no less than \$18 million targeted to support Opportunity Zones established in the historic 2017 tax law under President Trump's leadership. Opportunity Zone redevelopment can spur capital investment in economically distressed areas, leading to diversified economies, increased job opportunities, and restored fiscal health in communities allowing for a greater capacity to solve environmental problems. Leveraging brownfields work in Opportunity Zones can help attract public and private capital to further advance economic, environmental, and public health gains. Our most recent Brownfields announcement awarded \$65.6 million to 151 communities. More than 75 percent of communities selected this year can potentially clean up Brownfield sites within census tracts designated as Opportunity Zones. This is an investment in some of our nation's most distressed communities, supporting environmental justice for all Americans.

The Budget Request includes \$5.8 million with 5.5 FTE to support work to improve the U.S. recycling system and reduce food loss and waste. Recycling programs conserve resources for the future and protect our land and waters. Managing materials sustainably promotes economic growth and reduces environmental impacts. Food waste reduction programs are needed to help reach the Nation's goal of reducing food loss and waste by 50 percent by 2030. In the U.S., a remarkable 30 to 40 percent of all available food goes uneaten through loss or waste. Discarded food ends up in communities' landfills and produces methane, which is a potent greenhouse gas.

The Agency will continue to advance recycling by providing national leadership and direction on approaches to reduce environmental impacts and increase safe and effective reuse and recycling of materials. These initiatives complement ongoing EPA work in managing materials more sustainably, promoting economic growth, and reducing environmental impacts. Additional resources will be used to conduct a needs assessment of the U.S. recycling industry to inform future work, support grant programs, and encourage the use of recycled materials in manufacturing through a pilot incentive program. One proposed grant program, the Community Recycling Infrastructure and Capacity Building Grant, will support pilot programs and infrastructure in communities seeking to enhance their capacity to recover and recycle materials.

When it comes to reducing air pollution, we are moving forward with commonsense reforms that will help more areas to reach attainment of the National Ambient Air Quality Standards (NAAQS) established under the Clean Air Act and to comply with visibility obligations. Areas in nonattainment face a variety of challenges. The Agency is working across multiple fronts to bring these areas into attainment, including by improving the efficiency and effectiveness of the Clean Air Act State Implementation Plan (SIP) process and working to reduce the SIP backlog. In the past three years, EPA has re-designated 40 areas around the country, moving them into attainment with federal air quality standards and highlighting the importance of air quality for millions of Americans. In FY 2019, EPA acted on over 360 SIPs, 165 of which were backlogged. And in fact, earlier this year, the Hillsborough County and the Hillsborough-Polk Areas reached attainment for their 1-hour Sulfur Dioxide (SO₂) NAAQS, putting the entire State of Florida in attainment with all NAAQS standards. This is not only good for the health and wellbeing of residents, but also supports economic growth—both of which are priorities for President Trump.

From 2007 to 2017, emissions of nitrogen oxide (NOx) in the U.S. dropped by more than 40 percent. But there is more work to be done. Heavy-duty vehicles are the largest contributor to mobile source emissions of NOx and are projected to be one of the largest mobile source contributors to ozone in 2025. In January, I signed an Advance Notice of Proposed Rulemaking soliciting pre-proposal comments on a rulemaking effort known as the Cleaner Trucks Initiative. By working closely with states and the private sector, we will reduce NOx emissions from heavy-duty trucks, which is not required by statute or court order, but will be key in helping remaining nonattainment areas reach attainment of the NOx NAAQS.

A top priority in FY 2021 is ensuring that chemicals used in commerce and sold in the marketplace are safe for public use. In furtherance of this goal, EPA continues to meet the major statutory deadlines of the Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended the Toxic Substances Control Act (TSCA). We have issued rules addressing the prioritization process, risk evaluation process, and TSCA inventory, while also developing a new fees program. More timely access to critical data is essential for our chemical evaluations. With that in mind, the Budget Request supports TSCA records digitization with \$4 million to support the transition from paper to electronic records as required by the National Archives and Records Administration.

As a sign of our progress in ensuring the safety of chemicals, as of today, EPA is working its way through the final risk evaluations for the first 10 chemicals and we expect all ten will be finalized later this year. We also identified in December the next 20 high-priority chemicals that EPA will work on, with scoping documents expected this summer.

In terms of risk management, in November 2019, we finalized a ban on retail sales of methylene chloride for consumer paint and coating removal—the first risk management action ever taken under Section 6 of amended TSCA. After analyzing the health impacts and listening to affected families, we took action to protect retail consumers.

EPA is focused on increasing compliance with environmental laws, including by punishing criminal actors, and we are making significant progress. As a sign of expediting a return to compliance, in FY 2019, we received voluntary disclosures at

over 1,900 facilities, which represents more than double the number of disclosures received in FY 2016. The Budget Request supports continuing this progress with funding to support circuit riders that provide on the ground technical assistance to drinking water and wastewater systems that are in chronic non-compliance with drinking water or clean water regulations. Compliance assistance aids smaller and rural public drinking and clean water systems to help them meet water quality standards.

The Agency is also focused on continuing to deter non-compliance by stepping up criminal cases as appropriate. In FY 2019, EPA provided legal and policy support to environmental crime prosecutions that resulted in a 98 percent conviction rate for criminal defendants. Criminal enforcement showed increases in all tracked categories for the first time since 2011. Those include 170 criminal cases opened and 137 defendants charged. Combined administrative, civil, and criminal fines were among the highest in the last decade at over \$470 million.

EPA has made great progress in Superfund enforcement. In FY 2019, the Superfund Enforcement Program secured commitments to reduce, treat, or eliminate a total of 347.2 million pounds of pollution—the highest in the past four years—as well as commitments for \$961 million in new site cleanup work and payment of EPA oversight costs. Through the use of Superfund enforcement tools, EPA compelled cleanup and promoted redevelopment at over 160 sites.

Finally, within the Agency itself, we are improving how efficiently and effectively we carry out our core responsibilities. In FY 2018, the Agency introduced EPA's Lean Management System (ELMS), and currently over half the Agency is using ELMS in their daily work. EPA is reviewing its own performance internally using more than 800 performance metrics across all our programs and taking timely action when we see an issue. We are already seeing real progress, such as reducing the backlog of new permit applications older than six months by 65 percent by the end of FY 2019. We also are working to modernize our internal systems to help us accomplish our work more efficiently and cost-effectively. For example, EPA is working to develop new contract and grant systems to replace legacy systems and create long-term cost avoidance, and the Budget Request includes resources to advance this important effort.

I would like to conclude by noting that as EPA celebrates our 50th anniversary in 2020, it is more important than ever that we send the message to the public that when they encounter environmental threats, we will address them head on. And we want the world to know, that when they encounter environmental threats, we are ready to help. This is the type of leadership that gives confidence to the public, certainty to the regulated community, and reassurance to our allies around the globe. This is the type of leadership you can expect from President Trump and our Administration. Thank you for the opportunity to submit this testimony for the record. I look forward to our continued partnership.

Senate Committee on Environment and Public Works
Hearing entitled, “Oversight of the Environmental Protection Agency”
May 20, 2020
Questions for the Record for Administrator Andrew Wheeler

Chairman Barrasso:

1. When defending its decisions to grant hardship relief to three small refineries in *Renewable Fuels Association et al. v. EPA et al.*, No. 18-9533 (10th Cir. Jan. 24, 2020), EPA did not challenge petitioners’ standing claims. I find that very troubling given that a federal bankruptcy court had previously ruled that a similarly situated biofuels lobby did not have standing to challenge EPA’s decision to forgo retiring 426 million RINs for a large refinery. *In Re PES Holdings, LLC*, No. 18-10122 (Bankr. D. Del., Apr. 4, 2018). That is over triple the amount of relief that EPA granted the three small refineries at issue in the *RFA* case. I’m also told that the draft brief, which the Department of Justice (DOJ) prepared for EPA in the *RFA* case, challenged petitioners’ standing claims. I understand that your agency directed DOJ to remove the challenge(s) to petitioners’ standing claims prior to filing the brief with the U.S. Court of Appeals for the Tenth Circuit.

Why did EPA decide not to challenge petitioners’ standing claims in the *RFA* case?

EPA Response: The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice (DOJ) work together when defending litigation filed against the Agency and determine collaboratively whether raising standing issues in a given case is warranted. EPA notes the court in the *Renewable Fuels Association* case concluded that the biofuels groups had standing. *See Renewable Fuels Ass’n et al. v. EPA*, 948 F.3d 1206, 1230-1239 (10th Cir. 2020).

2. EPA’s Guidelines for Carcinogen Risk Assessment apply to all offices within EPA, including the Integrated Risk Information System (IRIS) program. The Guidelines define and explain how “mode of action” may be used to evaluate the potential carcinogenicity of a chemical compound. I understand that, for some chemical compounds, the findings of health effects studies are sufficient to establish a mode or modes of action. However, the Guidelines also state that: “In the absence of sufficiently, scientifically justifiable mode of action information, EPA generally takes public health-protective, default positions regarding the interpretation of toxicologic and epidemiologic data: animal tumor findings are judged to be relevant to humans, and cancer risks are assumed to conform with low dose linearity.”
 - a. Would you please list all the pending IRIS risk assessments that have not used a mode or modes of action?

EPA Response: Mode of action (MOA) analyses are always conducted during IRIS chemical assessments when a potential cancer hazard is identified in accordance with EPA cancer guidelines. MOA analyses determine whether or not the MOA information is sufficient to establish the key events underlying carcinogenicity and whether the MOA(s) informs dose response. This

determination/rationale is clearly documented in each IRIS assessment, which then undergoes independent, external peer review to ensure scientifically defensible assessment conclusions.

- b. For each of the pending IRIS risk assessments that have not used a mode or modes of action, has IRIS correctly determined that there is an absence of sufficiently, scientifically justifiable mode of action information?

EPA Response: All pending IRIS chemical assessments have conducted MOA analyses when a potential cancer hazard was identified. The determination/rationale for whether the MOA information is sufficient to establish the key events underlying carcinogenicity and whether the MOA(s) inform dose-response analyses is clearly documented in each assessment, which then undergoes independent, external peer review to ensure scientifically defensible assessment conclusions.

- 3. How will EPA's proposed "Strengthening Transparency in Regulatory Science" rule affect the public disclosure of the scientific studies and underlying data upon which IRIS bases its risk assessments?

- a. Will the proposed rule result in public disclosure of that information in advance of the publication of IRIS' draft risk assessments?

EPA Response: EPA received comments on this issue during the public comment period for the proposed rule. We are considering these comments in developing the final regulation.

The EPA's Strengthening Transparency in Regulatory Science rulemaking was first proposed before I rejoined the Agency on April 20, 2018 as Deputy Administrator. In response to the proposed rule, the Agency received close to a million comments, and after being briefed on the rule and the comments as Administrator, I directed EPA staff to issue a supplemental proposal to take additional comments because I want to make sure that the Agency gets this rule right. I signed the supplemental notice on March 3, 2020, and we asked for the public to provide comments by April 18, 2020. In response to concerns raised by public health officials, members of Congress, and state officials—who, like EPA, have been focused on delivering our most critical public health missions while responding to the COVID-19 virus—I decided to extend the public comment period for an additional 30 days, through May 18, 2020.

Transparency in science that enables the independent validation of scientific conclusions is important to advancing the Agency's mission. In no way does the proposed rule or the supplemental notice suppress research or censor scientists. On the contrary, it acknowledges that all science is welcome at the Agency and provides a clear awareness to researchers and the general public that, if finalized, the Agency will utilize procedures with the goal of making the science

on which future significant regulatory decisions are based more transparent while still ensuring the protection of confidential business information (CBI) and personally identifiable information (PII). The supplemental notice asked for public comment on all of these important considerations. We are in the process of developing the final rule and I expect it to be complete very soon.

Senator Capito:

4. The replacement of the Obama Administration's illegal *Clean Power Plan* – which would have been disastrous for ratepayers and was a gross overreach of the EPA's statutory authority – with the new *Affordable Clean Energy Rule* is one of the most closely watched rulemakings of the Trump Administration. The new rule balances the rule of law with what is economically feasible and protective of the environment, while continuing the progress this country has made on reducing emissions of carbon dioxide and criteria pollutants.

- a. Can you provide a status update on the implementation of the rule?

EPA Response: On July 8, 2019, EPA finalized the Affordable Clean Energy Rule (ACE). The deadline for states to submit their plans is July 8, 2022, meaning we are more than a year into the implementation process with less than two years left until plans are due. Many states have started taking initial steps in collecting data and constructing blueprints for state plans. States have already started demonstrating their ingenuity in developing plans that fit within the flexibility of ACE while also tailoring source-specific standards. EPA is committed to working with the states throughout this process. We have set up an internal national implementation workgroup with the EPA Regional Offices and have been keeping an active and ongoing dialogue with states and utilities.

- b. Any regulatory protections for compliant electric generators now being slammed by the suppressed demand resulting from COVID-19 economic upheaval would at least remove a major source of regulatory uncertainty from the list of current headwinds facing utilities. Is the EPA making any accommodations for "early compliance" for coal and natural gas plants that can currently meet the emissions criteria in the final rule, so that thermally efficient coal and gas units can benefit from a degree of regulatory certainty?

EPA Response: As mentioned in the previous response, state plans for the Affordable Clean Energy (ACE) Rule are due July 8, 2022 and we expect that many states will submit their plan very near that deadline. However, we are aware that some states are actively pursuing or considering early plan submissions. The earlier a state plan is submitted, the earlier it can be reviewed and potentially approved by EPA. An approved state plan will then provide regulatory certainty to the designated facilities within that state. Also, note that ACE only requires state plans to establish requirements for coal plants, not natural gas plants.

5. The West Virginia Department of Environmental Protection (WVDEP) and the staff at EPA Region III have been working collaboratively to finalize the federal review of the state's hardness-based aluminum water quality standard. I am encouraged to hear that the pace of interactions between the state and EPA has picked up and we may be nearing the end of a regulatory process that has been pending since 2016. Any efforts to expeditiously conclude this process would be greatly appreciated by the state. When do you think the EPA will be able to finalize its review of this standard for WVDEP?

EPA Response: EPA expects to complete our review of the new information and rationale provided by the state in early 2021 to make our determination about whether to approve or disapprove the state's proposed standard. EPA will also coordinate with the U.S. Fish and Wildlife Service to ensure its timely review of EPA's determination.

6. As long as the Renewable Fuel Standard (RFS) remains the law of the land, I believe the federal government should be prioritizing the transition from renewable fuels that disrupt agricultural markets and consumer food prices in favor of cellulosic, biomass, and other advanced biofuels. To that end, a constituent company in West Virginia, Air Liquide, has submitted three of the 19 pathway petitions currently pending before EPA to generate cellulosic renewable identification numbers (RINs) associated with production of a renewable transportation fuel from waste-derived biogas. Similar pathways have been approved by EPA, but these three petitions have been pending, in some cases, for years. It is my understanding they have been reviewed by EPA technical and political staff and await your approval. What is the status of these petitions and can you provide a timeline to complete their review?

EPA Response: EPA does not currently have a timeline for completion of the review of the Air Liquide petitions. EPA continues to review new fuel pathway petitions, including those, like Air Liquide's, related to hydrogen. This type of petition introduces complex issues that require careful consideration to ensure the ongoing effectiveness and integrity of the Renewable Fuel Standard (RFS) program.

Senator Cramer:

7. North Dakota is a major energy producer including coal, gas and oil. The last administration wanted to just keep driving emissions down under the Regional Haze program without stopping to think about what the program is all about: visibility improvement. However, the cost of compliance can actually lead to plant closures, which seems like a steep price to pay for visual improvements unnoticeable to the naked eye. North Dakota is already a national leader in air quality and we are one of the few states that is in compliance with all of the National Ambient Air Quality Standards. In August 2019, the EPA under your leadership released final guidance outlining the flexibilities states have to comply with the program under the Clean Air Act. Can you provide examples of some of the flexibilities available to states as they create their State Implementation Plans?

EPA Response: EPA finalized revisions to the Regional Haze Rule in January 2017 and released the final regional haze guidance document in August 2019 (August 2019 Guidance). The August 2019 Guidance supports key principles of regional haze program implementation and is intended to help states in developing second planning period State Implementation Plans (SIPs) for complying with the Clean Air Act's (CAA) visibility requirements; reducing state planning burdens; and leveraging emissions reductions achieved through CAA and other programs that further improve visibility in protected areas. The August 2019 Guidance further aids states by providing information about EPA's understanding of the discretion and flexibilities states have within the statutory and regulatory requirements. The regional haze program is an iterative program that provides states with flexibility to develop a cohesive strategy that demonstrates reasonable progress towards eliminating manmade visibility impairment over time. Importantly, there is no specified outcome or amount of emissions reduction or visibility improvement that is directed as the reasonable amount of progress for any Class I area.

The CAA identifies four factors that states must consider in determining what constitutes "reasonable progress" towards eliminating manmade visibility impairment in Class I areas. The four factors are: costs of compliance, time necessary for compliance, energy and non-air quality environmental impacts of compliance, and remaining useful life of any existing source subject to such requirements. The Regional Haze Rule, which implements the statutory requirements for making reasonable progress, does not mandate specific control decisions for specific sources. Rather, the Regional Haze Rule and the August 2019 Guidance support approaches that states can undertake to conduct control measure analyses that consider the four statutory factors for reasonable progress, including cost of compliance. In addition, states have considerable discretion and flexibility to set reasonable compliance deadlines, including deadlines beyond the end of the second planning period (2028), if justified for specific sources. For example, the August 2019 Guidance states that the time necessary for compliance is a source-by-source question, and in the preamble to the 2017 Regional Haze Rule revisions, EPA acknowledged that states have "substantial discretion" in establishing reasonable compliance deadlines. States may also consider the visibility benefits of potential control measures when determining what is necessary to make reasonable progress. The States have the flexibility to decide how to characterize the factors, but a state's approaches must be reasonable and consistent with the statute and regulations. Technically-sound facts regarding costs, visibility benefits, and other factors will help states make well-reasoned, technically-sound decisions.

EPA's near-term goals are to provide technical and policy information for the upcoming second planning period to assist states in their SIP development process by improving the efficiency and reducing the resources needed to meet the regional haze statutory and regulatory requirements. EPA encourages states to discuss SIP development approaches with their EPA Regional office early in their SIP development process.

8. East and West coast states have abused their authority under section 401 of the Clean Water Act. In the case of Washington state, they denied a water quality certification with prejudice, meaning the applicants cannot even refile. This is despite the fact, their own environmental review said: "There would be no unavoidable and significant adverse environmental impacts on water quality." Similarly, New York recently rejected the Northeast Supply pipeline on section 401 grounds, yet one of the reasons cited was the pipeline was incompatible with New York's newly minted climate law. The 401 permit is restricted to water quality. States should stick to that test. The Obama administration's WOTUS and Clean Power Plan proposals were found illegal and burdensome because they overstepped the bounds of the law. Similarly, some states are overstepping their 401 authority to make it about everything but water quality. What is EPA doing to ensure these sorts of abuses do not happen in the future?

EPA Response: Clean Water Act (CWA) section 401 gives states and authorized tribes authority to assess potential water quality impacts of discharges from federally permitted or licensed projects that may affect navigable waters within their borders. Properly implemented, CWA section 401 is an important tool that can be used to help protect water quality while allowing federal permitting and licensing processes to proceed in a timely manner. On July 13, 2020, EPA published in the *Federal Register* a final rule that increases the transparency and efficiency of the CWA section 401 certification process in order to promote the timely review of infrastructure projects while continuing to ensure that Americans have clean water for drinking and recreation.

9. In the last year, the Supreme Court and EPA have considered whether discharges that travel underground or through groundwater to Waters of the U.S. are subject to the Clean Water Act. Last month, the Supreme Court issued its decision in *County of Maui v. Hawaii Wildlife Fund*, finding that these discharges may be subject to the Clean Water Act when they are "functionally equivalent" to a direct discharge. If interpreted liberally, the vagueness of this decision could put other non-point sources at risk, specifically farmers and ranchers who use fertilizer, recycle their waste, and utilize subsurface tiling to manage water within their fields. These discharges were clearly never meant to be regulated by the federal government. What clarity can EPA provide to stakeholders and constituents following the County of Maui decision?

EPA Response: On April 23, 2020, the Supreme Court issued an opinion in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020), addressing the question of whether a Clean Water Act National Pollutant Discharge Elimination System (NPDES) permit is required for releases of pollutants from a point source that passes through groundwater before reaching a navigable water. In a 6-3 decision, the Court held that an NPDES permit is required "when there is a direct discharge from a point source into navigable waters or when there is the functional equivalent of a direct discharge." *Id.* at 1476 (emphasis in original). In describing the new "functional equivalent" standard, the Court stated that "an addition [of a pollutant] falls within the statutory requirement that it be 'from any point source' when a point source directly deposits pollutants into navigable waters, or when the discharge reaches the same result through roughly

similar means.” *Id.* The Court listed seven factors that “may prove relevant (depending upon the circumstances of a particular case)” in determining if an NPDES permit is required. *Id.*

On December 10, 2020, EPA published draft guidance that clarifies how the Supreme Court’s decision in *County of Maui v. Hawai’i Wildlife Fund* should be applied within the NPDES permit program. This guidance will help clarify when a NPDES permit is necessary under the Clean Water Act. Additional information is available at <https://www.epa.gov/npdes/releases-point-source-groundwater>.

10. EPA has a premier audit and inspection program for Good Laboratory Practices (GLPs), recognized worldwide. However, EPA does not issue certificates of GLP compliance for laboratories, as other nations do, that would make it easier for many regulatory authorities in countries around the world to recognize the GLP credentials of regulatory studies conducted in the US. This places US contract research laboratories and US businesses at an economic and competitive disadvantage in seeking product marketing approvals in those countries and exporting their products and services. EPA has recently received additional funding from PRIA4 to enhance the GLP program. What specific changes to US regulations and/or legislation would be necessary to allow/require EPA to issue such GLP certificates? What changes could be made under President Trump’s May 19, 2020 Executive Order 13924 on economic recovery from COVID-19 to accomplish this?

EPA Response: The Pesticide Registration Improvement Extension Act of 2018 (PRIA 4) directs EPA to set aside existing maintenance fee funds, up to \$500,000 collected from pesticide registrants, in support of the continued registration of their products towards enhancements to the Good Laboratory Practices (GLP) program. The passage of PRIA 4 was specific to increasing the number of inspections and data audits being conducted, and per the language, timeliness in providing the preliminary summary of inspection observations not later than 60 days after the date on which the inspection is completed. EPA’s approach to GLP is governed by its regulatory framework which does not call for the issuance of laboratory compliance certificates. EPA’s GLP program supports the acceptance of data for regulatory purposes. The Agency is not aware of any significant, industry-wide observations that have impacted international product marketing approvals. EPA has promulgated GLP regulations to assure the quality and integrity of data submitted as part of the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), (40 CFR part 160), and the Toxic Substances Control Act (TSCA), (40 CFR part 792). The Food and Drug Administration (FDA) has also promulgated GLP regulations to assure data quality and integrity as part of the Federal Food, Drug and Cosmetic Act (FFDCA) (21 CFR part 58). Many testing facilities subject to EPA rules may also perform testing for FDA. Over the years, FDA and EPA have collaborated to maintain a harmonized approach to GLP compliance monitoring so as not to erode consistency between the organizations and not be administratively and operationally burdensome, increase costs, and add unnecessary complexity upon the regulated industry.

Executive Order 13924 requires agencies to address the economic emergency caused by COVID-19 by rescinding, modifying, waiving, or providing exemptions from regulations and other requirements that may inhibit economic recovery. New regulations and significant additional resources would be required to establish a GLP certification program instead of the current inspection and study audit compliance monitoring program. There is no evidence that has been presented to EPA that companies seeking pesticide product registrations are being inhibited economically by not having a GLP certification during the COVID-19 public health emergency. When a company has been inspected by EPA, they are able to provide information to foreign countries that they have been inspected and the findings.

11. The robust and rigorous pesticide regulatory program administered by the EPA is highly regarded by governments around the world. Many trading partners welcome imports of trusted pesticide products from US sources, which have the benefit of our regulatory program, but they need reasonable assurance of the source of the products, in order to combat contraband and counterfeits that are significant problems in some countries. Such counterfeit products can have a potentially harmful effect here at home in the form of residues on foods imported into the United States, from pesticide products of unknown origin and dubious quality. Four years ago, EPA discontinued its policy of providing Certificates of Origin for exported pesticide products to provide this assurance to importing countries, causing no small disruption for US businesses and their international customers. The fee-for-service language of FIFRA authorizes EPA to issue "Letters of Certification" for pesticide products, but the Agency has chosen not to include Certificates of Origin under this provision. What policy change could be made under the recent Executive Order 13924 (May 19, 2020; "Regulatory Relief To Support Economic Recovery") to resume issuing Certificates of Origin?

EPA Response: The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is silent on the authority to issue certificates of origin. The statutory wording of the M006 fee category description under the Pesticide Registration Improvement Extension Act of 2018 (PRIA 4) is clear that the letter of certification is specific to Gold Seal letter requests.¹

A Gold Seal letter is an EPA document certifying that a pesticide product is currently registered. Registration status is easily confirmed by consulting EPA tracking databases, and EPA can certify the status with certainty. EPA has received and processed 500 to 600 such requests each year since the category was created in the Pesticide Registration Improvement Extension Act (PRIA 3). Countries from around the globe regularly require a Gold Seal letter from EPA to confirm that a product, which may be proposed for import/use in a foreign country, is currently registered for use in the United States and has been determined to be safe to human health and the environment in accordance with U.S. safety standards.

¹ "Request for up to 5 letters of certification (Gold Seal) for one actively registered product (excludes distributor products)." (133 STAT. 576, Pesticide Registration and Improvement Extension Act of 2018, Public Law No: 116-8, March 8, 2018)

EPA has concerns about its ability to verify information to issue certificates of origin under FIFRA, particularly of certifying that production of a certain product has occurred at a specific establishment. EPA does not have the information necessary to certify the origin of an exported pesticide, registered or unregistered, arriving at a foreign destination. EPA only knows that an establishment reported the information that is in EPA's FIFRA Section Seven Tracking System (SSTS) database, not that a given product was actually produced at that facility at the batch level. EPA would need inspections and audits before a shipment is released to be able to certify that a specific batch was produced at a specific establishment. EPA is also concerned about the potential for misunderstanding by the importing country of what such a certificate would and would not indicate.

In 2016, EPA created a public webpage which provides an up-to-date list of all current EPA-registered establishments (over 14,000) (<https://www.epa.gov/compliance/national-list-active-epa-registered-foreign-and-domestic-pesticide-and-or-device-producing>). This webpage allows foreign governments and the public to verify that the establishment number identified on the pesticide product is a legitimate EPA-registered establishment. EPA has not received any indication from foreign governments that the provided information is insufficient. It would be helpful to have additional information regarding the specific obstacles U.S. companies are encountering and identify which foreign governments have expressed a need for this information.

Executive Order 13924 requires agencies to address the economic emergency caused by COVID-19 by rescinding, modifying, waiving, or providing exemptions from regulations and other requirements that may inhibit economic recovery. New regulations would be required to provide certificates of origin in conjunction with significant additional resources to create the infrastructure for batch-level compliance monitoring at each establishment.

Senator Braun:

12. At the staff level, EPA has noted to several agriculture industry representatives that the agency believes that there is a conflict in the scientific literature regarding the biogenic carbon emissions from the processing of annual crops. EPA has privately noted that this conflict makes it difficult for the Agency to provide regulatory clarity.

However, as I noted during my testimony, on May 18, 2020, 21 scientific experts sent a letter to the agency noting that the science is relatively straightforward.

- a. Clarity on this question is critical as the agency works on a de minimis standard for annual crops. Please provide a detailed statement indicating which specific studies or sources, if any, EPA has identified that currently prevent it from establishing a de minimis standard for biogenic carbon emissions associated with the processing of annual crops.

EPA Response: As I said during the hearing, the Agency intends to put forth a proposed rulemaking on emissions related to using agricultural crops for energy in the future, as resources and policy priorities allow. EPA's assessment of the scientific literature in this area will be presented as a part of the future rulemaking.

- b. If, in fact, the Agency believes that there is a scientific conflict that inhibits rulemaking, please state in detail what that conflict is and what steps the Agency has taken since 2011 to address any conflicts, uncertainties, or relevant questions.

EPA Response: We have determined that a phased approach is the most efficient process to allow the Agency to clearly and defensibly address all relevant feedstocks.

13. It is also important to note EPA's current regulatory environment pertaining to biogenic carbon emissions stands in sharp contrast to that taken by most other OECD countries. Why is that the case?

EPA Response: Greenhouse gases are air pollutants subject to regulation under the Clean Air Act and have been subject to regulation under the Clean Air Act since the standards in the light-duty vehicle rule went into effect in January 2011. EPA recognizes the unique attributes of biogenic carbon and is pursuing a phased approach to allow the Agency to clearly and defensibly address all attributes of relevant feedstocks. The first phase was EPA's April 2018 policy statement making clear that in future regulatory actions biomass from managed forests will be treated as carbon neutral when used for energy production at stationary sources. The second phase, the current rulemaking to address woody biomass, is in process and is with OMB for interagency review. The third phase is prospective. It is EPA's intention to address agricultural feedstocks in a future subsequent rulemaking as resources and policy priorities allow. (https://www.epa.gov/sites/production/files/2018-04/documents/biomass_policy_statement_2018_04_23.pdf) Other Organisation for Economic Co-operation and Development (OECD) countries, of course, operate in an altogether different regulatory environment.

14. In September 2018, EPA issued a draft "EPA Tampering Policy" to amend outdated enforcement policies.

The draft EPA Tampering Policy will provide industry with the tools it needs to produce and test twenty-first century emissions-compliant products. Technology advances in the decades since the agency issued Mobile Source Enforcement Memorandum 1A (Memo 1A) (1974), the aftermarket catalytic converter enforcement policy for light-duty gasoline engines (1986), the exhaust-system-repair guidelines (1991), and the engine switching fact sheet (1991), justify new updates to these policies.

However, EPA has not yet indicated when enforcement guidelines will be issued. Can you provide an update as to when the EPA intends to finalize a Tampering Policy that provides the aftermarket auto-parts industry with an effective and efficient means for compliance?

EPA Response: The EPA has updated Clean Air Act enforcement policy concerning vehicle and engine tampering and aftermarket defeat devices. The updated policy is called the “EPA Tampering Policy” and will restate long-standing enforcement policy, but in terms of today’s technology and in a single document. This updated policy will complement the Agency’s enforcement efforts, which are ongoing and focused on companies that defeat the emissions controls designed to protect air quality. Separate from the Tampering Policy, EPA is also seeking information to help the Agency decide later whether to withdraw a 1986 enforcement policy regarding replacement catalytic converters. The updated policy and *Federal Register* Notice can be found on this web page, under the “Mobile sources of air pollution” section: <https://www.epa.gov/enforcement/air-enforcement-policy-guidance-and-publications#Mobile>.

15. Senate Bill 2754 provides for a 15-year phasedown of hydrofluorocarbons (HFC), and is generally modeled on EPA programs that, over the past 30 years, guided transitions out of earlier generations of refrigerants, such as chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HCFC).

- a. If S.2754 were enacted, would you foresee EPA implementing the program in a manner that is substantially similar to these existing EPA programs?

EPA Response: If S.2754, the American Innovation and Manufacturing Act of 2019, becomes law, EPA would likely leverage existing Clean Air Act Title VI programs to implement S.2754. However, there are important differences between Title VI and S.2754. For example, S. 2754 phases down hydrofluorocarbons (HFCs), rather than phasing them out entirely. This means there is a limited (15 percent of baseline) amount that would continue to be used indefinitely. If S.2754 becomes law, EPA would develop and implement an appropriate regulatory program that builds on lessons learned during the phaseout of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

- b. The U.S. air conditioning and refrigeration industry is by far the largest user of HFCs and would be the most heavily affected by the bill. However, during a recent effort by the Committee on Environment and Public Works to seek stakeholder comments on the bill, concerns were raised by other sectors that use small amounts of HFCs. I understand that, in prior chemical transitions in the 1990s and early 2000s, these same sectors raised similar concerns, and that the EPA was able to implement the program in a manner that granted enhanced flexibilities to specific sectors.

Can you discuss how EPA was able to provide flexibilities to niche applications and small users under past transitions under the Clean Air Act and whether that would be possible in a future transition?

EPA Response: During the 1990s and 2000s, as the EPA designed Title VI programs, the Agency provided flexibility consistent with the Clean Air Act to ensure a successful ozone depleting substances (ODS) phaseout. These flexibilities included continued use of ODS where necessary, identifying transitional substitutes (*e.g.*, transition from CFCs to HCFCs prior to the HCFC phaseout), and the recovery and reuse of ODS in legacy systems.

Congress recognized when designing Title VI that some uses may be harder to transition than others. The EPA implements an essential use process that provides for the continued use of certain phased out ODS in limited situations (*e.g.*, continued consumption of CFCs for metered dose inhalers for the treatment of asthma). The EPA also exempted certain ODS uses from other Title VI complementary provisions such as an exemption for CFCs and HCFCs used as aerosol propellants for use in certain niche applications.

One important distinction between Title VI and S. 2754 is that EPA was tasked under the Clean Air Act with phasing out ODS with limited exceptions. S. 2754 would provide greater flexibility to HFC users by phasing down instead of phasing out HFCs and allowing 15 percent of the historic baseline to continue to be produced or imported indefinitely. This continued amount of HFCs would allow some HFC uses to continue into perpetuity.

Recovery and recycling of ODS also allows for users to continue using a substance for servicing as well as in new equipment well after it was phased out. For example, while halon has been phased out in the United States since 1994, new aircraft continue to be manufactured in the United States with fire suppression systems using recycled halon. The Agency has prioritized allowing equipment to reach the end of its useful life before it needs to be replaced. Recovery and recycling also continue to support users of CFC- and HCFC-based equipment, with more than 9 million pounds of ODS reclaimed each year. S. 2754 provides authority to EPA to support recovery and recycling of HFCs.

16. In September 2019, Congress included report language in the Interior and Environment Appropriations Bill urging the EPA to provide regulatory certainty with respect to production, transfer, and use of biointermediates. This report language follows a July 2019 bipartisan Senate letter requesting the same.

I urge you to act quickly on this matter, as a major investment in Indiana is awaiting regulatory clarity on biointermediates before it can begin commercialization.

Can you provide a date certain for final action on this rule?

EPA Response: The question of how to move forward with biointermediates is complex and requires careful consideration to ensure the ongoing effectiveness and integrity of

the Renewable Fuel Standard (RFS) program. EPA is currently evaluating options for how to proceed.

Senator Wicker:

17. On June 11, 2015, I sent a letter to the Environmental Protection Agency regarding the electronic delivery of certain federally mandated Safe Drinking Water Act (SDWA) notices. Tier 2 notices inform consumers about violations and situations with potential to have adverse health impacts on human health, and Tier 2 notices are currently required to be mailed to customers. This can be expensive for rural and small communities, and many ratepayers now check their email more frequently than their physical mailbox. In 2013, EPA interpreted that SDWA authorizes the use of electronic delivery for Consumer Confidence Reports (CCRs). Last year, the EPA Inspector General issued a report affirming that electronic delivery of Tier 2 public notices is authorized under SDWA. However, electronic delivery methods are not being utilized because EPA has not stated this in policy. Allowing small and rural communities to deliver Tier 2 notices electronically would save ratepayers money while expanding public access to this information.

Does EPA's 2013 memorandum regarding Safe Drinking Water Act - Consumer Confidence Reports Rule Delivery Options extend the authorization of "electronic delivery" of federally mandated public notices to Tier 2 notices?

EPA Response: The 2013 memorandum does not address Tier 2 notices, but the public notice regulations at 40 CFR 141.203 allow primacy agencies to approve alternate delivery methods, including electronic delivery, for Tier 2 public notices in writing.² EPA will work to ensure our rural and small communities understand the flexibilities that are available under existing regulations, and will send information to our state partners encouraging them to expand the use of electronic delivery methods.

Senator Ernst:

18. On November 18, 2019, a bipartisan group of 18 Senators wrote to you expressing the need for clarity regarding EPA's regulation of biogenic CO₂ emissions from the processing of annual crops. This is just one of many communications that have occurred over the last decade on this issue with EPA, including a letter from five governors. During your testimony before this committee on May 20th, you stated that EPA is taking a three-phase approach over the next 1.5 years to providing clarification on biogenic CO₂. Your comment at the hearing implied that regulatory clarification regarding annual crops' status could continue to be delayed to a third phase, more than a year from now. Please respond to the following questions:

² See 40 CFR 141.203 at: <https://www.govinfo.gov/content/pkg/CFR-2014-title40-vol23/pdf/CFR-2014-title40-vol23-part141-subpartQ.pdf>.

- a. Describe the Agency's three-phase approach to biogenic CO₂ policy and the reasoning that informed this approach.

EPA Response: The Agency has determined that a phased approach is the most efficient process to allow the Agency to clearly and defensibly address all relevant feedstocks. The first phase was EPA's April 2018 policy statement making clear that in future regulatory actions biomass from managed forests will be treated as carbon neutral when used for energy production at stationary sources. The second phase, the current rulemaking to address woody biomass, is in process and is with OMB for interagency review. The third phase is prospective. It is EPA's intention to address agricultural feedstocks in a future subsequent rulemaking as resources and policy priorities allow.

- b. Provide the current plan, including timing and the dedicated resources, that the Agency will implement in order to clarify its biogenic CO₂ policy for annual crops

EPA Response: As detailed in the response to Question 18(a) above, the Agency has determined that a phased approach is the most efficient process to allow the Agency to clearly and defensibly address all relevant feedstocks. The first phase was EPA's April 2018 policy statement making clear that in future regulatory actions biomass from managed forests will be treated as carbon neutral when used for energy production at stationary sources. The second phase, the current rulemaking to address woody biomass, is in process and is with OMB for interagency review. The third phase is prospective. It is EPA's intention to address agricultural feedstocks in a future subsequent rulemaking as resources and policy priorities allow.

- c. Has EPA consulted with USDA, with respect to its biogenic CO₂ policy for annual crops? Please describe those consultations, including any exchange of scientific studies and materials that may have occurred. If not, when and how will EPA work with USDA to achieve timely agreement and resolution on this matter?

EPA Response: The third phase intends to address agricultural feedstocks. As the process progresses, we plan to engage with interagency partners including the U.S. Department of Agriculture (USDA).

- d. If insufficient resources are a hurdle to the Agency issuing a new final standard for annual crops within that 1.5 year schedule, what additional appropriations would the Agency recommend beyond the FY20 appropriated amounts or described in the FY21 budget request? What would those funds enable EPA to do that it currently cannot in order to complete this regulatory action expeditiously?

EPA Response: The time frame is not dictated by Agency resources, rather it reflects our judgment that this phased approach is the most appropriate way to address all relevant feedstocks through rules that are not only developed expeditiously but are also sound and legally defensible.

19. EPA stated in its Waste Reduction Model (WARM) that biogenic CO₂ is not a contributor to climate change. The Agency's GHG inventory recognizes that biogenic emissions from agricultural feedstocks are both a source and a sink of emissions, with little net addition of GHGs to the atmosphere. Why then are biogenic carbon emissions from the processing of annual crops subject to different treatment in the PSD context?

EPA Response: Greenhouse gases, including biogenic CO₂, are air pollutants that have been subject to regulation under the Clean Air Act (CAA) since the standards in the light-duty vehicle rule went into effect in January 2011. Tools such as the Waste Reduction Model (WARM) and GHG Inventory are emission quantification tools that reflect methodologies for estimating and reporting greenhouse gas emissions and sequestration in their respective contexts and are not intended to be used as assessments of the greenhouse gas effects of using bioenergy at stationary sources regulated under the CAA.

20. Mr. Wheeler, following up on my question from the hearing, you indicated that it was "more complicated" to allow E15 to be dispensed from existing infrastructure already approved for ethanol-blended fuel. In particular, you mentioned concerns about underground storage tanks and the potential for leaks. All double-walled, fiberglass tanks manufactured for the last 30 years (since 1990) and all steel tanks are already approved for up to 100% ethanol [https://afdc.energy.gov/files/u/publication/e15_infrastructure.pdf]. For dispensers, the vast majority of dispensers are also approved for E15. Wayne Fueling Systems and Gilbarco have more than 90% of the combined dispenser market in North America. Wayne has approved all of its dispensers to carry E15, and since 2016, they've approved their dispensers for use of ethanol blends up to E25 (<https://wayne.com/en/press-releases/2016-08-30-wayne-standardizes-offering-for-all-north-american-retail-fuel-dispensers-to-e25/>). Gilbarco has approved their dispensers since 2008 for use with E15 (<https://esnews.com/gilbarco-expands-dispenser-warranty-e15/>).

- a. When can we expect the agency to move forward with expediting the sale of E15 through existing infrastructure?

EPA Response: EPA fully supports the safe expanded use of E15 and is working closely with our industry and state partners to ensure underground storage tank (UST) compatibility issues are fully understood. EPA agrees that all double-walled fiberglass tanks manufactured since 1990 are compatible with up to 100% ethanol. Yet, EPA knows that there are many facilities that still have single wall fiberglass USTs installed which are incompatible with E15. In addition, compatibility requirements extend beyond the fuel tank (and dispensers) and include other components of the overall UST system, such as pumps, ancillary equipment, gaskets, and sealants. For this reason, EPA expects nearly all existing UST systems that do not currently store higher ethanol blends would need some level of upgrade before they can safely and legally store E15. In some cases, the upgrades will be relatively minor (e.g., replacing the pumping system), but in other cases the upgrades will be more significant (e.g., UST

systems with single-walled fiberglass tanks). Storing and dispensing E15 at gas stations with equipment that is not compatible with higher blends of ethanol fuel can result in leaks and releases that contaminate land and groundwater. EPA has conducted extensive outreach to the regulated community to ensure that they fully understand the complex issues surrounding UST compatibility with E15 and is committed to continuing its compliance assistance activities to ensure safe storage of E15.

21. Mr. Wheeler, your own agency approved E15 for all 2001 and newer light-duty vehicles nearly a decade ago after 6 million miles of testing. Since that time, consumers have driven more than 14 billion miles on E15 and retailers have had millions of transactions with the fuel without a single reported issues. As I mentioned at the hearing, model year 2001 and newer vehicles represent more than 9 out of 10 cars on the road today and more than 95 percent of the vehicle miles traveled. Quite simply, it has been two decades since a car was produced that is not approved by EPA for use with E15, so it seems unnecessary to continue to require unnecessary labeling for this fuel.

- a. When can we expect the agency to move forward with removing the label as you committed last fall?

EPA Response: EPA is currently examining E15 labeling requirements. We are working with appropriate stakeholders to evaluate opportunities to streamline the existing E15 pump label regulations as needed to allow consumers fuel choices at the pump while still protecting not only older vehicles but also nonroad engines.

22. Corn producers are staring at economic conditions not seen since the farm crisis of the 1980s, and biofuel facilities are closing and shedding high-paying jobs across the country. One low cost way to add value to the corn crop and improve margins for ethanol producers is to approve corn fiber applications to produce cellulosic biofuel from corn kernel fiber, turning what is otherwise a waste material into fuel.

- a. There are corn fiber applications that have been pending at the EPA for almost three years, during which EPA has done nothing but throw up roadblock after roadblock. This isn't anywhere close to the regulatory certainty this Administration has promised. Will you commit to personally reviewing this situation and ensure these applications have a clear path to resolution consistent with the regulatory pathway EPA established in 2014?

EPA Response: EPA has taken steps to provide clarity with respect to our approach to corn kernel fiber under the RFS program. In May 2019, EPA issued guidance in response to stakeholders seeking clarification regarding acceptable methods for determining what is known as the "cellulosic converted fraction." This guidance, available on the Agency's website, articulates criteria for the type of analysis and demonstration that EPA believes would be an appropriate basis for corn fiber registration under the program.

Ranking Member Carper:

23. COVID-19 will be with us for many months, if not years, even if rapid vaccine development efforts are successful. EPA has frequently observed that some of the early studies linking air pollution and adverse COVID-19 outcomes have not yet been peer reviewed. The Centers for Disease Control has warned that people with diabetes and heart disease (among other pre-existing conditions) may be at higher risk for serious illness from COVID-19. Moreover, in the May 20th hearing, you agreed that EPA's own work has demonstrated that there is a clear link between exposure to air pollution and higher incidences of diabetes and heart disease. I then asked you to commit to ensuring that these health effects and risks are factored into all of the Agency's future air pollution rule-makings as well as its environmental justice efforts. You responded that "we factor diseases such as that into all our rulemakings already," that "we also factor that into our environmental justice programs," and that "all of our rules make things better."

- a. Please provide citations and descriptions of all EPA rulemakings and environmental justice efforts, since January 20, 2017, that factor in diabetes, heart disease, or other systemic health risks, and provide the supporting documentation factoring in such risks or citations to the relevant pages in the documents.

EPA Response: This Administration has made measurable progress advancing environmental justice. The elevation of the Office of Environmental Justice into the EPA's Office of the Administrator in 2018 has enhanced the collaboration within the Agency and ensures that environmental justice considerations are integrated on the front end of EPA's decision-making process, which includes rulemaking, permitting, and guidance, not at the back end of EPA's enforcement decisions. Regarding rulemaking, rule writers must address in the "Statutory and Executive Order Review" section of their preambles Executive Order 12898 "Federal actions to address environmental justice in minority populations and low-income populations", or that otherwise influence the rulemaking process. For examples of EPA rulemakings that addressing Executive Order 12898, please go to <https://www.regulations.gov/>.

Aside from rulemakings, EPA has continued to provide technical assistance, grants, and other tools to ensure environmental justice for communities across the country. A summary of this work is included in EPA's annual EJ Progress Reports. For the most recent report, please see the FY19 Environmental Justice Progress Report (https://www.epa.gov/sites/production/files/2019-11/documents/11.19.19_ej_report-final-web-v2s.pdf).

- b. Please describe EPA's efforts to focus the Agency's Office of Research and Development and its Air, Climate and Energy Centers on determining whether exposure to air pollution (or having an underlying condition with a known link to air pollution) is linked to more adverse outcomes from COVID-19, a higher risk of

contracting the disease, more difficult recovery from the disease, or a higher susceptibility to other diseases following COVID-19.

EPA Response: Currently, EPA's Office of Research and Development (ORD) has no active research specifically addressing whether poor air quality contributes to worse outcomes for patients with COVID-19. There is currently no high-quality peer reviewed data and studies on SARS-CoV-2 infection, and COVID-19 that are not adversely impacted by methodological limitations (see article "Methodological Considerations for Epidemiological Studies of Air Pollution and the SARS and COVID-19 Coronavirus Outbreaks" in NIEHS's Environmental Health Perspectives for some more information - <https://pubmed.ncbi.nlm.nih.gov/32902328/>), though we expect these studies to be available in the coming years. In the meantime, ORD researchers are conducting a systematic review of the epidemiological, clinical, and experimental toxicological literature to better understand the relationship between air pollutant exposure and risk for developing non-COVID-19 respiratory viral disease. The findings of the systematic review, which will largely focus on influenza, is expected in late 2021 and will help guide future investigations on SARS-CoV-2.

Additionally, the Health Effects Institute, which is partially funded by EPA, has posted a Request for Applications titled "Air Pollution, COVID-19, and Human Health." More information is available at <https://www.healtheffects.org/research/funding/rfa-20-1b-air-pollution-covid-19-and-human-health>.

24. It is already clear that COVID-19 is having a far more serious impact on lower income communities and communities of color, which often experience more air and water pollution. EPA has used funding Congress provided in the CARES Act to study disinfectants and whether COVID-19 can be detected in wastewater. But, because it is clear that there is much to be learned about this disease and its impacts on Americans, I asked you to commit to re-allocate unused EPA funds to study whether exposure to air pollution causes people with COVID-19 to have worse outcomes or more difficult recoveries, or to be more susceptible to other diseases once they have recovered. You responded that "you are looking at those areas," noted that "a lot of other people are researching that," criticized a recent study from Harvard University, and declined to make such a commitment.
- a. Please describe how EPA plans to re-focus its enforcement, compliance, and monitoring activities in a manner that prioritizes the early detection of high exposure to air pollutants in communities that have both historically experienced such exposures and those at greatest risk of adverse outcomes from COVID-19.

EPA Response: EPA agrees that it is important to prioritize enforcement efforts to address high exposure to air pollutants. EPA has identified three program areas that address potential exposure to air pollutants as National Compliance Initiatives (NCIs). EPA identifies certain programs as NCIs to ensure that Agency resources are prioritized to address these important areas. The Office of

Enforcement and Compliance Assurance (OECA) develops strategic plans for each of these NCIs and an Executive Board comprised of senior leaders in OECA headquarters and the Regions oversees implementation of the strategies. Three of the six NCIs identified for the FY 2020-2023 cycle address potential exposure to air pollutants.

Creating Cleaner Air for Communities by Reducing Excess Emissions of Harmful Pollutants from Stationary Sources (CCAC). This NCI focuses on reducing emissions of both volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). For VOC emissions, the NCI focuses on significant sources of VOCs that have a substantial impact on air quality and: (1) may adversely affect an area's attainment of National Ambient Air Quality Standards (NAAQS); or (2) may adversely affect vulnerable populations. For HAPs, this NCI focuses on sources that have a significant impact on air quality and health in communities.

Reducing Toxic Air Emissions from Hazardous Waste Facilities. EPA has found that air emission violations associated with the improper management of hazardous waste remain widespread. The Resource Conservation and Recovery Act requires effective monitoring to identify and repair leaks from certain hazardous waste storage tanks, containers, pipes, valves, and other equipment. Releases from hazardous waste facilities can include releases of constituents known or suspected to cause cancer, birth defects, or that seriously impact the environment. The Agency began this initiative in 2017 and elected to continue this initiative to help achieve EPA's Strategic Plan objectives of addressing vulnerable populations and reducing non-attainment areas.

Stopping Aftermarket Defeat Devices for Vehicles and Engines. OECA also selected Stopping Aftermarket Defeat Devices for Vehicles and Engines as a new NCI for the FY2020-2023 cycle. Mobile sources are a significant contributor to air pollution and EPA, through its direct implementation authority, can play a critical role in addressing these important pollutant sources. Title II of the Clean Air Act (CAA) authorizes EPA to set standards applicable to emissions from a variety of vehicles and engines. Required emission controls often include filters and catalysts installed in the vehicle's or engine's exhaust system, as well as calibrations that manage fueling strategy and other operations in the engine itself. The CAA prohibits tampering with emissions controls, as well as manufacturing, selling, and installing aftermarket devices intended to defeat those controls. EPA has found numerous companies and individuals that have manufactured and sold both hardware and software specifically designed to defeat required emissions controls on vehicles and engines used on public roads as well as on nonroad vehicles and engines. Illegally-modified vehicles and engines contribute substantial excess pollution that harms public health and impedes efforts by EPA, tribes, states, and local agencies to plan for and attain air quality standards.

- b. Please describe how EPA plans to enhance its environmental justice grants, tools, and other policy and forms of assistance in light of the disproportionate threats air pollution and COVID-19 pose to residents of lower-income and communities of color.

EPA Response: EPA is strengthening environmental and public health protections for vulnerable, low-income, minority, tribal and indigenous communities in conformance with Executive Order 12898—making measurable progress in improving outcomes for these Americans especially given COVID-19 concerns. EPA is utilizing all available tools within our authorities to combat the spread of the virus. As one example, EPA used supplemental funding to provide \$1 million in grant funding available to states, local governments, tribes and U.S. territories to help address COVID-19 concerns faced by low-income and minority communities. Projects funded through the State Environmental Justice Cooperative Agreement (SEJCA) could include sharing information related to EPA-approved disinfectants to combat COVID-19; addressing increased exposure of residents to in-home pollutants and healthy housing issues; and training community health workers. For more information about SEJCA please visit EPA's website at <https://www.epa.gov/environmentaljustice/state-environmental-justice-cooperative-agreement-program>.

25. On April 1, 2020, 10 of my Senate colleagues joined me in asking you for materials describing how EPA is fulfilling its mission while protecting its employees against the spread of COVID-19.³ We also asked you to describe any anticipated relaxation of regulatory requirements, and we stressed that modifications to environmental enforcement obligations must be taken only as necessary, temporarily and with full transparency. Your May 8th response was not fully responsive to our requests.

- a. Please provide and post on EPA's website all COVID-related regulatory modifications and enforcement waivers issued thus far.

EPA Response: EPA is posting all COVID-related enforcement "waivers" and additional compliance information on our website. EPA created a "*COVID-19 Enforcement and Compliance Resources*" webpage (<https://www.epa.gov/enforcement/covid-19-enforcement-and-compliance-resources>) to provide up to date information on EPA enforcement and compliance policies related to COVID-19. The webpage includes the following information:

- EPA's temporary COVID-19 enforcement policy, COVID-19 Implications for EPA's Enforcement and Compliance Assurance Program: <https://www.epa.gov/enforcement/covid-19-implications-epas-enforcement-and-compliance-assurance-program>;

³ https://www.epw.senate.gov/public/_cache/files/6/6/6612fe54-451c-491c-9ebf-b94acc1f197/DA9BF82AB71666433E7ECA4A1842D038.04-01-20-ic-et-al-continuity-of-operations-letter-to-epa.pdf

- Addendum to the Temporary Policy setting a termination date of August 31, 2020: <https://www.epa.gov/enforcement/covid-19-implications-epas-enforcement-and-compliance-assurance-program-addendum>;
 - Frequently Asked Questions: <https://www.epa.gov/enforcement/frequent-questions-about-temporary-covid-19-enforcement-policy> addressing specific questions asked about application of the temporary policy to specific scenarios;
 - Fuel Waiver: <https://www.epa.gov/enforcement/nationwide-fuel-waiver-concerning-summer-gasoline> to address a shortage of compliant fuel due to issues caused by the COVID-19 outbreak and issued pursuant to Section 211(c)(4)(C) of the Clean Air Act, which expired on May 20, 2020;
 - No Action Assurance: <https://www.epa.gov/enforcement/revised-no-action-assurance-use-emergency-generators-specific-companies-operating-puerto> to ensure the continued production of pharmaceutical supplies in Puerto Rico, which expired on June 1, 2020;
 - Additional Guidance specific to environmental compliance during the public health emergency: <https://www.epa.gov/enforcement/covid-19-enforcement-and-compliance-resources#other>.
- b. Please describe EPA's process for publishing any new enforcement or regulatory changes the Agency takes because of COVID-19 within 48 hours of their issuance going forward.

EPA Response (OECA/OP): EPA has posted these materials to the COVID-19 Enforcement and Compliance Resources webpage as soon as practicable after finalization and will continue to do so for any additional updates or revisions in the future.

26. On May 21, 2020, you informed EPA employees that agency would begin the process of starting Phase 1 of reopening facilities in Regions 4, 7, and 10 (Atlanta, GA; Lenexa, KS; and Seattle, WA).
- a. The EPA reopening plan allows employees with childcare responsibilities that have been interrupted by the COVID-19 pandemic to continue to telework during phases 1 and 2 of reopening. Other federal agencies such as the Department of Commerce, the Department of the Interior and Consumer Financial Protection Bureau have also allocated employees with child care responsibilities a limited amount of administrative or excuse leave, so that employees may address unforeseen child care complications during this unprecedented crisis. Will EPA follow this practice and establish the same flexible leave practice to help employees with the lack of adequate child care options during the crisis?

EPA Response: At EPA, our highest priority is protecting the health and safety of all Americans. We are an Agency built on people and we rely on those people to accomplish the Agency's critical mission of protecting human health and the environment. The Agency is taking extensive steps to support our workforce and

our EPA colleagues are doing great work for the American people. The Agency will continue to take actions to combat COVID-19 and assist our federal partners to protect human health and the environment.

EPA has remained operational throughout the pandemic, and during this time Agency staff have risen to the unique challenges posed by COVID-19. We have continued to protect human health and the environment, delivering the same high quality of work to the American public. EPA scientists are working with numerous federal, state, and local stakeholders and are providing input on several aspects of the federal response. The Agency has been working with the U.S. Department of Health and Human Services' Centers for Disease Control and Prevention (CDC) and other federal entities on guidance for the American public on practical, easy-to-understand steps that can be taken to minimize risk as we respond to COVID-19.

EPA remains committed to working with the CDC and other federal partners as we address this public health crisis across the United States and around the world. We will continue to provide information in a public and transparent manner on disinfectant products to help reduce the spread of COVID-19. EPA's Office of Chemical Safety and Pollution Prevention (OCSPP) has worked tirelessly to quickly assess and identify qualified surface disinfectant products that can be used against COVID-19. This effort has ensured that there are more than 500 products for consumer use to disinfect surfaces. On August 24, 2020, Administrator Wheeler announced a first-of-its kind emergency exemption to the state of Texas to allow American Airlines and Total Orthopedics Sports & Spine to use a new product that kills coronavirus like the SARS-CoV-2, the virus that causes COVID-19, on surfaces for up to seven days. Further, the Agency has released a mobile friendly application to allow Americans to easily find out what products are approved by EPA for COVID-19 disinfection. EPA has also discussed with the CDC guidance on cleaning and disinfecting, water system flushing, and research gaps related to understanding and mitigating environmental exposure routes to SARS-CoV-2. The Agency is considering future research efforts to address these gaps.

EPA has continued to actively enforce and ensure compliance with the Nation's environmental laws during these unprecedented times. The Agency is working with states and partnered agencies to continue efforts in ensuring that legal requirements are met by the regulated community. We have increased enforcement work to fight against the sale of products that falsely claim to be effective against SARS-CoV-2. EPA has continued strong enforcement across the board. From March 16, 2020 to August 31, 2020, EPA:

- Opened 128 Criminal Enforcement Cases;
- Charged 36 Defendants;
- Concluded 629 Civil Enforcement Actions;
- Initiated 603 Civil Enforcement Actions;
- Secured more than \$80.4 million in Superfund Response Commitments;

- Billed more than \$59.8 million in Superfund Oversight Costs; and
- Obtained commitments from parties to clean up 1,032,832 cubic yards of contaminated soil and water.

EPA has continued to provide continuous support to emergency response and recovery efforts, working with federal and state partners in Texas, Louisiana, and California to respond to the impacts of hurricanes and wildfires. We understand that COVID-19 has caused disruption in the lives of many Americans—including our employees—but it is our duty to the American people to ensure we are continuing our work towards protecting human health and the environment.

Maintaining the health and safety of our workforce while fulfilling the Agency's mission is our top priority. EPA has taken several steps to support its staff and evaluate how to safely reopen EPA facilities. The Agency relied on experts within EPA for guidance, and EPA's Office of Mission Support (OMS) took the lead in coordinating and developing a reopening plan. The Agency's plan to safely return our employees to the office aligns with the White House's *Guidelines for Opening Up America Again* and the Office of Management and Budget's *Aligning Federal Agency Operations with the National Guidelines for Opening Up America Again* (OMB's Memorandum M-20-23).

The Agency's reopening plan is a gradual approach and creates a framework for each national program and regional office to follow while developing location-specific plans. The plan developed by OMS includes Agency-wide policies and procedures for each specific phase. Following CDC social distancing protocols, EPA's facilities have signage in hallways, elevators, meeting rooms, bathrooms, and other common spaces to direct employees on how to maintain social distancing. Additionally, OMS has consulted with the U.S. General Services Administration on the procurement and placement of plexiglass partitions in some high-traffic areas based on workspace configurations and social distancing needs.

The Agency is taking a transparent, data-driven, and deliberate approach to returning our workforce to Agency offices in a manner that ensures our employees' health and safety. This data-driven approach includes an evaluation of local conditions and state and local health orders to determine how best to initiate office reopenings. The Agency's reopening decisions start with data collected and presented by scientists in EPA's Office of Research and Development (ORD). These ORD scientists designed and developed a dashboard tool, accessible to all Agency employees, that presents at-a-glance views of the status of gating criteria. Specifically, the dashboard tool provides information on the status of this criteria in the commuting area surrounding each of EPA's 124 locations. The dashboard tool also presents maps, graphs, and statistical breakouts for facilities; and analyzes data from the CDC, the Johns Hopkins

University Coronavirus Resource Center, and other sources to identify trends that can help inform reopening decisions.

Throughout the pandemic, the Agency has acted in a deliberate and cautionary manner when making decisions on reopening Agency facilities. With communities recovering at different rates, location-specific conditions are driving the decisions to ensure people are reoccupying our offices in a way that is safe with the appropriate protective measures in place. While the dashboard is a highly specialized tool to assist with the Agency's reopening decisions, it is not the only information considered. EPA leadership reviews all information available, including evaluations of location conditions and state and local orders in conjunction with the EPA's dashboard tool to make decisions on reopening Agency facilities. A decision to enter into any phase is based on a combination of factors, including: (1) an objective assessment provided weekly by ORD scientific experts on the status of each gating criteria in the commuting area surrounding our facility locations; (2) information on city, state and county reopening; (3) other local conditions; and (4) the Agency's commitment to provide safe and healthy workplaces for our employees.

The Agency has continued to evaluate options to provide as much flexibility to our staff as possible so that they are able to balance work and family responsibilities. In March 2020, the Agency began a maximum telework policy and encouraged all eligible employees to telework. During the first two phases of the Agency's reopening, unless there is a compelling reason to be in the office, staff are encouraged to telework. Also, the Agency increased the work hours available and allowed for extended breaks during the day for those on flexible work schedules. While employees were expected to return to normal work schedules during Phase 2 of the reopening, the Agency decided to provide additional work schedule flexibility for those with continuing dependent care issues due to the pandemic, with telework also continuing to be an option for all employees. Our goal is to provide as much appropriate flexibility as possible so that EPA employees can adequately balance family and work responsibilities during the pandemic.

Once an Agency location enters Phase 3, as directed by the guidelines, it may resume staffing of its worksite. However, leave and telework flexibilities will remain available to all employees to support social distancing efforts for those reporting to the office. Most importantly, EPA will address the needs of employees in CDC-identified vulnerable populations or with continuing dependent care issues by allowing employees to self-certify their need to continue teleworking in Phase 3, ensuring the protection and privacy of our employees.

From the beginning of the COVID-19 pandemic and prior to the reopening of any facility, the Agency communicates each facilities' posture and current policies and procedures via global Agency "Mass Mailer" emails, intranet pages, memoranda, and virtual town halls. EPA employees have access to the Agency-

wide reopening plan on the Agency's intranet site, and local facilities' plans are provided by national program or regional managers within their local status update emails. Agency senior leadership have communicated directly and frequently with Agency employees throughout the pandemic. We have emphasized their appreciation to EPA staff for their continued work to protect human health and the environment during the COVID-19 pandemic, ensuring that the Agency is delivering the same quality of work to the American public. The Agency stands ready to work towards continuing to take actions to combat COVID-19 and maintain our focus on the Agency's mission to protect human health and the environment, to best serve the American people.

- b. EPA's reopening plan does not provide adequate consideration for employees who use public transit to commute to EPA facilities for work. Encouraging people to enter into enclosed spaces with large groups of other people may result in increased transmission of the virus and could endanger public health. Will EPA allow employees who usually rely on public transportation to get to work the option of continued telework through phases 1 and 2?

EPA Response: As detailed in the response to question 26(a), throughout the pandemic, the Agency has acted in a deliberate and cautionary manner when making decisions on reopening Agency facilities. With communities recovering at different rates, location-specific conditions are driving the decisions to ensure people are reoccupying our offices in a way that is safe with the appropriate protective measures in place. The Agency is taking a transparent, data-driven, and deliberate approach to returning our workforce to Agency offices in a manner that ensures our employees' health and safety. This data-driven approach includes an evaluation of local conditions and state and local health orders to determine how best to initiate office reopenings. The Agency's reopening decisions start with data collected and presented by scientists in EPA's Office of Research and Development (ORD). These ORD scientists designed and developed a dashboard tool, accessible to all Agency employees, that presents at-a-glance views of the status of gating criteria. Specifically, the dashboard tool provides information on the status of this criteria in the commuting area surrounding each of EPA's 124 locations. The dashboard tool also presents maps, graphs, and statistical breakouts for facilities; and analyzes data from the CDC, the Johns Hopkins University Coronavirus Resource Center, and other sources to identify trends that can help inform reopening decisions.

While the dashboard is a highly specialized tool to assist with the Agency's reopening decisions, it is not the only information considered. EPA leadership reviews all information available, including evaluations of location conditions and state and local orders in conjunction with the EPA's dashboard tool to make decisions on reopening Agency facilities. A decision to enter into any phase is based on a combination of factors, including: (1) an objective assessment provided weekly by ORD scientific experts on the status of each gating criteria

in the commuting area surrounding our facility locations; (2) information on city, state and county reopening; (3) other local conditions; and (4) the Agency's commitment to provide a safe and healthy workplace.

In March 2020, the Agency began a maximum telework policy and encouraged all eligible employees to telework. During the first two phases of the Agency's reopening, unless there is a compelling reason to be in the office, staff are encouraged to telework. Also, the Agency increased the work hours available and allowed for extended breaks during the day for those on flexible work schedules. While employees were expected to return to normal work schedules during Phase 2 of the reopening, the Agency decided to provide additional work schedule flexibility for those with continuing dependent care issues due to the pandemic, with telework also continuing to be an option for all employees. Our goal is to provide as much appropriate flexibility as possible so that EPA employees can adequately balance family and work responsibilities during the pandemic.

The Agency has continued to evaluate options to provide as much flexibility to our staff as possible so that they are able to balance work and family responsibilities. The Agency stands ready to work towards continuing to take actions to combat COVID-19 and maintain our focus on the Agency's mission to protect human health and the environment, to best serve the American people.

- c. For each day beginning May 27, 2020, please provide the data and 'gating' criteria used to make decisions related to re-opening the EPA regional offices around the country, along with copies of all instructions provided to the Regions regarding re-opening. Please additionally indicate the dates on which EPA provided such instructions and data to regional leaders, representatives of EPA's employee unions and facilities partners such as co-tenants or major contractors, along with any additional written materials you included in those communications.

EPA Response: As detailed in the response to questions 26(a) and (b), the Agency has continued to evaluate options to provide as much flexibility to our staff as possible so that they are able to balance work and family responsibilities.

Under the OMB guidance, federal agencies are encouraged to reopen in a phased approach. As such, EPA is reopening its facilities in four phases to ensure the health and safety of our employees. Phased approaches are widely accepted as a tool used to progress towards reopening as evidenced by the actions of municipalities, cities, and states across the country. For example, here in the nation's capital, EPA Headquarters' office move through the first two phases has, in many ways, mirrored the Government of the District of Columbia. D.C. entered its Phase 1 on May 29, 2020. At that time the local government reopened select facilities and services where social distancing and mask wearing were possible. On June 22, 2020, D.C. entered Phase 2, continuing apace towards what could be considered normal operations. In that phase, additional facilities

were permitted to open and gatherings of up to 50 people are allowed. Additionally, Maryland, entered its own Phase 2 on June 5, 2020, and entered its Phase 3 on September 4, 2020. Virginia also entered Phase 3 on July 1, 2020.

Given these developments and the data collected and analyzed in EPA's dashboard tool, the EPA Headquarters office entered into Phase 2 of our plan on August 4, 2020. Individual decisions informed by the data are made on a case by case basis for the Regions and other offices. In doing so, the Agency has not contravened state and local guidance nor ignored the data in making its reopening decisions, as some Members of Congress have claimed. Instead, the Agency has taken and will continue to take state and local guidance under advisement when weighing all available information, including data from EPA's dashboard tool.

For all EPA locations, the Agency is taking additional precautionary measures to ensure a safe and healthy return to facilities. To ensure that any potential virus is rendered inactive before entering Phase 1, and in accordance with the EPA/CDC joint *Guidance on Cleaning and Disinfecting*, the EPA has instituted a minimum seven-day closure period prior to a facility entering the first of three phases. After the 7-day period, each facility will be reassessed before it moves into Phase 1. EPA is following guidance on cleaning and disinfecting the office environment. After the current and prolonged closure of work spaces and facilities the Agency is ensuring that our buildings' water systems and devices are safe, adhering to the CDC's *Guidance for Building Water Systems* and EPA's *Guidance on Maintaining or Restoring Water Quality in Buildings with Low or No Use*. The Agency is also working with GSA to ensure that our buildings are properly maintained by following CDC's guidance on optimum engineering controls for the building ventilation systems.

The Agency has continued to evaluate options to provide as much flexibility to our staff as possible so that they are able to balance work and family responsibilities. In March 2020, the Agency began a maximum telework policy and encouraged all eligible employees to telework. During the first two phases of the Agency's reopening, unless there is a compelling reason to be in the office, staff are encouraged to telework. Also, the Agency increased the work hours available and allowed for extended breaks during the day for those on flexible work schedules. While employees were expected to return to normal work schedules during Phase 2 of the reopening, the Agency decided to provide additional work schedule flexibility for those with continuing dependent care issues due to the pandemic, with telework also continuing to be an option for all employees. Our goal is to provide as much appropriate flexibility as possible so that EPA employees can adequately balance family and work responsibilities during the pandemic.

Once an Agency location enters Phase 3, as directed by the guidelines, it may resume staffing of its worksite. However, leave and telework flexibilities will

remain available to all employees to support social distancing efforts for those reporting to the office. Most importantly, EPA will address the needs of employees in CDC-identified vulnerable populations or with continuing dependent care issues by allowing employees to self-certify their need to continue teleworking in Phase 3, ensuring the protection and privacy of our employees.

From the beginning of the COVID-19 pandemic and prior to the reopening of any facility, the Agency communicates each facilities' posture and current policies and procedures via global Agency "Mass Mailer" emails, intranet pages, memoranda, and virtual town halls. EPA employees have access to the Agency-wide reopening plan on the Agency's intranet site, and local facilities' plans are provided by national program or regional managers within their local status update emails. Agency senior leadership have communicated directly and frequently with Agency employees throughout the pandemic. We have emphasized their appreciation to EPA staff for their continued work to protect human health and the environment during the COVID-19 pandemic, ensuring that the Agency is delivering the same quality of work to the American public.

The Agency stands ready to work towards continuing to take actions to combat COVID-19 and maintain our focus on the Agency's mission to protect human health and the environment, to best serve the American people.

27. On April 29, 2020, I sent a letter to EPA about an EPA proposal to permanently relax air emissions monitoring requirements using COVID-19 as a pretext.⁴ Specifically, EPA had tried to propose the relaxation of these requirements automatically whenever a national emergency was in place despite the fact that not all national emergencies involve contagious diseases that require social distancing (e.g., the 1979 Iran hostage crisis national emergency that remains in place today). EPA's proposal would have effectively made the air monitoring requirements' relaxation permanent but was wisely rejected in the interagency review process. On May 19, 2020 the President issued an "Executive Order on Regulatory Relief to Support Economic Recovery" that urges federal agencies to address the economic impacts of COVID-19 "by rescinding, modifying, waiving, or providing exemptions from regulations and other requirements that may inhibit economic recovery."⁵
 - a. Please identify each rule, policy, guidance, enforcement response, or other action that EPA has made or intends to make i) permanent or ii) extend beyond the duration of the COVID-19 pandemic, and state what action will be taken, when, and whether you commit to providing at least 30 days public notice before the effective date of any such regulatory or enforcement relaxation.
 - b. Please provide a description of, and all documents discussing, EPA's plans for implementing the May 19th "Executive Order on Regulatory Relief to Support Economic Recovery."

⁴ https://www.epw.senate.gov/public/_cache/files/9/7/9704cdcc-c62b-4183-8a47-7d3adcd23ed4/326BC15EAD82DCA1179799CC2B03A49A.04-29-20-tc-cems-rule-letter-to-wheeler.pdf

⁵ <https://www.whitehouse.gov/presidential-actions/executive-order-regulatory-relief-support-economic-recovery/>

EPA Response: The response to the pandemic is evolving and as such, EPA has not made any final decisions. If and when any actions are extended and/or made permanent, the Agency would follow the appropriate rulemaking procedures. On June 9, 2020, the Acting Director of OMB issued a data call to the heads of executive departments and agencies regarding the implementation of Executive Order 13924. EPA provided information to the Office of Management and Budget that was responsive to the Executive Order.

28. Nationwide, residential wood heaters emit five times more particulate matter pollution than U.S. petroleum refineries, cement manufacturers, and pulp and paper plants combined. On February 3, 2015, EPA issued Clean Air Act New Source Performance Standards (NSPS) for New Residential Wood Heaters and New Residential Hydronic Heaters and Forced-Air Furnaces, which set more stringent emissions requirements on wood heaters to be phased-in over five years. The first emissions standards, known as Step 1, went into effect on May 15, 2015. At the time of implementation, over 85% of the wood heaters on the market required to meet Step 1 met the emissions standards. More stringent emissions reductions, known as Step 2, were scheduled to go into effect five years later on May 15, 2020. After that date, manufacturers and retailers were no longer allowed to make or sell wood heaters that did not meet the Step 2 emissions requirements. In 2018, EPA proposed allowing retailers more time to sell Step 1 wood heaters, but in April 2020, rejected this proposal and decided to maintain the original Step 2 deadline. On May 8, 2020, I sent a letter asking EPA to respond to press reports that the agency was planning to reverse its April 2020 decision, and instead propose allowing retailers to sell wood heaters that failed to meet Step 2 requirements for an additional six months. This decision would lead to more harmful air pollution in the midst of a deadly respiratory pandemic and into the future.⁶ I asked for you to respond to my letter by May 19, 2020 and as of June 3, 2020, I still have not received a response. On May 15, 2020, EPA issued a proposal to delay the deadline for retailers to sell Step 1 wood heaters through November 30, 2020.⁷ Please answer and provide the following:

- a. In the hearing, you commented that Step 1 wood heaters were not “antiquated” and “meet the Obama 2015 standard.” Isn’t true that the “Obama 2015 standard” established Step 1 and Step 2 requirements and after May 15, 2020, any wood heaters that do not meet the Step 2 standards would not, in fact, be meeting the 2015 New Source Performance Standards (NSPS) for New Residential Wood Heaters and New Residential Hydronic Heaters and Forced-Air Furnaces? And isn’t true that for some wood heaters, Step 2 is the first emissions requirement?

EPA Response: For woodstoves, pellet stoves, and hydronic heaters, the 2015 NSPS phased in emissions limits in two steps, with the first limits (Step 1 limits)

⁶ https://www.epw.senate.gov/public/_cache/files/c/5/c50f80ad-397a-40bb-bd74-ad43face8b0e/EADF696BD1CE57852FFFE1089169AFC0.05-08-20-senator-carper-wood-stove-heater-letter-to-admin-wheeler.pdf

⁷ https://www.epa.gov/sites/production/files/2020-05/documents/eo_12866_wood_heaters_nsps_2060-au87_proposed_amendments_may_15_2020.pdf

taking effect May 15, 2015, and the second limits (Step 2 limits) taking effect five years later (May 15, 2020). For wood-fired forced air furnaces (also called warm air furnaces), the 2015 NSPS required work practice standards beginning on the effective date of the rule. EPA phased in emissions limits for forced air furnaces in two steps between 2016/2017 and 2020, to give manufacturers the time they needed to develop cleaner models and conduct emissions testing. The 2015 NSPS (Step 1) represent the first such emission standards for hydronic heaters and warm air furnaces. According to the 2015 NSPS, all units sold after May 15, 2020, must meet the more stringent Step 2 standards. Hence, under the current rule, units certified to meet Step 1 standards may no longer be sold after May 15, 2020.

- b. According to EPA, the Step 2 emissions standards for wood stoves would cut emissions rates by over half compared to the Step 1 standards.⁸ Similar reductions are also found across the other wood heater technologies. Of the health benefits calculated for the 2015 New Source Performance Standards (NSPS) for New Residential Wood Heaters and New Residential Hydronic Heaters and Forced-Air Furnaces, please quantify the amount of benefits that will be achieved by the implementation of Step 2 versus Step 1.

EPA Response: Based on information available at the time (e.g., projected sales of new appliances), the 2015 Regulatory Impact Analysis (RIA) estimated the emission reduction benefits associated with Step 1 and Step 2. For example, the RIA estimated that “the average of the annual PM_{2.5} emission reductions between the year of rule promulgation (2015) and the year that the final rule is fully implemented (2020) is 8,269 tons, or nearly 8,300 tons, for the final rule.”.

- c. In the Regulatory Impact Analysis for EPA’s 2018 proposal to allow retailers two additional years to sell Step 1 wood heaters, EPA estimated “the annual monetized fine particulate matter-related forgone health benefits of the proposed amendments, from 2019–2022, were \$100 million to \$230 million (2016 dollars).” These “large forgone net benefits” and the fact that retailers had plenty of time to meet the standard are the major reasons why EPA decided not to delay the standard in April 2020.⁹ Has EPA calculated the estimated additional pollution and possible forgone health benefits of the May 15, 2020 wood heater proposal? If not, why not? If so, please provide the results of this analysis.

EPA Response: For reasons explained in the proposal preamble published in the *Federal Register* on May 22, 2020 (85 FR 31124), we did not estimate the additional pollution, possible forgone health benefits, and other impacts of this proposed action. We were requesting comments on what these potential impacts could be and will respond accordingly as part of our efforts to prepare the final action. We note that the proposed additional time to allow retailers to sell Step 1 devices, if finalized, would have ended on November 30, 2020, a much shorter

⁸ <https://www.epa.gov/burnwise/choosing-right-wood-burning-stove>

⁹ <https://www.govinfo.gov/content/pkg/FR-2020-04-02/pdf/2020-05961.pdf>

period compared to the length of the sell-through proposed in 2018 (two years) and shorter than the one-year sell through period proposed by Senator Carper on December 6, 2018, in a Committee markup of S. 1857.

Having taken account of the comments and other information received, however, EPA has decided not to pursue a “replacement sales period” as was proposed in May 2020. EPA recognizes the efforts of manufacturers to bring cleaner burning appliances to the marketplace. Currently, more than 240 wood heater models and more than 30 hydronic heater and forced-air furnace models made by more than 60 manufacturers have been certified by EPA to meet Step 2 emission limits in the NSPS.

- d. Provide a statement about whether EPA would consider another extension beyond November 30, 2020, and whether it plans to allow the sale of Step 1 wood stoves indefinitely or permanently.

EPA Response: Given that the November 30, 2020 date is past, EPA is no longer planning to finalize any sell through period for the Step 1 wood heaters. As noted above, under the current rule, all units sold after May 15, 2020, must meet the more stringent Step 2 standards—units certified to meet Step 1 standards may no longer be sold after May 15, 2020.

- e. Provide copies of all documents supporting, opposing, analyzing, or otherwise discussing, the above-noted wood heater rule, including, but not limited to, emails or other documents related to the decision to reverse the agency’s April 2020 decision not to extend the prohibition on the sale of older and dirtier wood stove models, analyses of economic impacts, analysis of the long term air pollution effects and the legal basis for the extension.

EPA Response: The rationale supporting the proposal can be found in the preamble to the proposed rule (see 85 FR 31124) and regulatory docket (docket ID: EPA-HQ-OAR-2018-0195). However, as noted above, EPA has decided not to pursue a “replacement sales period” as was proposed in May 2020.

- f. A robust explanation of what changed since EPA determined in April 2020 that an extension was not warranted and why a six month extension -- and not a shorter time period -- is needed at this time. This is especially true given that even in the proposal EPA admits COVID only impacted sales in the last 60 days. Yet EPA is allowing retailers to donate and receive a tax credit for any remaining, out of date heaters, even though according to testimony from the wood heater industry, retailers had to make plans to meet the 2020 standard in 2018 and 2019.¹⁰ Please explain why EPA is allowing retailers to donate Step 1 wood heaters to nonprofits that plan on distributing the out of date wood heaters to Tribal communities and other at-risk communities

¹⁰ https://www.epw.senate.gov/public/_cache/files/b/6/b6e0f779-2204-4586-ade2-b6bdcaea7341/B767516456C2FFCAF391126CFB88BF66.williams-testimony-11.14.2017.pdf

after the compliance deadlines. In the explanation, please provide any health analysis that was conducted by EPA before making this decision.

EPA Response: As explained in the May 22, 2020 proposed rule preamble, the proposed amendments would have taken effect upon promulgation, if it had been finalized as proposed. EPA has not finalized the proposed amendments and does not intend to do so.

Concerning donations, consistent with the 2015 wood heater rule, transfer of ownership from a commercial owner to a non-profit organization may occur if it was initiated and completed before May 15, 2020. The actual physical delivery of any heater to the non-profit organization may occur after that. While the Agency did not conduct a specific health analysis on tribal communities prior to the donation approval, we are aware that many tribal homes use old, inefficient, and dirty burning stoves for heating and cooking. These outdated stoves may also release wood smoke that is harmful to the health of residents, especially the young and the old. A donation program of Step 1 heaters would benefit tribal communities with improved ambient and indoor air quality.

- g. Because the May 15, 2020 proposed wood heater rule is not yet final, it provides interim relief by stating that “EPA will treat the sale of Step 1 devices as a low enforcement priority.” Although this is not a firm commitment not to enforce the May 15 wood stove deadline, it is effectively the same. Prior “low enforcement priority” statements by EPA have been very rare but always have been conditioned upon meeting certain conditions designed to assure environmentally responsible behavior, and implicitly held out the specter of enforcing if such conditions were not met or for very bad actors. The wood heater statement of low enforcement priority imposes no such conditions. EPA’s sole justification is also economic, i.e., “to mitigate the impact of the ongoing COVID-19 pandemic on retailers who have lost valuable sales opportunities.” When does EPA’s low enforcement priority for Step 1 wood heater sales end? If not upon issuance of a final rule, why not?

EPA Response: As cited in the proposed rule preamble, during the period between May 15, 2020, and any publication of EPA’s final action on this proposal, EPA would treat the sale of Step 1 devices as a low enforcement priority. As EPA no longer plans to issue a final rule, EPA is also terminating the “low enforcement priority” statement as of November 30, 2020.

Under the current rule, all units sold after May 15, 2020, must meet the more stringent Step 2 standards—units certified to meet Step 1 standards may no longer be sold after May 15, 2020.

- h. Are there any circumstances in which EPA will consider initiating enforcement action against an entity that sells Step 1 wood heaters? If so, what are they?

EPA Response: While the sale of Step 1 devices after May 15, 2020 currently is a violation, it was a low priority for EPA to pursue an enforcement response to that violation while EPA was considering an extension of the sell-through period. As EPA is no longer considering that extension, EPA also is terminating the “low enforcement priority” statement.

Under the current rule, all units sold after May 15, 2020, must meet the more stringent Step 2 standards—units certified to meet Step 1 standards may no longer be sold after May 15, 2020.

- i. Please explain why EPA’s low enforcement priority policy statement that is included in the proposed rule is not in effect a final rule.

EPA Response: EPA’s statement had no legal effect, because it did not alter the existing legal requirements of the current regulations. Further, the statement was not binding on EPA, states, the regulated community, or the public. It simply provided interested persons with some notice of how the Agency intends to focus its enforcement resources during the time that it was in effect (i.e., while it was undertaking an action to revise the current regulations).

- j. Please explain why the proposed rule’s efforts to provide financial assistance to the wood stove industry in the absence of any efforts to justify it on the basis of environmental impacts does not impermissibly usurp Congress’ role in funding COVID-relief.

EPA Response: The proposed rule does not attempt to provide any funding or financial assistance to the wood stove industry. As stated in the preamble to the proposed rule, EPA was proposing to provide time for retailers to sell Step 1 devices to ensure they get the full benefit of the 5 year “lead time” on which the Step 2 standards were based by replacing the time period for sales opportunities that were lost due to COVID-19. But, as noted above, EPA has decided not to pursue a “replacement sales period” as was proposed in May 2020.

- 29. On May 19, 2020, EPA signed a proposed rule¹¹ that would establish procedures and requirements for how EPA will manage the issuance of guidance documents subject to the requirements of Executive Order 13891 issued on October 9, 2019.¹² These procedures would chill and politicize the guidance development process. Among other things, the rule would require that, “Before issuing a new guidance document covered by this rule that is developed by an EPA Regional Office, the EPA is proposing that the EPA Regional Office must receive concurrence from the corresponding Presidentially-appointed EPA official (i.e., the relevant Assistant Administrator or an official who is serving in the acting capacity) at EPA headquarters who is responsible for administering the national program to which the guidance document pertains.” Moreover, any guidance documents deemed “significant” under the rule could not be issued, absent exigent circumstances, without first providing

¹¹ https://insideepa.com/sites/insideepa.com/files/documents/2020/may/epa2020_0862.pdf

¹² <https://www.govinfo.gov/content/pkg/FR-2019-10-15/pdf/2019-22623.pdf>

notice and an opportunity for 30 days of public comment, and the public would gain a new right to petition EPA for modification or withdrawal of existing guidance documents.

- a. Please list all guidance documents issued since January 21, 2017 that would meet the proposed rule's definition of "significant" requiring advance public notice and opportunity for comment.

EPA Response: The EPA Guidance Rule draws its definition of "significant" from Executive Orders 12866 and 13891. See 40 CFR 2.503. Agency guidance that has already been issued and meets that definition of significant would be listed at [reginfo.gov](https://www.epa.gov/reginfo). Such guidance would have undergone interagency review as required by Executive Orders 12866 and 13891.

- b. Please list all guidance documents issued since 2008 in which a Presidentially-appointed EPA official has concurred, and provide the total number of documents since that time in which such officials have and have not concurred.

EPA Response: An active guidance document within the meaning of Executive Order 13891 is posted on the EPA Guidance Portal (<https://www.epa.gov/guidance>). Guidance issued by EPA offices led by a Presidentially-appointed official already has concurrence from that official.

- c. Identify all guidance documents issued since 2008 for which parties have petitioned EPA or a court pursuant to the Administrative Procedure Act or otherwise to have EPA modify or withdraw a guidance document and the results of each such petition.

EPA Response: The EPA Guidance Rule establishes a consistent process for the public to petition EPA to withdraw or modify active guidance documents and reinstate rescinded guidance documents. This is the first time EPA established such a process that sets clear expectations for the Agency and stakeholders.

30. I recently sent two oversight letters to EPA that also released hundreds of pages of internal EPA documents:

On May 18, 2020, I sent a letter to EPA's Inspector General describing how the Transportation Department repeatedly ignored EPA's input to the recently-finalized roll-back of the clean cars rule, how EPA improperly withheld significant documents from the rulemaking record, and how EPA was aware that the mistakes in the rule left it extremely vulnerable to legal challenge.¹³

On April 17, 2020, I sent a letter to you which described how Dr. Nancy Beck, a White House official who has been nominated to lead the Consumer Product Safety Commission, over-ruled EPA career and political officials and weakened a proposed rule to limit the use of

¹³ https://www.epw.senate.gov/public/_cache/files/9/2/9225bb67-dff1-4711-aebe-2ee6fc7da76/649E0C532863CA79917CDE2593A14C62.02-26-20toepaigcarssecretscience.pdf

PFAS in consumer products.¹⁴ This Committee's PFAS package that was enacted into law in last year's defense bill includes a provision that requires the proposed PFAS rule that Dr. Beck delayed and sought to weaken to be finalized by June 22, 2020.

In a recent hearing, you told Congresswoman Watson Coleman, in response to her question about an earlier letter I wrote on the clean cars rule rollback, that "Nobody's going to be retaliated at all for—for any issues that they bring forward," further stating "No, absolutely not" when the Congresswoman reiterated "And no one's going to be retaliated against because they disagree."

- a. Please indicate whether you will continue to ensure that no efforts are made to identify or retaliate against any individual who may have provided internal information or documents to my office.

EPA Response: No one will be retaliated against. Agency employees should be mindful and respectful of whistleblower protections afforded by law.

- b. Please describe the manner in which you plan to personally engage and ensure not only that the Significant New Use Rule is finalized by the date the law requires, and that it reflects EPA's views that the weakening changes sought by Dr. Beck are not included.

EPA Response: On Monday June 22, 2020, I signed the final Significant New Use Rule. Thereby EPA met the deadline set forth in the FY 2020 National Defense Authorization Act (NDAA). While EPA acknowledges that it was no small feat to complete this rule in the very expedited timeframe required by the NDAA, I fully supported EPA staff in the Office of Chemical Safety and Pollution Prevention (OCSPP) in their efforts and made it clear that meeting the aggressive deadline was a priority. Input from our federal partners during interagency review is a required aspect of the regulatory development process that improves the scientific quality of our work. EPA always works diligently to address any comments or concerns raised during interagency review. We urge you to review the final rule provisions in order to assuage any concerns you may have regarding the provisions that were included.

31. For more than two years, EPA has promised to propose to designate PFOA and PFOS as hazardous substances under the Superfund law, which will help communities clean up contamination and recover costs from those responsible. Is it accurate that EPA's proposal to designate PFOA and PFOS as hazardous substances under the Superfund law has been completed for many months, but that the White House Office of Management and Budget has told you not to submit it? If not, please provide a specific date by which this proposal will be submitted for interagency review.

¹⁴ <https://www.epw.senate.gov/public/index.cfm/press-releases-democratic?ID=BB799C4E-FCEB-447F-BB13-2E73CD58539D>

EPA Response: EPA has initiated the regulatory process for designating PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

32. In my Questions for the Record for Mr. Benevento following his nomination hearing on March 11, 2020, I noted that throughout the Trump Administration, EPA has failed to provide adequate responses to dozens of requests for information and documents from myself and other Democratic Senators. I asked him to provide complete responses to the following letters, which are a sub-set of the outstanding requests made of the Agency, and again renew my request for full and complete responses to these requests:

- a. October 9, 2018: Letter on litigation costs, signed by Senators Carper, Cardin, Sanders, Whitehouse, Merkley, Markey, Gillibrand, Booker, Duckworth, and Van Hollen.

EPA Response: We look forward to continuing to work with your staff to provide any additional information as appropriate.

- b. November 15, 2018: Letter on the Clean Air Scientific Advisory Committee, signed by Senators Carper, Whitehouse, Markley, Hassan, Warren, Merkley, Gillibrand, Van Hollen, Wyden, Blumenthal, Harris, Booker, Shaheen, Hirono, Duckworth, and Schatz.

EPA Response: We look forward to continuing to work with your staff to provide any additional information as appropriate.

- c. June 3, 2019: Letter on Section 401 of the Clean Water Act, signed by Senators Carper, Booker, and Duckworth.

EPA Response: The Agency provided a comprehensive response on September 26, 2019. We look forward to continuing to work with your staff to provide any additional information as appropriate.

33. As part of Questions for the Record for Mr. Benevento, I asked EPA to provide any notes, record, emails, or other documents since January 20, 2017, between EPA political officials, including but not limited to yourself, Doug Benevento, and Matthew Leopold and outside parties, including but not limited to Bill Wehrum (or his former colleagues at Hunton Andrews Kurth) and Jeff Holmstead (or his colleagues at Bracewell), concerning the development or consideration of an EPA proposed rule, *Modernizing the Administrative Exhaustion Requirement for Permitting Decisions and Streamlining Procedures for Permit Appeals*,¹⁵ that some observers say would diminish the independence of the Environmental Appeals Board and politicize the administrative appeals process. EPA responded that, "As documents responsive to your request are identified, we will provide information as appropriate to you on a rolling basis as they become available" but EPA has provided no

¹⁵ <https://www.govinfo.gov/content/pkg/FR-2019-12-03/pdf/2019-24940.pdf>

documents, and failed to state whether any exist or that EPA even conducted a search for such documents.

Please provide the documents requested. If none exist, please confirm that and describe fully the persons, offices, and locations searched and methods used to try and locate such documents.

EPA Response: On July 22, 2020, I signed a final procedural rule that streamlines and modernizes the Agency's permit appeal process and ensures that appeals are decided consistent with the authority delegated from the Administrator by modifying existing procedural requirements and realigning prior delegations. Although not subject to the notice and comment requirements of the Administrative Procedure Act, the Agency nonetheless voluntarily sought comment because we believe that the information and opinions supplied by the public would inform the Agency's views. Therefore, any comments received from external stakeholders about the proposed rule—such as you request—would be posted in the public docket, identified in Docket ID No. EPA-HQ-OGC-2019-0406, at <https://www.regulations.gov>.

34. In a November 2018 email to EPA employees, you wrote, “Throughout the history of the U.S. Environmental Protection Agency (EPA), Administrators have reaffirmed a commitment to transparency in our agency’s operations.” During this most recent decade, part of this commitment to transparency has included releasing records of the calendars of the agency’s senior leaders. During their tenures, Administrators Gina McCarthy and Lisa Jackson regularly released details of their daily schedules. After taking office, you continued this practice, although with less frequency and detail than your predecessors included. However, this practice appears to have further changed starting on November 22, 2019. Starting on that day, the calendar entries that you have shared with the public are exceedingly vague and contain very few meaningful details that would enable the public to understand how you are conducting yourself in the leadership of the agency. The vast majority of calendar entries are simply listed as “Staff Briefing”, with no information on the subject of the event or the major participants involved.

This problem is also reflected in the calendars of other senior leaders at EPA. Associate Deputy Administrator Benevento’s, Principal Deputy Assistant Administrator Anne Idsal’s, Assistant Administrator Alexandra Dunn’s, Acting Chief Financial Officer David Bloom’s, Associate Administrator Joseph Brazauskas’s, General Counsel Matthew Leopold’s, Assistant Administrator Peter Wright’s, and Associate Administrator Brittany Bolen’s public calendars all suffer from the same lack of transparency. Assistant Administrator Chad MacIntosh has not made any calendar entries available for public viewing since 2019. Similar issues exist for EPA regional leaders.

Within EPA headquarters, Assistant Administrator Ross’s public calendar are only modestly more transparent than the standard practice among EPA senior leaders, but still far from sufficient to inform the American public as to his activities. Only Assistant Administrator Bodine has posted public calendars that have any degree of useful detail.

In order to conduct meaningful oversight of EPA, I request that you share your and all other senior EPA leaders' full detailed calendar records from November 22, 2019 until the present. Also, I request that you provide daily detailed information related to all the entries on your calendars that are released on the EPA website and insist the other EPA senior leaders do likewise.

EPA Response: Soon after becoming the EPA's Acting Administrator on August 2, 2018, I sent a message to all EPA employees reaffirming past EPA Administrator's commitments to transparency in our Agency's operations. Since 1983 when Administrator Ruckelshaus first issued a memorandum about contacts with persons outside the EPA, these memoranda have become known as the "fishbowl memos" because they have stressed that the Agency should operate openly and transparently for all to see, as if they were in a fishbowl. In that memo, I shared that I had already directed that a copy of my appointment calendar be provided to the Office of Public Affairs and made available to the public on the EPA website. I also had already directed that senior officials, including the Deputy Administrator, Assistant Administrators, Associate Administrators, and Regional Administrators make their appointment calendars available to the public in a similar manner. Those directions and my commitment that the Agency operate openly and transparently for all to see remain unchanged. Please feel free to reach out to my staff in the Office of Congressional and Intergovernmental Relations to address any questions you may have about viewing our publicly posted calendars.

35. On May 14, 2020, the Department of Justice lodged a proposed consent decree in the *DTE Energy Company and Detroit Edison Clean Air Act* civil judicial case alleging major modifications of several air pollution-emitting power plants.¹⁶ Although the decree "resolves a claim and releases Defendants from any liability" for its Monroe Unit 2 facility, it states that "none of the relief in this Consent Decree is attributable to the United States' Monroe Unit 2 2010 claim" because of "the specific circumstances of this case" and in reliance on a policy memorandum issued by former Administrator Scott Pruitt on December 7, 2017. The 2017 memorandum¹⁷ reversed EPA's longstanding position that it can use its own projections for calculating potential future air emissions, and instead defers to companies to assess whether they believe New Source Review (NSR) rules apply. Notably, the decree is not signed by the Director of EPA's Air Enforcement Division (AED) as is customary, and EPA's Co-Plaintiff in the case (the Sierra Club) signed a separate Consent Decree with DTE on May 22, 2020,¹⁸ which EPA and the Department of Justice (DOJ) reportedly refused to sign because it contains provisions committing to the retirement of several old and inefficient DTE coal plants.

- a. Please explain why the Director of EPA's Air Enforcement Division (AED) did not sign the Consent Decree lodged on May 14, 2020, and provide all documents discussing or otherwise related to his signature or decision to withhold it, and identify

¹⁶ <https://www.justice.gov/enrd/consent-decree/file/1276421/download>

¹⁷ https://www.epa.gov/sites/production/files/2017-12/documents/nsr_policy_memo.12.7.17.pdf

¹⁸ https://insideepa.com/sites/insideepa.com/files/documents/2020/may/epa2020_0899a.pdf

all other Clean Air Act judicial consent decrees since January 21, 2017, in which EPA Headquarters but not the AED Director signed the settlement.

EPA Response: The Administrator's authority to enter into settlements is delegated to the Assistant Administrator for OECA. That authority remains with the Assistant Administrator for OECA and for Clean Air Act cases it is also redelegated to Agency officials, including the Air Enforcement Director. The Introduction to the Agency's Delegations manual states that "[d]elegated or redelegated authority may be exercised by any official in the chain of command down to the official to whom it has been specifically delegated or redelegated." Thus, the Assistant Administrator for OECA retained the authority to sign the DTE Consent Decree and did so on behalf of the Agency.

- b. Provide all documents discussing the injunctive relief that EPA or DOJ considered, proposed, rejected, and adopted in the DTE case identified above, Civil Action No. 2:10-cv-13101-BAF-RSW (E.D. Mich.).

EPA Response: The documents discussing the injunctive relief that EPA or DOJ considered, proposed, or rejected are pre-decisional, deliberative, attorney work product, protected by the attorney-client privilege, or was the subject of confidential settlement discussions. The Agency does not release such information in order to preserve privileges and to facilitate productive negotiations. The injunctive relief that EPA and DOJ agreed to is in the final lodged Consent Decree, which the court approved and entered on July 23, 2020.

36. Please describe how EPA has utilized the groundwater monitoring data at coal ash disposal sites that has been made available since 2017 to characterize the extent of groundwater contamination at these sites. Please provide copies of all documents that describe EPA's analysis of this information. Please also describe how this analysis further informed EPA's efforts to regulate or engage in enforcement actions related to coal ash disposal. If no such analysis was conducted, why not?

EPA Response: The groundwater monitoring requirements at 40 CFR 257.90 through 257.98 are in effect and include requirements for owners and operators of coal combustion residuals (CCR) units to conduct groundwater monitoring, publicly post the results, and take action to remedy groundwater that exceeds groundwater protection standards. EPA regularly reviews the documents posted on facilities' publicly accessible CCR websites, in accordance with § 257.107. The annual groundwater monitoring and corrective action reports inform EPA on the status of groundwater monitoring at CCR disposal units, and if remediation is necessary, the progress that the facility is making on those efforts. EPA Headquarters shares this information with EPA regional offices, and Headquarters and the Regions share this information with the appropriate state environmental agencies to ensure regulatory deadlines are met including corrective action and closure.

37. Please describe the steps has EPA taken to update the 2014 risk assessment¹⁹ for coal ash that utilizes the 2017 industry data described above. If no such steps have been taken, why not?

EPA Response: EPA has not updated the 2014 Risk Assessment to incorporate newer information, such as groundwater monitoring data collected around CCR landfills and surface impoundments. The purpose of the 2014 risk assessment was to estimate potential risks to human health and the environment from CCR disposal, in particular, in the absence of uniform federal regulations. The 2014 risk assessment, along with damage cases and other information, provided the record support for EPA to promulgate new requirements, including groundwater monitoring and corrective action designed to mitigate the identified risks. An updated risk assessment is not presently needed for EPA and the states to ensure that groundwater contamination is addressed.

38. Please describe all actions EPA has taken to ensure that the closure of coal ash storage ponds and any corrective measure assessments comply with EPA's Coal Combustion Residuals (CCR) rule.

EPA Response: As originally promulgated, the CCR rule was self-implementing, was not federally enforceable and did not provide for state program approval. With the enactment of the Water Infrastructure Improvements for the Nation Act in December 2016, the Resource Conservation and Recovery Act (RCRA) statute was amended to allow federal investigation and enforcement as well as state program approval. Since that time, the Agency has been working to put in place the necessary foundational pieces for an enforcement program. These efforts included developing and delivering CCR rule training courses for EPA headquarters and regional employees and state agency employees; establishing two national CCR workgroups that meet regularly to ensure nationally-consistent rule implementation and to establish legally-sound policies and processes for compliance monitoring under the CCR rule, and preparing and mailing of compliance-focused letters to all CCR facilities to provide additional notice of the CCR rule and numerous requirements contained within it.

The Agency has also undertaken a review of all CCR facility publicly accessible websites (as required by the CCR rule) to monitor compliance with key internet posting requirements (including closure plans) and is in the process of engaging with numerous facilities where compliance issues have been detected. As described in the response to question #36, the Agency has also undertaken review of groundwater documentation prepared by facilities as part of the corrective action requirements, and is in the process of analyzing and, where necessary, taking action where potential compliance issues have been detected. The Agency has also begun engaging with several facilities on compliance issues separately from the efforts described above (e.g., to resolve complex regulatory compliance issues such as integrating unit closure work with corrective action efforts). Lastly, the Agency has been working extensively with individual states to establish or revise their regulatory programs in preparation of the state's submittal for

¹⁹ EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals, EPA-HQ-OLEM-2019-0173-0008 (Dec. 2014)

program approval to operate in lieu of the federal program. As part of this effort, the Agency has been working with the states to ensure that the state programs include requirements as protective as the federal program and that the states have authority to enforce the requirements, including those that relate to closure and corrective action.

39. Please describe all actions EPA has taken to provide oversight, assistance and/or enforcement on Indian Lands to ensure compliance with the requirements of the CCR rule.

EPA Response: There are currently three facilities regulated by the CCR rule that are located in Indian country. These are: (1) Navajo Generating Station in Coconino County, Arizona, (2) Bonanza Power Plant in Uintah County, Utah, and (3) Four Corners Power Plant in San Juan County, New Mexico. EPA proposed a rule in February 2020 to establish a federal CCR permit program, which would directly implement the CCR rule in Indian country.

EPA has conducted outreach on the federal CCR Permit program proposal to tribes and tribal coordinators through a variety of ways. EPA met with established tribal partnership groups including the National Tribal Caucus and Tribal Waste and Response Steering Committee to discuss the proposed rule. In April 2020, EPA sent notification emails to leaders of all federally recognized Indian tribes. Courtesy emails were also sent to tribal environmental directors. EPA held an informational tribal webinar on the proposal in May 2020. EPA conducted a coordination call with the Ute Indian Tribe in June 2020 and conducted tribal consultation with the Navajo Nation in June 2020 to discuss the proposal and provide a meaningful opportunity for tribal input to EPA's proposed rule. In response to a request from the Navajo Nation, EPA extended the public comment period on the proposed rule for an additional 60 days through July 19, 2020.

40. For each of Fiscal Years (FYs) 2017, 2018, 2019 and 2020, please provide: a) EPA's budget for enforcement of the CCR rule, b) how many full time employees (FTEs) were tasked with enforcing it, c) the number of site inspections that were conducted at coal ash disposal sites.

EPA Response: EPA does not track budget or FTE numbers specifically for enforcing the CCR rule. Within EPA's Office of Enforcement and Compliance Assurance and the regional offices, numerous employees across different divisions are responsible for implementation of the CCR Rule.

Since the passage of the Water Infrastructure Improvements for the Nation Act, which gave the Agency authority to investigate and enforce the requirements of the CCR rule, the Agency has been working to establish a framework for an enforcement program as detailed in the response to Question 38. As part of the work to prepare for site inspections, the Agency is working to ensure that those who will conduct inspections have the proper credentialing as well as the necessary CCR rule-specific training. The Agency is also reviewing RCRAInfo, the database of record for RCRA activities, to ensure it could be used to manage CCR compliance monitoring records. Since the CCR rule was promulgated, the Agency has conducted or participated in numerous site visits

to CCR facilities, and before the Agency's entire inspection program was shut down due to COVID-19 issues, several site inspections were in the planning stages.

41. When does EPA plan to establish protections for coal ash legacy surface impoundments in response to the August 2018 order of the D.C. Court of Appeals to do so?

EPA Response: On October 14, 2020, EPA published an Advanced Notice of Proposed Rulemaking (ANPRM) for Disposal of Coal Combustion Residuals from Electric Utilities for legacy CCR surface impoundments in the *Federal Register* seeking comment and data on inactive surface impoundments at inactive electric utilities.

42. Please describe the steps EPA taken to a) identify the universe of coal ash legacy surface impoundments, b) identify the former and current owners of coal ash legacy surface impoundments, and c) assess the environmental and human health threat posed by coal ash legacy surface impoundments.

EPA Response: EPA has engaged the Regions and states, industry and the Department of Energy (DOE) on the universe of coal ash legacy surface impoundments. Approximately ten states have told EPA that they have estimated a total of 37 possible legacy CCR surface impoundments within their states (collectively). The Utility Solid Waste Activities Group surveyed their members and determined that 45 CCR units could possibly be legacy CCR surface impoundments. EPA has also coordinated with DOE to obtain information on the universe of U.S. power plants. DOE shared data showing approximately 140 facilities that have been reported to have one or more coal-fired boilers that retired or have gone out of service between January 1993 and October 2015. Some of these facilities may have legacy units. Moreover, the ANPRM will seek additional information from the public and other stakeholders on the universe of legacy surface impoundments and the owners and operators of them.

Once EPA identifies units that meet the definition of a legacy CCR surface impoundment, EPA can revisit and then assess the environmental and human health threat posed by these units.

43. Executive Order 12898 requires that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands." EPA admitted in its latest CCR rollback (Part B) that the impacts of the proposed rule "are generally expected to increase the risk of releases of CCR into the environment, and therefore reduce the human health and environmental benefits of the 2015 CCR Rule."²⁰ EPA further admitted that "because the

²⁰ EPA, [Draft] Regulatory Impact Analysis: EPA's 2019 RCRA Proposed Rule, Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure, Docket ID No. EPA-HQ-OLEM-2019-0173-0021, at 4-1 (Dec. 2019, rev. Feb. 2020)

2015 CCR Rule demographic screening assessment determined that coal-fired power plants tend to be located in areas characterized by low-income populations, *the likely increased disposal of CCR on site at coal-fired power plants under this rule may have a disproportionate impact on those populations.*²¹ Please specifically describe the actions EPA has taken to comply with EO 12898 to address the risks to low-income populations it identified.

EPA Response: The inclusion of the statement that the impacts of the CCR Part B proposed rule “are generally expected to increase the risk of releases of CCR into the environment, and therefore reduce the human health and environmental benefits of the 2015 CCR Rule” resulted from an inadvertent drafting error in one of the rulemaking’s support documents. While the statement should have been removed prior to its submission to OMB, this drafting oversight was identified and corrected while under review at OMB. This statement is not included in the support document released with the proposed rule published on March 3, 2020. EPA notes that Section 4.2 of this same document presents the human health and environmental impacts of the CCR Part B proposed rule. There, EPA states its belief that CCR units “closed consistent with these proposed requirements...under a closure plan approved by the Administrator or Participating State Director would meet the RCRA section 4004(a) protectiveness standard.”

44. EPA’s “Technical Guidance for Assessing Environmental Justice in Regulatory Analysis”²² requires EPA to consider the following three questions to determine potential environmental justice impacts for all regulatory actions:

“Are there potential environmental justice concerns associated with environmental stressors affected by the regulatory action for population groups of concern in the baseline?”

“Are there potential environmental justice concerns associated with environmental stressors affected by the regulatory action for population groups of concern for the regulatory option(s) under consideration?”

“For each regulatory option under consideration, are potential environmental justice concerns created or mitigated compared to the baseline?”

Please describe how EPA has addressed each of these questions for the CCR Rollbacks proposed in 2018-2020.

EPA Response: This Administration has made measurable progress advancing environmental justice. Environmental justice considerations are integrated on the front

²¹ EPA, Regulatory Impact Analysis (RIA): EPA’s 2019 RCRA Proposed Rule Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure, Docket ID No. EPA-HQ-OLEM-2019-0173-0020 (Feb. 2020) at 5-3, emphasis added.

²² EPA, Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf

end of EPA's decision-making process, which includes rulemakings. EPA's rule writers must address the elements of Executive Order 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*) in the "Statutory and Executive Order Review" section of rule preambles, as well as throughout the rulemaking process. The Regulatory Impact Analysis (RIA) accompanying EPA's 2015 CCR rule examined the demographic profile of populations potentially affected by the disposal of CCR. The RIA considered as potentially affected those populations living within a one-mile radius of CCR disposal units (landfills and surface impoundments) as well as populations living within the catchment areas of surface impoundments. These populations are not mutually exclusive but are used to approximate populations affected by groundwater and surface water releases respectively.

The RIA compared the demographic characteristics of these potentially affected populations with the average characteristics of populations at the state and national level. It found that the concentration of low income and minority groups were roughly proportional, or slightly higher, within potentially affected populations when compared to the national and to state averages. Based on the RIA, EPA concluded that low income and minority groups may face slightly higher risks from the disposal of CCR in the 2015 Rule baseline (*i.e.*, in the absence of the addition of new regulations establishing national minimum criteria for the management of CCR). The 2015 CCR rule was not anticipated to increase risks for potentially affected populations. Similarly, in subsequent CCR rulemakings EPA has carefully considered risk implications in its formulation of proposed revisions. Revisions to the 2015 CCR rule have also been designed to be risk reducing and EPA has gone to great lengths to explain the basis and reasoning for its decisions in the accompanying preambles. For this reason, the subsequent CCR rules are not expected to create environmental justice concerns relative to the baseline.

45. On April 12, 2019, the U.S. Court of Appeals for the Fifth Circuit issued a decision in *Southwestern Electric Power Co. v. EPA*, 920 F.3d 999 (5th Cir. 2019), holding that EPA must set new "best available technology economically achievable" (BAT) limits for power plant legacy wastewater and leachate. Does EPA plan to rely on the continued use of surface impoundments as a 'technology', and if so, why, in light of the fact that some power plants are using or testing wastewater treatment technologies such as thermal or membrane-based systems to treat scrubber wastewater which are far more effective?

EPA Response: The Agency is currently still evaluating how to best address the remand in *Southwestern Elec. Power Co. v. EPA* with respect to the limitations for leachate and legacy wastewater.

46. The Environmental Law and Policy Center found a reduction in Clean Water Act enforcement activities in EPA's Region 5, much like other analysis has demonstrated nationwide.
 - a. Please describe EPA's plans to increase enforcement staffing levels nationwide.

EPA Response: EPA has been managing staffing levels to ensure it is able to meet its goals and objectives and advance its mission. Regional and national program offices are currently working to onboard new hires to meet the FTE ceilings submitted to Congress as part of the FY 2020 operating plan.

- b. For each of EPA's regional offices, please state the percent of EPA regional staff that are dedicated to enforcement efforts.

EPA Response:

Region	FY 2020 Enacted TOTAL Regional FTE Ceiling	FY 2020 Enacted Regional ECA* FTE Ceiling	% of FTE Supporting Enforcement & Compliance Assurance Activities
Region 1	540.8	121.9	22.5%
Region 2	723.7	199.3	27.5%
Region 3	719.6	203.7	28.3%
Region 4	865.1	244.4	28.3%
Region 5	994.6	310.8	31.2%
Region 6	682.7	186.0	27.2%
Region 7	455.5	120.2	26.4%
Region 8	486.1	106.0	21.8%
Region 9	664.5	173.6	26.1%
Region 10	485.5	107.2	22.1%
TOTAL:	6,618.1	1,773.1	26.8%

*Enforcement and Compliance Assurance (ECA)

- c. For each of EPA's regional offices and for each of the last three FYs, please state the percent of EPA's enforcement and compliance monitoring spending that was spent in the region.

EPA Response: In thousands (see next page):

	FY 2017			FY 2018			FY 2019			FY 2020		
	Enacted	Obligations	% Used	Enacted	Obligations	% Used	Enacted	Obligations	% Used	Enacted	Obligations	% Used
Region 1	\$25,577	\$23,513	91.9%	\$24,072	\$23,323	96.9%	\$24,219	\$24,306	100.4%	\$24,827	\$24,105	97.1%
Region 2	\$38,808	\$39,059	100.6%	\$40,095	\$38,758	96.7%	\$37,950	\$39,333	103.6%	\$38,430	\$37,506	97.6%
Region 3	\$38,236	\$37,422	97.9%	\$37,438	\$35,951	96.0%	\$36,946	\$33,771	91.4%	\$37,710	\$35,995	95.5%
Region 4	\$46,826	\$47,120	100.6%	\$47,355	\$45,993	97.1%	\$43,465	\$43,401	99.9%	\$45,896	\$44,036	95.9%
Region 5	\$56,222	\$54,441	96.8%	\$54,615	\$53,032	97.1%	\$54,327	\$51,671	95.1%	\$57,716	\$54,238	94.0%
Region 6	\$36,376	\$35,258	96.9%	\$34,417	\$34,345	99.8%	\$34,477	\$33,635	97.6%	\$34,144	\$33,616	98.5%
Region 7	\$21,543	\$20,553	95.4%	\$20,673	\$20,494	99.1%	\$21,228	\$21,291	100.3%	\$21,783	\$23,364	107.3%
Region 8	\$20,729	\$20,065	96.8%	\$20,428	\$19,956	97.7%	\$20,338	\$20,066	98.7%	\$21,895	\$21,227	96.9%
Region 9	\$35,070	\$34,638	98.8%	\$34,104	\$33,598	98.5%	\$32,874	\$32,791	99.7%	\$36,848	\$34,534	93.7%
Region 10	\$20,453	\$19,647	96.1%	\$19,998	\$20,717	103.6%	\$20,203	\$20,149	99.7%	\$20,310	\$20,206	99.5%
TOTAL:	\$339,840	\$331,716	97.6%	\$333,195	\$326,167	97.9%	\$326,027	\$320,414	98.3%	\$339,559	\$328,827	96.8%

*Notes: 1) Dollars include both payroll and non-pay funding.
 2) The table compares the beginning of the year enacted budget with the total amount of New Obligation Authority (NOA) obligated.
 3) Obligations do not include carryover or Special Account funds. However, NOA funds reprogrammed to the region during the year are included if obligated. Therefore, in some cases, a region may have spent more funding than provided in the enacted budget.

47. In response to a question that Senator Merkley asked, you stated "When a chemical under the TSCA review process is already being regulated under a different program, we decided early on in setting out the parameters for the TSCA risk evaluations that we would not double regulate that in order to focus the time on the areas of the chemicals that are unregulated at this point."

Section 9(b) of TSCA states, in part:

"If the Administrator determines that a risk to health or the environment associated with a chemical substance or mixture could be eliminated or reduced to a sufficient extent by actions taken under the authorities contained in such other Federal laws, the Administrator shall use such authorities to protect against such risk unless the Administrator determines, in the Administrator's discretion, that it is in the public interest to protect against such risk by actions taken under this Act."

A decision to regulate a chemical under more than one environmental statute, which the above excerpt contemplates, is not the same as a decision not to bother to determine whether the chemical poses an unreasonable risk under the known and reasonably foreseeable conditions of use of that chemical in the risk evaluation. Please provide the legal justification for EPA's decision to exclude uses, the risks from which could in theory be addressed under other environmental statutes, from even being part of the risk evaluation in the first place.

EPA Response: EPA believes it is both reasonable and prudent to tailor TSCA Risk Evaluations when other EPA offices have expertise and experience to address specific environmental media, rather than attempt to evaluate and regulate potential exposures and risks from those media under TSCA. EPA believes that coordinated action on

exposure pathways and risks addressed by other EPA-administered statutes and regulatory programs is consistent with statutory text and legislative history, and also furthers EPA's intent to efficiently use Agency resources, avoid duplicating efforts taken pursuant to other Agency programs, and meet the statutory deadline for completing risk evaluations. EPA is therefore tailoring the scope of the Risk Evaluations using authorities in TSCA sections 6(b) and 9(b)(1).

48. EPA recently has lost or is litigating several lawsuits concerning its failure to comply with the Clean Air Act (CAA) Section 110 "good neighbor" requirement to protect downwind northeastern states from air pollution. This includes an October 2019 ruling from the U.S. Court of Appeals for the D.C. Circuit, in which the court sided with New York and five other northeastern states and vacated EPA's December 2018 final rule that did not require 20 upwind states to take any further steps to reduce ozone pollution that drifts into downwind states.²³ Several northeastern states are currently suing EPA for failing to produce plans to reduce ozone, NOx, and smog from upwind states.²⁴ Describe in detail EPA's plans and timelines for complying with the court decisions and properly implement the CAA 110 good neighbor provisions to protect downwind states.

EPA Response: EPA is working diligently to respond to the remand of the Cross-State Air Pollution Rule (CSAPR) Update in *Wisconsin v. EPA*, 983 F.3d 303 (D.C. Cir. 2019). EPA proposed the Revised CSAPR Update on October 30, 2020 to fully resolve the affected states' remaining good neighbor obligations for the 2008 ozone NAAQS. EPA is on schedule to meet its court-ordered deadline of March 15, 2021 for final signature. More details can be found in the proposal, which was published in the Federal Register at 85 FR 68964 (October 30, 2020).

49. I continue to hear complaints from industry stakeholders that EPA is not processing advanced biofuel applications or petitions for new advanced biofuel pathways for the Renewable Fuel Standard (RFS) in a timely manner. In some instances, companies have been waiting four or more years for a decision from EPA. Please identify how EPA plans to address the backlog of applications and petitions within the RFS.

EPA Response: Several of the pending registration applications and new pathway petitions involve complex technical and/or regulatory issues, which can take significant time to resolve. To ensure the ongoing effectiveness and integrity of the Renewable Fuel Standard (RFS) program, EPA is carefully considering the options for addressing these types of petitions and applications.

At the same time, however, EPA continues to make progress on the approval of new fuel pathway petitions. In 2020, EPA approved seven new petitions, including three for advanced biofuel pathways (one cellulosic pathway and two biomass-based diesel

²³ <https://www.law.nyu.edu/sites/default/files/dc-cir-csapr-decision.pdf>

²⁴ <https://www.law.nyu.edu/centers/state-impact/issues/clean-air/clean-air-act-and-upwind-pollution>

pathways).²⁵ In addition, as part of the final rule titled “Standards for 2020 and Biomass-Based Diesel Volume for 2021 and Other Changes,” published on February 6, 2020, we added new advanced biofuel pathways to the “lookup table” in the RFS regulations under which any eligible company can register. These new pathways include naphtha produced from corn and grain sorghum oil (Row I in Table 1 to 40 CFR 80.1426), and co-processed cellulosic diesel, jet fuel and heating oil produced from a number of cellulosic feedstocks (Row M in Table 1 to 40 CFR 80.1426).

EPA has taken steps in the past to improve the pathways applications process and to make decisions on a timely basis, and we continue to look for ways to improve the process.

50. On April 14, 2020 EPA proposed not to develop newer, more protective standards for particulate matter (PM) pollution and instead continue to implement the current National Ambient Air Quality Standards (NAAQS) for PM. This was despite EPA career recommendations to tighten the standard and the fact that a stronger standard could save up to 12,200 lives.²⁶ This decision makes even less sense given what Americans are now facing a respiratory pandemic whose effects are likely exacerbated by particulate air pollution. Please answer the following:

- a. This proposal was made after EPA eliminated a special PM Review Panel within the Clean Air Scientific Advisory Committee (CASAC), which was intended to help EPA review the PM science and PM NAAQS. Will you reinstitute the PM CASAC panel to help review the latest science before making a final decision, especially in light of the possible links between PM and COVID ? If not, why not?

EPA Response: The best available science must be the foundation upon which all the EPA’s regulatory and policy decisions are based. Independent reviews, such as the CASAC’s reviews during the NAAQS standard-setting process, ensure that the Agency uses the best available science to fulfill our mission to protect human health and the environment. It is important to remember that the Clean Air Act envisions a continual NAAQS review. As soon as one five-year review ends, the next five-year review begins. The Agency is committed to constantly reviewing the latest science for each NAAQS review.

To help ensure that the EPA complies with the statutory five-year requirement, I directed staff to create a pool of expert consultants that the seven-person chartered CASAC, through the Chair, can draw from as needed to support the particulate matter (PM) and ozone reviews. Relying on these consultants, instead of the previous panel arrangement, will help align the Agency’s work with the Clean Air Act’s five-year review schedule, while also ensuring that the standards are based on the best available science.

²⁵ The pathway assessment completed on July 20, 2020, approved two separate petitions from Renewable Energy Group, Inc. for biodiesel produced from cottonseed oil at two separate facilities (<https://www.epa.gov/renewable-fuel-standard-program/renewable-energy-group-approval>).

²⁶ <https://www.washingtonpost.com/health/2020/04/14/epa-pollution-coronavirus/>

- b. In the Clean Air Scientific Advisory Committee's review of the PM Integrated Science Assessment for the proposed PM NAAQS, CASAC noted that it "does not provide a sufficiently comprehensive, systematic assessment of the available science relevant to understanding the health impacts of exposure to PM, due largely to a lack of a comprehensive, systematic review of relevant scientific literature; inadequate evidence and rationale for altered causal determinations; and a need for clearer discussion of causality and causal biological mechanisms and pathways."²⁷ What more is EPA doing to address the gaps identified by CASAC?

EPA Response: In developing the Integrated Science Assessment for Particulate Matter (PM ISA), EPA carefully considered CASAC and public comments on the draft ISA. EPA addressed CASAC's quoted concerns in the Final PM ISA (2019), which states that the EPA: "(1) added text to the Preface and developed a new Appendix to more clearly articulate the process of ISA development; (2) revised the causality determination for long-term UFP exposure and nervous system effects to *suggestive of, but not sufficient to infer, a causal relationship*; and (3) added additional text to the Preface (section P.3.2.1) as well as text in the health effects chapters to clarify the discussion of biological plausibility and its role in forming causality determinations. Additionally, the U.S. EPA focused on addressing those comments that contributed to improving clarity, could be addressed in the near-term, and identified errors in the draft PM ISA." The full text is publicly available on EPA's website (<https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=347534>).

EPA continues to explore ways to further improve the process of ISA development. This includes identifying new and innovative approaches that could further expand upon systematic review techniques currently used in ISAs. Such approaches were recommended by CASAC and will be applied in future ISAs. Additionally, the Agency is in the process of initiating engagement with the National Academies of Sciences, Engineering, and Medicine to develop a project to recommend approaches for assessing causality from a multidisciplinary evidence base.

- c. The COVID pandemic is having a devastating effect on impoverished and disadvantaged communities, communities of color and indigenous communities and the long-term health effects are unknown. Will you commit before finalizing the rule to consider the new respiratory and health stresses that may be exacerbated by PM pollution for our most vulnerable populations?

EPA Response: The Clean Air Act establishes that primary National Ambient Air Quality Standards (NAAQS) are set to allow an adequate margin of safety and are requisite to protect the public health and to protect the most sensitive populations. Section V.K of the notice of proposed rulemaking for review of the

²⁷[https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebReportsLastMonthCASAC/E2F6C71737201612852584D20069DFB1/\\$File/EPA-CASAC-20-001.pdf](https://yosemite.epa.gov/sab/sabproduct.nsf/LookupWebReportsLastMonthCASAC/E2F6C71737201612852584D20069DFB1/$File/EPA-CASAC-20-001.pdf)

particulate matter (PM) NAAQS details Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. EPA believes that this action does not have disproportionately high and adverse human health or environmental effects on minority, low-income populations and/or indigenous peoples. As further detailed in section II of the proposal, EPA expressly considered the available information regarding health effects among at-risk populations in reaching the proposed decision that the existing standard is requisite. Additionally, in reviewing and responding to public comments on the proposed rule, EPA considered comments regarding vulnerable populations and health effects in developing the final rulemaking.

51. Now that you have had plenty of time to read and be briefed on the 2018 National Climate Assessment, do you still question the conclusions of the Fourth National Climate Assessment that concludes our nation's economy is at risk if we do not take climate actions? If so, please specifically describe what you disagree with and why.

EPA Response: In collaboration with other federal agencies of the U.S. Global Change Research Program, EPA continues to evaluate scientifically rigorous scenarios and data products for future assessment reports, including the Fifth National Climate Assessment. The IPCC is in the process of adding several mid-range emission scenarios between the lower RCP4.5 and the higher RCP8.5 to their suite of modeling scenarios. EPA continues to believe that, in order to inform sound policy decisions, evaluating climate change risks under a range of modeling scenarios is appropriate.

We acknowledge the potential implications that climate change has for a strong economy and that, accordingly, our policy decisions should be informed by robust and transparent scientific processes. EPA continues to participate in the U.S. Global Change Research Program, including the evaluation of scientifically rigorous scenarios and data products for future assessment reports, including the Fifth National Climate Assessment.

52. What specifically is EPA doing to help U.S. communities become more resilient in the face of a growing climate and more frequent and extreme weather?

EPA Response: EPA has developed several tools to help communities anticipate, plan for, and adapt to the changing climate. For instance, EPA's Adaptation Resource Center (ARC-X) is a resource to help local governments effectively deliver services to their communities even as the climate changes. For more information about ARC-X and other tools please see the Agency's website (<https://www.epa.gov/arc-x/tools-climate-change-adaptation>).

EPA, through a Memorandum of Agreement (MOA) with Federal Emergency Management Agency (FEMA), collaborates to help communities hit by disasters rebuild in ways that protect the environment, create long-term economic prosperity, and enhance neighborhoods. Most notably in 2019 EPA's Office of Community Revitalization developed a Regional Resilience toolkit. The Regional Resilience toolkit is

designed for non-governmental partners and community groups to engage in a more inclusive process so that resilience actions are guided by core community values. Additional information regarding the EPA-FEMA MOA and the Regional Resilience toolkit is publicly available on the Agency's website (<https://www.epa.gov/smartgrowth/smart-growth-strategies-disaster-resilience-and-recovery#epa-fema> and <https://www.epa.gov/smartgrowth/regional-resilience-toolkit>).

Senator Cardin:

53. According to language included in the FY2020 Further Consolidated Appropriations Act (P.L. 116-94), EPA may not proceed with the next round of Water Infrastructure Finance and Innovation Act (WIFIA) funding until an agreement is reached between Office of Management and Budget (OMB), Department of the Treasury, and Congressional Budget Office (CBO) about budget scoring for the WIFIA program. WIFIA, a highly cost-efficient federal loan program able to leverage up to \$97 for every \$1 appropriated, has issued 21 loans totaling \$4.4 billion in credit assistance to help finance \$9.8 billion in water infrastructure projects and create 19,000 jobs. Can you provide assurances that the final agreement will be consistent with this Committee's intent in S. 3591, America's Water Infrastructure Act of 2020? The budget approaches approved unanimously in S. 3591 are in line with other federal credit programs, including the longstanding Transportation Infrastructure Finance and Innovation Act (TIFIA) program.

EPA Response: On June 30, 2020, EPA, the Office of Management and Budget (OMB), and Department of the Treasury published screening criteria in the *Federal Register* in accordance with P.L. 116-94 (<https://www.govinfo.gov/content/pkg/FR-2020-06-30/pdf/2020-13889.pdf>). A detailed explanation of the screening criteria is contained in the *Federal Register* notice.

54. Do you agree that the plain meaning of the above-mentioned appropriations provision concerning budget scoring does not empower EPA, nor OMB, Treasury, or CBO, to make substantive changes to the WIFIA program, including project eligibility criteria?

EPA Response: EPA agrees that the provision required the Executive Branch to develop budgetary scoring criteria that reflected existing federal appropriations laws to ensure consistent application of those laws to future WIFIA financing rounds. On June 30, 2020, EPA, OMB, and Treasury published screening criteria in the *Federal Register* in accordance with P.L. 116-94 (<https://www.govinfo.gov/content/pkg/FR-2020-06-30/pdf/2020-13889.pdf>). A detailed explanation of the screening criteria is contained in the *Federal Register* notice.

Senator Sanders:**Vermont**

55. On May 7th, the EPA announced that the Green Mountain Economic Development Corporation and the Southern Windsor County Regional Planning Commission had been selected to receive \$500,000 and \$300,000, respectively, in grants to assess and clean up contaminated properties under the agency's Brownfields program.

- a. When does the EPA expect to deliver this grant funding to these organizations? Does the EPA anticipate any delays in administering these funds?

EPA Response: EPA is working with all selected recipients included in the FY20 Brownfields Grants announcement. The Southern Windsor County Assessment Grant was awarded on July 16, 2020. The Green Mountain Economic Development Corporation Cleanup Grant was awarded on August 10, 2020. EPA's Region 1 Brownfields Team experienced no delays during the award process for either of these grants.

- b. Please describe the EPA's plan, including a timeline, for providing ongoing support and technical assistance to these organizations, as well as the other 153 grant recipients that were included in the May 7th funding announcement.

EPA Response: EPA brownfields grants are awarded as cooperative agreements to the successful applicants. Section II.C of the published guidelines provides a description of EPA's anticipated substantial involvement with these projects.²⁸ Every EPA brownfield cooperative agreement is assigned an EPA project officer to provide necessary support and technical assistance to assist grant recipients with their projects. EPA New England (Region 1) Brownfields staff already provided new grantee training to these recipients and are currently working with the recipients on negotiating their workplans and finalizing their paperwork. Regional staff will also conduct kickoff meetings with each recipient later this year and provide technical support and guidance throughout the period of performance of the grant.

56. In 2016, the EPA established Total Maximum Daily Load (TMDL) standards to ensure that the EPA's Clean Water Act obligations are satisfied in regard to the clean-up of phosphorus in Lake Champlain. In my questions for the record to consider your nomination for EPA Administrator, I asked whether you had found the appropriations levels provided to the EPA by Congress to be sufficient for the Agency to meet its obligation to oversee the clean-up of Lake Champlain. You responded with the following statement:

"The EPA is committed to working with the states of Vermont and New York on their implementation of the Lake Champlain TMDLs. Once Congress provides

²⁸ EPA FY2020 Assessment, Revolving Loan Fund, and Cleanup Grant Application Resources webpage: <https://www.epa.gov/brownfields/fy-2020-assessment-revolving-loan-fund-and-cleanup-grant-application-resources>.

appropriations, the EPA will continue to perform the agency's oversight responsibilities."

Given that this statement did not answer my question, please provide a yes or no answer to the following question: Have you found the appropriations levels provided to the EPA by Congress to be sufficient to ensure that the EPA's Clean Water Act obligations are satisfied in regard to phosphorus levels in Lake Champlain? If so, please provide a timeline for when the EPA will fulfil its obligations under the TMDL. If not, please describe the funding amounts and specific areas for which congressional appropriations have been insufficient to fulfil the EPA's Clean Water Act obligations, as well as your plan for requesting sufficient funds in the EPA's FY 2022 budget request.

EPA Response: EPA has continued to perform the Agency's oversight responsibilities under existing appropriations and would continue to do so under the President's FY 2021 budget request. For example, on June 25, 2020, EPA sent a letter²⁹ to the Vermont Department of Environmental Conservation that detailed the steps Vermont has taken towards implementing the Lake Champlain Phosphorus TMDL for the Vermont stream segments that flow into Lake Champlain as well steps that the state still needs to take in order to restore the water quality in Lake Champlain.

Climate Change

57. According to a recent E&E News article, *How a Revised Calculation Could Hurt Future Climate Rules*, the EPA is in the process of finalizing a draft rule that would modify its methodology for calculating costs and benefits under the Clean Air Act. According to the article, experts widely expect this draft rule to minimize the co-benefits derived from reductions in harmful air pollutants, in effect reducing the EPA's reliance on protecting human health and the environment when formulating new regulations. This proposed rule's impacts are evident in the altered cost-benefit analysis the EPA used in its proposal to repeal the Clean Power Plan, which would drastically increase carbon and other emissions from power plants. The proposed rule could cause as many as 1,400 premature deaths, 48,000 new cases of asthma, and 21,000 new missed school days each year compared to the Clean Power Plan.

Given that reducing the EPA's reliance on protecting human health and the environment when considering the benefits of new regulations clearly violates its mission to protect human health and the environment, as well as its statutory obligations under the Clean Air Act to protect and improve the nation's air quality, please provide a plan, including a timeline, for withdrawing the EPA's proposed rule to alter the EPA's cost-benefit methodology.

EPA Response: The rule *Increasing Consistency and Transparency in Considering Benefits and Costs in the Clean Air Act (CAA) Rulemaking Process* was proposed on June 4, 2020. EPA held a public hearing on July 1, 2020, and comments were due on

²⁹ <https://www.epa.gov/sites/production/files/2020-06/documents/lake-champlain-tmdl-phase-1-milestones-ltr-6-25-20.pdf>

August 3, 2020. After publishing the proposed rule, EPA received 24,740 public comment letters on the proposal, of which 143 provided detailed, substantive unique comments. Comments ranged from support for the proposal to opposition of this action. As detailed in the final rule's Response to Comment document, EPA instituted a number of updates to the final rule based on the comments it received. Consistent with the proposed rule, this final rule consists of three elements: it requires the EPA to prepare a benefit-cost analysis (BCA) for all future significant proposed and final regulations under the CAA; it requires EPA to develop the BCA using the best available scientific information and in accordance with best practices from the economic, engineering, physical, and biological sciences; and, it imposes additional procedural requirements to increase transparency in the presentation of the BCA results. This final rule also requires that the Agency consider the BCA in promulgating the regulation except where the statutory provision or provisions under which a significant regulation is promulgated prohibit it. Additional presentational requirements have been included in the final rule to increase transparency in future rulemakings.

The benefits and costs of a potential regulation, when permitted to be considered under the specific provision of the CAA under which a future regulation is promulgated, are of clear importance to decision-making and can provide justification for whether and how the EPA decides to regulate. However, the final rule does not specify how EPA will make regulatory decisions.

The final rule was published in the *Federal Register* on December 23, 2020. The final rule will ensure a consistent approach to the EPA's CAA benefit-cost analyses under the CAA and will provide transparency by requiring the generation of relevant information in all significant rulemakings. I encourage you to review the final rule.

58. On June 1st, the EPA finalized a rule that guts the Clean Water Act by restricting the ability of states and tribes to block federal energy projects, such as pipelines or industrial plants, which could pollute rivers and drinking water. In your statement announcing the rule, you stated that its intended purpose was to "curb abuses of the Clean Water Act that have held our nation's energy infrastructure projects hostage, and to put in place clear guidelines that finally give these projects a path forward."

- a. States like Washington have found that construction of fossil fuel infrastructure like coal export terminals would permanently destroy significant amounts of wetland, and that operation of this infrastructure would deposit fossil fuel pollution like coal dust in nearby surviving wetlands. As you may know, coal dust has a significant and negative impact on the ecological functions of wetlands.

Do you consider decision by states to prevent the permanent destruction and environmental contamination of its ecological resources to be "abuses" of their authority under the Clean Water Act to ensure permitted activity will comply with applicable water standards?

- b. Given that the goal of giving fossil fuel projects a path forward clearly runs counter to the EPA's mission to protect human health and the environment because it could cause unacceptably high levels of pollution, this final rule violates EPA's mission. Therefore, please provide your commitment to uphold the EPA's mission by ensuring the agency will not in any way narrow the scope of states' and tribes' ability to object to federal projects under Section 401 of the Clean Water Act.

EPA Response: EPA's final rule, published in the *Federal Register* on July 13, 2020, brings the Agency's regulations in line with the 1972 Amendments to the Clean Water Act (CWA). The final rule also increases the transparency and efficiency of the CWA section 401 certification process in order to promote the timely review of infrastructure projects while continuing to ensure that Americans have clean water for drinking and recreation. CWA section 401 envisions a robust state and tribal role in the federal licensing or permitting proceedings, including those in which local authority may otherwise be preempted by federal law. CWA section 401 gives states and authorized tribes authority to assess potential water quality impacts of discharges from federally permitted or licensed projects that may affect navigable waters within their borders. CWA section 401 also places important limitations on how that role may be implemented to maintain an efficient process, consistent with the overall cooperative federalism construct established by the CWA. Properly implemented, CWA section 401 is an important tool that can be used to help protect water quality while allowing federal permitting and licensing processes to proceed in a timely manner. EPA's prior regulations were nearly 50 years old and did not reflect the statutory language in CWA section 401. The final rule is consistent with the CWA and is intended to increase the predictability and timeliness of CWA section 401 certification actions by clarifying timeframes for certification, the scope of certification review and conditions, and related certification requirements and procedures.

59. During this hearing, you stated that the EPA's Safer Affordable Fuel-Efficient Vehicles (SAFE) rule to roll back automobile efficiency standards would "save more lives than not." However, according to the Union of Concerned Scientists, the new rule would lead to up to 1,444 more premature deaths, an additional 20,000 cases of exacerbated asthma, and hundreds of cardiovascular and respiratory illness-related hospitalizations. The increased air pollution from this rule will also put communities across the country at increased risk of death from respiratory diseases like COVID-19.

Given that the EPA's decision to roll back automobile efficiency standards will lead to more deaths than if the EPA had not rolled back these standards, would you like to amend your statement that the SAFE rule will save "more lives than not"? If you do not wish to amend your claim, please describe how over a thousand additional premature deaths represents more lives saved compared with this rule.

EPA Response: By reducing the average price of a new vehicle by about \$1,000, the SAFE rule will make it easier for Americans to afford to buy newer, cleaner, and safer

vehicles. About 3,300 fewer crash fatalities, 397,000 fewer injuries, and more than 1.8 million fewer vehicles damaged in crashes are projected over the lifetimes of vehicles built according to these new standards. EPA also considered the impacts of the SAFE standards on air pollution and public health effects. This analysis is further discussed in the SAFE rule at 85 FR 25112, April 30, 2020.

60. On April 24, you tweeted that under President Trump, our “air, water, and land is cleaner.” However, according to EPA’s own air quality data, there were 15 percent more days with unhealthy air in our country over each of the past two years compared to 2013 through 2016, and a 2019 study posted in the National Bureau of Economic Research found that our country’s fine particulate pollution increased by 5.5 percent between 2016 and 2018 after it declined by 24 percent between 2009 and 2016. Furthermore, the EPA’s decision to roll back automobile emissions standards and Mercury and Air Toxics standards will lead to even more toxic pollution being spewed into our nation’s air.

Given that air pollution has demonstrably increased under President Trump, would you like to amend your claim that our nation’s “air, water, and land” is cleaner under President Trump? If you do not wish to amend your claim, please describe how a 15 percent increase in days with unhealthy air and a 5.5 percent increase in fine particulate pollution represents cleaner air.

EPA Response: On June 8, 2020, EPA released its annual report on air quality through 2019. This latest report shows continued progress. From 2017 to 2019, the combined emissions of criteria pollutants and their precursors dropped 7%. In the past three years (2017-2019), we saw the following drops in emissions of criteria and precursor pollutants:

Nitrogen Oxides (NO_x) ↓ 10 %
 Particulate Matter 2.5 (PM_{2.5}) ↓ 1 %
 Sulfur Dioxide (SO₂) ↓ 16%
 Carbon monoxide (CO) ↓ 6%
 Volatile Organic Compounds (VOC) ↓ 3%

And from 2017–2019, the number of days listed as unhealthy for sensitive groups in the Air Quality Index dropped by 34 percent as the amount of criteria pollutants in our air continued to fall:

Carbon Monoxide 8-Hour ↓ 10%
 Lead (Pb) 3-Month Average ↓ 28%
 Nitrogen Dioxide Annual ↓ 4%
 Nitrogen Dioxide 1-Hour ↓ 2%
 Ozone 8-Hour ↓ 4%
 Particulate Matter 10 microns 24-Hour ↓ 22%
 Particulate Matter 2.5 microns Annual ↓ 7%
 Particulate Matter 2.5 microns 24-Hour ↓ 12%
 Sulfur Dioxide 1-Hour ↓ 10%

So, no, given the data, I see no reason to amend my previous statements detailing the clean air, water, and land we have seen under this Administration.

Air pollution concentrations in the outdoor air can vary year to year, influenced not only by pollution emissions but also by meteorology and natural events, such as dust storms or wildfires. Our air quality monitors pick up changes in air quality caused by both man-made emissions and natural events. As a whole, human-caused emissions of the six common air pollutants dropped in 2018. Despite this, air monitors in some areas showed increases in concentrations of ozone and particulate matter—the pollutants that account for the majority of unhealthy days in the outdoor air. Increases in particulate matter in some areas in 2018 were due, in part, to natural events such as wildfires. And weather conditions were generally more favorable to ozone formation in 2018. After adjusting for weather, there was a slight decrease in ozone concentrations from 2017 to 2018.

Toxics

61. On February 14, 2019, the EPA issued a PFAS Action plan that promised a regulatory determination on the establishment of a maximum contaminant level (MCL) for perfluoroalkyl (PFAS) or polyfluoroalkyl (PFOA) substances in drinking water by the end of 2019. This past March, more than a year later, the EPA finally published a notice in the Federal Register announcing the EPA's intent to simply consider regulations for these toxic chemicals over the next five years. Meanwhile, the Environmental Working Group estimates that over 110 million Americans may be currently drinking water that contains toxic levels of PFAS or PFOA chemicals.

- a. Do you consider this contamination to be a public health crisis? If not, please describe how the presence of toxic chemicals in the drinking water of over a third of our country is not a public health crisis.

EPA Response: EPA takes the issues surrounding per- and polyfluoroalkyl substances (PFAS) very seriously and the Agency has undertaken extensive efforts to address PFAS issues. PFAS-related issues are an important priority for EPA and we are working aggressively and cooperatively with our federal and state partners to take significant action in order to protect human health and the environment. In 2019, EPA issued the first-ever *PFAS Action Plan*—a historic step in our nation's efforts to address PFAS in the environment. As stated in EPA's *PFAS Action Plan*, "there is evidence that continued exposure above specific levels to certain PFAS may lead to adverse health effects."³⁰ The *PFAS Action Plan* also represented a number of important firsts for the Agency. It was the first time EPA has used all of its program offices to address an emerging chemical of concern. It was also the first time the Agency put together a multi-media, multi-program national research, management, and risk communication

³⁰ U.S. EPA, *PFAS Action Plan*, 1 (2019), https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf.

plan to respond to a challenge like PFAS. By prioritizing work on the *PFAS Action Plan*, EPA is delivering on President Trump's commitment to protect the health and well-being of communities across the country that are dealing with PFAS issues.

For close to two years, EPA has built on the momentum the *PFAS Action Plan* put in motion, and the Agency's efforts have been unprecedented. The Agency has made progress in all program areas—from groundwater cleanup guidance, to new test methods that are helping to move research efforts forward, to updates to the Toxics Release Inventory, to progress on carrying out Safe Drinking Water Act (SDWA) regulatory processes. These actions reflect the execution of the comprehensive and coordinated approach we outlined in the *PFAS Action Plan*, and updated in February 2020 through the *PFAS Action Plan: Program Update*.³¹

Additionally, since the release of the *PFAS Action Plan*, the Agency has worked extensively to ensure it is accurately and effectively communicating this progress to Congress and the public. Key progress and accomplishments include:

- **Technical Assistance and Support:** Just as important as the progress on PFAS at the federal level are EPA efforts to form partnerships with states, tribes, and local communities across the country. Since releasing the *PFAS Action Plan*, EPA has provided assistance to more than 30 states to help address PFAS, and the Agency is continuing to build on this support. EPA has responded to requests for assistance from more than a dozen state and territorial governments by screening for PFAS at high priority sites and training local health agencies to test for PFAS on their own. EPA is also providing cleanup assistance to more than 30 states and the District of Columbia to address PFAS at contaminated groundwater and soil sites.
- **Funding:** As a leader in the nation's efforts to address PFAS in the environment, EPA recognizes that providing funding to external organizations is a critical component to successfully addressing these chemicals. Under this Administration, EPA's Office of Research and Development has awarded over \$15 million through dozens of grants for PFAS research, including efforts to improve understanding of human and ecological exposure to PFAS, to assess and manage environmental risks posed by PFAS wastes, and to conduct research on PFAS in agriculture. States may use capitalization grant funds from EPA to address PFAS under the Drinking Water State Revolving Fund.
- **Risk Communications and Community Engagement:** Risk communication and engagement are critical for EPA to effectively support communities across the United States that are addressing PFAS. As outlined in the *PFAS*

Action Plan, EPA is actively working to enhance the way in which the Agency communicates about potential human health risks that may be associated with PFAS. EPA is working collaboratively to develop a risk communication toolbox that includes multimedia materials and messaging for federal, state, tribal, and local partners to use with the public. In 2020, EPA developed and launched a premier, scientifically-grounded risk communication training platform and trained over 100 EPA employees, including a training session focused specifically on PFAS issues. The 17.5 hour course covers governing principles from the science of risk communication, the science of science communication, and the process for risk communication at EPA.

- **Research:** EPA's goal under the *PFAS Action Plan* has been to develop and apply scientific information and tools to enable federal, state, local, and tribal governments to work together to make informed decisions to protect public health and the environment. Under the *PFAS Action Plan*, EPA has taken steps to prioritize PFAS research to develop additional analytical methods, to evaluate toxicity and health effects, and to understand impacts to agriculture and rural communities. EPA continues to compile and assess human and ecological toxicity information on PFAS to support risk management decisions. The Agency is also validating analytical methods for surface water, groundwater, wastewater, soils, sediments and biosolids; developing new methods to test for PFAS in air and emissions; and improving laboratory methods to discover unknown PFAS. EPA is also developing exposure models to understand how PFAS moves through the environment to impact people and ecosystems. EPA is working to develop tools to assist officials with the cleanup of contaminated sites, and in July 2020, EPA added new treatment information for removing PFAS from drinking water. The full extent of EPA's research supporting the *PFAS Action Plan* and various program initiatives can be found at <https://www.epa.gov/chemical-research/research-and-polyfluoroalkyl-substances-pfas>.
- **Environmental Cleanup:** EPA has made considerable progress under the *PFAS Action Plan* as it relates to cleanups. In December 2019, EPA issued the Interim Recommendations for Addressing Groundwater Contaminated with PFOA and PFOS under federal cleanup programs, a priority action under the *PFAS Action Plan*. EPA also continues moving forward with the regulatory process for proposing to designate PFOA and PFOS as hazardous substances under CERCLA, while developing analytical methods for environmental media and conducting treatment and disposal research. On December 18, 2020, EPA released for public comment the Interim Guidance on the Destroying and Disposing of PFAS and PFAS-Containing Materials. The interim guidance outlines the current state of the science on techniques and treatments that may be used to destroy or dispose of PFAS and PFAS-containing materials from non-consumer products, including aqueous film-forming foam (for firefighting). The interim guidance addresses PFAS in

many forms as required by the National Defense Authorization Act for Fiscal Year 2020.

- **Drinking Water:** EPA is following through on its commitment to evaluate and address PFAS in drinking water. The Agency's work includes efforts to expand drinking water test methods, to work under SDWA to propose maximum contaminate levels to regulate PFOA and PFOS, to produce new toxicity assessments, and to continue monitoring for PFAS.
 - **Monitoring:** In July 2020, EPA transmitted the Unregulated Contaminant Monitoring Rule 5 (UCMR 5) proposal to OMB for interagency review. Per the America's Water Infrastructure Act of 2018 (AWIA) and National Defense Authorization Act for Fiscal Year 2020 amendments to SDWA, EPA anticipates proposing nationwide drinking water monitoring for PFAS that uses new methods that can detect PFAS at lower concentrations than previously possible.
 - **Chemical Review and Disclosure:** EPA has taken significant actions under the Toxics Release Inventory (TRI) and the Toxic Substances Control Act (TSCA) program. Since releasing the *PFAS Action Plan*, the Agency has taken steps to update the Toxics Release Inventory program to include PFAS and to finalize a Significant New Use Rule (SNUR) for PFAS chemicals. In June 2020, EPA issued a final regulation that added a list of 172 PFAS chemicals to Toxics Release Inventory reporting. That same month, EPA issued a final regulation that can stop products containing certain PFAS from entering or reentering the marketplace without EPA's explicit permission.
 - **Enforcement:** EPA continues to use enforcement tools, when appropriate, to address PFAS exposure in the environment and assist states in enforcement activities. EPA has already taken actions to address PFAS, including issuing SDWA orders and providing support to states. To date, across the nation, EPA has addressed PFAS in 15 cases using a variety of enforcement tools under SDWA, TSCA, RCRA, and CERCLA (where appropriate), and will continue to do so to protect public health and the environment.
- b. Given this level of likely contamination, a five year timespan for establishing an MCL for PFAS and PFOA chemicals is completely unacceptable to fulfil the EPA's mission of protecting human health and the environment. Please describe your plan for fulfilling the EPA's mission by drastically shortening the current five-year timespan for setting a robust MCL for the class of PFAS substances.

EPA Response: EPA is following the process Congress put in place under the Safe Drinking Water Act (SDWA) for the development of Maximum Contaminant Levels (MCLs). EPA must follow the requirements of both the SDWA and other applicable laws and is prohibited from prejudging the outcome

of a regulatory process. For EPA's regulatory decisions to be defensible, the Agency must comply with the laws established by Congress. The multistep process, established in the SDWA is designed to ensure public participation, transparency, and the use of the best-available peer reviewed science and other technical information. By adhering to the processes created by Congress, EPA will build a defensible record to defend Agency decisions if challenged in court.

62. Several states, including my home state of Vermont, have set health advisories for drinking water containing PFAS chemicals that are significantly more stringent than the EPA's lifetime health advisory level. The most recent update to the Toxic Substances Control Act (TSCA) contained a provision that protects states that had more stringent standards on the books before April 22, 2016 (15 USC 2617(e)(1)(A)).

In my questions for the record for the August 1, 2018 Senate Environment and Public Works Committee hearing "Examining EPA's Agenda: Protecting the Environment and Allowing America's Economy to Grow", I asked you whether you would commit to avoiding any actions to preempt states' ability to enforce health advisory levels for PFAS enacted before April 22, 2016 that are more stringent than the EPA's standards. You refused to make that commitment, and responded with the following statement:

"The preemption provisions of the Lautenberg Amendments to TSCA contain important directions that address when state actions will be preempted or not. EPA will follow all requirements of the statute with regard to preemption."

Please describe the specific circumstances in which the preemption provisions of the Lautenberg Amendments to TSCA would lead the EPA to take actions that would preempt Vermont's ability to enforce health advisory levels for PFAS enacted before April 22, 2016 that are more stringent than the EPA's standards, and how the preemption provisions of the Lautenberg Amendments to TSCA would lead the EPA to preempt the state's health advisory levels for PFAS in those circumstances.

EPA Response: EPA does not believe that a state health advisory for drinking water contaminants would be subject to preemption under TSCA. TSCA section 18 describes the types of state actions that may be subject to preemption (e.g., a state requirement to develop information, to prohibit or otherwise restrict behavior, or to require notification of a use) and the circumstances under which preemption might occur. A state health advisory that simply communicates information or non-regulatory general recommendations about a particular subject matter would not appear to fall under any of the provisions in section 18. Note, however, that some states might have other requirements associated with an advisory and those requirements might raise preemption issues. As a general matter, EPA does not adjudicate disputes as to whether particular state laws are subject to federal preemption and this response is not intended to resolve such disputes, or to otherwise establish the preemption status of a particular state law.

63. On May 29th, the EPA finalized a rule to regulate emissions of ethylene oxide, a toxic substance used in the production of industrial chemicals. Although this rule states that ethylene oxide poses an “unacceptable” public health threat, it would allow highly elevated risks of cancer to persist in communities across the country, in some cases as high as 200-in-1 million—twice as high as the EPA’s presumptive benchmark for “acceptable” cancer risks. In order to justify this weak rule, the EPA used a risk factor for cancer five times weaker than EPA’s own scientists recommended in a 2016 Integrated Risk Information System analysis of ethylene oxide.

- a. Why did the EPA choose to ignore its own scientists’ cancer risk assessment, found in the 2016 Integrated Risk Information System analysis, when formulating this rule?

EPA Response: Your question is based on a mistaken premise. The final rule is neither “weak,” nor did we use a risk factor for cancer five times weaker than EPA’s own scientists recommended in a 2016 Integrated Risk Information System (IRIS) analysis of ethylene oxide (EtO). To the contrary, for the risk assessment for the Clean Air Act’s regulation the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing (“the MON”), EPA used the 2016 IRIS unit risk estimate (URE) for ethylene oxide to calculate increased cancer risk. Based on revised actual emission estimates, for the final MON, the results of the risk assessment indicate that the increased cancer risk posed by the facilities could be as high as 400-in-1 million for one of the 194 facilities. After application of the controls required by this regulation, the cancer risk of 400-in-1 million would be reduced to 200-in-1 million.

As the Agency noted in the preamble to the proposed rule, the modeled cancer risks from emissions of ethylene oxide are sensitive to the URE that is applied. Two key aspects of the 2016 URE for ethylene oxide potentially contribute to the conservative (*i.e.*, health protective) nature of the final 2016 URE: the upper-bound estimate and the dose-response model. EPA discusses those in the memorandum, *Sensitivity of Ethylene Oxide Risk Estimates to Dose-Response Model Selection*, available in the docket for the MON rulemaking. When uncertainties associated with use of the URE, which is an upper-bound estimate, and dose-response model selection are taken into account, they provide important context for interpreting risks that remain after emissions are controlled and indicate that the risks are acceptable. As a result, at all but one of the nearly 200 facilities covered by the rule, the maximum risk of cancer from a lifetime of exposure to ethylene oxide or other air toxics is expected to be lower than 1 in 10,000 (100 in 1 million), which is the level EPA generally uses in its risk reviews of air toxics rules to determine whether additional controls are necessary.

- b. Given the EPA’s failure to properly consider established science, including the findings of its own scientists, as well as its statutory obligation under the Clean Air Act to protect and improve the nation’s air quality, please describe your plan,

including a timeline, for withdrawing this rule and replacing it with one that truly protects our nation's communities from ethylene oxide.

EPA Response: Again, your question is based on a false premise, in that we did not “fail to properly consider established science.” As I previously explained, in the Clean Air Act’s regulation the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing (“the MON”), EPA used the 2016 EPA Integrated Risk Information System (IRIS) Unit Risk Estimate (URE) for ethylene oxide to calculate increased cancer risk. EPA examines a broad base of health information when conducting a risk review of any NESHAP, including risk of cancer that may develop from a lifetime of exposure to a pollutant, the risk of non-cancer health effects, the associated uncertainties in risk estimates, and the inherent health-protective nature of our risk assessment methods. Therefore, there is no basis for our “withdrawing” this rule as you propose.

Further, you should be aware that the MON rulemaking is only one of the actions EPA is taking under its two-pronged strategy for addressing ethylene oxide. The Agency also is reviewing its NESHAP for ethylene oxide commercial sterilizers and anticipates issuing a proposal for public review and comment in 2021. In the second prong of its approach, EPA is providing support to its state air agency partners as they learn more about ethylene oxide emissions from facilities in areas identified by EPA’s National Air Toxics Assessment (NATA) and identify opportunities for early reductions. As a result of this work, a number of facilities—including facilities in Colorado, Georgia, Illinois and Missouri—already have taken steps to reduce ethylene oxide emissions.

64. Last month, the EPA decided against continuing the work of the previous administration to ban the chemical perchlorate, which causes serious developmental disorders in children. In 2011, the EPA found that perchlorate poses serious health risks to up to 16 million people, and that high concentrations of this toxic substance are present in at least 26 states. Based on the EPA’s mission to protect human health and the environment, please outline the EPA’s plan, including a timeline, to establish robust regulations for perchlorate.

EPA Response: On July 21, 2020, EPA published a final action regarding the regulation of perchlorate under the Safe Drinking Water Act (SDWA). A detailed explanation of EPA’s final action is available in the *Federal Register* notice at: <https://www.govinfo.gov/content/pkg/FR-2020-07-21/pdf/2020-13462.pdf>.

Senator Whitehouse

65. Please provide a list of anyone at EPA who met with or spoke to representatives of Marathon Petroleum, the dates of any such meetings or conversations, and the subjects discussed.

EPA Response: As I said in response to your questions at the hearing, I have not met with Marathon Petroleum—or any other oil company—about the Safer Affordable Fuel-Efficient (SAFE) Vehicles rule. I asked my staff to review my calendar for any meetings with Marathon and they reminded me that I had a phone call with Gary Heminger, then-CEO of Marathon Petroleum, on July 12, 2019. Members of my senior leadership team from the EPA’s Office of Air and Radiation also participated in that phone call. The topic discussed on the call was the Renewable Fuel Standard (RFS) program. I reaffirm my previous answer that I have not met with any oil company to discuss the SAFE vehicle rule.

Any information supporting the development of the final SAFE rule, including any information presented to EPA or the National Highway Traffic Safety Administration (NHTSA) by external stakeholders and relied upon for the rule’s development, is available to the public in the rulemaking docket, EPA–HQ–OAR–2018–0283, available at www.regulations.gov.

66. In your testimony, you mentioned that you know one or more lobbyists for Marathon Petroleum and/or Marathon Oil and that one of them worked at your former law firm. Please identify the lobbyist at your former firm to whom you were referring, as well as any other lobbyists for Marathon Petroleum whom you know.

EPA Response: I take my ethical obligations seriously and believe the Agency should operate in an open and transparent manner. As I referenced in my response to you at the hearing, I had an ongoing ethics obligation to recuse myself from participating personally and substantially in certain matters in which I had a financial interest, or personal or business relationship for a period of two years from the time I rejoined the Agency as Deputy Administrator on April 20, 2018. As part of my obligations under Executive Order 13770, I was prohibited from participating in any particular matter involving specific parties in which my former employer, Faegre Baker Daniels LLP, or any former client to whom I provided legal or consultative services two years prior to April 20, 2018, for a period of two years—through April 20, 2020.

Please have your staff reach out to my staff in the EPA’s Office of Congressional and Intergovernmental Relations if you would like any further information about my recusal statement, including my lists of former clients and former lobbying issues. We have already provided that information to Congress and would be happy to provide it to you as well.

67. Do you know a Marathon Petroleum lobbyist named Michael Birsic? If so, how?

EPA Response: I have not met with Marathon Petroleum—or any other oil company—to discuss the Safer Affordable Fuel-Efficient (SAFE) Vehicles rule.

68. Are you aware of any contacts between Marathon Petroleum and the U.S. Department of Justice, and in particular, the anti-trust division of DOJ? If so, please describe the nature of these contacts and which individuals were involved and what was discussed.

EPA Response: As I stated in my response to your question at the hearing, I am not aware of any such contacts.

69. Did anyone at EPA communicate with DOJ's anti-trust division on the subject of fuel economy and greenhouse gas emissions standards for cars and light trucks and/or DOJ's decision to investigate certain automakers' decision to negotiate standards with the state of California? If so, please list who was involved in such communications, when they occurred, and the nature of the conversation.

EPA Response: As I stated in my response to your question at the hearing, I am not aware of any such contacts.

70. What line of business is Marathon Petroleum in?

EPA Response: As EPA Administrator, I have met by phone with Marathon's then-CEO to discuss the EPA's RFS program on one occasion, on July 12, 2019. I understood their interest was based on being an oil company subject to RFS compliance obligations. I also understand that the company is subject to other EPA regulatory programs and has been the subject of compliance and enforcement actions, but I have not met with them on any topic other than the RFS.

71. Please provide a list of anyone at EPA who met with or spoke to representatives of Marathon Petroleum regarding litigation surrounding fuel economy and greenhouse gas emissions standards for cars and light trucks, the dates of any such conversations, and the nature of the conversation.

EPA Response: I have not met with Marathon Petroleum—or any other oil company—to talk about Safer Affordable Fuel-Efficient (SAFE) Vehicles rule.

72. You testified you were surprised that EPA's "secret" science rule is the brainchild of a few tobacco and fossil fuel industry lobbyists. Steve Milloy spent over two decades working for first the tobacco industry and then the fossil fuel industry lobbying to limit the use of science in rulemaking under the guise of enhancing transparency. Milloy used to work at Murray Energy when you lobbied for Murray Energy. Do you know Milloy? Did Milloy ever discuss with you his desire to limit the types of scientific studies that can be used in rulemaking? Did anyone at Murray Energy or any of your other former industry clients ever discuss this subject with you? If so, who?

EPA Response: As I stated in my response to the related questions during the hearing, I was not aware of a link between the issue of transparency in regulatory science and tobacco lobbying in the 1990's. The EPA's Strengthening Transparency in Regulatory Science rulemaking was first proposed before I rejoined the Agency on April 20, 2018 as Deputy Administrator. In response to the proposed rule, the Agency received close to a million comments, and after being briefed on the rule and the comments as Administrator, I directed EPA staff to issue a supplemental proposal to take additional

comments because I want to make sure that the Agency gets this rule right. I signed the supplemental notice on March 3, 2020, and we asked for the public to provide comments by April 18, 2020. In response to concerns raised by public health officials, members of Congress, and state officials—who, like EPA, have been focused on delivering our most critical public health missions while responding to the COVID-19 virus—I decided to extend the public comment period for an additional 30 days, through May 18, 2020.

Transparency in science that enables the independent validation of scientific conclusions is important to advancing the Agency's mission. In no way does the proposed rule or the supplemental notice suppress research or censor scientists. On the contrary, it acknowledges that all science is welcome at the Agency and provides a clear awareness to researchers and the general public that, if finalized, the Agency will utilize procedures with the goal of making the science on which future significant regulatory decisions are based more transparent while still ensuring the protection of confidential business information (CBI) and personally identifiable information (PII). The supplemental notice asked for public comment on all of these important considerations. We are in the process of developing the final rule and I expect it to be complete very soon.

73. Why is it in the public interest to pursue a proposal dreamt up and pushed by the tobacco and fossil fuel industries that would prevent EPA from considering some of the best available science on the relationship between air pollution and public health, including studies that specifically look at the relationship between air pollution and COVID-19?

EPA Response: I respectfully disagree with any suggestion that the Agency's Strengthening Transparency in Regulatory Science rulemaking would impede the Agency's ability to respond to emergencies like COVID-19 using the best available data and scientific information. Our most important environmental statutes provide EPA with authority to issue emergency orders when necessary and respond to and address environmental emergencies to protect human health and the environment, and this rulemaking would not limit or impede EPA's authority to undertake such responses. For example, the Agency has created a fast-track process for handling requests to be added to our List N: Disinfectants for Use Against SARS-CoV-2 (List N). Through this process, we are reviewing most submissions within 14 days, as compared to the 90-day window these reviews typically take.

74. A draft report from EPA's Science Advisory Board said the "secret" science proposal could be viewed as a "license to politicize scientific evaluation." The final draft of the SAB's report stated, among other things, that "[m]oving forward with altered transparency requirements beyond those already in use, in the absence of such a robust analysis, risks serious and perverse outcomes." Do you think the exclusion of relevant, peer-reviewed scientific studies in the middle of a pandemic could be considered a "serious and perverse outcome?"

EPA Response: EPA received comments from SAB and the public on the proposed rulemaking pertaining to natural disasters and emergencies that cannot be replicated.

Transparency assumes no political ideology. The Agency will consider the SAB's comments along with those provided by the public in development of the final rule.

75. Will you commit that EPA's final "secret" science rule will not exclude from agency consideration any relevant, peer-reviewed studies examining the connection between air pollution and public health, including the "Six Cities" study and studies examining the connection between air pollution and increased human vulnerability to infectious diseases including COVID-19?

EPA Response: EPA received many public comments on the proposed rulemaking pertaining to air pollution studies and separately on natural disasters and emergencies that cannot be replicated. The Agency will consider these comments in developing the final regulation.

76. In light of your stated interest in scientific transparency, why is EPA stonewalling the state of California's FOIA requests for the data, models, and other information the agency used in developing its rule on fuel economy and greenhouse gas emissions standards for cars and light trucks? Due to EPA's failure to respond to these requests, California has had to twice sue the agency in order to obtain this information. If data transparency is so important to you that you're attempting to promulgate a proposal against the advice of your own Science Advisory Board, why can't you provide California with the data and models and other information it's requesting?

EPA Response: EPA has fully responded to California's FOIA request dated September 11, 2018, which sought documents relating to EPA's OMEGA model, as well as other models and data related to the SAFE Vehicles Rule. EPA provided California with all of the responsive, non-exempt information it sought, including the OMEGA model. EPA's withholdings were upheld by the U.S. District Court for the District of D.C.

In regard to California's other pending lawsuit relating to its FOIA request dated December 10, 2019, it is EPA policy not to comment on matters in active litigation.

Senator Merkley:

77. Please provide a timeline for completion of the supplemental Risk Evaluation that will address legacy uses of asbestos.

EPA Response: EPA intends to publish the draft scope for the supplemental Risk Evaluation on legacy uses and associated disposals of asbestos in the second quarter of 2021. The final risk evaluation for the conditions of use of asbestos represented in the already released draft risk evaluation will publish before the end of 2020.

78. Will EPA wait until the supplemental Risk Evaluation is completed to make the final risk determination or any risk management decisions for asbestos?

EPA Response: No, EPA will address any unreasonable risks identified in the asbestos risk evaluation that will be issued as final before the end of 2020.

79. You mentioned that a recently finalized Supplemental New Use Rule (SNUR) for asbestos will cover the forms of asbestos not evaluated in the Risk Evaluation. The SNUR will only address new uses of asbestos, so is not an acceptable way to deal with risks from other forms of asbestos that are already present in the environment. For example, Libby amphibole is estimated to contaminate the vermiculite insulations in 50 million homes in the U.S. This contaminated insulation poses a threat to workers and homeowners during building remodeling and demolition and when water and sewer lines rupture.

- a. How is EPA addressing risks from forms of asbestos other than chrysotile asbestos that are present in the environment?

EPA Response: EPA is addressing the other forms of asbestos in a number of ways. First, EPA requires a review before any discontinued uses of asbestos can begin. On April 25, 2019, EPA finalized an Asbestos Significant New Use Rule (SNUR) under TSCA Section 5 that prohibits manufacture (including import) or processing of discontinued uses of asbestos from restarting without EPA evaluating each intended use for unreasonable risks to human health and the environment and to take any necessary regulatory action, which may include a prohibition. The asbestos currently being imported into the U.S. in raw form or in articles is chrysotile. The other five forms of asbestos (crocidolite (riebeckite), amosite (cummingtonite-grunerite), anthophyllite, tremolite or actinolite (either in raw form or as part of articles)) are no longer manufactured, imported, or processed in the United States and are subject to the SNUR (40 CFR 721.11095). This SNUR kept all prior asbestos prohibitions in place, including the remaining partial ban from 1989.

Second, in response to the court decision in *Safer Chemicals Healthy Families v. EPA*, Nos. 17-72260 et al. (9th Cir. 2019), EPA will issue a supplemental risk evaluation for public comment and peer review that will address legacy uses and associated disposals for chrysotile asbestos and the other five asbestos fiber types. If unreasonable risk is identified for any of the conditions of use from legacy uses and associated disposal for Chrysotile and the five other types of asbestos, EPA will take risk management action as needed.

In addition, EPA has extensive regulations in place to address asbestos. Those regulations are listed on the EPA website (<https://www.epa.gov/asbestos/asbestos-laws-and-regulations#regs>). EPA also continues to provide guidance to the public on how to safely manage legacy asbestos by hiring trained and licensed asbestos professionals to properly inspect for, handle and dispose of asbestos. That guidance is available on the EPA asbestos website (<https://www.epa.gov/asbestos/protect-your-family-exposures->

asbestos and <https://www.epa.gov/asbestos/protect-your-family-asbestos-contaminated-vermiculite-insulation>).

80. The TSCA revisions were designed to improve EPA's evaluation of the chemical risks to health and the environment. By spreading the asbestos risk evaluation across the primary risk evaluation, a supplemental risk evaluation, and only considering one form of asbestos out of six recognized asbestos fibers, the EPA has subverted the intent of the TSCA revisions and created a complicated evaluation of risks that will be challenging for the public to understand and the Agency to regulate.

- a. As required by statute, will EPA commit to creating a comprehensive risk evaluation that includes all uses, including those reasonably foreseen and legacy uses, for all substances under review?

EPA Response: As described in the response to Question 79 above, EPA will issue a supplemental draft and final scope and a draft risk evaluation for public comment and peer review that will address legacy uses and associated disposals for chrysotile asbestos and the other five asbestos fiber types. If unreasonable risk is identified for any of the conditions of use from legacy uses and associated disposal for chrysotile and the five other types of asbestos, EPA will take risk management action as needed. Therefore, once completed, both the initial and the supplemental risk evaluation together will address the conditions of use of asbestos.

81. Please provide a list of other statutes regulating chemicals undergoing risk evaluations in the environment, water, and air, and please provide the references to the CFR for any limits or controls imposed by those statutes. In addition, please describe how those limits or controls meet the statutorily required safety standards in TSCA.

- a. Please address whether or not limits on the manufacturing of chemicals under TSCA could lead to less of that chemical showing up in the environment in drinking water, air, and soil.

EPA Response: The attached excel sheet includes a list of other EPA-administered statutes addressing environmental releases and wastes from the chemicals undergoing Risk Evaluation.

If a Condition of Use (COU) evaluated in a Risk Evaluation is found to present an unreasonable risk, EPA is required to implement risk management action to address that risk. The nature of the COU for which unreasonable use is identified, and the nature of the associated risk management action, would impact whether such risk management actions would result in less of the chemical being present in drinking water, air, or soil.

82. In response to Senator Duckworth's question about the status of the air monitoring network, you replied that you were not aware of any monitors that have been offline during the

pandemic. A review of the ambient and air toxics monitoring data suggests that there are in fact monitors that have been suspended during the pandemic. On the IMPROVE network monitoring website, the updates indicate that 27 of 160 IMPROVE monitors have been suspended at some point during the pandemic.

- a. Please provide a list of all air monitors, including criteria pollutants monitors, National Air Toxics Trend Stations, NCORE Sites, and IMPROVE sites that have been suspended for any period of time during the pandemic.

EPA Response: See attached word document “Ambient Air Monitoring Status—COVID-19” and accompanying spreadsheet: “COVID 19 Site Shutdown List.”

- b. Please provide the location of the monitor, reason for the suspension, and duration of the time the monitor was offline.

EPA Response: See attached word document “Ambient Air Monitoring Status—COVID-19” and accompanying spreadsheet: “COVID 19 Site Shutdown List.”

- c. For monitors that continue to be offline, please provide an estimated date for when they will be fully operational.

EPA Response: We have no way to predict when operations will fully resume at monitoring sites across the nation; however, we continue to see declines in the percentages of monitors still suspended.

Senator Gillibrand:

83. Mr. Wheeler, I would like to ask you about the incineration of PFAS chemicals at the Norlite facility in Cohoes, New York which I briefly touched upon during the hearing before my time expired. In February, we learned that between 2018 and 2019, more than 2.4 million pounds of toxic firefighting foam was sent by the Department of Defense to Norlite to be destroyed by incineration. Local elected officials were not informed, no environmental impact statement was conducted and no test burn ever occurred. The City of Cohoes has adopted a new local law prohibiting the burning of firefighting foam containing PFAS for one year, but recent reporting has raised questions about whether DOD and Norlite are complying with that moratorium.

- a. Is it typical practice to require a test burn prior to new waste streams being burned?
- b. I understand that the EPA does not have methods in place to test burn AFFF, which, by definition is a fire suppressant. Is that true?
- c. In the absence of those methods, how do we know whether it is safe for AFFF to be incinerated at this time?

EPA Response: The New York State Department of Environmental Conservation and the New York State Department of Health serve as the lead for this purpose. These agencies have already moved forward to undertake soil and water sampling proximate to the facility. EPA is working closely with state and local authorities, including New York State Department of Environmental Conservation, to address concerns about these chemicals and to provide technical and scientific support. EPA's Office of Research and Development (ORD) is currently considering multiple disposal techniques, including incineration, to effectively treat and dispose of PFAS wastes. Research on thermal stability of PFAS compounds, the ability to fully capture and identify PFAS compounds and their thermal decomposition byproducts, the potential for incomplete combustion, and the efficacy of emission control technologies are areas of targeted research. EPA stands ready to assist as may be requested in the future.

84. Last year's NDAA required EPA to develop interim guidance on the disposal and destruction of PFAS, including by incineration within a year after enactment.

- a. What is the status of the development of that guidance?
- b. Until the guidance is issued, is there anything EPA can do to get DOD to stop its policy of incineration and comply with the Cohoes moratorium?

EPA Response: On December 18, 2020, EPA released for public comment the Interim Guidance on Destroying and Disposing of PFAS and PFAS-Containing Materials. The interim guidance outlines the current state of the science on techniques and treatments that may be used to destroy or dispose of PFAS and PFAS-containing materials from non-consumer products, including aqueous film-forming foam (for firefighting). The interim guidance addresses PFAS in many forms as required by the National Defense Authorization Act for Fiscal Year 2020.

85. The local community is very concerned about the lack of testing. Specifically, the City is requesting help from EPA to conduct soil and water testing in and around the facility. Can you commit to working with my office and with the City of Cohoes to get testing in place?

EPA Response: The New York State Department of Environmental Conservation and the New York State Department of Health serve as the lead for this purpose. These agencies have already moved forward to undertake soil and water sampling proximate to the facility. EPA is working closely with state and local authorities, including New York State Department of Environmental Conservation, to address concerns about these chemicals and to provide technical and scientific support. EPA's Office of Research and Development (ORD) is currently considering multiple disposal techniques, including incineration, to effectively treat and dispose of PFAS wastes. Research on thermal stability of PFAS compounds, the ability to fully capture and identify PFAS compounds and their thermal decomposition byproducts, the potential

for incomplete combustion, and the efficacy of emission control technologies are areas of targeted research. EPA stands ready to assist as may be requested in the future.

86. Mr. Wheeler, as you know, current evidence from the Centers for Disease Control (CDC) suggests that COVID-19 spreads through person-to-person contact, and through respiratory droplets produced when an infected person coughs, sneezes or talks. In light of this pandemic that affects the respiratory system, the EPA needs to ensure that when states start re-opening schools, child care facilities, and offices around the country, the indoor air quality inside these facilities is safe to breathe and does not add to an already growing public health crisis. Twenty years of published research has shown that indoor environmental exposure to pollutants can be more intense than outdoor exposures and that school facilities have been neglected for decades. In fact, a 2017 American Society of Civil Engineers' report rated school infrastructure a D+. There is clearly a significant need to educate, train, and encourage schools and childcare facilities on child-safe and effective preventive management of facilities, which EPA has the current ability to do.

- a. In light of the pandemic, have you shifted any resources within the EPA into the Indoor Environments Division to expand its educational and training efforts on Indoor Air Quality nationwide? If not, why?

EPA Response: To date, EPA has not made adjustments to the funding Congress appropriated for FY 2020 programs in EPA's Indoor Environments Division (IED). However, EPA's IED is actively participating in the Agency's response to the COVID-19 pandemic. IED is working closely with other EPA and CDC scientists to monitor and assess the emerging science on airborne transmission of SARS-CoV-2, including mitigation approaches, primarily focused on building engineering controls to improve ventilation and filtration. IED continues to translate that science into indoor air quality and COVID-19 guidance for the public, and to make it available on EPA's coronavirus website. IED delivered a series of technical assistance webinars, five of which were targeted specifically to the school's community and attended by nearly 10,000 school-based stakeholders. IED also provided technical support within the Agency to support EPA's reopening plans and operation of its facilities during the pandemic. While carrying out these indoor air COVID-19 activities, IED continues to use resources appropriated for reducing indoor air quality public health risks to address other high risk pollutants such as radon, asthma triggers, mold, and indoor particulate matter (PM) and through comprehensive indoor air quality interventions in homes, schools, and other commercial buildings.

87. Early evidence is emerging that, as was established with SARS, there may be a correlation between air pollution and COVID-19 mortality.

- a. Does the EPA consider long-term exposure to indoor air pollutants a risk factor that could contribute to more severe cases of COVID-19?

EPA Response: Chronic exposure to indoor air pollutants could result in damage to or impairment of the immune system, including dysregulation of antimicrobial and antiviral immunity. In that sense, chronic exposure to indoor air pollutants could theoretically contribute to a reduced or impaired immune response to SARS CoV-2, the virus that causes COVID-19. EPA is not currently aware of research on the specific connection between COVID-19 and other indoor air pollutants.

- b. Has the EPA consulted with the CDC or any other relevant federal agency about the long-term health effects of exposure to indoor air pollutants as a potential risk factor for more severe cases of COVID-19? If not, do you plan to?

EPA Response: EPA has been collaborating with CDC on the federal COVID-19 response, including on indoor air issues. The long-term exposure to indoor air pollutants and COVID-19 has not been specifically discussed to date, but EPA stands ready to participate in any federal collaboration and coordination on this issue.

- c. Given that poor indoor environments in schools increase asthma and other respiratory health events, how does the EPA plan on working with states and local communities before they start re-opening schools, childcare facilities, and offices to ensure that the indoor air quality is safe to breathe, and does not contribute to or exacerbate the current public health crisis?

EPA Response: EPA's Indoor Air Quality (IAQ) Tools for Schools Program is providing information, guidance and technical assistance to our stakeholders who are working to ensure that schools are healthy places to work and learn as they consider how and prepare to re-open. Whether schools are open or closed, indoor air quality is still an important part of maintaining a healthy indoor environment in schools.

EPA is working closely with CDC and other school networks and organizations to develop and distribute information on resources, technical guidance and support materials to help schools respond to the COVID-19 pandemic and to maintain healthy indoor learning environments. EPA has reached out to the more than 60,000 school stakeholders that comprise the Schools IAQ Connector Network on-line community to provide this information. EPA has hosted webinars, including EPA's actions and strategies in the IAQ Tools for Schools (<https://www.epa.gov/iaq-schools/indoor-air-quality-tools-schools-action-kit>) and IAQ Tools for Schools Preventive Maintenance guidance (<https://www.epa.gov/iaq-schools/indoor-air-quality-tools-schools-preventive-maintenance-guidance-documents>) and in particular, how actions, strategies and preventive maintenance relate to controlling SARS CoV-2 and other viruses, such as through cleaning, disinfection, ventilation and other operation and maintenance of facilities.

In addition, EPA offers a webpage of FAQs on coronavirus and indoor air, including HVAC guidance and information on ventilation and filtration. Additional coronavirus FAQs address cleaning versus disinfection, as well as concerns about using disinfectants around those with asthma or other chronic respiratory disease. Finally, EPA and CDC jointly developed the “Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools and Homes”. All of this guidance is accessible at www.epa.gov/coronavirus.

Senator Booker:

88. The rollbacks of health protections that EPA is pursuing under your leadership are a death sentence for communities around the country that are already suffering from high levels of pollution. And even during this pandemic, as we see African Americans and others who have medical conditions associated with higher levels of air pollution getting sick and dying in higher numbers, you have still continued to push forward with your reckless agenda. One example is your recent proposed rule to not create a stricter air quality standard for particulate matter despite peer reviewed science showing that African Americans have increased risks of premature death from exposure to particulate matter.

- a. Given that EPA is required by Executive Order to consider environmental justice and the impact of its rulemakings on minority communities, please describe what weight you gave to the harm caused by particulate matter on African American communities in your decision to not create a more protective standard?

EPA Response: On December 18, 2020, EPA published the final action of the review of the National Ambient Air Quality Standards (NAAQS) for Particulate Matter (PM) (85 FR 82684, December 18, 2020). Primary standards are set to allow an adequate margin of safety and are requisite to protect the public health and to protect the most sensitive populations.

Section V.K of the notice of the review of the PM NAAQS details Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. EPA believes that this final action does not have disproportionately high and adverse human health or environmental effects on minority, low-income populations and/or indigenous peoples. As further detailed in section II of the final action, EPA expressly considered the available information regarding health effects among at-risk populations in reaching the decision that the existing standard is requisite.

89. Another recent regulatory action you have taken during this pandemic is EPA’s release of a draft risk evaluation for the toxic chemical TCE. TCE is a known carcinogen that has been linked to kidney cancer, leukemia, and birth defects. On April 16th the American Academy of Pediatrics, the American Public Health Association, and other groups wrote to EPA asking for an extension of time to submit comments related to this dangerous chemical. In their request letter the groups stated as “stakeholders on the front line of COVID-19” that “there is

simply not capacity to focus on the draft TCE risk evaluation until the national emergency is over.” EPA did not respond to this request, but instead moved forward and closed the public comment period.

- a. Yes or no, will you commit to reopening the public comment period for TCE so that the American Academy of Pediatrics, the American Public Health Association, and others can provide you with their input on this dangerous chemical?

EPA Response: EPA believes it is important to continue work to expeditiously finalize the TCE Risk Evaluation so as not to delay any risk management action. Therefore, we do not plan to reopen the public comment period for TCE. During risk management for those conditions of use for which we find unreasonable risk, there will be the opportunity for public comment on any proposed regulations.

90. Congress is in the middle of working through a follow up to the CARES Act, but I anticipate that after its completion we will shift from “disaster response” to “long-term economic recovery.” Infrastructure is the smartest way to accomplish this. In fact, this Committee has already passed bipartisan water and transportation legislation that will form the base of anything the Senate considers.

However, the Superfund program has been underfunded in recent years despite the fact that a robust Superfund program would provide both short-term jobs as well as long-term growth by eliminating contaminated sites and the associated health risks and allowing communities to create other productive uses for these sites such as new business districts, commercial buildings, or manufacturing.

- a. Do you believe that a federal funding boost to the Superfund program would accelerate the pace of site clean-up and provide an economic boost?

EPA Response: While Congressional appropriations for the Superfund Program have remained essentially constant for 15 years, the Trump Administration has worked to improve the efficiency of the Superfund Program. For example, over the past two years, EPA’s Superfund Task Force worked to improve the Agency’s implementation of the Superfund Program in order to accelerate cleanups and shorten the path to redevelopment and safe, productive reuse. EPA continues to implement the Task Force improvements and performance measures to track how those changes improve the Superfund Program. The increased number of projects ready to start construction is an indication that implementation of the recommendations is having a tangible benefit.

EPA is also now more focused on completing the Superfund process by deleting sites from the National Priorities List (NPL) once all response actions are complete and all cleanup goals have been achieved. This is a significant milestone in the investment the EPA has made at these sites and in FY 2020, the Agency deleted all or part of 27 sites from the NPL. This marks the third year in

a row that EPA has deleted an historically high number of Superfund sites, sending a clear message that human health and the environment are protected and paving the way for redeveloping these priorities into community assets.

Over the long term, remediated Superfund NPL sites will provide long-term economic benefit as they are returned to communities for reuse. Approximately 600 Superfund NPL sites are currently in reuse, with more than 9,100 businesses operating on former Superfund sites generating over \$58.3 billion in sales and providing more than 200,000 jobs.

Annually since 2011, EPA has had new construction projects ready to begin work where funding was not available. This challenge has been an ongoing one for the program since the late 1990s. Additional resources provided in the near term would be used for shovel-ready new and ongoing remedial construction projects. EPA anticipates that, should it become available, funding for these sites would both accelerate and complete construction work while employing thousands of people from environmental remediation companies, including small businesses, across the United States.

Additionally, when several construction projects with significant annual expenditures at federally funded sites are in the construction phase, those construction projects are utilizing a significant proportion of the funds that could otherwise go to begin cleanup at projects at several smaller sites. Therefore, the number of newly funded construction projects at sites can be smaller in any particular year due to the significant cost of the active cleanups. For example, between FY 2017-2019, EPA started a number of construction projects that have long-term, multi-year funded cleanups that require \$10-15 million per year of ongoing remedial action site allowance funds.

This Administration has continued to make funding decisions to ensure the most efficient and effective protection of human health and the environment. Despite media reports that characterize this Administration's actions otherwise, this Administration has continued to make funding decisions to ensure the most efficient and effective protection of human health and the environment. EPA used this same process in FY 2019 and 2020 to inform remedial action project funding decisions. This process was set up in 1995, when EPA established the National Risk-Based Priority Panel. The Panel is made up of EPA career officials from Headquarters and all ten EPA Regions. The Panel meets at least on an annual basis to assess upcoming new construction projects using relative risk criteria to rank construction projects. After this annual process to allocate resources, EPA reviews available funding on a continuing basis throughout the fiscal year to prioritize appropriated funds for construction projects related to site specific conditions.

It is also important to recognize that the agency completed the necessary pre-construction work to have 35 different construction projects at 34 sites (one site

had more than one construction project) ready for funding consideration at the end of Fiscal Year 2019. Many of these projects previously received significant funding for remedial or removal actions already implemented at these sites. EPA's website has been updated with a fact sheet for each of the 34 sites to include information about the actions the Agency has taken and quantifying the funding that EPA previously provided at the site. These fact sheets show that to date, EPA has expended over \$750 million at the 34 sites that have further projects awaiting funding.

Not only is the Agency working to efficiently and effectively utilize Congressional appropriations for federally funded cleanups, EPA is holding responsible parties accountable to fund or carry out cleanup work. The Superfund Enforcement Program continues to maximize potentially responsible party (PRP) participation at every point in the cleanup process. By holding responsible parties accountable, the EPA helps preserve taxpayer funds for the cleanup of sites with no viable potentially responsible parties.

Through enforcement efforts, during the last three years, this Administration has obtained commitments from PRPs to carry out or fund \$3.043 billion in cleanup work. In FY 2019, the Superfund Enforcement Program secured commitments for \$570 million in new site cleanup work, \$283 million in reimbursement of the EPA's costs, and more than \$108 million in oversight billed, totaling \$961 million, an increase of over \$349 million from FY 2018. These commitments were integral in assisting with cleanup and redevelopment at 160 sites.

As described above, the Agency has renewed its focus on the Superfund Program over the past three years to prioritize both progress and completion of work. Contrary to inaccurate assertions made in press articles, the number of unfunded construction projects actually reflects the number of projects at sites that are advancing towards cleanup because pre-construction activities are complete, the remedy is designed, and the project is ready to begin construction. This directly supports the extensive efforts made during the Trump Administration to revitalize communities and promote economic growth, while ensuring the protection of human health and the environment.

Senator Markey:

91. According to reports, you have decided not to issue a protective drinking water standard for perchlorate, a chemical which has been found to cause neurological damage in utero and in infants and young children. The EPA's own flawed modeling, which underestimates the risk, shows that this decision will result in anticipated IQ losses in children: a level of 56 parts per billion is linked to a two-point average decrease in IQ. This decision not to regulate this chemical goes directly against the recommendation of the American Academy of Pediatrics

and it contravenes a 2018 court order, which requires a final standard for this dangerous chemical.

- a. Do you think there is any acceptable level of damage to children's brains from perchlorate?
- b. Did Nancy Beck have any input into or review the agency's potential actions with respect to the perchlorate, or the models or studies used to estimate their risk, including the question of whether any IQ-point loss is acceptable? If yes, please provide the dates and details of her involvement.
- c. Did you or any others at EPA discuss or receive input on the perchlorate decision from or on behalf of the Department of Defense (DOD), DOD contractors, or other industry representatives? If yes, who was the contact with, and what was the substance of the input?

EPA Response: On July 21, 2020, EPA published a final action regarding the regulation of perchlorate under the Safe Drinking Water Act (SDWA). A detailed explanation of EPA's final action is available in the *Federal Register* notice at <https://www.govinfo.gov/content/pkg/FR-2020-07-21/pdf/2020-13462.pdf> of the 54 conditions of use evaluated. EPA's evaluation accounts for a number of human health impacts from TCE's conditions of use, including fetal heart malformations. Upon the publication of the Notice of Availability of the risk evaluation, EPA will move to risk management action as required by TSCA. TSCA requires EPA to follow science standards and base decisions on the best available science and the final risk evaluation meets these important requirements. EPA has received the peer review report from the Scientific Advisory Committee on Chemicals panel of independent experts, and this was taken into consideration in the final risk evaluation for TCE.

- d. Did Nancy Beck review the TCE draft risk evaluation during the interagency review process? If yes, did she have any input on how the EPA decided to ignore fetal heart malformation as a key parameter for limiting TCE?

EPA Response: Interagency coordination is a mandatory step of the risk evaluation process (see 40 CFR 702.39). For this risk evaluation, as well as all others, EPA followed its normal interagency review process to receive input from its federal partners. In many cases, the Agency revises its draft documents based on this feedback. After reviewing the best available science, EPA selected a different health effect, immunosuppression, as the basis for determining unreasonable risk for the draft evaluation. Fetal cardiac malformations were not ignored in the draft Risk Evaluation, rather a different health endpoint was chosen as the best overall endpoint; however, the fetal cardiac health effects did inform the draft risk characterizations.

92. Some of your emails showed how you tried to discredit the work of National Climate Assessment researchers, including by amplifying a campaign to politicize and undermine the report's findings about the dangers of climate change.

- a. Do you agree that our global change research should include an assessment of high-end climate scenarios, so we know how to plan for and work to avoid the worst effects of climate change?

EPA Response: In collaboration with other federal agencies of the U.S. Global Change Research Program, EPA continues to evaluate scientifically rigorous scenarios and data products for future assessment reports, including the Fifth National Climate Assessment. The IPCC is in the process of adding several mid-range emission scenarios between the lower RCP4.5 and the higher RCP8.5 to their suite of modeling scenarios. EPA continues to believe that, in order to inform sound policy decisions, evaluating climate change risks under a range of modeling scenarios is appropriate.

- b. Can you commit to not interfering with or politicizing our federal global change research in any way?

EPA Response: EPA will always support robust and transparent scientific processes to inform our policy decisions and will continue to lend the expertise of Agency scientists to major global change assessment processes.

Please see accompanying document "Ambient Air Monitoring Status - COVID-19" for further background information.

Each monitoring site can have multiple monitors collecting data for a variety of parameters or pollutants.

The spreadsheet captures that information using individual columns for each pollutant that is suspended at each site (e.g., PM2.5 filter, Lead, Ozone, etc.).

If a pollutant monitor was suspended at the site, then a "1" is entered. If the pollutant monitor resumes operation, then the "1" is replaced with an "R".

For "Other Air Toxics", the monitor type (e.g., VOC, Carbonyls, Metals, or NATTS) is recorded instead of "1". Once these sites resume operations, an "R" is appended to the monitor type.

The start date is the date at which the site first suspended any pollutant operations.

The end date is not entered until all pollutant monitors at the site fully resume operations.

The data in this spreadsheet is current as of November 17, 2020.

Region	State	Site Name	Site Number	Issue Description	PM2.5 Filter	PM2.5 Cont.	PM10 Filter	PM10 Cont.	Ph	CSS	IMPROVE	O3	SO2	CO	Testes (describel)	Start Date	End Date
1	MA	Chicopee	25-013-0008	Access issue at an Air Force base	R	R			R							3/24/20	6/3/20
1	VT	Burlington	50-007-0012	Access issue to the state building					R							3/25/20	6/5/20
1	VT	Rutland	50-021-0002	PM FRMs only shut down- resumed 4/23/20	R	R	R									3/25/20	4/23/20
1	VT	Underhill	50-007-0007	PM FRMs only shut down (including NATTS)- resumed 4/23/20	R	R	R				R				R	3/25/20	4/23/20
1	MA	Springfield	25-013-0018	Site operator was quarantined- resumed 4/13/20	R	R						R	R	R		3/31/20	4/13/20
1	MA	Ware	25-015-0002	Site operator was quarantined- resumed 4/13/20		R						R	R	R		3/31/20	4/13/20
1	MA	Worcester	25-027-0023	Site operator was quarantined- resumed 4/13/20	R	R	R					R	R	R		3/31/20	4/13/20
1	NH	Peterborough	33-011-5001	UC Davis not shipping								R				4/7/20	4/16/20
1	NH	Londonberry	33-015-0018	UC Davis not shipping								R				4/7/20	4/16/20
1	ME	Mooschoon	23-029-1004	UC Davis not shipping								R				4/7/20	6/9/20
1	ME	Penobscot-Indian Island	23-019-1100	Site shutdown. Filters not changed- Resumed sampling on 5/20/20								R				4/12/20	5/20/20
2	NJ	Camden	34-007-0002	Resumed	R		R			R					VOC, Carbonyls: R	3/16/20	8/7/20
2	NJ	Newark	34-013-0003	Resumed	R		R		R	R					Carbonyls: R	3/16/20	8/3/20
2	NJ	Rutgers	34-023-0011	Resumed	R					R					VOC, Carbonyls: R	3/16/20	8/3/20
2	NJ	Chester	34-027-3001	Resumed	R					R					VOC, Carbonyls: R	3/16/20	8/3/20
2	NJ	Elizabeth Lab	34-039-0004	Resumed	R					R					VOC, Carbonyls: R	3/16/20	8/3/20
2	NY	Albany Co HD	36-001-0005	Resumed	R					R						3/16/20	8/3/20
2	NY	Bronx ISS2	36-005-0110	Resumed	R		R			R					NATTS, R	3/16/20	8/3/20
2	NY	Buffalo	36-029-0005	Never suspended						R						3/16/20	3/16/20
2	NY	Whiteface	36-031-0003	Never suspended						R						3/16/20	3/16/20
2	NY	Rochester Primary	36-055-1007	Never suspended						R						3/16/20	3/16/20
2	NY	New York - Division Street	36-061-0134	Suspended: Roof repairs began 7/17/2020	R		R			R						3/16/20	7/17/20
2	NY	Queens College	36-081-0124	Resumed	R		R			R					VOC, Carbonyls: R	3/16/20	8/3/20

2	NY	Pinnacle State Park	36-101-0003	Never suspended		R			3/16/20	3/16/20
2	PR	Adjuntas	72-001-0002	Resumed		R			3/16/20	8/1/20
2	PR	Arecibo	72-013-0001	Suspended			I		3/17/20	
2	PR	Arecibo	72-013-0002	Suspended			I		3/18/20	
2	PR	Guayama	72-057-0008	Resumed		R			3/16/20	8/1/20
2	PR	Fajardo	72-053-0003	Resumed		R			3/16/20	8/1/20
2	PR	Guaynabo	72-061-0005	Resumed		R			3/16/20	8/1/20
2	PR	Ponce	72-113-0004	Suspended		R		I	3/16/20	
2	PR	Caguas	72-025-0007	Resumed		R		R	3/16/20	8/1/20
2	PR	Bayamon Regional Jail	72-021-0010	Resumed		R		R	3/16/20	8/1/20
2	NJ	Brigantine (BRIGI)	34-001-0006	Resumed				R	3/24/20	6/30/20
2	VI	Virgin Islands (VIRI)	78-020-0001	Never suspended				R	3/24/20	3/24/20
3	VA	Wythe County	51-035-0001					R	3/17/20	3/31/20
3	VA	Winchester City	51-840-0002					R	3/17/20	3/31/20
3	VA	Roanoke City	51-770-0011				R		3/17/20	3/31/20
3	VA	Giles County	51-121-0009				R		3/17/20	3/31/20
3	VA	Stafford County	51-179-0001					R	3/17/20	3/31/20
3	VA	Henrico County	51-087-0014				R		NATTS: R	3/17/20 4/3/20
3	VA	Hopewell City	51-670-0010						UATM	
									VOCs	3/17/20 3/31/20
									carbonyls	
									metals: R	
3	VA	Norfolk City	51-210-0024							3/17/20 3/31/20
3	VA	Fairfax County	51-059-0030							3/17/20 3/31/20
3	VA	Hampton City/NASA Langley	51-650-0008	Unable to access site		I	I	I	I	4/8/20
3	DE	Newark	10-003-1012			R				3/5/20 7/1/20
3	DE	Bellefonte	10-003-1003			R				3/5/20 7/1/20
3	DE	Dover	10-001-0003			R				3/5/20 7/1/20
3	MD	Furley	24-510-0054	Resumed				R		3/17/20 4/24/20
3	DE	MLK	10-003-2004	Resumed		R		R		VOCs: R 4/6/20 7/10/20
3	WV	Fairmount	54-049-0006	Second Shut down						4/22/20
3	PA	ARENDTSVIL LE	42-001-0001	Resumed		I				VOC: Carbonyl: R 3/16/20 5/21/20
3	PA	HOUSTON	42-125-5200	Resumed						VOC: Carbonyl: R 3/16/20 5/21/20

3	PA LANCASTER	42-071-0007	Resumed	R	VOC, Carbonyl: R	3/16/20	5/21/20
3	PA NEW MILFORD	42-115-0215	Resumed		VOC, Carbonyl: R	3/16/20	5/21/20
3	PA TUNKHANNOCK	42-131-0010	Resumed		VOC, Carbonyl: R	3/16/20	5/21/20
3	PA UNIONTOWN	42-051-0524	Resumed		VOC, Carbonyl: R	3/16/20	5/21/20
3	PA BEAVER VALLEY	42-007-0007	Resumed		VOC: R	3/28/20	5/9/20
3	PA CHARLEROI	42-125-0005	Resumed	R	VOC: R	3/24/20	5/9/20
3	PA CHESTER	42-045-0002	Resumed	R	VOC: R	3/24/20	5/9/20
3	PA COLLEGEVILLE	42-091-0005	Resumed		VOC: R	3/28/20	9/12/20
3	PA ERIE	42-049-0003	Resumed		VOC: R	3/28/20	5/9/20
3	PA EVANSBURG	42-091-0006	Resumed		VOC: R	3/28/20	5/9/20
3	PA UNITED METHODIST				VOC: R	3/28/20	5/9/20
3	PA GREENSBURG	42-129-0008	Resumed		VOC: R	3/28/20	5/9/20
3	PA MARCUS HOOK	42-045-0109	Resumed		VOC: R	3/28/20	5/9/20
3	PA PRESQUE ISLE	42-049-0004	Resumed		VOC: R	3/28/20	5/9/20
3	PA READING AIRPORT	42-011-0011	Resumed	R	VOC: R	3/24/20	5/9/20
3	PA YORK	42-133-0008	Resumed		VOC: R	3/28/20	5/9/20
3	PA BEAVER FALLS	42-007-0014	Resumed	R		3/24/20	5/6/20
3	PA CARLISLE	42-041-0101	Resumed	R		3/24/20	5/6/20
3	PA FREEMANSBURG	42-095-0025	Resumed	R		3/24/20	5/6/20
3	PA HARRISBURG	42-043-0401	Resumed	R		3/24/20	5/6/20
3	PA LANCASTER DW	42-071-0012	Resumed	R		3/24/20	5/6/20
3	PA LEBANON	42-075-0100	Temp Closed	I		3/24/20	
3	PA CLARION	42-003-3007	Resumed	R		7/7/20	7/16/20
4	NC Gettysburg High School	37-119-0041	Safety - stopped filter samples	R		3/16/20	8/1/20
4	TN Lockland Elementary School	47-037-0023	knocked out by tornado; will take longer to repair due to covid	R		3/16/20	

4	FL	Lake City - Veterans Domicile	12-023-0002	No access; property owner closure to the public due to COVID-19	R	R	3/27/20	5/15/20
4	AL	Birmingham (BIRM)	01-073-0023			R	3/16/20	8/26/20
4	NC	Shining Rock (SHRO)	37-087-0035			R	3/17/20	6/30/20
4	FL	Chasabowitzka (CHAS)	12-017-9000			R	4/3/20	5/5/20
4	AL	Sipsey (SIPS)	01-079-0002			R	4/16/20	5/19/20
5	IL	CASTNET/NC ore Bondville/(BO NDI)	17-019-1001	University closed		R	R	R
5	IL	ALSHIP (12229 South Orchard)	17-031-0001	Access/Covid exposure	R			3/18/20 6/15/20
5	IL	Washington (3555 E. 114th Street)	17-031-0022	Access/Covid exposure	R			Carbonyle; R
5	IL	SWFP (330 E. Cheltenham, Chicago)	17-031-0032	Access/Covid exposure		R	3/18/20	6/15/20
5	IL	Mayfair (4850 West Wilson Avenue)	17-031-0052	Covid exposure	R			6/2/20 6/14/20
5	IL	Springfield (1745 N. Springfield)	17-031-0057	Access/Covid exposure	R	R	3/18/20	6/14/20
5	IL	ComEd (7801 S. Lawndale)	17-031-0076	Covid exposure	R	R	6/2/20	6/15/20
5	IL	Perez (1241 W. 19th Street)	17-031-0110	Access/Covid exposure		R	3/18/20	6/15/20
5	IL	Taft (Taft High School)	17-031-1003	Access/Covid exposure		R	3/18/20	6/15/20
5	IL	Lemont (729 Avenue Houston, Lemont)	17-031-1601	Covid exposure		R	6/2/20	6/15/20
5	IL	Summit Graves (6021 S. 74th Avenue)	17-031-3301	Access/Covid exposure	R		3/18/20	6/11/20
5	IL	Cicero (1820 S. 51st Street)	17-031-4002	Covid exposure	R	R	6/2/20	6/15/20

5	IL	Cicero Liberty (4946 W. 13th Street, Cicero)	17-031-0005	Access/Covid exposure	R		3/18/20	6/15/20
5	IL	Effingham	17-049-1001	School Lockdown		R	3/16/20	6/2/20
5	IL	Cary	17-111-0001	School Lockdown	R	R	3/16/20	4/22/20
5	IN	Jeffersonville/ Walnut street	18-019-0006	CSN Back on line		R	3/23/20	3/30/20
5	IN	Jasper Post Office	18-037-2001	CSN Back on line		R	3/23/20	3/30/20
5	IN	Sherandooh High School Mechanicsburg	18-065-0003	CSN Back on line		R	3/23/20	3/30/20
5	IN	East Chicago - Franklin School	18-089-0006	Inconscient Access	R	R	3/27/20	5/4/20
5	IN	Gary	18-089-0022	CSN Back on line		R	3/23/20	3/30/20
5	IN	Gary - 4th Ave	18-089-0032	Access		R	3/27/20	5/4/20
5	IN	Indianapolis Washington Park	18-097-0078	CSN Back on line		R	3/23/20	3/30/20
5	IN	Ingletfield - Scott School	18-163-0013	Access Regained		R	3/27/20	8/27/20
5	IN	Evansville Buena Vista Road	18-163-0021	CSN Back on line		R	3/23/20	3/30/20
5	OH	Lima	39-003-0009		R		3/23/20	6/2/20
5	OH	Gifford	39-009-0003		R		3/23/20	5/30/20
5	OH	Shadyside	39-013-0006		R	R	3/23/20	5/26/20
5	OH	Ohio Bell Middletown	39-017-0015		R	R	3/23/20	5/21/20
5	OH	Sacred heart Elementary	39-017-0016		R		3/23/20	5/21/20
5	OH	Amanda Elementary	39-017-0019		R	R	VOCs-R	3/23/20 5/27/20
5	OH	Yankee	39-017-0020		R	R	VOCs-R	3/23/20 5/27/20
5	OH	Made 1501 Dr. Middletown	39-017-0021	SO2 had intermittent communication issues.		R	4/1/20	5/18/20
5	OH	HPG, Yankee Rd.	39-017-0022		R		3/23/20	5/21/20
5	OH	Springfield Well	39-023-0001	Ozone monitor stopped polling unsure if communication issue or malfunction.		R	4/1/20	5/13/20
5	OH	Springfield Fine St1	39-023-0005		R		3/23/20	5/21/20

5	OH	Port Authority East Liverpool	39-029-0019		R		R		3/23/20	7/1/20
5	OH	East Liverpool WTP	39-029-0020			R	R		All metals- R	3/23/20 6/1/20
5	OH	Eastside Elementary East Liverpool	39-029-0023				R		All metals- R	3/23/20 6/10/20
5	OH	District 6	39-035-0034			R				3/23/20 4/24/20
5	OH	Cleveland St. Theo	39-035-0038			R	R		VOCs-R	3/23/20 6/8/20
5	OH	Cleveland Fire SH13	39-035-0045			R	R			3/23/20 5/24/20
5	OH	Ferro	39-035-0049				R			3/23/20 5/21/20
5	OH	G.T. Craig	39-035-0060			R	R			3/23/20 5/21/20
5	OH	Harvard Yard (Cleveland)	39-035-0065			R	R			3/16/20 5/24/20
5	OH	Cleveland near Road	39-035-0073			R				3/23/20 5/24/20
5	OH	Southerly WTP	39-035-0076				I			3/16/20
5	OH	Brookpark	39-035-1002			I	I		VOCs	3/23/20
5	OH	Fargrounds, Columbus	39-049-0034			R	R		VOCs-R	3/23/20 6/8/20
5	OH	Smoky Row	39-049-0038			R				3/23/20 5/21/20
5	OH	Maple Canyon	39-049-0081			R				3/23/20 6/18/20
5	OH	Delta Funtling Bearings	39-051-0001				R		All metals- R	3/23/20 6/2/20
5	OH	Carbidge	39-061-0014			I	I		VOCs	3/23/20
5	OH	Cincinnati Tail	39-061-0040			R	R		R	3/23/20 5/15/20
5	OH	Lower Price hil	39-061-0042			I		I		3/23/20
5	OH	Kibby, Cincinnati	39-061-0047						VOCs-R	3/23/20 5/27/20
5	OH	Cincinnati, Near Road	39-061-0048			R				3/23/20 4/20/20
5	OH	Hopedale	39-067-0005			R	R		VOCs-R	3/23/20 6/14/20
5	OH	Brilliant	39-081-0001			R	R			3/23/20 6/26/20
5	OH	Stuebenville	39-081-0017			R	R		R	3/24/20 7/20/20
5	OH	Mingo Junction	39-081-0021			R				3/23/20 7/22/19
5	OH	Painesville	39-085-0007			R				3/23/20 4/16/20
5	OH	Fairport Harbor Lake	39-085-0008			R				3/23/20 4/21/20

5	OH	ODOT Fronton	39-087-0012	R	R	3/23/20	5/19/20
5	OH	Lorain	39-093-0002	R	R	3/23/20	6/2/20
5	OH	Toledo, Erie	39-098-0024	R	R	3/23/20	5/24/20
5	OH	RAPS, Airport Hwy.	39-095-0026	R		3/23/20	5/24/20
5	OH	Eastside Pump SL	39-095-1003	R		3/23/20	5/24/20
5	OH	Youngstown Fire S7	39-099-0005	I	I	3/23/20	
5	OH	Headstart, Youngstown	39-099-0014	R		3/23/20	5/20/20
5	OH	Marion Havthorn	39-101-0003	R		All metals-R	3/23/20 6/2/20
5	OH	Marion NaCor Steel	39-101-0004	R		All metals-R	3/23/20 6/2/20
5	OH	Bellevue	39-103-0004	R		3/23/20	5/21/20
5	OH	Chippewa	39-113-0038	R		3/23/20	5/21/20
5	OH	Sinclair Community College		R		3/23/20	5/21/20
5	OH	Hackney	39-115-0004	SO2 modem or power is out. Can't confirm due to restriction on field operations.	R	4/1/20	4/21/20
5	OH	Ravenna	39-133-0002	I		3/23/20	
5	OH	Dayton National Trail High School	39-135-1001	R	R	3/23/20	5/22/20
5	OH	Portsmouth WTP	39-145-0013	R	R	3/23/20	5/18/20
5	OH	PCAB Portsmouth	39-145-0019	R		3/23/20	5/18/20
5	OH	Canton Fire St. 8	39-151-0017	I	I	3/23/20	
5	OH	Canton 420 Market	39-151-0020	R		3/23/20	5/20/20
5	OH	East HS	39-153-0017	R		3/23/20	5/21/20
5	OH	Alcon 5 Points	39-153-0023	R	R	3/23/20	5/21/20
5	OH	Warren WWTP	39-155-0006	I		3/23/20	
5	OH	Laird Eng Bldg	39-155-0014	R	R	3/23/20	5/21/20
5	OH	Washington Career	39-167-0008	R		All metals-R	3/23/20 6/4/20
5	WT	Green Day East	55-009-0005	Access	R	3/16/20	

5	WI	16th Street Health Center	55-079-0010	Safety/Virus Exposure	I	I	R	I	VOCs, Carbonyls, Metals	3/16/20	4/1/20
5	WI	BaySide	55-079-0099	Access							
6	OK	CASTNET/NC one Cherokee Nation (STILL)	40-001-9009	Tribe told staff to stop operations. Keeping met and data logger going but turning off continuous analyzers							
6	NM	Wheeler Park (WHPEI)	35-055-9000								
6	NM	San Pedro Parks (SAPEI)	35-039-9000								
6	NM	Bosque del Apache (BOAP)	35-053-9000								
6	OK	Wichita Mountains (WIMOH)	40-031-9000								
6	LA	Breton Island (BRIS)	22-071-9000								
6	OK	Southern Great Plains (SOGPI)	40-053-9000								
7	KS	JFK Center	20-209-0021								
7	MO	Mingo (MINGI)	29-207-0001								
8	CO	Canon City City Hall	08-043-0003	Access/ Contract Operator							
8	WY	Boulder Lake (BOLAI)	56-035-9001								
8	WY	Bridge (BRIDI)	56-035-9000								
8	MT	Fort Peck (FOPEI)	30-085-9000								
8	MT	Monture (MONTI)	30-077-9000								
8	MT	Gates of the Mountains (GAMOI)	30-049-9000								
8	MT	Medicine Lake (MELAI)	30-091-9000								
8	CO	Mount Zirkel (MOZII)	08-057-9000								
8	CO	White River (WHRII)	08-097-9000								

8	WY	North Absaroka (NOAB)	56-029-9002		R		3/19/20	3/19/20
9	CA	Los Angeles - North Main Street	06-037-1103		R		NATTS - R 3/22/20	8/4/20
9	CA	Rubidoux	06-065-8001		R		NATTS - R 3/22/20	8/4/20
9	CA	Lexington	06-073-1022	Staff unavailable			Metals, Carbonyls	3/10/20
9	CA	Donovan-Olay Mesa	06-073-1014	Staff unavailable			VOCs, Metals	3/16/20
9	CA	Sherman Elementary School	06-072-1026	Staff unavailable			Metals, Carbonyls, VOCs	3/10/20
9	CA	Point Reyes (PORE)	06-041-0002		R			3/16/20 3/16/20
9	CA	Agua Tibia (AGTI)	06-065-9000		R			3/19/20 3/19/20
9	AZ	Ike's Backbone (IKBA)	04-025-8104		I			3/19/20
9	CA	Lava Beds (LABE)	06-093-0005		R			3/19/20 6/10/20
9	CA	Bliss State Park (BLIS)	06-017-9000		R			3/20/20 3/20/20
9	AZ	Tonto (TONT)	04-007-0010		R			3/24/20 6/10/20
9	CA	Vacaville - Merchant St	06-095-3001	Site access issues	I			3/17/20
9	CA	Chico-East Avenue	06-007-0008		I		Metals, Carbonyls, VOCs	3/22/20
9	CA	Calexico-Ethel Street	06-025-0005		I		Metals, Carbonyls, VOCs	3/17/20
9	CA	Portola	06-063-1010		I		Metals, Carbonyls, VOCs	3/26/20
9	CA	Sacramento-1309 T Street	06-067-0010		I		Metals, Carbonyls, VOCs	3/18/20
9	CA	Modesto-14th Street	06-099-0005		I		Metals, Carbonyls, VOCs	3/20/20
9	CA	Visalia-Church	06-107-2002		I			3/17/20

Chemical Information				Environmental Exposures (General Population/Ecological Receptors)			Disposal Pathways			
Stage	CAS	Chemical Abbrev.	Chemical Name	Ambient Air (CAA HAP - NESHAAP)	Drinking Water (SDWA: MCL, CCL)	Ambient Water (CWA: AWCQ)	Ambient Waters - Aquatic Receptors (CWA: Aquatic Water Quality Criteria)	Emissions to Air (CAA-HAP - NESHAAP)	Underground Injection (RCRA - Part 191: 3001 or Characteristic Wastes 3004) [SDWA: Class II]	Landfills (RCRA - Part 191: 3001 or Characteristic Wastes 3004)
First 10	81-33-4	PV29	Pigment Violet 29 (Anthra[2,1,9-def,6,5,10-d,e,f]disquinoxaline-1,3,8,10,2H,9H)-tetrone							
First 10	25637-99-4; 3194-55-6; 3194-57-8	HBOD	Cyclic Aliphatic Bromide Cluster							
First 10	1-8P		1-Bromopropane	X (HAP)*	X (MCL)	X (AWQC)		X (HAP)* X (HAP)	X (RCRA 3004)	X (RCRA 3004)
First 10	79-01-6	TCE	Trichloroethylene	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
First 10	127-18-4	PERC	Perchloroethylene (Ethene, 1,1,2,2-tetrachloro)	X (HAP)	X (CCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
First 10	123-81-1	1,4D	1,4-Dioxane	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
First 10	75-09-2	DCM	Methylene Chloride	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
First 10	1332-21-4, + additional fiber types	Asb.	Asbestos	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
First 10	56-23-5	Carbon/Tet	Carbon Tetrachloride (Methane, Tetrachloro-)	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
First 10	872-59-4	NMP	N-Methylpyrrolidone		X (CCL)				X (RCRA 3004)	X (RCRA 3004)
Next 20	84-61-7	DCH	2-Pyrrolidone, 1-Methyl-							
Next 20	1222-05-5	HHC8	1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-Dicyclohexyl Phthalate							
Next 20	79-94-7	TBBPA	4,4'-(1,1-Methylethyldiene)bis[2,6-Hexamethylcyclopentyl]-2-Benzotriazinone							
Next 20	115-96-8	TCEP	Tris(2-chloroethyl) Phosphate							
Next 20	115-86-6	TBP	Triphenyl Phosphate							
Next 20	84-69-5	DBP	Diisobutyl Phthalate							
Next 20	85-44-9	PAD	Phthalic Anhydride							
Next 20	156-60-5	TDCE	trans-1,2-Dichloroethylene							
Next 20	95-50-1	oDCB	o-Dichlorobenzene							
Next 20	78-87-5	DEHP	Di-ethylhexyl Phthalate	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	117-81-7	EDCP	Di-ethylhexyl Phthalate	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	107-06-2	EDC	1,2-Dichloroethane	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	106-46-7	pDCB	p-Dichlorobenzene	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	79-00-5	TCA	1,1,2-Trichloroethane	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	84-74-2	DBP	Diisobutyl Phthalate	X (HAP)	X (MCL)	X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	85-46-2	BBP	Bis(4-benzyloxyphenyl) Phthalate							
Next 20	75-34-3	DCE	1,1-Dichloroethane	X (HAP)		X (AWQC)		X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	106-93-4	EDB	Ethylene Dichloride	X (HAP)	X (MCL)			X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	50-00-0	FDH	Formaldehyde	X (HAP)	X (CCL)			X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Next 20	106-99-0	Butadiene	1,3-Butadiene	X (HAP)	X (CCL)			X (HAP)	X (RCRA 3001)	X (RCRA 3001)
Manufacturer	28553-12-0;	DNP	Disononyl Phthalate (DNP)							
Manufacturer	68515-48-0;									
Manufacturer	26761-40-0;									
Manufacturer	68515-49-1	DDP	Diisodecyl Phthalate (DDP)							

* petition accepted for 1BP but there is no NESHAAP

Senator BARRASSO. Well, thank you so very much for your testimony.

Since we have members who are here in the room, and we have members who are watching from their offices and participating that way, the Ranking Member and I have agreed that to allow members a better sense of when they will be able to ask a question, that we are going to dispense with the early bird rule and go strictly by seniority on the Committee today, so just for members who are watching from their offices.

Let me start with the questions, Administrator Wheeler. I am going to applaud so much of work the EPA has done during your tenure, but you know I am still deeply troubled with the record of the EPA on the renewable fuel standard, especially in regard to small refineries.

The EPA's failure to challenge the standing claims of the biofuel producers in the Tenth Circuit to me is inexcusable. The EPA's failure to seek a rehearing on the recent Tenth Circuit ruling was inexplicable. Unless the EPA identifies ways to provide similar levels of relief to small refineries, the consequences of the decisions that have been made by the EPA are going to be devastating for communities in Wyoming and elsewhere.

Can I ask what steps, if any, are you taking to help small refineries obtain hardship relief in light of the Tenth Circuit's ruling, and will you ensure that the EPA gives any petitions for hardship relief in prior years prompt consideration?

Mr. WHEELER. First, to the last part of your question on request for waivers from previous years. When and as we receive any request for prior year waivers, we will be sending those straight to the Department of Energy for their review, according to our policies and procedures that we have outlined, and for the Department of Energy, that they then supply to us the information as far as whether or not there is an economic hardship or waiver.

As soon as we receive any request from any small refinery for prior years, we will report those over to DOE as soon as we get them. We have, and I have talked personally, with a number of small refiners all over the country, including I think every small refinery in Wyoming, and we are working with them to see what we can do to help them during this time.

This was a double hit to the program, not just with the Tenth Circuit decision, but also the decrease in vehicle miles traveled by Americans right now. We have extraordinary circumstances this year, and we are looking to see what relief we can provide everyone.

The ethanol industry is also hurting as well, the small refiners in particular, because of the Tenth Circuit decision and because of the amount of gasoline that is currently being sold and used is a particular hardship to refiners.

Senator BARRASSO. Will you ensure the EPA promptly reconsiders petitions which it wrongfully denied prior to the Sinclair decision?

Mr. WHEELER. Are you referring to the previous years?

Senator BARRASSO. Yes.

Mr. WHEELER. Yes, as soon as we get that information back from the Department of Energy. The first step in that process is for the

Department of Energy to take a look at the application and make determinations as far as whether or not there are economic hardships involved.

Senator BARRASSO. I will turn to another topic. Like EPA, the State of Wyoming issued temporary guidance to address challenges posed by the coronavirus pandemic. The EPA has provided important direction to States and to businesses during an unprecedented time of social distancing.

Can you talk a little bit about the objectives of the Enforcement and Compliance Program guidance?

Mr. WHEELER. Absolutely. Not only Wyoming, but every single State represented by members of this Committee except for Delaware has issued enforcement discretion policies since March, every single State on this Committee, except for Delaware. This is normal; in our enforcement discretion, the policy that we issued is much more mild than any that we have done in the past.

For example, during the Obama administration with Hurricane Sandy, they actually allowed facilities to increase their emissions without checking with the EPA first and the States impacted. COVID-19 impacts all 50 States.

Nobody is allowed to increase their emissions. Zero. Nobody is allowed to increase their emissions under our enforcement discretion. It only refers to routine monitoring and routine bookkeeping reports that they have to file with the agency on a regular basis.

Senator BARRASSO. I want to talk about carbon capture, and utilization and sequestration. It came up yesterday in our discussions with the President of the United States. You know I am a strong supporter of this.

Earlier this year, the EPA started a rulemaking to give Wyoming the authority to issue permits on carbon dioxide when it is injected underground.

Wyoming has the expertise to issue these permits. The Wyoming Integrated Test Center for Carbon Utilization is located next to Basin Electric's Dry Fork Station outside of Gillette. They tell us that the EPA's proposal would provide much needed regulatory certainty to Wyoming for the carbon management projects, and there is bipartisan support on this Committee for a carbon capture utilization and sequestration.

Will you commit to prioritizing this rulemaking and other actions that support the development of carbon capture projects?

Mr. WHEELER. Yes, and on April 1st, we proposed to grant Wyoming the permitting primacy for the Class 6 wells, which are used to sequester carbon dioxide. EPA supports Wyoming's leadership in protecting their natural resources and environment, and we encourage other States, actually, to follow their example to implement and enforce this important program under the Safe Drinking Water Act.

Senator BARRASSO. Thank you.

Senator Carper.

Senator CARPER. Mr. Chairman, colleagues, Delaware is right in the middle of a lot of busy corridors in the Northeast. A lot of people live in the Northeast. There is a lot of traffic in the Northeast, I-95, 495, 295, and a lot of it comes right through my State.

Over 80 percent of the pollution in my State, the air pollution, particularly in northern Delaware, comes from sources outside of our State, generated by sources outside of our State.

We have the misfortune of being downwind from a lot of the pollution that comes to Delaware. It keeps us out of compliance with some of the air pollution and clean air requirements that others are able to meet because they live in places like Wyoming and Oklahoma, where they don't have all those millions of cars and trucks and vans coming through their States every month.

There also happen to be a couple of coal fired plants; three in Pennsylvania, I think, one in West Virginia, that spew pollution into the air. Guess where it blows? It blows into my State, and it helps keep us out of compliance with the Clean Air requirements.

We have gone to court. We have asked the courts to say, basically, to these four polluting plants, you cannot turn off your pollution prevention, your pollution controls. The courts have basically ruled and said—D.C. Circuit Court of Appeals ruled this week and said they have got to keep their pollution control equipment operating, so that States like mine don't drown in pollution from other places.

Now, EPA can appeal that decision if they choose to, and Administrator Wheeler, I just want to ask you not to appeal that decision. The Circuit Court has appealed.

If there is ever a true example of the golden rule, treating other people the way you want to be treated, I think this is it, and I would like to have your assurances that you are not going to appeal the decision of the D.C. Circuit Court of Appeals.

Mr. WHEELER. I have actually not been briefed on the decision yet this week. I am supposed to have a briefing, I believe, later this afternoon, so I want to reserve judgment until my attorney is at the office and the Office of General Counsel.

Senator CARPER. Well, in that case, we look forward to hearing from you further. Thank you.

Mr. Wheeler, early research has shown that people exposed to more air pollution may have greater COVID-19 risk, just like we saw with the SARS coronavirus. It is also crystal clear that COVID-19 is having a far more serious impact on lower income and minority communities, which also often experience more air and water pollution.

While EPA has used funding Congress provided in the CARES Act to study disinfectants and whether COVID-19 can be detected in wastewater, it is clear that there is much to be learned about this disease and its impact on Americans.

My first question, Mr. Wheeler, is would you commit to re-allocate unused EPA funds to study whether exposure to air pollution causes people with COVID-19 to have worse outcomes or more difficult recoveries, or to be more susceptible to other diseases once they have recovered? Could you commit to doing that please?

Mr. WHEELER. We are looking at those research areas. A lot of other people are researching that as of now.

You have the Harvard study that you mentioned, although the Harvard study has a number of issues and problems that Senator Barrasso mentioned. The other study in your staff report that you issued yesterday evening or early this morning—

Senator CARPER. I don't have much time. I am sorry, we have 5 minutes, we have votes coming up in 30 minutes, so I will ask you to answer my question for the record.

Mr. Chairman, I also want to ask unanimous consent to add all the studies, some of which, most of which actually have been peer reviewed that my staff report referenced in for the record, if I could ask that unanimous consent, please.

Senator BARRASSO. Without objection.

[The Web address and referenced information follow:]

https://projects.iq.harvard.edu/covid-pm?gsBNFDNDN=undefined&utm_campaign=wp_the_energy_202&utm_medium=email&utm_source=newsletter&wpisrc=nl_energy202

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Links between air pollution and COVID-19 in England

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Revision version v04

Main revisions: We increased the spatial resolution of our analysis by assessing the effects of several air pollutants on COVID-19 mortality and infectivity at the subregional scale. We modelled the effect of individual-level exposure on COVID-19 infectivity using data from the UK Biobank, after adjusting for multiple confounding factors. We examined sources of air pollutants linked to increased COVID-19 deaths, based on fossil fuel consumption data.

Running title: Air Pollution and COVID-19 in England

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ABSTRACT

In December 2019, a novel disease, coronavirus disease 19 (COVID-19), emerged in Wuhan, People's Republic of China. COVID-19 is caused by a novel coronavirus (SARS-CoV-2) presumed to have jumped species from another mammal to humans. This virus has caused a rapidly spreading global pandemic. To date, thousands of cases of COVID-19 have been reported in England, and over 25,000 patients have died. While progress has been achieved in managing this disease, the factors in addition to age that affect the severity and mortality of COVID-19 have not been clearly identified. Recent studies of COVID-19 in several countries identified links between air pollution and death rates. Here, we explored potential links between major air pollutants related to fossil fuels and SARS-CoV-2 mortality in England. We compared current SARS-CoV-2 cases and deaths recorded in public databases to both regional and subregional air pollution data monitored at multiple sites across England. We show that the levels of multiple markers of poor air quality, including nitrogen oxides and sulphur dioxide, are associated with increased numbers of COVID-19-related deaths across England, after adjusting for population density. We expanded our analysis using individual-level data from the UK Biobank and showed that particulate matter contributes to increased infectivity. We also analysed the relative contributions of individual fossil fuel sources on key air pollutant levels. The levels of some air pollutants are linked to COVID-19 cases and adverse outcomes. This study provides a useful framework to guide health policies in countries affected by this pandemic.

Keywords: SARS-CoV-2, COVID-19, air pollution, nitrogen oxides, ozone, PM_{2.5}, PM₁₀, SO₂, mortality.

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ABBREVIATIONS

AIC	Akaike Information Criterion
AQ	Air quality
BEIS	Business, Energy and Industrial Strategy
CI	Confidence intervals
CoV	Coronavirus
COVID-19	Coronavirus disease 19
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
GHGI	Greenhouse Gas Inventory
HGV	Heavy goods vehicle
LGV	Light goods vehicle
MPRN	Meter point reference numbers
NAEI	National Atmospheric Emissions Inventory
NHS	National Health Service
PCA	Principal component analysis
PM	Particulate matter
PM _{2.5}	Particulate matter with an aerodynamic diameter < 2.5 µm
PM ₁₀	Particulate matter with an aerodynamic diameter < 10.0 µm
PHE	Public Health England
SARS	Severe acute respiratory syndrome
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2

INTRODUCTION

In December 2019, a high number of pneumonia cases with an unknown aetiology were detected in Wuhan, China. A molecular analysis of samples from affected patients revealed that their symptoms were caused by an infection with a novel coronavirus, later named severe acute respiratory syndrome (SARS) coronavirus (CoV) 2 (SARS-CoV-2), the pathogenic agent of coronavirus disease 19 (COVID-19) ¹. Coronaviruses are a genus of enveloped, non-segmented, positive-sense RNA viruses belonging to the family Coronaviridae and classified within the Nidovirales order ². Historically, illnesses caused by coronaviruses have ranged in severity, with some, including human coronaviruses-229E and -OC43, causing common cold symptoms, but SARS-CoV and Middle East respiratory syndrome coronavirus have initiated outbreaks of life-threatening pneumonia ². While the initial symptoms of COVID-19 include fever with or without respiratory syndrome, a crescendo of pulmonary abnormalities may subsequently develop in patients ³. According to recent studies, most patients present with only a mild illness, but approximately 25% of hospital-admitted patients require intensive care because of viral pneumonia with respiratory complications ⁴.

While extensive research into the pathogenesis of COVID-19 suggests that the severe disease likely stems from an excessive inflammatory response ⁵, the exact predisposing factors contributing to an increased clinical severity and death in patients remain unclear. Individuals over the age of 60 years or with underlying health conditions, including cardiovascular and chronic respiratory diseases, diabetes, and cancer, are at the highest risk of a severe disease and death ⁶. Long-term exposure to air pollutants has been shown to be a risk factor mediating the pathogenesis of these health conditions ⁷. In fact, prolonged exposure to common road transport pollutants, including nitrogen oxides, sulphur dioxide and ground-level ozone, significantly exacerbates cardiovascular morbidity, diabetes, airway oxidative stress and asthma ^{8,9}. These pollutants also cause a persistent inflammatory response and increase the risk of infection with viruses that target the respiratory tract ¹⁰⁻¹². In addition, airborne particulate matter (PM) was recently shown to increase the viability of SARS-CoV-2, suggesting direct microbial pathogenic transmission through the air and increased opportunity for infection in highly polluted areas ¹³. The geographical patterns of COVID-19 transmission and mortality among countries, and even among regions of single countries, closely align with local levels of air pollutants ¹¹. For example, increased contagiousness and COVID-19-related mortality in northern Italian regions, including Lombardia, Veneto and Emilia Romagna, have been correlated with high levels of air pollutants in these regions ¹¹.

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Here, we explored the relationship between air pollution and COVID-19 using an approach that combines both population- and individual-level data. We first investigated potential links between regional and subregional variations in air pollution and COVID-19-related deaths and cases in England by employing coarse and fine resolution methods. Next, we addressed the associations between several air pollutants and the risk of COVID-19 infection at the individual scale by analysing UK Biobank data obtained from a cohort of 1450 subjects. Finally, we modelled the relationship between several fossil-fuel burning sources and annualised daily measurements for multiple air pollutants to identify the major sources of air pollutants contributing to increased deaths in England.

METHODS

Data sources for COVID-19 deaths and cases

The number of patients infected with SARS-CoV-2 in England was obtained from Public Health England (PHE) and analysed according to the following statistical regions: London, Midlands, Northwest, Northeast and Yorkshire, Southeast, East, and Southwest England. Region-level data on the cumulative number of SARS-CoV-2-related deaths in England was retrieved from the National Health Service (NHS) (Table 1). This source provides one of the most comprehensive region-specific records of COVID-19-related deaths in England. The daily death summary included the number of deaths of patients who died in hospitals in England and had tested positive for SARS-CoV-2 at the time of death. While this online repository is updated daily, figures are subject to change due to a *post-mortem* confirmation of the diagnosis. Local authority-level data on the cumulative number of COVID-19 deaths in England was provided by the Office for National Statistics (ONS) (Table 1). This repository includes deaths of patients who died in care homes or other places outside hospitals. All deaths are recorded as the date of death rather than the day on which the death was announced. The cumulative number of local authority COVID-19 cases was provided by PHE (Table 1). Local authority-level data included the numbers of deaths and cases in England up to and including the 10th of April, approximately two weeks after the UK was placed into lockdown.

Data sources for air pollution levels

Air pollution data for 2018 were obtained from two sources. For the initial region-level analysis, we collected annual aggregated air quality (AQ) values determined by the European Environmental Agency based on direct observations obtained from multiple monitoring stations located across England. Due to incomplete or obsolete observations for several pollutants, we restricted our analysis to individual pollution indices for three major air pollutants, namely, nitrogen dioxide, nitrogen oxide and ozone, across the prespecified regions (Figure 2). Nitrogen dioxide, nitrogen oxide and ozone AQ values are reported in $\mu\text{g}/\text{m}^3$ and represent the annual average of daily measurements for each air pollutant from 2018 to 2019 in each specified region. The identification of each monitoring station was matched to each available city by accessing the Department for Environment, Food and Rural Affairs (DEFRA) website (Figure 1). This website contains a resource called the DEFRA's

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Air Quality Spatial Object Register, which allows users to view and retrieve information on the air quality-related spatial and non-spatial data objects from the UK's Air Quality e-Reporting data holdings. The annual average values of daily measurements for each pollutant in each monitoring area were analysed to determine the effects of toxin exposure on the number of SARS-CoV-2 cases and deaths across England (Figure 1).

For the analysis at the level of local authorities, we used the Pollution Climate Mapping data from the UK Air Information Resources (Table 1). This repository contains information from hundreds of air quality stations located across England for multiple pollutant molecules (ozone, nitrogen oxides, PM_{2.5}, PM₁₀, and sulphur dioxide). All data represent annual average values of daily measurements for 2018 and are reported in $\mu\text{g}/\text{m}^3$, except for ozone, whose metric is the number of days on which the daily max 8-hr concentration is greater than 120 $\mu\text{g}/\text{m}^3$. A detailed quality report regarding this data is available at the following website: https://uk-air.defra.gov.uk/assets/documents/reports/cat09/1903201606_AQ0650_2017_MAAQ_technical_report.pdf. We obtained the longitude and latitude of each local authority using OpenCage Geocoder (<https://opencagedata.com/>). The air pollutant levels for each authority was approximated by averaging 10 values nearest the centre of authority. This area covers approximately 12 km². Detailed descriptions of the methodology and analysis workflow are available in our GitHub repository. For the UK Biobank data, we matched the location coordinate each participant reported to their nearest modelled value. The level of each pollutant was measured less than 2 km away from the self-reported address.

Subnational fossil fuel consumption data

Subnational fossil fuel consumption statistics were derived from the Department for Business, Energy and Industrial Strategy (BEIS) online data repository, which represents the most authoritative and up-to-date source of fossil fuel emissions in the UK. Local authority-level fossil fuel consumption estimates are produced as part of the National Atmospheric Emissions Inventory (NAEI) work programme on fuel consumption from road transport, manufacturing industry and other sources. Fuel consumption data from road transport is determined using a bottom-up approach that combines fleet-weighted fuel consumption factors (in g of fuel/km) for each main vehicle type (bus, cars, motorcycles, light-goods vehicles (LGV) and heavy-goods vehicles (HGV)) with traffic activity data provided by the Department for Transport (DfT). Estimates of road transport consumption are based on five

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vehicle types (buses, cars, motorcycles, HGV and LGV) and two fuel types (petrol and diesel). Road transport consumption is further categorised according to road class (motorways, A-roads and minor roads) to account for road-type variations in traffic volumes across the country.

Residual fuel consumption by the consuming sector was calculated by Ricardo Energy & Environment using the NAEI distribution maps and energy consumption estimates for point sources at known locations (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833214/UK_sub-national_residual_fuel_consumption_for_2005-2017_Estimates_of_non-gas_non-electricity_and_non-road_transport_energy.pdf). Residual fuels are defined as non-gas, non-electric and non-road transport fuels not used for the generation of electricity or road transport. This dataset is derived from the results of the NAEI and Greenhouse Gas Inventory (GHGI) survey conducted by Ricardo Energy & Environment on behalf of BEIS and excludes fuel used in aviation, shipping and power stations. Sources of fuel for this category included petroleum, coal, bioenergy and waste and the sectors considered included public administration, agriculture, industry, commercial, domestic and rail. Data for subnational fuel consumption statistics is reported in tonnes of oil equivalent (ToE), which is a unit of energy defined as the amount of energy released by burning one tonne of crude oil.

Annualised and weather-corrected gas consumption data were obtained from Xoserve, which generates annualised consumption estimates for all meter point reference numbers (MPRN) or gas meters on behalf of BEIS. The classification of domestic and non-domestic (commercial and industrial) is based on the gas industry standard cut-off point of 73,200 kWh. The weather correction factor used by Xoserve accounts for variations in regional temperature, domestic use and wind speed, enabling comparisons of gas use over time while controlling for changes in weather. Average domestic and industrial and commercial consumption are reported as sales per meter in kilowatt hours (kWh). Local authority-level gas statistics were obtained based on the aggregation of MPRN readings throughout England, generated as part of BEIS's annual meter point gas data exercise.

UK Biobank data sources

We used data from the UK Biobank under application #60124. Details regarding the geographical regions, recruitment processes, and other characteristics have been previously

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described¹⁴, and are found on ukbiobank.co.uk. The UK Biobank has received ethical approval from the North West – Haydock Research Ethics Committee, 11/NW/0382 to gather data from participants. A detailed list of the variables analysed in the present study is presented in Supplementary Table 1. Notably, we defined hypertension using the criteria of a diastolic blood pressure ≥ 90 mmHg OR systolic blood pressure ≥ 140 mmHg.

Regional heatmaps

Heatmap legends were generated using GraphPad Prism 8 (www.graphpad.com), and regions are labelled with the mapped colour values.

Statistical analysis

In our regional exploratory analysis, we fitted generalised linear models to our data using COVID-19 deaths and cases as the outcomes and nitrogen oxide, nitrogen dioxide and ozone as the exposures of interest, adding the corresponding population density values as a confounding variable. Population density (person/km²) data correspond to subnational mid-year population estimates of the resident population in England for 2018 and excludes visitors or short-term immigrants (< 12 months). We modelled both the number of cases and deaths using negative binomial regression analyses since the response variables are overdispersed count data. We used the same model type for our subregional analysis, adding mean annual earnings and median age as confounding factors.

For the UK Biobank models, we fitted a binomial regression model because the response variable, COVID-positive or -negative, is defined as either 0 or 1.

For the analysis of fossil fuel consumption data, we employed multiple single pollutant models in which the dependent variables were the annual mean values of daily measurements of 4 air pollutants (nitrogen dioxide, nitrogen oxides, sulphur dioxide and ozone), and the independent variables included 21 sources of emissions from road transport, 9 from commercial and industrial sites and 2 from gas consumption. As these variables represent distinct groups, we computed the principal components of each group to explore the potential contribution of each group to the increased concentration of individual air pollutants as previously described^{15,16}. We used an iterative variable selection procedure combining unsupervised stepwise forward and stepwise backward regression analyses to further determine the individual contribution of each pollution source. Stepwise regression is commonly used in air pollution studies¹⁷ and was therefore used to select the most suitable

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predictor or combination of predictors within each polluting category. Generalized linear models of the gamma family were utilized for positively skewed, non-negative continuous response variables (nitrogen dioxide, nitrogen oxide and sulphur dioxide) using the log link function. A generalized linear model of the Gaussian family was applied to ozone data. Methods for assessing the fit of the model included residual analyses, diagnostic tests, and information criterion fit statistics. The goodness of fit of each regression model was determined using the log-likelihood and Akaike Information Criterion (AIC) statistics. For all models, we calculated the odds or risk ratios and their 95% confidence intervals to quantify the effects of the independent variables on the response variables. The models were built using the MASS package (www.stats.ox.ac.uk/pub/MASS4/) in R. The comparison tables were generated using the Stargazer package¹⁸. The analysis source code, detailed quality checks as well as all Supplementary material is available in GitHub (<https://github.com/M1gus/AirPollutionCOVID19>). The analysis notebook is available on the following link: <https://m1gus.github.io/AirPollutionCOVID19/>. Statistical significance was defined as $p \leq 0.05$.

RESULTS

A link between regional nitrogen oxide and ozone levels and COVID-19 in England

We analysed the associations between cumulative numbers of COVID-19 cases and deaths with the concentrations of three major air pollutants recorded between 2018 and 2019, when no COVID-19 cases were reported. Due to differences in data availability for each air pollutant, we only included annual mean values of daily measurements, which was the most consistent aggregation type reported for all air pollutants described in this analysis. We started by analysing publicly available data from seven regions in England (Table 1), where a minimum of 2,000 SARS-CoV-2 infections and 200 deaths were reported by PHE from February 1 to April 8, 2020, approximately two weeks after the UK was placed into lockdown (Figure 1).

The spatial pattern of COVID-19 deaths matched the geographical distribution of COVID-19-related cases, with the largest numbers of COVID-19 deaths occurring in London and in the Midlands (Figure 2). According to previous studies, those two areas present the highest annual average concentration ($\mu\text{g}/\text{m}^3$) of nitrogen oxides¹⁹. In addition, ground-level ozone concentrations have been previously shown to vary significantly with latitude and altitude, depending on the concentration of ozone in the free troposphere, long-range transport and emission of its precursor²⁰. Therefore, we sought to determine if spatial variations in the levels of nitrogen oxides, in particular nitrogen dioxide (NO_2) and nitrogen oxide (NO), as well as ground-level ozone concentrations in England are associated with increased numbers of COVID-19 infections and mortality. We applied a negative binomial regression model to estimate the association between each air pollutant with the cumulative number of both COVID-19 cases and deaths at the regional level (Supplementary Tables 2 and 3). The model was chosen based on the data type (count data) and log likelihood and AIC scores²¹. Population density, a confounding factor, was added to this model as an independent variable to account for differences in the number of inhabitants across regions. The levels of nitrogen oxide and nitrogen dioxide are significant predictors of COVID-19 cases ($p < 0.05$), independent of the population density (Supplementary Table 2). We next applied a similar method to assess the association with the number of COVID-19 deaths (Supplementary Table 3). Ozone, nitrogen oxide and nitrogen dioxide levels are significantly associated with COVID-19 deaths, together with the population density.

Taken together, the negative binomial regression models of both COVID-19 cases and deaths (Supplementary Tables 2 and 3) show that nitrogen dioxide, nitrogen oxide and ozone levels

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are significant predictors of COVID-19-related death, after accounting for the population density. This study provides the first evidence that SARS-CoV-2 cases and deaths are associated with regional variations in air pollution across England.

Sulphur dioxide is a main contributor to increased numbers of COVID-19 deaths and cases at the subregional level

We next sought to increase both the resolution and accuracy of our analysis. We gathered data on COVID-related cases and deaths from all the local authorities in England and expanded the number of the pollutant species ($n=6$). We also retrieved the longitude and latitude for each local authority. The levels of ozone, nitrogen oxide, nitrogen dioxide, PM with aerodynamic diameters of 2.5 and 10 μm ($\text{PM}_{2.5}$ and PM_{10} , respectively), and sulphur dioxide are reported as averages of the 10 values measured nearest the centre of each local authority in England. Local authority-level population density, mean annual earnings and age in 2018 were included as potential confounding variables (Figure 1). We calculated the estimated regression coefficients of each variable and their respective mortality and infectivity rate ratios (Figure 3 and Supplementary Tables 4 and 5) relative to the different air pollutants mentioned. Higher nitrogen or sulphur dioxide levels predict an increase in COVID-19 deaths and cases. The levels of sulphur dioxide have a mortality rate ratio of 1.172 [95% confidence interval (CI): 1.005-1.369] and infectivity rate ratio of 1.316 [95% CI: 1.141 - 1.521], indicating that a 1 $\mu\text{g}/\text{m}^3$ increase in the sulphur dioxide concentration will lead to 17.2% more deaths and 31.6% more cases. Both the levels of nitrogen oxides and dioxide show mortality and infectivity rate ratios of approximately 1.03 (Figure 3). The incidence rate ratios of cases and deaths for ozone levels are less than 1, indicating that higher ozone levels lead to lower numbers of deaths and cases. $\text{PM}_{2.5}$ and PM_{10} are negatively associated with the number of cases, and they are not significant predictors of the number of COVID-19-related deaths.

Levels of PM pollutants and nitrogen oxides are associated with an increase in SARS-CoV2 infections in UK Biobank participants living in England

We next used information from the UK Biobank to further assess whether people exposed to increased pollution levels are more likely to contract SARS-CoV-2 at the individual scale. This resource contains data from more than half a million UK volunteers recorded across multiple years. As of the writing of this paper, the UK Biobank dataset contains COVID-19 tests for 1,450 participants, of whom 669 were diagnosed as positive for COVID-19. The

location of each subject included in the analysis is shown in Figure 4A. Compared to the local authority case model, the UK Biobank analysis provides a higher resolution air pollution estimate (less than 2 km away from their self-reported address) and includes potentially asymptomatic cases.

In our model, we accounted for a list of confounding variables (Supplementary Table 1), which we selected based on a previous study²². Our model identified PM_{2.5} and PM₁₀ as significant predictors of increased SARS-CoV-2 infectivity (Figure 4B). The odds ratios are 1.120 [CI: 1.036 - 1.211] and 1.074 [CI: 1.017 - 1.136] for PM_{2.5} and PM₁₀, respectively. While PM does not predict the numbers of deaths and cases at a subregional level, these pollutants are significant predictors of infectivity at an individual level. Similar to the subregional models (Figure 3), levels of nitrogen oxides and dioxide were predictors of increased infectivity with a lower impact than PMs, with an odds ratio of approximately 1.03 (Figure 4B). Conversely, sulphur dioxide and ozone levels are not significant predictors of infectivity at the individual level, although they are predictors of deaths and cases at the subregional level (Figures 3 and 4B).

We observed an association between current smokers and a lower likelihood of COVID-19 positivity than previous and non-smokers. However, according to our model, population density and predisposing health factors, such as age, sex, diabetes and a previous history of cancer and lung problems, are not predictors of the probability of being infected (Supplementary Table 6).

Fossil fuel emission levels are linked to pollutants that contribute to increased numbers of COVID-19 deaths

We next collected national emission totals from DEFRA to identify the sources of air pollution associated with COVID-19. While no record for ozone and nitrogen dioxide emissions was identified, road transport accounted for more than 30% of nitrogen oxide emissions from fuel combustion in the UK between 1993 and 2018, while manufacturing and energy industries accounted for approximately 16% and 25%, respectively (Supplementary Table 7). For sulphur dioxide, energy production and transformation emerged as the greatest pollution sources in 2018, accounting for 30% of overall emissions (Supplementary Table 8). We mapped fuel consumption by sector and fuel type in England against air quality values for nitrogen dioxide, nitrogen oxides, sulphur dioxide and ozone to assess individual contributions of fossil fuel consumption sources on air pollution levels. First, we calculated the principal components of each fossil fuel category (road transport, residual fuels and gas

consumption) on pollutant levels (Supplementary Table 9). We then employed a Gaussian generalised linear model to characterise the effect of the first two principal components of each category on pollutant levels, after adding population density as a confounding variable. These models indicated that high levels of fossil fuel consumption from on-road vehicles, residual fuels and gas consumption significantly predicted increased nitrogen dioxide, nitrogen oxides, ozone and sulphur dioxide levels (Supplementary Table 9). Based on these results, increases in the levels of each group are associated with increased levels of air pollutants.

We employed an iterative stepwise regression approach that aims to select the most suitable predictors of air pollution to elucidate the effects of individual fossil-fuel burning sources within each category (Supplementary Tables 10-13). We observed significant positive associations between annual average amounts of fuels consumed by A-road buses and nitrogen dioxide, nitrogen oxides and sulphur dioxide (Supplementary Tables 10-13). Contributions from residual fuel types (petroleum, coal, manufactured solid fuels and bioenergy and waste) were disaggregated by sector categories to assess the effects of the industrial, commercial and agricultural sector on air pollution levels. Among residual fuels, petroleum consumed by commercial non-road machinery shows one of the highest positive associations with increased levels of nitrogen oxides (odds ratio = 1.310, 95% CI: 1.092, 1.587), nitrogen dioxide (odds ratio = 1.200, 95% CI: 1.026, 1.414) and ozone (odds ratio = 8.503, 95% CI: 2.029, 35.626), while petroleum consumed by off-road agriculture equipment is negatively associated with the levels of both nitrogen dioxide and nitrogen oxides (Figure 5B-C). In addition, petroleum used for rail transport is a significant contributor to both sulphur dioxide (odds ratio = 1.03, 95% CI: 1.009, 1.051) and nitrogen dioxide (odds ratio = 1.018, 95% CI: 1.000, 1.037) ground-level concentrations (Figure 5A-B), but not ozone levels, where an inverse relationship is identified (Figure 5D). Additionally, domestic consumption of manufactured fossil fuels emerges as one of the strongest predictors of the levels of nitrogen oxides (odds ratio = 1.266, 95% CI: 1.135, 1.416), nitrogen dioxide (odds ratio = 1.210, 95% CI: 1.094, 1.340) and sulphur dioxide (odds ratio = 1.350, 95% CI: 1.212, 1.508), but not ozone levels. Finally, we investigated if weather-corrected levels of domestic and non-domestic gas consumption predict air quality values in England. Potentially toxic ambient concentrations of nitrogen oxides are generated from gas combustion, particularly as a result of indoor household activities²³. After accounting for variations in population density, we observed positive associations between domestic gas consumption and both nitrogen oxides and dioxide levels in England (Supplementary Tables 10 and 11).

DISCUSSION

Here, we identified associations between air pollution and COVID-19 deaths and cases in England, expanding on previous evidence linking high mortality rates in Europe with increased toxic exposure to air pollutants^{11,24}. Air pollution exposure and health impact estimates have been suggested to mainly depend on the resolution at which they are evaluated²⁵. Therefore, we first calculated the effects of air pollution on COVID-19 mortality and spread using regional, coarse resolution data, and then high-resolution, individual-level observations obtained from the UK Biobank. By employing finer resolution grids, we also show the relative contributions of individual fossil-fuel burning sources to ground-level measurements of air pollutants.

According to our initial findings, regional variations in nitrogen oxide and ozone concentrations in England predict the numbers of COVID-19 cases and deaths, independent of the population density. However, overall uncertainties for modelled exposure estimates at the regional scale²⁵ led us to achieve increased spatial resolution. Using highly granular, local authority-level measurements, we show an association between a 1 $\mu\text{g}/\text{m}^3$ increase in sulphur dioxide and nitrogen oxide levels with a 17% and approximately 2% increase in COVID-19 mortality, respectively. Notably, these findings are consistent with studies conducted during the previous SARS outbreak, where long-term exposure to air pollutants predicted adverse outcomes in patients infected with SARS in China²⁶. Although nitrogen oxides are key ozone precursors, the relationship between these gases and ozone is nonlinear in ozone chemistry²⁷. Therefore, the negative associations between ozone levels and COVID-19 infection and mortality may be attributed to reduced nitrogen oxide conversion to ozone in urban areas, a phenomenon previously reported for areas with heavy traffic^{20,28}. In addition, given the highly reactive nature of ozone, the inverse relationship between ozone levels and COVID-19 is consistent with increased nitric oxide scavenging close to points of emissions²⁹.

Although the molecular mechanisms underlying the relationship between pollutant exposure and COVID-19 remain to be determined experimentally, they are hypothesised to include the stimulation of chronic, background pulmonary inflammation²⁴. Chamber studies have shown

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that ambient PM, nitrogen dioxide and sulphur dioxide induce infiltration of the airways by inflammatory cells in healthy volunteers³⁰⁻³². In addition, exposure to these pollutants may inhibit pulmonary antimicrobial responses, reducing clearance of the virus from the lungs and promoting infectivity. Reduced phagocytic function is well documented after the exposure of macrophages to PM¹⁻³ and is suggested to be the mechanism that enhances viral infection in mice exposed to nitrogen dioxide³³.

At the individual level, our UK Biobank model indicated that exposure to PM_{2.5} and PM₁₀ increases the risk of COVID-19 infection, in addition to nitrogen oxides, which were previously identified in the regional analysis. This observation conforms to the hypothesis that viruses attach to air pollutants³⁴, potentially explaining the propagation of SARS-CoV-2 and its infectious capacity. Estimations of the viral replication number R_0 thus must be informed by the local levels of PM. According to our models, demographic features such as age and gender do not alter risk of testing positive for COVID-19. Notably, non-smokers and past smokers are more likely to test positive than current smokers. While we did not investigate the mechanisms by which current smoking protects against hospitalisation due to COVID-19, our findings are consistent with a large body of evidence of a consistently lower prevalence of current smoking among COVID-19 patients and therefore require further investigation³⁵. Although the local authority model suggests a negative association of COVID-19 with PM_{2.5} and PM₁₀, the infection model generated using the UK Biobank data produced the opposite results. The conflicting results may arise from diverging testing methodologies in the population samples analysed. While government guidelines in England prioritised testing for symptomatic COVID-19 patients, asymptomatic individuals from the UK Biobank were subjected to COVID-19 testing. Since a large proportion of COVID-19 infections are asymptomatic^{36,37}, the UK Biobank model represents a more accurate estimation of infection.

Based on the purported association between air pollution and COVID-19, we also investigated the contribution of potential sources of key air pollutants to COVID-19 in England. Among the industrial variables, petroleum combustion from non-road commercial machinery emerged as an important predictor of nitrogen dioxide, nitrogen oxide and ozone concentrations. These findings recapitulate previous observations of the estimated concentrations of nitrogen oxides and ozone discharged from stationary combustion sources and off-road mobile machinery^{38,39}. However, operating conditions, engine parameters and

vehicle age substantially affect the composition of exhaust emissions⁴⁰, and thus more detailed information is necessary to construct improved emission models. Among the domestic variables, increased consumption of manufactured solid fuels was associated with higher levels of nitrogen oxides, nitrogen dioxide and sulphur dioxide, indicating a possible link between indoor fuel consumption and air pollution in England. As shown in previous studies, indoor air pollution aggravates the effects of respiratory disorders⁴¹, and increasing evidence indicates that home isolation strategies have led to a considerable deterioration of indoor air quality following the COVID-19 outbreak⁴². As the present study identifies nitrogen oxides and sulphur dioxide as important contributors to COVID-19 mortality, our results are consistent with the hypothesis that indoor air pollution may increase the risk of severe outcomes in COVID-19 patients and thus warrants further attention^{42,43}.

Our findings, supported by results obtained from recent studies conducted in northern Italy¹¹, Europe²⁴, and the USA^{7,44}, suggest that exposure to poor AQ increases the risks of COVID-19 infection and mortality in the UK. Future studies may expand on these observations and address additional confounders, including comorbidities, race, meteorological trends and differences between regional health regulations and their ICU capacities. Nonetheless, air pollution factors should be considered when estimating the SARS-CoV-2 infection rate (R_0). In addition, our results emphasise the importance of strengthening efforts to tighten air pollution regulations for the protection of human health, both in relation to the COVID-19 pandemic and for the mitigation of potential future diseases.

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FIGURES & FIGURE LEGENDS

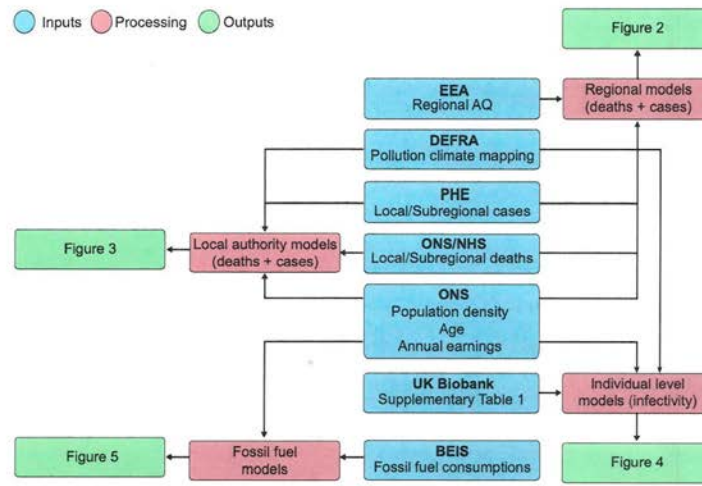


Figure 1. Analysis workflow.

This flowchart summarizes how raw data were extrapolated, processed and analysed. Blue indicates data sources, whereas red and green indicate the type of model employed and the final output, respectively. Population density data (person/km²) were derived from ONS and used to account for region-specific differences in population size across England; COVID-19 case and death data were obtained from PHE, NHS and ONS, respectively. Air pollution data from each monitoring station were manually curated using DEFRA's Air Quality Spatial Object Register and aggregated into statistical regions. ONS, Office for National Statistics; PHE, Public Health England; NHS, National Health Service; EEA, European Environmental Agency.

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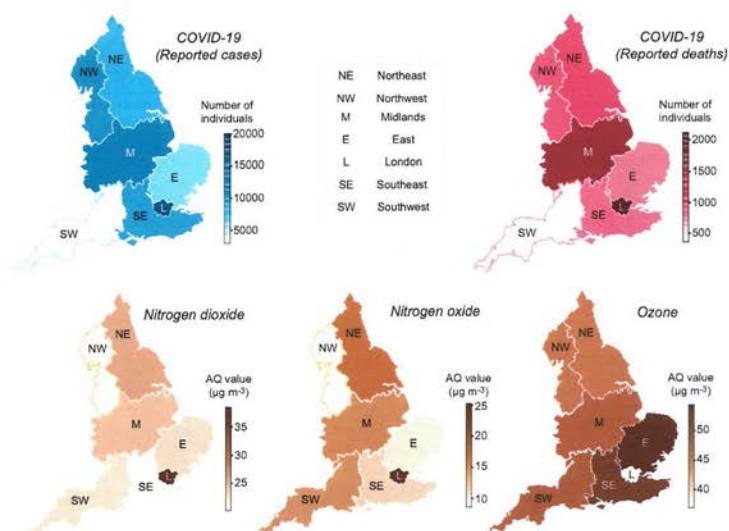


Figure 2. Regional heatmaps of COVID-19 and pollutants.

Regional English heatmaps of reported deaths and diagnosed COVID-19 cases through April 8, 2020 (top row), as well as AQ values for the indicated pollutants (bottom row).

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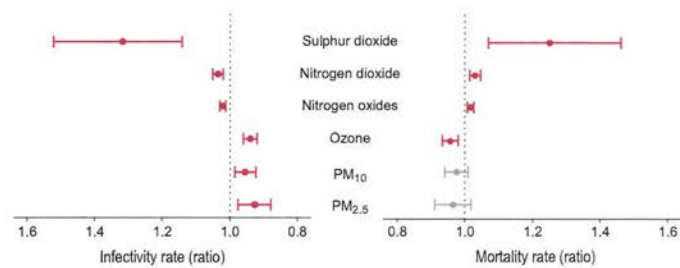


Figure 3. Cases and deaths in local authorities.

Summary of infectivity and mortality rate ratios and respective 95% CIs at the local authority level. Red indicates significant associations ($p \leq 0.05$), while grey lines show a lack of significance ($p > 0.05$). See also Supplementary Table 4 for a detailed description of the model.

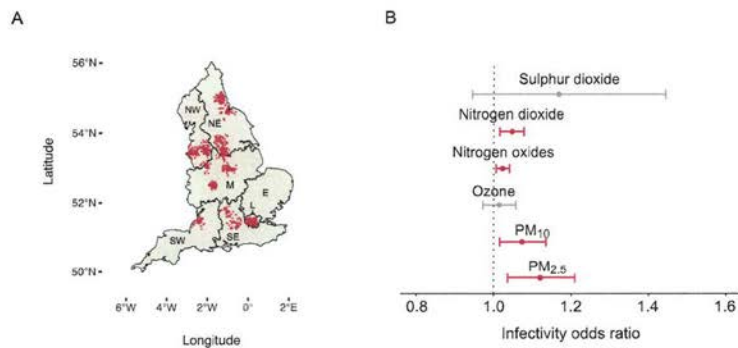


Figure 4. Distribution and infectivity data from the UK Biobank. A) Distribution of UK Biobank subjects included in the current analysis. B) Odds ratios and respective 95% CIs for the relationship between individual exposure to several air pollutants and the number of lab-confirmed COVID-19 cases.

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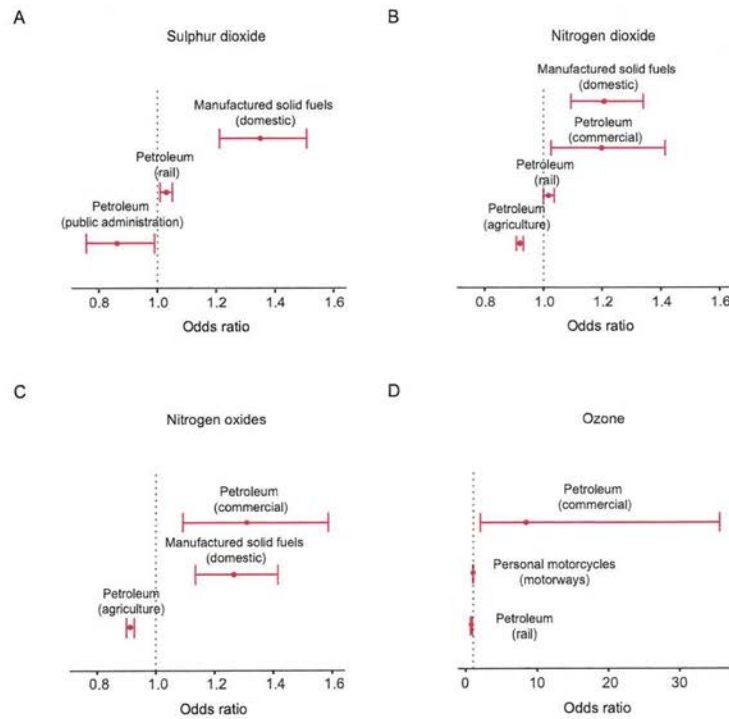


Figure 5. Fossil fuel consumption and air pollution in England. Odds ratios and respective 95% CIs of the effects of fossil fuel consumption stratified by sector and fuel type on A) sulphur dioxide, B) nitrogen dioxide, C) nitrogen oxide and D) ozone levels. Results were normalised to the population density to account for variations in population size across the country. For simplicity, the figure only includes statistically significant ($p \leq 0.05$) sources of emissions and odds ratios greater than 1.01 or less than 0.99.

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TABLES & TABLE LEGENDS

Table 1. Summary of data sources.

Data type	Source	Download date	Measuring units
COVID-19 cases	Public Health England (https://coronavirus.data.gov.uk/#region)	April 9, 2020	Lab-confirmed cases per region up to and including April 8, 2020
COVID-19 deaths (regional)	National Health System (https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-daily-deaths/)	April 9, 2020	Cumulative death counts per region up to and including April 8, 2020
COVID-19 deaths (subregional)	Office for National Statistics (https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredweeklyinenglandandwalesprovisional/weekending1may2020/)	April 28, 2020	Cumulative death counts per local authority up to and including April 10, 2020
COVID-19 cases (subregional)	Public Health England (https://coronavirus.data.gov.uk/#LA)	May 15, 2020	Cumulative cases counts per local authority up to and including April 10, 2020
Nitrogen dioxide, nitrogen oxide and ozone concentrations	European Environmental Agency (EEA) (https://www.eea.europa.eu/data-and-maps/data/air-reporting-8)	April 7, 2020	AQ values ($\mu\text{g}/\text{m}^3$)
Subnational fossil fuel consumption statistics	BEIS (https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy/about/statistics)	April 29, 2020	Tonnes of oil equivalent (ToE)

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Population data, mean annual earnings and median age	Office for National Statistics (https://www.ons.gov.uk)	April 17, 2020	Regional and subregional population density in England (person/km ²). Age in years. Annual earnings in GBP.
Air quality data (Pollution Climate Mapping)	UK Air information resources (https://uk-air.defra.gov.uk/data/pcm-data)	May 2, 2020	AQ values (µg/m ³), except for ozone: days in which the daily max 8-hr concentration is greater than 120 µg/m ³
National emission totals	DEFRA (https://webarchive.nationalarchives.gov.uk/20200303104044/https://www.gov.uk/government/statistics/emissions-of-air-pollutants)	May 5, 2020	National emission totals by sector expressed in thousands of tonnes of oil equivalent (kToE)

This table summarises publicly available data sources used for the analysis.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

AUTHORS' CONTRIBUTIONS

MT, YY, RP and LMM planned and designed the study. MT, YY, RP, and NSL collected the data. MT, YY and NSL treated and analysed the data. MT and YY developed the models and wrote the RMD file. MT, YY and RP wrote the manuscript with the support of NSL and LS. LS provided guidance regarding study of air pollution toxicity. MT, YY, RP, LS, NSL and LMM conducted this study while in self-isolation due to the current pandemic.

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Research

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Air pollution and case fatality of SARS in the People's Republic of China: an ecologic study

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Abstract

Background: Severe acute respiratory syndrome (SARS) has claimed 349 lives with 5,327 probable cases reported in mainland China since November 2002. SARS case fatality has varied across geographical areas, which might be partially explained by air pollution level.

Methods: Publicly accessible data on SARS morbidity and mortality were utilized in the data analysis. Air pollution was evaluated by air pollution index (API) derived from the concentrations of particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide and ground-level ozone. Ecologic analysis was conducted to explore the association and correlation between air pollution and SARS case fatality via model fitting. Partially ecologic studies were performed to assess the effects of long-term and short-term exposures on the risk of dying from SARS.

Results: Ecologic analysis conducted among 5 regions with 100 or more SARS cases showed that case fatality rate increased with the increment of API (case fatality = $-0.063 + 0.001 \times \text{API}$). Partially ecologic study based on short-term exposure demonstrated that SARS patients from regions with moderate APIs had an 84% increased risk of dying from SARS compared to those from regions with low APIs (RR = 1.84, 95% CI: 1.41–2.40). Similarly, SARS patients from regions with high APIs were twice as likely to die from SARS compared to those from regions with low APIs. (RR = 2.18, 95% CI: 1.31–3.65). Partially ecologic analysis based on long-term exposure to ambient air pollution showed the similar association.

Conclusion: Our studies demonstrated a positive association between air pollution and SARS case fatality in Chinese population by utilizing publicly accessible data on SARS statistics and air pollution indices. Although ecologic fallacy and uncontrolled confounding effect might have biased the results, the possibility of a detrimental effect of air pollution on the prognosis of SARS patients deserves further investigation.

Background

Severe acute respiratory syndrome (SARS) is an emerging viral infectious disease, which has claimed 349 lives with 5,327 probable cases reported in mainland China since November 2002. [1,2] SARS case fatality has varied across geographical areas with higher fatality found in the northern areas of China. The SARS case fatalities of Beijing and Tianjin, two cities in the northern part of China, were 7.66% and 8%, respectively; while the case fatality rate of Guangdong, a province in the southern part of China was only 3.84%. Although sex ratio, age distribution, socioeconomic level, availability of health facilities, and clinical practices might be responsible for the geographical difference, air pollution could be an important determinant. Air pollution has been linked to acute respiratory inflammation, asthma attack, COPD exacerbation, and death from cardiorespiratory diseases by various studies. [3-6] In this study, the relationship between air pollution and SARS case fatality was explored via an ecologic study design.

Methods

Publicly accessible data on SARS morbidity and mortality were utilized in the study. [2] Case fatality was estimated by dividing the number of reported deaths by the number of probable cases. Air pollution was evaluated by air pollution index (API) provided by the Chinese National Environmental Protection Agency (CNEPA). [7] CNEPA calculated individual pollution indices for five major air pollutants including particulate matter (PM₁₀), sulfur dioxide (SO₂), and nitrogen dioxide (NO₂), ground-level ozone (O₃), and carbon monoxide (CO). The maximal individual pollution index was set as the comprehensive API for the monitoring area. In most of monitoring areas, PM₁₀ was considered as a major pollutant. [7]

API could be categorized into seven groups with 50, 100, 200, 300, 400, and 500 as the cut-off points. APIs less than 100 were thought healthy for general population. Since the majority of patients were diagnosed during April and May, the average of daily APIs collected within these months in each region was used for data analyses mainly. In addition, to evaluate potential influence of long-term exposure to air pollution on the case fatality rate, the average of APIs between June 2000 and October 2002 before SARS epidemic was also analyzed.

Ecologic analysis was conducted to explore the correlation and association between air pollution during April and May 2003 and SARS case fatality. A linear model was fitted to the data among five regions with 100 cases or more. Furthermore, we conducted data analysis by grouping SARS patients into three exposure levels and evaluating short-term exposure (April-May 2003) and long-term exposure (June 2000-October 2002), respectively. The

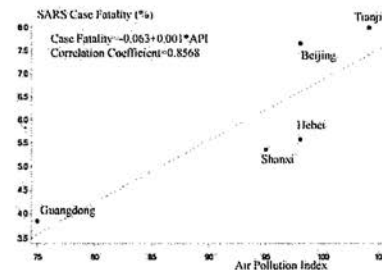


Figure 1
The Correlation and Association between Short-term Exposure to Ambient Air Pollution and Case Fatality of SARS in People's Republic of China.

cut-off points were 75 and 100 API. Case fatalities of patients from regions with high APIs (API>100) and patients from regions with moderate APIs (75-100) were compared to that of patients from regions with low APIs (API<75). Relative risks (RR) and 95% confidence intervals (CI) were calculated. Monotonic trend test with exposure scored as 1, 2, and 3 for each exposure group was also conducted to investigate whether case fatalities increased with the increase of APIs. All data analyses were performed in Statistical Analysis Software (SAS).

Results

During the epidemic, 5,327 Chinese were diagnosed as SARS probable cases. Among them, 349 died from the disease and the rest recovered, which accounted for the case fatality of 6.55%. The average APIs ranged from 52 to 126 for different regions during April and May 2003. Ecologic analysis was conducted among 5 regions with 100 or more SARS cases (Guangdong, Shanxi, Hebei, Beijing, and Tianjin) to explore the relationship between air pollution and SARS case fatality. Inner Mongolia, which had 282 probable cases, was excluded from the analysis due to poor data quality reported by the Chinese Center for Disease Control. [8] 4,870 SARS cases occurred in these five regions, which represented 91.4% of all cases in China. The APIs of Guangdong, Shanxi, Hebei, Beijing, and Tianjin during April and May were 75, 95, 98, 99, and 104, and the corresponding fatality were 3.84%, 5.36%, 5.58%, 7.66% and 8%, respectively. Data were fitted to the linear model: case fatality = $-0.063 + 0.001 \times \text{API}$, showing case fatality rates increased with the increment of API. The

correlation coefficient between air pollution index and SARS fatality was 0.8568 ($p = 0.0636$). (See figure 1)

According to the air pollution data during April and May 2003, a total of 1,546 patients resided in regions with low APIs, 63 of whom died from SARS. Among 3,590 patients from regions with moderate APIs, 269 died from the disease. 17 out of 191 patients from regions with high APIs also died. The corresponding fatalities were 4.08%, 7.49% and 8.90%, respectively. SARS patients from regions with moderate APIs had an 84% increased risk of dying from SARS compared to those from regions with low APIs (RR = 1.84, 95% CI: 1.41–2.40). Similarly, SARS patients from regions with high APIs were twice as likely to die from SARS compared to those from regions with low APIs. (RR = 2.18, 95% CI: 1.31–3.65). The trend test showed that SARS case fatality increased with the increase of air pollution level (P for trend <0.001). (See Table 1)

We also studied the effect of long-term average air pollution before SARS epidemic on SARS fatality. According to the air pollution data between June 2000 and October 2002, 67 out of 1,572 patients from regions with low APIs died from SARS. While, 35 out of 363 from regions with moderate APIs and 247 out of 3,392 from regions with high APIs died from SARS, respectively. The corresponding fatalities were 4.26%, 9.64% and 7.28%, respectively. The risk ratios comparing high and moderate API group to low API group were 1.71 (95%CI: 1.34–3.33) and 2.26

(95%CI: 1.53–3.35), respectively. The results showed that long-term exposure to air pollution was positively associated with SARS case fatality, even though there was no apparent trend. (See Table 2)

Discussion

Our analyses showed that air pollution was associated with increased risk of dying from SARS. The biological explanation might be that long-term or short-term exposure to certain air pollutants could compromise lung function, therefore increasing SARS fatality. Both long-term and short-term exposure to air pollution has been associated with a variety of adverse health effects including acute respiratory inflammation, asthma and COPD. [3–6,9] Air pollution may predispose the respiratory epithelium of SARS patients, leading to severe respiratory symptoms and an increased risk of deaths. The adverse effect of exposure to particulate matter less than 10 microns in aerodynamic diameter (PM10) has been studied extensively. [10] A study done in US on the long-term effects of air pollution showing that each 10 micrograms/m³ elevation in PM10 accounted for 6% of increased risk of cardiopulmonary mortality. [11] Exposure to PM10 was also linked to asthma and bronchitis. Data from CNEPA showed that PM10 was the major pollutant for most monitoring areas. [7] We hypothesized that exposure to air pollutants, such as particulate matters (PM10), might influence the prognosis of SARS and lead to increased risk of deaths.

Table 1: The Effect of Short-term Exposure to Air Pollution (April-May 2003) on the Risk of Dying from SARS in Chinese Population.

API	Number of Deaths	Number of recovered	Total Number of Cases	Case Fatality	RR & 95% CI
>100	17	174	191	8.90%	2.18 (1.31–3.65)
75–100	269	3321	3590	7.49%	1.84 (1.41–2.40)
<75	63	1483	1546	4.08%	1
Total	349	4978	5327	6.53%	

Table 2: The Effect of Long-term Exposure to Air Pollution (June 2000-October 2002) on the Risk of Dying from SARS in Chinese Population.

API	Number of Deaths	Number of recovered	Total Number of Cases	Case Fatality	RR & 95% CI
>100	247	3145	3392	7.28%	1.71 (1.34–3.33)
75–100	35	328	363	9.64%	2.26 (1.53–3.35)
<75	67	1505	1572	4.26%	1
Total	349	4978	5327	6.53%	

This study was subject to several limitations. First, ecologic study designs were adopted in the study, which might be subject to ecologic fallacy. [12,13] Furthermore, we couldn't predict the direction and magnitude of the bias because of no access of the data at the individual level. Second, we had no data on the joint distribution between air pollution and potential confounders such as socioeconomic status, smoking status, age, and gender; therefore, no confounding effects could be evaluated or controlled for. The uneven application of dangerous therapy and difference in medical facilities by region might also account for the variation of case fatality. But they might not fully explain the observed association because the same therapies were recommended by the Chinese Health Ministry and CDC and followed by medical practitioners in the country. Data showed that cases from Beijing had relatively higher case fatality, although this capital city might have provided better medical support to SARS patients. Third, we assumed that air pollution was evenly distributed within each region so that we could use monitoring data collected within each region as individual's surrogate exposure to ambient air pollutants. Exposure misclassification might have biased the study results due to the imprecise measurements. Nevertheless, this is the first observation showing that air pollution is associated with increased fatality of SARS patients in Chinese population, which deserves further investigation and might have certain impact on the study of SARS nature history.

Conclusion

Our study demonstrated a positive association between levels of air pollution and SARS case fatality in Chinese population by analyzing SARS data and air pollution indices. Although the interpretation of this association remains uncertain, the possibility of a detrimental effect of air pollution on the prognosis of SARS patients deserves further investigation.

List of Abbreviations

SARS: Severe Acute Respiratory Syndrome

COPD: Chronic Obstructive Pulmonary Disease

API: Air Pollution Index

CNEPA: Chinese National Environmental Protection Agency

PM10: Particulate Matter

SO₂: Sulfur Dioxide

NO₂: Nitrogen Dioxide

CO: Carbon Monoxide

O₃: Ozone

RR: Risk Ratio

CI: Confidence Interval

SAS: Statistical Analysis Software

Competing Interests

None declared.

Authors' Contributions

Yan Cui was responsible for data analysis, summarization of results, and manuscript preparation. Zuo-Feng Zhang took the overall responsibility in hypothesis generation, study design, data collection and analysis, and manuscript preparation. John Friones was involved in the generation of hypothesis, interpretation of results, and manuscript preparation. Jinkou Zhao and Hua Wang were involved in data collection and manuscript preparation. Shun-Zhang Yu was involved in generation of hypothesis and study design, and manuscript preparation. Roger Detels was involved in generation of hypothesis and study design, interpretation of results, and manuscript preparation.

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Can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy?[☆]

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ABSTRACT

This paper investigates the correlation between the high level of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) lethality and the atmospheric pollution in Northern Italy. Indeed, Lombardy and Emilia Romagna are Italian regions with both the highest level of virus lethality in the world and one of Europe's most polluted area. Based on this correlation, this paper analyzes the possible link between pollution and the development of acute respiratory distress syndrome and eventually death. We provide evidence that people living in an area with high levels of pollutant are more prone to develop chronic respiratory conditions and suitable to any infective agent. Moreover, a prolonged exposure to air pollution leads to a chronic inflammatory stimulus, even in young and healthy subjects. We conclude that the high level of pollution in Northern Italy should be considered an additional co-factor of the high level of lethality recorded in that area.

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1. Introduction

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (Lu et al., 2020) is the pathogenic agent of Covid-19, a disease first reported in a small cluster in Wuhan, Hubei Province, China, in December 2019, and subsequently spread all over the world. Due to its high contagiousness and aggressive course, it has been declared by World Health Organization (WHO) a Public Health Emergency of International Concern (A public health emergency, 2019). The course of the disease is often mild, undistinguishable from a common flu, but in a considerable number of cases may require hospitalization, eventually leading to an acute respiratory distress syndrome (ARDS) and death.

Due to the high variability of political and sanitary decisions taken by the different Governments, data about incidence, lethality and mortality are notably different among countries and even among regions of the same country. Starting from the end of February 2020, contagious has rapidly spread in Italy, particularly in the North (Lombardy, Veneto and Emilia-Romagna), apparently sparing central and southern regions. After a delay of a few days, Covid-19 is now widely diffuse in many other European countries,

particularly Spain and Germany, nevertheless with evident international dissimilarities which cannot be explained only by different health policies and systems. In particular, since the virus began to spread in Italy, Lombardy and Emilia Romagna recorded a substantial high level of lethality if compared with other countries but also than other Italian regions. Despite the difficulty in assessing the reasons of such differences in the middle of this enormous health emergency, researchers all around the world have linked this unexpected surplus of lethality in North Italy with two main co-factors i) the different way to report the number of deaths and infects among countries; ii) the old age of Italian population. Few or no hypothesis have identified the atmospheric pollution as potential and additional co-factor of lethality. Although a study conducted by Sima (<http://www.simaonline.it/w>, 2020) has showed that pollution has played a key role in the propagation of SARS-CoV-2 there is no evidence about if pollution may have had an impact on communities exposed to toxic air in terms of worsening of initial health status in order to be considered an additional co-factor of SARS-CoV-2 lethality.

According to data from Italian Civil Protection on March 21st 2020, lethality in Lombardy and Emilia Romagna was about 12% whereas in the rest of Italy was about 4.5% (Protezione Civile Italian). A team of researchers at the Royal Netherlands Meteorological Institute by using data from the Ozone Monitoring Instrument on NASA's Aura satellite, revealed that Northern Italy is one of

[☆] This paper has been recommended for acceptance by Dr. Payam Dadvand.

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Europe's most polluted areas in terms of smog and air pollution also due to its climatic and geographic conditions, which cause the stagnation of pollutants (Earth Observatory, A, 1590). The European Environment Agency (EEA) has recently introduced an aggregated index named as Air Quality Index (AQI), index reflecting the potential impact of air quality on health, driven by the pollutants in geographical regions. It is calculated hourly for more than two thousand air quality monitoring stations across Europe, using up-to-date data reported by EEA member countries (European Air Quality Index). The AQI is based on concentration values for up to five key pollutants, including: PM₁₀, PM_{2.5}, O₃, SO₂ and NO₂. According to the AQI the area covering Lombardia and Emilia Romagna results to be the most polluted area in Italy (and one of the most polluted in Europe) (Indice di qualità dell'ar, Qin et al., 2020).

Based on this direct and evident correlation between high level of lethality and atmospheric pollution, the overreaching question addressed from this paper is: are communities living in polluted area such as Lombardia and Emilia Romagna more predisposed to die of Covid-19 due to their health status?

2. Analysis

As previously mentioned, the physio pathological event leading to intensive care unit (ICU) and to death is an ARDS, a dramatic event whose treatment is usually only supportive, requiring mechanical ventilation. Regardless of the etiology (Aisiku et al., 2016), a hyper-activation of immune innate system is thought to have a paramount role in this condition: inflammatory cytokines and chemokines, such as tumor necrosis factor (TNF) α , interleukin (IL) 1 β , IL-6, IL-8, IL-17 and IL-18, as well as several growth factors, are overexpressed in ARDS, triggering apoptotic cascade and epithelial-mesenchymal transition (Gouda et al., 2018). Moreover, their high serum and bronchoalveolar lavage level seem related to a poorer prognosis (Burt et al., 2016). These findings, although not validated and not available in the common clinical practice, make them suitable as potential biomarkers and targets for the therapy.

Similar evidences have been reported in patients affected by severe viral pneumoniae such as SARS (Wong et al., 2004) and MERS (Min et al., 2016) and an immune dysregulation is thought to be responsible of a worse outcome in patients affected by Covid-19. Recently published papers have found an imbalance in T cells, as well as high serum levels of IL-6, IL-1 and TNF α (Qin et al., 2020), in the subjects requiring hospitalization and admitted to ICU: this suggests an intriguing role of the most recent immunosuppressive drugs in the treatment of Covid-19 (Stebbing et al., 2020). This being said, we must remind that an overexpression of the above-mentioned cytokines occurs in many other conditions in addition to viral pneumonia and ARDS.

Air pollution represents one of the most well-known causes of prolonged inflammation, eventually leading to an innate immune system hyper-activation. In a small cohort of mice exposed for three months to particulate matter $<2.5 \mu\text{m}$ in diameter (PM_{2.5}), IL-4, TNF- α and transforming growth factor (TGF)- β 1 were significantly increased in both serum and lung parenchyma, as well as leucocytes and macrophages (Yang et al., 2019). Obviously, a high systemic inflammation impairs heart function too, as witnessed in another cohort of mice exposed to PM_{2.5} and PM₁₀ (Radan et al., 2019). All these findings have been extensively confirmed in humans too: both PM_{2.5} and PM₁₀ lead to systemic inflammation with an overexpression of PDGF, VEGF, TNF α , IL-1 and IL-6 even in healthy, non-smoker and young subjects (Pope et al., 2016), directly related to the length of the exposure to the pollutant (Tsai et al., 2019).

Similarly, an exaggerated inflammatory status is found in

airways too: an outdated paper (Ishii et al., 2004) found that alveolar macrophages (AM), exposed *in vitro* to PM₁₀, significantly increased the levels of IL-1 β , IL-6, IL-8 and TNF- α , thus underlining the prominent role of AM in cleaning particulates and activating immune response. Such evidences are remarked by a more recent paper, which investigated the effects of Milan city (Lombardy, Italy) winter PM_{2.5} and summer PM₁₀: as expected, human bronchial cells evidenced an *in vitro* elevated production of both IL-6 and IL-8 (Longhin et al., 2018). Also, a high correlation between nitrogen dioxide (NO₂) and particulate in inducing IL-6 hyperexpression was found (Perret et al., 2017), being both responsible of an inflammatory status even in a pediatric population (Gruziova et al., 2017).

Among the other more common pollutants, ozone (O₃) and sulfur dioxide (SO₂) have also a prominent role in inducing systemic and respiratory system inflammation, particularly via IL-8 (Kurai et al., 2018), IL-17 (Che et al., 2016) and TNF- α (Cho et al., 2007), both *in vitro* and *in vivo* (Knorst et al., 1996). All these modifications are well known to contribute to atherogenesis, chronic respiratory diseases and cardiovascular events, the latter strictly correlated with IL-6 serum levels (Aromolaran et al., 2018). Nevertheless, aside of "classical" pollution-related conditions, several recent studies have pointed out a possible correlation between poor air quality and development and worsening of chronic inflammatory disease, such as systemic lupus erythematosus (Alves et al., 2018; Gulati and Brunner, 2018) and rheumatoid arthritis (Sigaux et al., 2019).

3. Conclusions

In conclusion, it is well known that pollution impairs the first line of defense of upper airways, namely cilia (Cao et al., 2020), thus a subject living in an area with high levels of pollutant is more prone to develop chronic respiratory conditions and suitable to any infective agent. Moreover, as we previously pointed out, a prolonged exposure to air pollution leads to a chronic inflammatory stimulus, even in young and healthy subjects.

This, in our opinion, may partly explain a higher prevalence and lethality of a novel, very contagious, viral agent such as SARS-CoV-2, among a population living in areas with a higher level of air pollution, particularly if we consider the relatively high average age of this population. Among elderly living in such a region and affected by other comorbidities, the cilia and upper airways defenses could have been weakened both by age and chronic exposure to air pollution, which, in turn, could facilitate virus invasion by allowing virus reaching lower airways. Subsequently, a dysregulated, weak immune system, triggered by chronic air pollution exposure may lead to ARDS and eventually death, particularly in case of severe respiratory and cardiovascular comorbidities. Moreover, since the prolonged exposure to atmospheric pollution could induce persistent modifications of the immune system (Tsai et al., 2019), short-term changes in the air quality may not be sufficient to break this vicious circle. This might be supported by the persistent high fatality rate, despite the dramatical reduction of air pollution levels in Lombardy since the start of the outbreak. Obviously, our considerations must not let us neglect other critical factors responsible for the high contagiousness and fatality of this rapidly spreading disease. Important factors such as the age structure of the affected population, the wide differences among Italian regional health systems, capacity of the intensive care units in the region, and the prevention policies taken by the Government have had a paramount role in the spreading of SARS-CoV-2, presumably more than the air pollution itself. At the same time, our paper evaluated fatality rate only in two Italian regions: given the pandemic dimension of Covid-19, it will be interesting to evaluate if, similarly, a higher lethality will be also recorded in the most

polluted regions worldwide.

Finally, experimental and epidemiological studies are urgently needed to evaluate the role of the atmospheric pollution in certain populations: the assessment of bronchial and serological levels of inflammatory cytokines represents the cornerstone for a deeper comprehension of the mechanisms leading to a poorer prognosis.

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Declaration of competing interest

We have no conflict of interests for the paper titled: can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy?

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Senator CARPER. Thank you.

Mr. Wheeler, my next question is probably my last question, given our time constraints.

We know COVID-19 is going to be with us for many months, probably for years. Even if rapid vaccine development efforts are successful, you will observe that some of the early studies linking air pollution and COVID-19 have not been peer reviewed.

The Centers for Disease Control says that people with diabetes and heart disease may be at higher risk for serious illness from COVID-19. Since I don't have much time, I will just make these yes or no questions, if we could.

The first one, Administrator Wheeler, is do you agree that EPA's own work has demonstrated that there is a clear link between exposure to air pollution and higher incidence of diabetes and heart disease? Do you agree with that?

Mr. WHEELER. I believe that is true.

Senator CARPER. Thank you. Another one, and then I am done.

Yes or no, if the link between exposure to air pollution and COVID-19 risk is further established by EPA or other peer reviewed research, will you commit to ensuring that these health effects and risks are factored into all of the agency's future air pollution rulemaking, as well as its environmental justice efforts?

Mr. WHEELER. We factor diseases such as that into all of our rulemakings already, and we also factor that into our environmental justice programs. The 2005 study, for the European study that your staff report references is a 2005 study, which is actually out of date, so we are not sure of the validity of that, as far as COVID is concerned.

Senator CARPER. Let me just close with this. If the link is established, will you factor it into future air rules and EPA activities or not? Will you stop writing rules that make things actually worse, not better?

Mr. WHEELER. All of our rules make things better, sir.

Senator CARPER. Mr. Chairman, I think I have made my other unanimous consent request. Thank you very much for the time.

Senator BARRASSO. Thank you very much, Senator Carper.

I would point out that only a few weeks after releasing their research, the authors of the Harvard study have already had to revise their findings. Instead of focusing on unproven studies, I would recommend that we rely on what the CDC tells us, that proximity matters.

For example, I think we should evaluate how public transit has contributed to the spread. As the New York Times recently reported of coronavirus, the Times says coronavirus has drained the subway of more than 90 percent of its riders, killed nearly 100 workers, and sickened thousands more.

So I ask unanimous consent to enter this article into the record without objection, and will do so.

[The referenced information follows:]

5/8/2020

Face Masks and Crowd Control: The Race to Make Your Subway Ride Safer - The New York Times

The New York Times<https://nyti.ms/2zUgCoA>

Face Masks and Crowd Control: The Race to Make Your Subway Ride Safer

Social distancing isn't easy on the subway. Transit officials are mapping out ways to prepare the system for the return of riders.

**By Christina Goldbaum**

May 3, 2020

Businesses in New York City will be asked to change workers' schedules to reduce rush-hour density on the subway. A new squad of guards will patrol stations, reporting overcrowding to supervisors and directing riders to emptier train cars. Brightly colored markers will be added to encourage riders to keep a distance from one another on platforms, following the advice of transit agencies in China, Singapore and Britain.

New York's transit agency took the drastic step on Thursday of halting overnight service on the system for the foreseeable future to give workers more time to disinfect trains and stations.

But it is just a first step for officials racing to develop a strategy for ensuring that the subway can rebound from a cataclysmic pandemic.

As authorities weigh decisions about when to begin letting some businesses reopen, New York's ability to revive its economy hinges on whether millions of daily commuters will return to a public transit network that they are persuaded can provide safe and reliable service.

But it remains an open question whether it will be even possible for riders to practice social distancing on a system whose core purpose is to carry throngs of people in confined spaces.

The challenge is testing the Metropolitan Transportation Authority, the largest transit agency in the United States, as it reels from an outbreak that has drained the subway of more than 90 percent of its riders, killed nearly 100 workers and sickened thousands more and led to the largest financial crisis in authority history.

"If we are going to have a real economic recovery, we have to solve the question of making public transit safe and making sure people feel safe," said Nick Sifuentes, the executive director of Tri-State Transportation Campaign, an advocacy group. "The city would grind to a halt without transit, almost as much as it has ground to a halt with the pandemic."

New York is obviously not alone. As cities around the world struggle to restart their economies, battered transit agencies are wrestling with how to bring riders back safely. Nearly every available option involves financial and public health trade-offs.

Running as many trains as possible to reduce crowding will strain the authority's ability to disinfect trains as frequently as it would like. But the alternative — simply restricting the number of passengers on train cars — could hurt the city's ability to move the masses of people needed for businesses to function.

Any strategy is complicated by the system's sheer size and scope. In normal times, 38 percent of the public transit passenger trips in the country are on the system overseen by the authority, which runs the city's subway and buses, two commuter rails and several bridges and tunnels.

"This is an unprecedented time and the M.T.A. is taking unprecedented action," Patrick J. Foye, the authority's chairman, said of the overnight shutdown. "We will follow the governor's direction, guidance from public health experts, input from the business and labor communities, and are coordinating regionally."

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5/8/2020

Face Masks and Crowd Control: The Race to Make Your Subway Ride Safer - The New York Times

In Asia and Europe, where some cities have already reopened, public transit systems are experimenting with measures to encourage social distancing, including slashing bus capacity, introducing timed ticketing and checking riders' temperatures.

In Paris, where more than 50 metro stations were closed as part of the city's lockdown, officials are making face masks mandatory for riders and will limit the number of seats available on trains when the city reopens. Transit officials in London have added social-distancing markers on platforms and train cars.



The Châtelet-Les Halles station, a major transit hub in Paris, in April. More than 50 metro stations in the city were shut down amid the coronavirus outbreak. Andrea Mantovani for The New York Times

The tools available to New York transit officials are more limited.

Unlike their counterparts in China, where citizens must download software onto their smartphones that dictates whether they are healthy enough to ride the subway, New York officials do not have the power to use government surveillance.

And any steps to keep riders apart and better disinfect equipment on a system with 26 subway lines and 472 subway stations will add to the transit agency's expenses.

Crew shortages in a work force hobbled by the coronavirus will limit the authority's ability to increase service and prevent overcrowding as riders trickle back.

Officials say that some of the responsibility for mitigating the virus's spread will fall on riders, who must voluntarily adhere to any new guidelines, and employers, who can help prevent overcrowding during peak hours by staggering work scheduled.

"The M.T.A.'s job is to first and foremost keep the subway clean and keep it running on time," said Joseph J. Lhota, a former deputy mayor and authority chairman. "And it's going to be up to riders to keep a mask on and try to maintain social distancing."

The authority has already begun to take extraordinary steps to safeguard the system.

<https://www.nytimes.com/2020/05/03/nyregion/mta-subway-coronavirus.html>

2/E

5/8/2020

Face Masks and Crowd Control: The Race to Make Your Subway Ride Safer - The New York Times

The move to shut down the subway from 1 a.m. to 5 a.m. every night for disinfecting trains, equipment and stations is a first in the M.T.A.'s history.

Authority officials say halting service for four hours a night will allow trains to be cleaned every 24 hours by a team of about 900 cleaners. It will also provide time to test new, more efficient disinfecting technology like ultraviolet lights, microbial agents and electrostatics sprayers.

Sign up to receive our daily **Coronavirus Briefing**, an informed guide with the latest developments and expert advice.

"To make sure the transit workers are safe, to make sure the riding public is safe, the best thing you can do is disinfect the whole inside of the car, as massive a challenge as that is," Gov. Andrew M. Cuomo said at his daily briefing on Saturday.

The New York subway will be closed overnight to allow for more intensive cleaning of stations and trains. Victor J. Blue for The New York Times

In the weeks since the first confirmed virus cases emerged in New York, new research has made clear the risks that public transit poses for spreading infection.

A study published in the New England Journal of Medicine demonstrated that the virus can survive on steel objects, like subway poles, for three days and stay suspended in air for at least 30 minutes.

Other recent studies of the virus in China have shown that indoor, enclosed spaces — homes, restaurants and public transportation, for instance — pose a greater risk for transmission than outdoor areas.

The risk of contagion on the subway "is fairly high," said Krystal Pollitt, an assistant professor of epidemiology at the Yale School of Public Health. "It's an enclosed space, in most cases it's poorly ventilated and you have very high foot traffic."

Even so, as businesses begin to reopen and the city returns to a shade of normal, riders who have long relied on the subway will inevitably trickle back to the system.

"People have always come back to the subway, even at times when it felt like no one would ever return," said Jaqi Cohen, campaign director for the Straphangers Campaign, an advocacy group. "I'm hopeful, even though there's a long way to go and a lot the M.T.A. will have to do to regain the trust of riders."

<https://www.nytimes.com/2020/05/03/nyregion/mta-subway-coronavirus.html>

3/E

5/8/2020

Face Masks and Crowd Control: The Race to Make Your Subway Ride Safer - The New York Times

Mr. Cuomo has already ordered that riders and transit workers on crowded subway cars and buses must wear face coverings. Transit officials have also introduced rear-door boarding on buses to keep distance between riders and drivers.

But these efforts must be significantly expanded as more riders return to the system, public health experts said.

“You can’t go back to letting as many people on the subway as possible,” said Dr. Cyrus Shahpar, the director of the Prevent Epidemics program at the public health nonprofit organization Vital Strategies and a veteran of the federal Centers for Disease Control and Prevention.

In cities outside the United States, officials have introduced other steps to ensure social distancing, including cutting capacity on buses by half. In China, the rule is enforced with onboard cameras.

Most Chinese cities disinfect buses after each run, and the authorities in Hong Kong have added robots — at a cost of around \$129,000 apiece — that spray hydrogen peroxide solution to disinfect train cars.

Transit officials in Hong Kong have begun using robots that spray hydrogen peroxide solution to disinfect train cars. Kin Cheung/Associated Press

Chinese officials also dispense hand sanitizer at transit hubs — a step the M.T.A. is considering — and they have opened health-control checkpoints at stations, where riders’ temperatures are checked before they can board trains.

In Beijing, officials are testing a “subway by appointment” system, requiring riders to use a mobile app to book a time for entering the city’s two busiest subway stations during peak hours.

Still, reducing the passenger load in the early morning and late afternoon remains a major challenge.

Public health experts have said that ideally, transit systems would run as many trains as possible during busier times to reduce crowding — a strategy that in practice is limited by the number of available crews, cleaners and trains and by the prohibitive cost.

To help reduce travel during the usual 9 a.m. and 5 p.m. rush hours, major employers in Asia and Europe have brought workers back on rotating weekday schedules, provided them private transportation and temporarily housed them at hotels within walking distance of their offices.

Some of the measures could offer a template as officials and employers in New York figure out how to get the city working again, said Kathryn Wylde, the president of the Partnership for New York City, a business group.

<https://www.nytimes.com/2020/05/03/nyregion/mta-subway-coronavirus.html>

4/E

5/8/2020

Face Masks and Crowd Control: The Race to Make Your Subway Ride Safer - The New York Times

"Employers' first concern is that their employees feel comfortable coming back to the office, and the safety and security of the subways is the number one concern of employees," said Ms. Wylde.

Transit advocates have also suggested that the M.T.A. should find ways to measure passenger volumes in real time — like designating transit workers to report crowding in stations — and then adjust service to add trains on the most crowded lines.

Subway ridership in New York has plunged more than 90 percent amid the pandemic. Stephanie Keith for The New York Times

The American Public Transportation Association, a lobbying group, plans to issue detailed guidelines for transit nationwide as cities start to reopen.

"The overriding issue will be funding, having the operating dollars to do all of this," said Paul Skoutelas, the association's president.

The M.T.A., which has already received \$3.8 billion in federal aid since the pandemic began, has asked for another \$3.9 billion to offset farebox, toll and dedicated tax revenue that has effectively vanished.

The authority is also expected to incur hundreds of millions of dollars in expenses related to the virus, which will continue to mount as the city resumes some semblance of normal life.

Federal aid can help address the immediate shortfall, but regaining riders' trust is the only way for the system to fully rebound.

"It will be a very long time, if it ever happens," Danny Pearlstein, a spokesman for the Riders Alliance, an advocacy group, said, "before New Yorkers feel sanguine about packing trains during rush hour like they used to."

Stephen Castle contributed reporting from London, and Nori Onishi from Paris.

The Coronavirus Outbreak >

Frequently Asked Questions and Advice

Updated April 11, 2020

• What should I do if I feel sick?

If you've been exposed to the coronavirus or think you have, and have a fever or symptoms like a cough or difficulty breathing, call a doctor. They should give you advice on whether you should be tested, how to get tested, and how to seek medical treatment without potentially infecting or exposing others.

<https://www.nytimes.com/2020/05/03/nyregion/mta-subway-coronavirus.html>

5/E

Senator BARRASSO. Senator Inhofe.

Senator INHOFE. Thank you, Mr. Chairman. First of all, I think that was one of the best opening statements I have heard. I said to the Administrator that we really need to hear the truth. We need to get it into the record.

And I have to share something with my fellow Senators, here.

When you were confirmed, Andrew, I remember that there was a very large meeting of all of the employees, I think all of the employees of the EPA who were invited.

Mr. WHEELER. Yes, sir.

Senator INHOFE. There were several out there that you didn't even know of, but I was there, because I wanted to watch. I wanted to see the reaction of these people. You see the ones who realize that, here is Andrew Wheeler. Sure, some of them may disagree with your philosophy in different areas, but no one would say that you are not the most knowledgeable person, there is no one who is more knowledgeable than you who has ever crossed into that Administrator's position.

I watched the expression on the faces, and what we could see there was, in their own way of saying it, there is room at the top. That you started your career with the EPA, and you have taken every position, and you have exceeded, and you have come to the top.

That was a very heartwarming thing, not just because you worked for me for 14 years, but because they all knew that there is, in fact, room at the top.

Then in your statement, I thought you did a very good job of showing what we have done for the environment, for the quality of life. For people to try to say that that is not the case, they don't have the facts.

We just look and we see what has happened since, and I could go in there and talk about some of the things. I think they were covered very well by the Chairman, and the fact that all pollutants have decreased. One of them, I have often talked about is in the year 2017, in this Administration, all of it in this Administration, the United States led the world in CO₂ emissions reductions.

So what you have done is just an incredible feat, and I am very, very proud of you. You have had a lot of help. I think your first top person was R.J., and we don't need to talk about him anymore, because he's not there, but you do have someone else in Mandy.

I can tell you that you didn't do all this stuff alone. You had a lot of help, and she was a skilled attorney, she was very active in the previous Administration, and I am just real proud.

I see that she is here, so I want to say to you, Mandy, you are doing a great job, and what a great team that we are looking at, and we are very proud of you.

Two things I was going to bring up. One has been brought up very effectively by the Chairman, and that is the Tenth Circuit and what has happened on small refiners. This is the major concern that I have in my State of Oklahoma. It has been a real serious problem.

What hasn't been mentioned is just, the whole industry is undergoing problems that are unprecedented. We do know right now Saudi Arabia and Russia are trying to put us out of that business

very clearly, and I have even suggested to go as far as tariffs, talking to the Secretary of Commerce. Something like that needs to be done.

But then when you talk about the refiners and the problems that they are having, I think you have answered the question very well that our Chairman asked about that, and I appreciate the fact that he did very effectively discredit the report that we have heard over and over again.

So what I would like to do in keeping with the time, nothing has been said so far about the disastrous Obama era fuel economy standards. We all knew what was happening at that time, and I would like to have you look at the Safe Vehicle Rule, and specifically addressing the rule in terms of choice, in terms of vehicle price tags, in terms of passenger safety, in the remaining time. Would you do that?

Mr. WHEELER. Absolutely, sir. First, there is a lot of misinformation out there. Our Safe Vehicle Rule will save more lives than not, and that has been shown in our analysis, in our joint analysis with NHTSA.

It also will help produce automobiles that Americans want to purchase. One of the problems that we have seen over the last 10 years are the average age of cars on the road is increasing. It used to be 8 year old cars on the roads; today it is 12 year old cars on the roads. The older cars are inherently less safe and worse for the environment.

We have proposed increases each year, 1.5 percent better fuel efficiency. The Obama administration did have a higher percentage, but the companies were not complying with that; they were unable.

In 2016, only four companies were able to comply; in 2017, only three, without having to cash in credits or pay fees or penalties to the Treasury. Those fees and penalties were to reach over \$1 billion. That is \$1 billion that would have been passed on to the consumer in higher prices of cars.

Our regulation will save lives, it will reduce CO₂ over the long term, and it will allow Detroit and the other automobile companies around the world to produce cars that Americans want to purchase.

Senator INHOFE. Thank you.

Senator BARRASSO. Thank you, Senator Inhofe.

Senator Cardin.

Senator CARDIN. Thank you, Mr. Wheeler, for your testimony and thank you for your service. Sorry I can't be in the Committee room personally, but this is how our hearings are now being conducted.

I want to first disagree with my friend, Senator Inhofe, in regard to CAFE standards. CAFE standards not only deal with clean air, but also act as a way to get American manufacturers doing what is necessary in order to stay ahead of the curve in regard to our environment. So I am disappointed by the Trump administration's policies on CAFE standards, and I would hope that you take a new look at that and do things differently.

I want to use my time first to talk about the Chesapeake Bay. The Chesapeake Bay has received strong bipartisan support from the Congress of the United States with our Committee, and the Senate has reauthorized the program at a higher level than the

current authorization amount. Through the appropriation process, we have brought an extra \$12 million for the Federal share of the Chesapeake Bay Program. So there is strong bipartisan support.

As you and I have talked about, this is a program that is from the State and local government up. The Federal Government does not set the rules. The local governments have set the rules under the Chesapeake Bay plans, and the watershed improvement plan is aimed at making sure each State does what it says it is going to do using best science to work to achieve our objectives. Our current objectives are based on 2025 goals.

My concern is, we have got messages from the EPA that you are not going to act as the impartial observer here, enforcing what the States say they can do and science says that they are able to do.

Can you just assure me that the EPA, in fact, will make sure that we comply with the Clean Water Act in achieving the goals of the Chesapeake Bay Agreements that the States have signed on to to reach the 2025 goals, and that requires you to enforce our watershed improvement plans based upon the TMDL standards? What is your position on this?

Mr. WHEELER. Senator, thank you for asking me this, because there is been a lot of misinformation out there over the last few months. We are working with all the States to make sure that they are implementing their 2025 targets under the TMDLs.

The TMDL, as the Obama administration argued to the Supreme Court, is not legally enforceable. That doesn't mean that we do not work with the States to make sure that they are meeting their obligations.

As of the Phase 3 WIPs that were filed last year and that EPA reviewed, five States are currently not shown to meet their obligations by 2025. Pennsylvania and New York are of course, two of them, but also Maryland is currently not set to meet their obligations by 2025, either.

But we are working with all of the States to make sure that they meet their obligations by 2025. We just announced, on the new funding we received from Congress, we just announced this week that \$6 million of the \$12 million is going to go to nitrogen reductions in the targeted States. A large percentage of that is going to Pennsylvania, because quite frankly, they have one of the largest problems on nitrogen loading into the Chesapeake Bay. So we are trying to use the funds in order to address the biggest problems where they are occurring.

I was very surprised to see that the Chesapeake Bay Foundation and the Attorneys General from Maryland and Virginia announced that they are going to sue the EPA over this. My EPA staff over the last year have put in 22,000 hours of technical assistance to the States in order to help them comply with the WIPs. If I am going to have to pull people off of technical assistance, to fight them off is going to hurt the Bay.

Senator CARDIN. Can I just say, for 1 second, can I just interrupt for one moment? There is one this about providing technical assistance, that is very important, and you need to do that, and we welcome that.

There is another thing about enforcement saying that you have got to hit what you say you are going to do, and science says is

achievable. The concern is, will you, at the end of the day, enforce these agreements?

Mr. WHEELER. Again, sir, as the Obama administration argued to the Supreme Court, the TMDL is not legally enforceable, but we can use our permit authorities, and we are, and we have, and we will continue to do so. That is under the NPDES Program, to make sure that the States are going to be able to achieve their targets by 2025. We are doing that across the board; we always have, and we will continue to do so.

The comment that spurred all this was back in a January meeting with one of my career managers at a public meeting, where his comments were taken out of context, which was directly on the TMDL issue. It does not mean we don't have other authorities. We continue to use those authorities through our permitting process to make sure that all the States meet their obligations.

But again, if we are going to, first of all, nobody has failed to meet their obligations, and they won't until 2025, so these lawsuits are premature at best. But to have to pull staff off of providing technical assistance to the Bay States in order to answer these, quite frankly, frivolous lawsuits, is going to detract from getting our work done on cleaning up the Bay.

Senator CARDIN. My last point on this would be, I think the more that you can broadcast that you are holding the States accountable, whatever methods you can do, I think would go a long way to alleviating some of the concerns that you are going to see some States doing their share and other States not doing their share. That seems to be the major concern, and I hope that you will work with us, those of us that are very interested in this program to make sure, in fact, we do have a workable program with EPA enforcing, as they can, the responsibilities of the local stakeholders.

Mr. WHEELER. Thank you, and we are working with the Maryland Department, the Environment Department. They are behind as well; they have five permits that they were supposed to issue in 2018. Those haven't been issued yet.

We are working with them. If anything, I would hope that the Maryland AG will decide to work with the Department of Environmental Quality instead of pursuing a frivolous lawsuit.

Senator CARDIN. Thank you, Mr. Wheeler.

Senator BARRASSO. Thank you, Senator Cardin.

Senator Capito.

Senator CAPITO. Thank you, Mr. Chairman. Thank you, Mr. Administrator, for your good, hard work, and thanks for being here today and your testimony.

I would like to say, I appreciated a year ago, we were down in Minden, West Virginia, looking at a site, and I know that you have continued to do soil sampling there. But I understand it has been put on hold because of the COVID response.

Can you just give me a quick update on that, where you are?

Mr. WHEELER. Certainly. We are continuing to work on all of our Superfund sites around the country. There are some samplings that we just can't do right now, as far as having employees go out physically in the field. But that doesn't mean that we are not cleaning up the sites.

On Minden, that is a high priority. I fully intend to visit the Minden community again. That is a community that was forgotten for years, and it is forgotten no more.

Senator CAPITO. Thank you. I appreciate that, and I know that that will be welcome to the folks in Minden.

Quickly on the PFAS, you probably knew I was going to ask you about that one, as something I am very interested in. You and I have talked about it a lot over the last several years.

I am very pleased the EPA has moved forward on the language that Senator Carper and I worked on with Senator Gillibrand that you added 172 PFAS chemicals to the Toxic Release Inventory, so thank you for that. That is a major development providing more information for not just companies, but for individuals and health folks in those communities.

Looking forward, what can we expect for our finalization of the MCL for PFAS and PFOA, as you know, we just passed—you are probably aware—last week out of this Committee, a Drinking Water Infrastructure Act that asks that that standard be set within a year?

Could you meet that deadline, and where are you on this critical issue?

Mr. WHEELER. We continue to work through the process for the MCL setting as laid out by the Safe Drinking Water Act. We went forward with our reg determination, I believe that was published in February, to comment on that, and we are moving forward.

As far as meeting a 1 year deadline, I don't believe that the agency can set an MCL on their own following the Safe Drinking Water Act within a year. But we are working through the issues, and I think it is very important to work through those issues.

But the main point I want to emphasize, while we are doing all of this on the MCL standard setting, and the way the determination that we made, or proposed, is we are continuing to enforce cleanups around the country. We have enforced 12 cleanups of PFAS contaminated communities around the country, and we have assisted States and local governments with another two dozen. So where we see the problem in the drinking water anywhere in the country, we are going after it aggressively to make sure that everyone has safe drinking water.

Senator CAPITO. Thank you.

As you know, this is a source of concern for many of us, certainly those around that have military bases or firefighting foam, and we have worked with the DOD on this. But I just want to tell you to expect from me a very aggressive posture on this because I am very passionate about this particular issue when it comes to safe drinking water, and I encourage the EPA to be as quick and as thorough as possible in this area.

The last thing I would like to ask you about, I would like to ask you two more things, but one of them is on, over the weekend, the EPA allowed the sell through of already manufactured wood heaters that are compliant with step one.

As you know, we have had that discussion. We can't get the bill passed through this Committee, and as you know, many people have these wood heaters, and they would like to sell off their inventory before they have to meet the new standard. You have al-

lowed them 6 months. Senator Carper offered an amendment to allow a year for this sell through, but I understand you are catching some criticism from others on this.

What is the status of this, and how do you think this is going to be impacted?

Mr. WHEELER. Certainly. First of all, Senator Carper referred to them as antiquated wood heaters. It is important to remember that those wood heaters meet the Obama 2015 standards. So we are not talking about standards that are 20 or 30 years old, but the standards before 2015 were 1988.

So these wood heaters that are currently, that we allow the sell through for the next 6 months, meet the 2015 Obama standards. The reason we increased this even though we decided last year not to, was after talking to a number of people in the wood heating industry, and I think it is either 80 percent or 90 percent are small businesses, they sell off their inventory in the March to May timeframe through rebates and sales at the end of the winter season around the country.

With the closure of all the stores across the country, they were unable to sell that inventory, and under their contracts, they have to buy back the wood heaters that are still on the shelves of your Home Depot or Lowe's department stores, hardware stores. They have to buy back the older inventory on their shelves, and that could very easily bankrupt a number of small manufacturers.

So we extended the sell through to November. That is our proposal, so that they can sell those at the beginning of the winter season this coming fall and try to get rid of that inventory before they start selling the 2020, I guess it is 2020, new heaters.

Senator CAPITO. Right. I appreciate that, and I appreciate the distinction that these are meeting the 2015 standards, and I think that is an important distinction to make.

The other thing I would say in this current environment that we are in, when we are looking to protect small businesses, a lot of these wood heaters are sold in our locally owned small businesses in certain areas of the country where people really enjoy and use this, not just for fundamental heating, but for recreational, more second home types of things on the creeks and in the hunting cabins all across the State of West Virginia.

So I appreciate your looking out for the small business interests. We have been trying to do that here during this COVID crisis, and I am very fully supportive of what you have done. I could have gone for a year, but 6 months, if that gets the desired result, that sounds good to me.

I going to ask a question on the record on the ACE Rule, but I have run out of time.

Thank you.

Mr. WHEELER. Thank you, Senator.

Senator BARRASSO. Thank you, Senator Capito.

Senator Whitehouse.

Senator WHITEHOUSE. Thank you, Mr. Chair.

Let me start by remarking that what the Chairman called burdensome regulations on coal to protect Rhode Island families' clean air and breathing. The Chairman's burdensome regulations on water pollution are, for Rhode Island families, clean rivers, and [in-

discernible] bay, like Delaware, Rhode Island is a downwind and downstream State. So what the Chairman [indiscernible] polluting interests are Rhode Island [indiscernible] our harms, our losses, our injury. So I cannot [indiscernible].

I would like to ask about the CAFE auto fuel efficiency standards today, particularly the role of Marathon Petroleum in attacking the auto fuel efficiency [indiscernible]. In particular under your watch, what role have you seen Marathon Petroleum play with respect to the fuel efficiency standards?

Mr. WHEELER. Senator, I didn't catch everything you said at the beginning, but as far as your question on the CAFE standards, I did not meet with or discuss with Marathon Oil Company, or actually any oil company on our CAFE standards at all during the process.

So, I did not discuss that with them. I believe that at my hearing last year, Senator Markey told me that the oil industry was supportive. That was the first time I had heard that they were supportive of our rule, but this was not something—we are working this out with NHTSA. We spent a number of years going over all the technical data behind this, and this was not done on behalf of any oil company at all.

Senator WHITEHOUSE. So your EPA staff did not meet with the agents or representatives of Marathon Petroleum in the preparation of your fuel efficiency regulation?

Mr. WHEELER. Not that I am aware of, and I certainly never discussed that with any of my staff. Not that I am aware of. I certainly didn't, myself.

Senator WHITEHOUSE. Do you know who represents Marathon for lobbying and regulatory purposes?

Mr. WHEELER. Well, again, I get confused between Marathon Oil and Marathon Petroleum. I know one of the lobbyists because he used to work in my law firm, and I was recused from meeting with him. So I didn't meet with him at all for the last 2 years. But I know some of the names of some of the people who represent both companies.

Senator WHITEHOUSE. Was that Michael Birsic?

Mr. WHEELER. It might be, but I didn't meet with him.

Senator WHITEHOUSE. Are you aware—well, I will make these all questions for the record so you have a chance to give full and complete deliberation to making sure that your answers are accurate and complete.

Are you aware of any contact between Marathon Petroleum and the Department of Justice, specifically the Antitrust Division of the Department of Justice?

Mr. WHEELER. No, I am not aware of, and I wouldn't have knowledge of that, no.

Senator WHITEHOUSE. Are you aware of any contact between EPA, anyone on your staff and the Department of Justice Antitrust Division regarding the fuel efficiency standard?

Mr. WHEELER. Not that I am aware of, no.

Senator WHITEHOUSE. Do you know what business Marathon Petroleum is in?

Mr. WHEELER. I am sorry, you cut off on that. Something, another question about Marathon Petroleum?

Senator WHITEHOUSE. What business Marathon Petroleum is in?

Mr. WHEELER. I am not aware. I would prefer to respond on the record, because I am not sure that I am catching your entire question.

Senator WHITEHOUSE. Do you know that they are auto fuel refiners and sellers?

Mr. WHEELER. Again, I am sorry Senator, I am having a hard time hearing you. I would be happy to respond on the record on questions about Marathon Petroleum.

But again, I have not met with any oil company to talk about the CAFE safety standards since I have been at the agency, and I did not have any conversations with any of my staff about the views of oil companies in regard to the CAFE standards.

Senator WHITEHOUSE. And you are not in contact with them through some of their intermediaries?

Mr. WHEELER. No. I can hear you now. No, I am not.

Senator WHITEHOUSE. OK. That is it for now. I will make them questions for the record, and I appreciate it very much.

Mr. WHEELER. Senator, I do want to follow up with you. When I saw you in January, I told you I was getting ready to go to Brazil, with the Amazon to talk about trash free waters programs. My meetings there were very fruitful, and I look forward to having some further discussions with you about that, and we are making a lot of progress on trying to clean up the plastic debris in the oceans.

Senator WHITEHOUSE. This is one of the rare areas where you and I agree, so let's do that.

Mr. WHEELER. That is why I wanted to draw it to your attention, sir.

[Laughter.]

Senator INHOFE [presiding]. All right, that is good.

I want to make a comment and a UC request.

The EPA's decision to change the greenhouse gas standards for cars and trucks was set by a prior Administration, and it was warranted. In 2017, the Alliance of Automobile Manufacturers sent a letter to the agency. That letter said, if left unchanged, those standards could cause up to 1.1 million Americans to lose their jobs due to the loss of vehicle sales, and low income households would be hit the hardest.

Now, I will ask unanimous consent without objection, to enter this into the record.

[The referenced information follows:]



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February 21, 2017

G. Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Mail Code 1101A
Washington, D.C. 20460

RE: Final Determination on the Appropriateness of the Model Year 2022-2025
Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm
Evaluation

Dear Administrator Pruitt,

I write on behalf of the Alliance of Automobile Manufacturers (Alliance), an association representing twelve leading manufacturers of cars and light trucks,¹ to request that the U.S. Environmental Protection Agency (EPA) withdraw the Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation (Final Determination) which was announced on January 13, 2017 but never published in the *Federal Register*.

For the auto industry, the Final Determination may be the single most important decision that EPA has made in recent history. The Alliance requests that EPA withdraw the Final Determination and resume the Midterm Evaluation, in accordance with its original timetable, to remedy the severe procedural and substantive defects that have infected the process to date. We explain, in more detail below, EPA's authority to withdraw the Final Determination and why that withdrawal is appropriate and essential.

1. EPA Should Exercise Its Authority to Withdraw the Final Determination

As you know, on January 20, the White House issued a memorandum to the heads of all executive departments and agencies instituting a freeze on regulatory activity, pending review by the Office of Management and Budget (OMB) Director.² The Alliance urges EPA to withdraw the Final Determination on its own initiative in accordance with the regulatory freeze. Irrespective of whether EPA considers the Final Determination a rule or an adjudication, the Final Determination should be reviewed

¹ Alliance members are BMW Group, FCA US LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars North America, Toyota, Volkswagen Group of America, and Volvo Car USA.

² See Memorandum for the Heads of Executive Departments and Agencies, Jan. 20, 2017, <https://www.whitehouse.gov/the-press-office/2017/01/20/memorandum-heads-executive-departments-and-agencies>.

and withdrawn. As the Alliance has noted, a wealth of precedents confirm that the Final Determination is a rule, and all rules not yet published in the *Federal Register* are subject to the regulatory freeze.³ Even if EPA continues to construe the Final Determination as an adjudication, however, it is still subject to the regulatory freeze as an “agency statement of general applicability and future effect ‘that sets forth a policy on a statutory, regulatory, or technical issue or an interpretation of a statutory or regulatory issue.’” The Final Determination reaffirms and reinstates industry-wide greenhouse gas emissions standards for all light vehicles sold in America for MY 2022-2025, and thereby establishes a policy on a regulatory issue of central importance to the auto industry.

Furthermore, EPA has ample authority to withdraw the Final Determination on its own initiative, irrespective of whether EPA considers it a rule or an adjudication. If the Final Determination is a rule, it is clearly a nonfinal one, because it has not been published in the *Federal Register*. See 5 U.S.C. § 553(d); *Kennecott Utah Copper Corp. v. U.S. Dep’t of Interior*, 88 F.3d 1191, 1209 (D.C. Cir. 1996). And, as a nonfinal rule, EPA can readily withdraw the Final Determination without engaging in notice-and-comment rulemaking. *Kennecott*, 88 F.3d at 1206.

Even if EPA continues to endorse the view that the Final Determination is an adjudication, however, EPA has broad inherent power to reconsider its decision “within the period available for taking an appeal.” *Am. Methyl Corp. v. EPA*, 749 F.2d 826, 835 (D.C. Cir. 1984). Agencies have long exercised this power to fix determinations like this one that suffer from “serious procedural and substantive deficiencies.” *Belville Min. Co. v. United States*, 999 F.2d 989, 998 (6th Cir. 1993). Regardless of how EPA classifies the Final Determination, EPA should promptly withdraw it in light of the many procedural and substantive flaws described below.

2. EPA Has Abrogated Its Commitment to a Robust Midterm Evaluation

As the Supreme Court has recognized, EPA’s regulatory efforts to address greenhouse gases have already produced “the single largest expansion in the scope of the [Clean Air Act] in its history.”⁴ In 2009, EPA issued an Endangerment Finding that motor vehicle greenhouse gas emissions contribute to climate change and thereby threaten public health and welfare. Thereafter, EPA and the National Highway Traffic Safety Administration (NHTSA) began jointly setting greenhouse gas emissions and fuel economy standards for new light-duty motor vehicles, starting with Model Year (MY) 2012-2016. Then, in 2012, EPA and NHTSA took the unprecedented step of

³ See Alliance Comments on Proposed Determination on Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle Greenhouse Gas Emissions Standards under the Midterm Evaluation at 11-13, Dec. 30, 2016, Docket ID No. EPA-HQ-OAR-2015-0827; Memorandum for the Heads of Executive Departments and Agencies, Jan. 20, 2017.

⁴ *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2436 (2014) (internal quotation marks omitted).

setting joint greenhouse gas and fuel economy standards over a decade in advance for MY 2022-2025 vehicles. 77 Fed. Reg. 62,628 (Oct. 15, 2012). No agency ever had set emissions standards so far into the future, and all stakeholders understood that no one could accurately project the circumstances affecting the technological and economic feasibility of these standards.

The Alliance supported these efforts—but only on the condition that EPA and NHTSA would reassess standards as data became available to test their feasibility. That commitment was essential because of the great uncertainty regarding the feasibility of the future standards. Based on the projections in the 2012 rule, manufacturers must achieve an average 54.5 miles per gallon equivalent across their new vehicle fleets by 2025. Even today, no conventional vehicle today meets that target, and conventional vehicles comprise 96.5% of the new light-duty vehicle fleet. Only some non-conventional vehicles (i.e., hybrid, plug-in electric, and fuel-cell vehicles), which comprise fewer than 3.5% of today's new vehicles, currently can do so.⁵ Even under EPA's optimistic estimates, the automotive industry will have to spend a staggering \$200 billion between 2012 and 2025 to comply, making these standards many times more expensive than the Clean Power Plan.⁶

EPA and NHTSA committed to a robust Midterm Evaluation that would take a fresh look at these standards by April 2018. The agencies promised that this review would be collaborative, so that the industry could offer the agencies real-life data to adjust their model-driven forecasts. The agencies also committed to developing greenhouse gas emissions standards and fuel economy standards in tandem.⁷ And they repeatedly represented that they would not complete the Proposed Determination/Notice of Proposed Rulemaking until mid-2017 at the earliest.⁸ The industry took the agencies at their word, commissioning complex studies critical to assessing the MY 2022-2025 standards and the processes used by EPA in its analysis, that we had expected to add to the administrative record for the Midterm Evaluation in 2017.

On November 30, 2016, EPA abruptly abrogated these commitments. EPA issued a Proposed Determination that the MY 2022-2025 standards should go into force

⁵ "Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 through 2016," at 118. U.S. Environmental Protection Agency. EPA-420-R-16-010, Nov. 2016.

⁶ See EPA Regulatory Impact Analysis for 2012-2016 rule (EPA-420-R-10-009, Apr. 2010) at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2012-2016-light-duty-vehicle>; EPA Regulatory Impact Analysis for 2017-2025 rule (EPA-420-R-12-016, Aug. 2012) at <https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2017-and-later-light-duty-vehicle>.

⁷ See 40 C.F.R. § 86.1818-12(h), 77 Fed. Reg. 62,784 (Oct. 15, 2012), 40 C.F.R. § 86.1818-12(h)(1)-(2); 81 Fed. Reg. 49,219 (July 27, 2016).

⁸ See Alliance Comments on Proposed Determination at 10, Dec. 30, 2016, Docket ID No. EPA-HQ-OAR-2015-0827.

without modification. EPA issued the Proposed Determination without coordinating with NHTSA. EPA demanded comments by December 30, 2016, even though the Proposed Determination was not published in the *Federal Register* until December 6. The public and industry had a mere 24 days, spanning a major national holiday, to comment on nearly 1,000 pages of documents, plus additional cited documents and computer modeling, regarding requirements that will profoundly affect the automobile industry and the more than 900,000 American workers it directly employs.⁹ After EPA denied requests by various stakeholders to extend the abbreviated comment period, we did our best to file substantive comments. EPA received more than 100,000 public comments, including 63 sets of comments from various organizations spanning hundreds of pages.¹⁰ Many objected that the comment period was inadequate. EPA denied all requests to extend the abbreviated comment period and yet EPA issued the Final Determination on January 13, 2017, just 14 days after the comment period closed. EPA brushed aside objections to its procedural shortcuts and never justified the need for such an abbreviated comment period. EPA also rejected commenters' substantive and technical concerns by resting on its earlier analysis.

3. EPA Should Withdraw the Final Determination Immediately

The Final Determination is the product of egregious procedural and substantive defects and EPA should withdraw it.¹¹ In EPA's rush to promulgate the Final Determination before the new administration took office, EPA bypassed required procedures, failing for instance to provide an adequate period for meaningful notice and comment. The Final Determination asserts that there was no need for more time because the Proposed Determination did not include much new material. But that contention is belied by EPA's acknowledgement that the Proposed Determination adjusted a number of EPA assumptions in response to commenters who pointed out errors at earlier stages. The industry also had an unacceptably short period to try to ascertain why EPA rejected many of its objections.¹² These procedural defects are significant irrespective of whether the Final Determination constitutes rulemaking or adjudication.

EPA's unilateral announcement of its Final Determination also constitutes a failure to harmonize its greenhouse gas emissions standards with NHTSA's fuel-economy standards, contrary to the letter and intent of EPA's own regulations. NHTSA has not yet reached a determination on its fuel economy standards and continues its

⁹ U.S. Department of Labor, Bureau of Labor Statistics, 2015, U.S. Vehicle and Equipment Manufacturing Employment equaled 909,700 people.

¹⁰ Final Determination, Response to Comments at 1-3.

¹¹ See Alliance Comments on Proposed Determination, Dec. 30, 2016, Docket ID No. EPA-HQ-OAR-2015-0827.

¹² See Final Determination, Response to Comments at 7.

Midterm Evaluation rulemaking activities. EPA's failure to act in coordination with NHTSA also casts serious doubt on the legitimacy of EPA's data and conclusions, given the substantial discrepancies between EPA's and NHTSA's analysis of the technologies and costs associated with the MY 2022-2025 standards.¹³

Furthermore, EPA's Final Determination that the MY 2022-2025 greenhouse gas standards should remain unchanged, is riddled with indefensible assumptions, inadequate analysis, and a failure to engage with contrary evidence. Here are just a few examples:

- EPA estimated that these standards will cost the industry at least \$200 billion. But EPA underestimated the burden. Contrary to EPA's assumptions, manufacturers will have to rely on much more expensive electrified technologies (i.e., hybrids and plug-ins), driving up vehicle prices and depressing auto sales.
- EPA refused to conduct an analysis of consumer acceptance and technology affordability needed for compliance, claiming this was too difficult.
- EPA refused to analyze substantively the economic impact of the MY 2022-2025 standards, instead making cursory assertions that downplayed the impact of its mandate on auto sales and employment.
- EPA refused to consider many of the Alliance's technical concerns even when supported by an outside consultant¹⁴, asserted the Alliance provided insufficient data, and then refused further meetings for clarification.

4. Studies and Data Highly Relevant to the Midterm Evaluation Have Not Been Submitted to EPA Because They Still Are Pending

It is particularly critical that EPA withdraw the current Final Determination and reopen the Midterm Evaluation process because analysis commissioned according to EPA's original timetable is ongoing and the Alliance expects that new information relevant to the Final Determination's underlying assumptions and resulting analysis will soon emerge. EPA's rushed timetable, coupled with its about-face on the timing of the Midterm Evaluation, prevented consideration of this information.

¹³ See Alliance Comments on US EPA, US DOT, California's Air Resources Board Draft Technical Assessment Report of Greenhouse Gas Emissions and Fuel Economy Standards for Model Year 2022-2025 Cars and Light Trucks at ES-9, Sept. 26, 2016, Docket ID No. EPA-HQ-OAR-2015-0827, NHTSA's costs are approximately 42% higher than EPA's (NHTSA Table ES-2 v. EPA ES-4 Table ES-1).

¹⁴ See Novation Analytics Comments on Draft Technical Assessment, Sept. 26, 2016; Docket ID No. EPA-HQ-OAR-2015-0827.

We urge EPA to reconsider imposing such a far-reaching mandate on an entire industry without adequately considering the consequences, and without giving stakeholders a meaningful opportunity to comment. The MY 2022-2025 standards threaten to depress an industry that can ill afford spiraling regulatory costs. If left unchanged, those standards could cause up to *1.1 million* Americans to lose jobs due to lost vehicle sales.¹⁵ And low-income households would be hit the hardest.¹⁶

The Alliance is not asking EPA to make a different Final Determination at this time. All we are asking is that EPA withdraw the Final Determination and resume the Midterm Evaluation, in conjunction with NHTSA, consistent with the timetable embodied in EPA's own regulations. We believe that, if carried out as intended, the Midterm Evaluation can lead to an outcome that makes sense for all affected stakeholders and for society as a whole.

The Alliance welcomes the opportunity for further dialogue about ways to rekindle the industry's longstanding cooperation with EPA on these issues.

Sincerely,



Mitch Bainwol
President and CEO

Cc: Secretary Elaine Chao, DOT
Kevin Green, DOT
Bill Charnley, EPA
Chris Grundler, EPA
Michael Olechiw, EPA
Rebecca Yoon, NHTSA
James Tamm, NHTSA
Mike McCarthy, CARB
Annette Hebert, CARB

¹⁵ McAlinden, Sean, et al., *The Potential Effects of the 2017-2025 EPA/NHTSA GHG/Fuel Economy Mandates on the U.S. Economy*, Center for Automotive Research (Sep. 2016) at 49. Referring to the \$3.00 per gallon gasoline price \$6,000 technology cost scenario.

¹⁶ Walton, Tom, et al., *The Impact of Future Fuel Economy Standards on Low Income Households*, Defour Group LLC (Sep. 2016); Walton, Tom, et al., *Defour Group Response to EPA Rejoinders to Defour Group / Alliance of Automobile Manufacturers Submission Regarding the Regressivity/Affordability of EPA's Proposed Fuel Economy Standards*, (Dec. 2016).

Senator INHOFE. Senator—who is next on here?

Senator CRAMER.

Senator CRAMER. Thank you, Mr. Chairman.

Thank you, Administrator Wheeler for being here, and I want to echo something that Senator Inhofe said. Your opening statement was really fantastic, in fact, I can't wait to post it, because a lot of people would do well to listen to that 5 minutes of accomplishments of this Administration under your leadership at the EPA. So thank you for that.

I am not real certain about the 500 or so people you have said you have hired or are going to hire, but I will look into that. But I will give you the benefit of the doubt that they are all important and necessary. Thank you for being here.

I also want to thank you, by the way, for the final Waters of the U.S. Rule. That was such an important move.

As you know, the previous Administration's WOTUS Rule was burdensome and illegal, as have previous attempts at Waters of the U.S. The fact that you guys finished off one that actually listened to States, listened to landowners, and protects our waters in an appropriate way while also protecting the rights of States and the rights of landowners was really important. I thank you for coming out the North Dakota and meeting with a number of them at my roundtable, so thank you for that.

I want to shift gears a little bit and get your insights on another issue, the Regional Haze Program. This is an issue very important to North Dakota and North Dakotans. I brought this issue up with Mr. Benevento as well at his hearing process.

As you know, we are a major energy producing State; it includes coal, oil, gas, wind; we have lots of wind as well.

The last Administration wanted to just keep driving emissions down by using the Regional Haze Program without stopping to think about what the program is all about, and that is, of course, visibility improvement, a very important distinction, visibility improvement.

But the cost of compliance can actually cause plants to have to be shut down, which leads to plant closures, which seems like an awfully steep price to pay for visual improvements that are literally unnoticeable to the naked human eye.

North Dakota is already a national leader in air quality. We are one of the very few States who meet all of the Ambient Air Quality Standards that are prescribed by the EPA.

But the previous Administration really wasn't about visibility standards at all, it was about using every tool they could to get after things both in the, well, certainly in the Clean Water Act, but also, of course, the Clean Air Act, and they tried to utilize Regional Haze to accomplish some of those goals.

In August of last year, under your leadership, the EPA released final guidance outlining the flexibility that States, and once again, recognizing the primacy of States, have to comply with the program under the Clean Air Act. So with that in mind, I just have a few questions.

One, Regional Haze could be, as I said, a potential reason for plant closures. Do you think it was Congress's or any Administra-

tion's goal with the Regional Haze Program to put producers and generators out of business?

Mr. WHEELER. No, I don't, and I think there is a definite difference between the health based standards versus the visibility aesthetic standard.

Senator CRAMER. So, would you agree that the Regional Haze program drives States toward a goal, but does not dictate exactly how States would achieve reasonable progress toward that goal in their SIP, or their State Implementation Plan?

Mr. WHEELER. I believe that is how it should be. The problem that we have right now, and we have been trying to correct it, is the Obama administration issued a number of FIPs, Federal Implementation Plans, instead of SIPs.

On the Regional Haze side, we have changed 15 of those FIPs into SIPs over the last 3 years, which is working more cooperatively with the States instead of directing from Washington, DC.

Senator CRAMER. So just to clarify, States do have a lot of flexibility in how they show that reasonable progress, and they can do that through their SIPs, as opposed to complying with a FIP?

Mr. WHEELER. They should, and that was the way, it is my understanding that the 1990 Clean Air Act Amendments in the—

Senator CRAMER. Can you provide any specific examples of States' flexibility?

Mr. WHEELER. I would rather get a specific list back to you.

Senator CRAMER. That is fine.

Moving forward, I just want to encourage you and Regional Administrator Sopkin to continue these constructive conversations with the North Dakota Department of Environmental Quality as they develop their State Implementation Plan. It is really one more great example of how cooperative federalism really can work, and have, as you have stated many times, the goal of actually being better for the environment as well as being better for the economy. So I appreciate that.

I will follow up with a question on the record relating to Section 401, and where I think there have been Section 401 abuses in places like New York and Washington State, and what the EPA is doing to ensure that the efforts of abuses don't happen in the future.

With that, thank you for being here.

Mr. WHEELER. Thank you.

Senator INHOFE. Senator Merkley.

We will go to Senator Booker.

Last try here, Senator Van Hollen.

OK. Senator Wicker.

Senator WICKER. Thank you, Mr. Chairman, and Mr. Administrator, thank you for being here.

In 2015, the Grass Roots Rural Small Community Water Systems Act was passed and signed into law on May 6th of this year. The committee passed a bill, the Drinking Water Infrastructure Act, which would reauthorize the Grass Roots Rural and Community Water Systems Act.

I had previously sent a letter 2 years ago, almost 2 years ago, regarding concerns about the technical assistance being funded by EPA. My letter mentioned that EPA was awarding grants to orga-

nizations that are not located near the community seeking help, which resulted in remote assistance. Remote assistance, I am hearing from out there in my State, is simply not adequate.

Will you commit to ensuring, do you agree that remote assistance is not desirable, it is not optimal, and will you commit to ensuring that rural and small communities receive the necessary onsite technical assistance that they require?

Mr. WHEELER. We certainly strive to provide the best technical assistance that we can, and onsite, you are right, is preferable.

I would have to check as far as the funding for the program at this point on what our capabilities are, but we try to provide assistance to the small water systems in particular as much as we can.

Senator WICKER. Well, my understanding is the program received \$15 million, an increase of \$2.7 million from the amount appropriated in fiscal year 2019, so work with us on that.

Next, Mr. Administrator, the 2018 America's Water Infrastructure Act included a piece of legislation that I authored entitled Small and Rural Community Clean Water Technical Assistance to Small and Rural Publicly Owned Treatment Works. Congress appropriated \$12.3 million, but EPA has not yet to request applications for this funding.

When does EPA expect to move forward with implementing this legislation so that our small and rural treatment works can receive the technical assistance they need, and in particular, the issuance of applications for this funding?

Mr. WHEELER. We are working on that as we speak. I believe that was funding that we received for 2020, so we are working to get that program up and running.

Senator WICKER. OK. Well, get back to us on that, and there is an eagerness for action there.

Next, when Congress passed the Clean Water Act, it made it clear that groundwater should not be subject to Federal permitting requirements. As a result, States have traditionally taken the lead on regulating groundwater.

However, the Supreme Court recently issued a ruling in the County of Maui v. the Hawaii Wildlife Fund that could change this. As EPA considers the implementation of this Supreme Court ruling, how can you ensure that the traditional role of States be preserved in regulating groundwater?

Mr. WHEELER. We are still reviewing the decision from the Maui case, trying to determine whether or not we need to issue new guidance or potential rulemakings. But we have not reached any conclusions on the best way of implementing the Maui decision at this point.

Senator WICKER. What is your initial impression there, Mr. Administrator?

Mr. WHEELER. I am always hesitant to say anything critical of the courts. They provided a new balancing test, basically, and the decision that is going to be a little difficult. We were hoping for more clear cut direction, quite frankly, but we are reviewing the decision to see what flexibilities we do have to make sure that the program cannot break.

Senator WICKER. Finally, if I could just ask, in the Consolidated Appropriations Act of 2020, there is a provision directing your

agency to establish clear policies that reflect the carbon neutrality of biomass. It is important that EPA publish a proposal this year to ensure that U.S. manufacturing can compete globally.

What is the timeline for proposing and finalizing a rule recognizing the carbon neutrality of biomass?

Mr. WHEELER. Our proposed rule is currently going through interagency review as we speak, and we hope to publish the proposal in June.

Senator WICKER. In June? OK, thank you, and I yield back, Mr. Chairman.

Senator INHOFE. Senator Merkley.

Senator MERKLEY. Great. Thank you very much, Mr. Chairman. Can you hear me OK?

Senator INHOFE. Yes, loud and clear.

Senator MERKLEY. OK, terrific. I wanted to start with the exploration of the action on the 10 priority chemicals that were aiming for final risk evaluation by the end of this year, and EPA says it is on track to meet that deadline.

The key is not just that the timing be met, but that they be done in accordance with the guidance that was in the TSCA Act, and this was very bipartisan; the whole Committee worked very hard on developing the TSCA Act in order to help address issues that had been unaddressed for a very long period of time. It was a pretty remarkable piece of work that this Committee was involved in, so I am particularly concerned about whether or not the actual substance of the efforts is reflecting the desire of Congress for thorough analysis.

Taking asbestos as an example, the EPA, in its draft of its final rule, proceeded to exclude legacy uses of asbestos. The Ninth Circuit Court has said that this exclusion is unacceptable, the law is clear, and so that is one problem.

A second problem is EPA decided to examine only one of the types of asbestos fibers when there are six types that are in commercial use. So that doesn't make sense in honoring the integrity of the analysis.

The third is the EPA decided to ignore the pathways to exposure, including air exposure, contaminated waste, and drinking water exposure, all of which are very relevant.

So meeting a deadline is one thing, but meeting a deadline and actually doing the work in a responsible fashion, a fashion with integrity that addresses the vision that Congress laid out is very important. So I am concerned that this, what we are seeing in the asbestos world may also be happening as you look at other chemicals and if we are using exclusions, waivers, bypasses, ignoring uses, so on and so forth.

So, why not do the asbestos study looking at the legacy uses? Why not look at all six types of fibers? And why not explore the pathways to exposure that are required under the law?

Mr. WHEELER. Senator, thank you. So our deadline for the first 10 risk evaluations is June 22nd. I don't know if this will make you feel better or not, but we probably will not meet that deadline as of this point. We are spending more time on the first 10. We want to make sure that we get them right.

The peer reviews have taken longer than we had anticipated, and the interagency review process has taken longer than we anticipated. I believe we are on track to have at least 2 of the first 10 done by June, and the remainder by the end of the summer.

But we are spending more time on them, because we want to make sure we get them correct, and we wanted to make sure that we have the full advice of the peer review process. So we are taking more time on the peer review process and more time on the first 10 chemicals.

On asbestos in particular, on the legacy use, we are going to do a separate, supplemental risk evaluation on the legacy use, since we believe for the other uses, we can finalize that this summer. But the legacy use is going to take longer, and that court decision, as you mentioned, just came down last year.

So we will not be able to complete the legacy use risk evaluation in time for the rest of the risk evaluation for asbestos this summer. So we will be looking at the broader asbestos issues as part of the legacy use risk assessment.

Senator MERKLEY. So, let me just be specific. Will you commit to examining all six types of asbestos fibers, not just one?

Mr. WHEELER. I believe we have that covered under our SNUR, the Significant New Use Rule. If that is not the case, sir, I will get back to you on that, and provide a follow up answer to you on the question. But it was my understanding we were addressing that through our SNUR process, which is in tandem with our risk evaluation under TSCA.

Senator MERKLEY. And will you commit to examining all significant pathways to exposure, including air, contaminated waste, and drinking water?

Mr. WHEELER. When a chemical under the TSCA review process is already being regulated under a different program, we decided early on in setting out the parameters for the TSCA risk evaluations that we would not double regulate that in order to focus the time on the areas of the chemicals that are unregulated at this point.

So while we have already started, well, we are finishing up the first 10, we have already started the next 20. We announced those in December, and we are moving forward on the initial risk assessments for the next 20.

As you know, under the new TSCA law, we have very strict deadlines. We are trying hard to meet those deadlines. The way to do that is to allow the other programs that are already regulating aspects of these chemicals to continue to regulate them, whether it is a hazardous air pollutant under the Air Program, or a regulation under the Water Program.

Senator MERKLEY. I don't believe it is the case that anyone thinks that asbestos is being properly regulated under, in terms of contaminated waste or drinking water or air in other programs. So these are the type of evasions and bypasses that really concern those of us who work so hard to address these toxic chemicals.

Let me turn to the wood heaters issue. You noted you issued an additional 6 months—

Senator BARRASSO [presiding]. The Senator's time is expired, and we have members that need to go to vote that have been waiting.

Senator MERKLEY. Thank you very much, Mr. Chairman.

Senator BARRASSO. Thank you.

Senator Carper, you have a quick unanimous consent request?

Senator CARPER. Just a quick unanimous consent request, if I could, to submit a 2019 letter from 17 automakers in which they ask that EPA not finalize a rule that would lead to more litigation, but instead negotiate a deal with California and 13 other States. I ask unanimous consent.

Senator BARRASSO. Without objection.

[The referenced information follows:]

June 6, 2019

The Honorable Donald J. Trump
President of the United States
The White House
1600 Pennsylvania Avenue, NW
Washington, D.C. 20500

Dear Mr. President:

Thank you for your efforts to support a vibrant and competitive auto industry in the United States by reopening the midterm evaluation for the CAFE and Greenhouse Gas rulemaking. Without question, market conditions have changed materially since 2011. Relative to expectations, fuel prices are far lower, consumers are buying more SUVs and pickups, and the adoption rate of alternative powertrain vehicles has been slower than anticipated. Thus, your decision to review and update future auto standards was the proper choice.

As you know from many conversations with us and others in the auto sector, the question of the right level of regulation is complex. What works best for consumers, communities, and the millions of U.S. employees that work in the auto industry is one national standard that is practical, achievable, and consistent across the 50 states. In addition, our customers expect continuous improvements in safety, efficiency, and capability. For these reasons, we support a unified standard that both achieves year-over-year improvements in fuel economy and facilitates the adoption of vehicles with alternative powertrains.

We strongly believe the best path to preserve good auto jobs and keep new vehicles affordable for more Americans is a final rule supported by all parties—including California. Such a final rule would provide the necessary structure and compliance tools to achieve annual fuel economy improvements midway between the existing standards and the preferred path outlined by your Administration last summer. The final rule would cover model years 2021-2026 and include flexibilities that promote advanced technology for the sake of long-term environmental gains and U.S. global competitiveness. We encourage both the federal government and California to resume discussions and to remain open to regulatory adjustments that provide the flexibility needed to meet future environmental goals and respond to consumer needs.

For our companies, a broadly supported final rule would provide regulatory certainty and enhance our ability to invest and innovate by avoiding an extended period of litigation and instability, which could prove as untenable as the current program. This would also preserve vehicle affordability and help advance our shared national interest in America's manufacturing and innovation leadership.

Striking the proper balance will not be easy, but we know with your leadership it can happen. We are eager to work with you to advance this outcome and strengthen our economy and technological leadership.

Once again, thank you for all you have done for our industry and your commitment to maintain our country's role as an automotive leader, bolster the U.S. economy, and support American workers and their families.

Sincerely,

Aston Martin Lagonda, Ltd.
BMW North America
Ford Motor Company
General Motors Company
Honda North America, Inc.
Hyundai Motor America
Jaguar Land Rover North America, LLC
Kia Motors America
Mazda North American Operations
Mercedes-Benz USA, LLC
Mitsubishi Motors North America, Inc.
Nissan North America, Inc.
Porsche Cars North America, Inc.
Subaru of America, Inc.
Toyota Motor North America, Inc.
Volkswagen Group of America
Volvo Car Corporation

CC: The Honorable Elaine L. Chao, Secretary of Transportation
The Honorable Andrew Wheeler, Administrator U.S. Environmental Protection Agency
The Honorable Lawrence Kudlow, Director National Economic Council

Senator CARPER. Thank you.

Senator BARRASSO. Senator Ernst.

Senator ERNST. Thank you, Mr. Chair, and Administrator Wheeler, it is good to see you. Thank you very much.

As we face this global pandemic, no sector has been spared, none at all, and as resilient and as tenacious as it might be, Iowa's renewable fuels industry is being hit hard.

Just as oil has lost demand due to people staying home and not traveling as much, so has ethanol. Close to 40 percent of ethanol production is offline, and these are jobs lost and lives upended across Iowa and throughout rural America. My farmers rely on these markets, and many of the livestock producers rely on the dry distiller's grains for their feed rations.

Administrator, first, are you fully aware and informed of the situation facing ethanol producers, and how closely the situation mirrors what is going on in the petroleum industry?

Mr. WHEELER. Yes, and before you entered the room, on a question on as far as the small refineries are concerned, I mentioned the fact that this is hurting both the ethanol industry as well as the small refinery industry.

Senator ERNST. Thank you for recognizing that. One thing that has recently attracted the attention of the farmers and the biofuel producers in my State is the attempt by some in the petroleum sector to blame renewable fuels for the recent downturn, turning to the severe economic harm waiver to argue that the RFS is the cause of their recent business troubles, not the COVID-19 pandemic.

Are you familiar with this request?

Mr. WHEELER. Yes, I am familiar with the request.

Senator ERNST. To me, the idea that the RFS is the cause of harm to the petroleum sector, when it is very clearly the COVID-19 pandemic, as well as wars between Russia and Saudi Arabia on oil production, this is frustrating to me, and to my farmers in Iowa. Time and time again, we are seeing these battles play out around the RFS Program.

It is my hope that EPA follows the precedent around this provision established by both Republicans and Democrats, those Administrations, that this waiver requires clear evidence that the source of economic pain is the RFS, and not these other factors.

Has EPA made a decision on how to handle this waiver request?

Mr. WHEELER. No, we have not yet.

Senator ERNST. Will you commit that your determination will include precedent from 2008 and 2012 about economic harm?

Mr. WHEELER. Everything we have done under the RFS Program during this Administration has looked at the past precedent, as well as the requirements of the Clean Air Act and the ever changing litigation decisions that we receive from court decisions.

Senator ERNST. So, the answer is yes, you will look at precedent?

Mr. WHEELER. Yes.

Senator ERNST. OK.

Administrator Wheeler, when you and I were in the White House debating those small refinery exemptions last fall, you made commitments to eliminate the E-15 warning labels and to allow E-15 to be sold through existing infrastructure. Likewise, as a part of

that broader agreement, Secretary Purdue was to provide funding for rolling out more infrastructure for higher blends of biofuels.

Secretary Purdue put out final rules earlier this month upholding his end of the bargain, but I haven't seen anything on infrastructure yet from the EPA. Since your agency approves E-15 for all vehicle models year 2001 and newer, which is 91 percent of the vehicles on the road today, will you finally eliminate the E-15 warning labels as you committed to do 8 months ago?

Mr. WHEELER. Senator, if you remember, after that meeting in the White House, I believe we did go back to you and state that I had—my staff reminded me when I got back from the meeting that I was only looking at the actual pumps, but not the tanks underground.

So it is actually more complicated than what I said in that meeting, and we are looking at the warning labels because it also impacts and influences the restrictions on the tanks. You can't have product going into the tanks; it will end up leaking, so we have to make sure that those warning labels apply not just to the pumps, but also to the underground tanks, so we don't want to see any fuel get into the water system.

Senator ERNST. When do you expect to see a resolution with that issue?

Mr. WHEELER. As you know, with the Tenth Circuit decision, and the other impacts to the program that have come out over the last few months, the same small group of staff that have been working, that were working on that are also working on these other RFS issues as well. We are a little behind on that, but we certainly hope to get through that as quickly as we can.

Senator ERNST. OK. Thank you. I appreciate the willingness to work with us and work with rural America on the RFS. It is important that the EPA continue to follow the original congressional intent of that law.

Thank you, Administrator Wheeler.

Mr. WHEELER. Thank you.

Senator BARRASSO. Thank you, Senator Ernst.

Senator Van Hollen.

Senator VAN HOLLEN. Thank you, Mr. Chairman, and thank you, Administrator Wheeler, for your testimony.

I would like to follow up on some of Senator Cardin's questions regarding the Chesapeake Bay, and I appreciate the statements that you personally made in support of the Chesapeake Bay clean-up effort.

I think we would all have a lot more confidence in the Administration's commitment to that effort if the budgets didn't slash the EPA program for the Chesapeake Bay. We are now funding it on a bipartisan basis in Congress at \$85 million a year, we actually increased it over the last year.

Yet, the Administration's budget, once again, came in at \$7.3 million, over a 90 percent cut. So it would boost our confidence in your statements of support if they were reflected in the budget.

Let me just ask you a couple questions, because I heard you saying in response to Senator Cardin's question, well, the Chesapeake Bay Agreement deadline is 2025, and so, Pennsylvania and other States have a longer period of time to come into compliance. But

I think we all know that if a missile were fired at us, and we had the ability to intercept it before we knew it was going to land in a bad place, we would do that.

We know that if Pennsylvania, in particular, continues on its current trajectory, there is no way that it will meet the 2025 goals. I mean, right now, they are 25 percent below their target on some of the nutrient reductions. They have said they are \$300 million below in budget just this year in terms of what is necessary to meet their obligations.

Now, I know we have a disagreement with respect to EPA's enforcement authority. It looks like we will be litigating that. I talked to Maryland's Attorney General today, and would point out that Maryland's watermen have also signaled their intent to file a lawsuit here. So I have to disagree on that piece. But I did hear you say that the EPA, of course, has its permitting authority.

So my question to you is, are you willing to use that authority as leverage to help bring all the Bay States into compliance and be on a track toward compliance by 2025?

Mr. WHEELER. Yes, absolutely. We have, and we will continue to.

As far as the funding question is concerned, we believe the funds we requested for the Chesapeake Bay Program is what we need for that program, but we are using other funds from other programs at the agency in order to meet the goals of cleaning up the Chesapeake Bay.

Senator, you were with me when we gave the \$202 million WIFIA loan to modernize Baltimore's wastewater infrastructure with the purpose of cleaning up the Bay, and we have invited Baltimore to apply for two additional water infrastructure projects under WIFIA that will also help their obligations for cleaning up the Bay.

So the amount of money we are spending on cleaning up the Bay is not limited to the program funds of the Chesapeake Bay Office. We are using a lot of other resources across the board to ensure that everyone reaches their compliance guidelines and targets by 2025.

Senator VAN HOLLEN. Well, Mr. Administrator, first of all, no, we appreciate that those WIFIA funds are important, as are the funds for the Chesapeake Bay Program, which is why you have strong bipartisan support in the U.S. Congress. I am not saying that you asked for that cut, but that is a reflection, at least, of where the Administration stands.

Let me just pick up on the thread of using your permit authority to enforce compliance. Can you talk a little bit more about how you can use that authority to make sure that Pennsylvania and the other States are on a track to make sure that we are meeting the goals by 2025?

Mr. WHEELER. Absolutely, and that is exactly what we are doing with the State of Maryland, for example. They are late on five of their permits, and we are using our permit authority to push Maryland—

Senator VAN HOLLEN. Mr. Administrator, I have heard you say that. Look, in Maryland we are working hard. I know we have a stormwater issue. We are working to fix it. As you also know, it

is not going to have any impact on our ability to meet our 2025 targets.

So to compare Maryland's issues that we are dealing with on stormwater to the 25 percent shortfall of Pennsylvania, really is apples to oranges.

Mr. WHEELER. Senator, I would have to disagree, because those five permits are included in Maryland's WIP that they will complete those as part of their obligations for the Bay.

Senator VAN HOLLEN. I didn't want to belabor the point, but EPA said, "Maryland's plan meets its numeric planning targets for nitrogen and phosphorus at State based levels."

Anyway, I want to ask you about the Mercury Rule change. This is a change that you proposed to the rule that went into effect in 2012. Is that correct?

Mr. WHEELER. Yes, sir, it is.

Senator VAN HOLLEN. And under that rule, a number of companies already took steps to comply, and by taking those steps, they reduced mercury emissions. Isn't that true?

Mr. WHEELER. Absolutely. The industry has done an incredible job reducing their mercury emissions, and we are very happy and proud of that, and our rule will do nothing to take away those mercury reductions or the technologies that have been deployed, because part of our mercury decision was also the residual risk and technology review, and that was a bootstrap to make sure that the current standards continue to be implemented.

Senator VAN HOLLEN. Mr. Administrator, if your rule had been in effect in 2012, do you think those industries would have reduced mercury the way they did?

Mr. WHEELER. We would have taken a different approach in 2012.

Senator VAN HOLLEN. The answer is no. You know the answer is no. You know they wouldn't have done this. And so your suggestion that there will definitely be no increase in mercury pollution when you are changing the rule, that did, in fact, lead to reductions in poisonous mercury emissions, is just flat speculation on your part.

This was a gift, as we know, to Murray and Murray Energy, it was on their WIF [indiscernible].

Senator BARRASSO. The Senator's time has expired.

Mr. WHEELER. That is offensive, and that is not what we did. We were following the Supreme Court decision, which happened after 2012.

Senator BARRASSO. The Senator's time has expired.

Senator VAN HOLLEN. The Supreme Court asked you to look at it, they didn't ask you to come up with a ruling [indiscernible].

Senator BARRASSO. The Senator's time has expired.

Senator Braun.

Senator BRAUN. Thank you, Mr. Chairman.

Good to see you again, Administrator Wheeler. First time we met, I told you how dear the environment is to me. I spent many, many years involved in agriculture, still do to the extent that I can, and I have been a tree farmer.

We also have gotten now a Senate Climate Caucus. I was the first to cross the threshold as a Republican. We have six others on

it, along with seven Democrats. I think the position you are in, now more than ever, has such importance, and I view that because I have got four kids. Younger generations really believe that we need to do a really protective job of taking care of Mother Earth, and I think you cited the progress we have made over time.

Also, I heard that Senator Wicker asked you about forest biomass, and that that ruling will be out, fleshed out, in June. That is great to hear. Agriculture, according to the letter from the 21 expert scientists and so forth said it probably even has more applicability with that same principle.

Is there currently in the EPA consideration of a *de minimis* rule for annual crops similar to what you are going to be doing here in June with trees?

Mr. WHEELER. We are looking at that in a three phase process. We are doing the woody biomass first, which was report language in our appropriations bills over the last few years. We will be looking at the crops. And I am sorry, I don't remember if that is phase two or phase three. But over the next year and a half, we will be rolling out the other CO₂.

Senator BRAUN. Understanding in some detail the benefits of both, there might be more marginal benefit as you look into it from the crop side of it, so keep that in mind.

Last month, the EPA announced that three Indiana counties and Lake Porter in Delaware have returned to compliance with Federal air quality standards. This significant environmental achievement is a result of hard work by both the Trump administration and your agency and the State of Indiana. Yet, it seems to be a story that is rarely highlighted.

I am glad that you mentioned earlier the progress that we have made, and like I said, along with that, we need to be steadfast.

Can you discuss how the Trump administration's focus on technical issues like Ambient Air Quality Standards has made real improvements in the health and lives of Hoosiers and of course, across the country?

Mr. WHEELER. Absolutely. We have redesignated 38 non-attainment areas as attainment over the last 3 years, and we have more in the works, I believe. We intend to reach 65 by 2022, and this is working with the States and the local governments to make sure that they are implementing different procedures and processes to improve the air quality in their communities.

I guess it was last month, we redesignated the last non-attainment area in Florida. As of today, the entire State of Florida is in attainment. We have redesignated a number of communities, in addition to the three you mentioned in Indiana, a number of communities in Ohio, across the whole Midwest so called Rust Belt.

We are working with communities to make sure that they are providing clean air and meeting the standards, the NAAQ Standards across the board.

Thank you for raising that, because that is a lot of hard work, not just by our career employees at the EPA, but also at the State level and also at the local government level. There is a lot of hard work that has gone into reaching and maintaining the air quality standards that we have today.

Senator BRAUN. You said 38 recently have changed their designation?

Mr. WHEELER. Yes.

Senator BRAUN. How many out there are still at the non-attainment level, roughly?

Mr. WHEELER. We started with, I believe, 160-some in non-attainment communities around the country, and so we are making a lot of progress there.

Senator BRAUN. OK. It would be nice to keep posted on that.

Mr. WHEELER. Yes.

Senator BRAUN. When you are talking about the NAAQ Standards, that 2012 standard was the one set by the Obama administration's EPA. Can you describe how the agency came to the determination to keep the same standard from the Obama era levels?

Mr. WHEELER. Certainly. We have our CASAC panel, our Clean Air Science Advisory Committee, that they recommended that we keep the same standard. There is a number of uncertainties, scientific uncertainties, that they believe we need to further investigate before we make any additional changes to the standard, and we will be doing that.

The Clean Air Act sets out a 5 year timetable. We have to update the NAAQ Standards every 5 years. The agency has never complied with that. We are on track to do that for the first time this year.

But the important thing to remember is once the 5 year review ends, the next 5 year review begins the very next day. So some of these scientific uncertainties that were brought to our attention during this review, we have already started some of the research to answer those questions for the next 5 year review, and we will start working on that the day after we finalize this one.

Senator BRAUN. Thank you.

Senator BARRASSO. Thank you, Senator Braun.

Senator DUCKWORTH.

Senator DUCKWORTH. Thank you, Mr. Chairman.

Administrator Wheeler, welcome.

Last week, an article published in the Chicago Tribune made an alarming observation. While cities with some of the worst air pollution in the world, like New Delhi, are enjoying clear skies for the first time in decades, Chicago's own soot pollution has gone down by just 1 percent over the last month, and on average, April 2020 was dirtier than both April 2018 and 2017.

I am concerned that the enforcement policy your agency implemented has sent industry the message that they can operate without regulation. This non-enforcement policy is almost certain to hurt low income communities and communities of color the hardest, where industries that operate without regulation are most located, in black and brown communities in particular.

EPA's Region 5 office is in my backyard, and I take very seriously that the work force there must be able to shelter in place safely. However, I am appalled that EPA would offer a blanket non-enforcement policy without seeking specific information on why these facilities are unable to comply with their permits.

Can you answer yes or no, is EPA requiring every regulated company that claims it is unable to comply with its monitoring, report-

ing, or other compliance obligations due to COVID-19 to disclose that information to EPA?

Mr. WHEELER. They will eventually have to, but Senator, no one is allowed to increase their emissions under our enforcement discretion policy, so the premise of your question is incorrect, and our enforcement staff have been very busy.

Since March 16th, we have opened 52 criminal enforcement cases. We have charged 10 defendants; we have concluded 122 civil enforcement actions; we have initiated another 115 civil enforcement actions. We have secured \$21.5 million in Superfund response commitments. We have billed more than \$20 million in Superfund oversight costs, and we have obtained commitments from parties for cleanup of 68,000 cubic yards of contaminated soil and water, all since March 16th.

No one anywhere in this country is allowed to increase their emissions under our enforcement discretion. The enforcement discretion policy only goes to routine reporting mechanisms that they have to comply with, and we had to issue that because we regulate over 1.1 million facilities across the country. Many of those facilities have been shut down, and they do not have the staff on hand to submit their reports to us.

They still have to submit their reports, it is just if because of COVID-19, they have to be late, then they have to cite why they were late when they submit the reports to us, but no one is allowed to increase their emissions. And if they do, as I just said, 52 criminal enforcement cases, 122 civil actions, since March 16th. So no one is off the hook on environmental enforcement in this country.

Senator DUCKWORTH. So, let me make sure I have got this correct. You are saying that EPA currently requires every regulated company to report to EPA and to disclose that information swiftly to Congress and to the public when they cannot comply with the emissions regulations?

Mr. WHEELER. We did not put a deadline on when they have to comply, because a lot of these facilities don't have any employees in their facilities, and we don't want to have to require people to come in to fill out a standard report.

Some permits require bi-weekly, monthly, quarterly reports to be filed with the agency, and we don't want to have—particularly, some of these facilities that are not operating, they are still required to submit their reports.

So if because of COVID-19, Corona-19, if they cannot submit their reports on time, they are allowed to cite coronavirus. They still have to report to us, but if they are going to be late because of coronavirus, then they have to cite, specifically, coronavirus as the reason why they are late.

But again, they are not allowed to increase their emissions, and if they increase their emissions, we will go after them, and we have been, and we will continue to.

Senator DUCKWORTH. So, I have also seen some reports that EPA has shut down air monitors in Region 5 due to the COVID-19 pandemic.

Mr. WHEELER. Not that I am aware of. All the air monitors are required to be up and running. These are the monitors that the

States deploy. The data that comes into us from those monitors is automated, so you don't have to go out in the field.

We actually have in, I believe it was in Michigan, one of the air monitors triggered I believe it was magnesium, and we sent a team out to take a look at the monitor to see if the monitor was accurate or not. So, no, we are still getting all of the data that we normally get from our air monitoring network that is deployed all across the country.

Senator DUCKWORTH. All right, thank you.

Just one final question. Will you commit to delivering on the recommendations that your own Inspector General made in regard to public disclosure of ethylene oxides risks?

Mr. WHEELER. We finalized with the IG, I believe it was last week, and there are no outstanding issues with the IG on the ethylene oxide report, and we are in agreement with the IG and on the steps that need to be taken going forward. There are no outstanding steps to that report.

Senator DUCKWORTH. I am out of time, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Duckworth.

Senator Whitehouse, I understand you have a few additional questions?

Senator WHITEHOUSE. Yes, I do, Chairman, and thank you.

Senator BARRASSO. Oh, I am sorry. I apologize, Senator Gillibrand has been waiting patiently, so I am going to go to her, and then I will go to you, Senator Whitehouse, for your second round of questioning.

Senator WHITEHOUSE. Great. I will stand by.

Senator BARRASSO. Thank you.

Thank you.

Senator GILLIBRAND. Thank you, Mr. Chairman.

Administrator Wheeler, New York has been among the hardest hit of all the States in the COVID-19 pandemic. According to the most current official counts, at least 22,843 New Yorkers have lost their lives. Some of the highest death rates have occurred in low income communities of color in the Bronx, Brooklyn, and Queens. These same communities also have the highest rates of hospitalizations for cardiovascular and respiratory diseases.

Mr. WHEELER. I am sorry, I am having trouble hearing your question.

Senator GILLIBRAND. Maybe I can do an earphone. OK.

Administrator Wheeler, can you hear me better now?

Mr. WHEELER. Yes, I can. Thank you very much.

Senator BARRASSO. Much better.

Senator GILLIBRAND. Thank you.

New York has been among the hardest hit States in the COVID-19 pandemic, and according to the most recent official counts, at least 22,843 New Yorkers have lost their lives. Some of the highest death rates have occurred in low income communities of color, such as the Bronx, Brooklyn, and Queens. These same communities have also the highest rates of hospitalizations for cardiovascular and respiratory diseases that are attributable to particulate matter, ozone, and other air pollutants in New York.

Preliminary studies are showing a higher rate of mortality from COVID-19 among people with chronic diseases like inflammatory

lung disease and coronary heart disease, which are linked to long term exposure to poor air quality. These communities are often downwind from power plants and industrial sources of emissions or experience high levels of emissions from transportation, including heavy duty trucks and buses.

It is not hard to connect the dots, and while COVID-19 is not only affecting the poorest communities in New York, it should be clear to anyone who is paying attention that we are seeing much more than a mere coincidence. This should be a major wake up call, particularly for those who have a responsibility to set and enforce policies to protect public health.

This is why I am deeply, deeply dismayed that in the midst of this unprecedented public health crisis, the EPA has chosen to relax its enforcement role and further weaken clean air protections. The State of New York filed a complaint just last week objecting to EPA's broad non-enforcement policy during the COVID-19 national emergency.

So, my question is, what are the expected public health outcomes, particularly outcomes related to air pollution, on populations with higher vulnerability to COVID-19 of your non-enforcement policy?

Mr. WHEELER. First of all, Senator, we do not have a non-enforcement policy. That is a fallacy. Your Attorney General made a lot of legal mistakes in their announcement last week. We do not have a non-enforcement policy.

As I was just explaining to Senator Duckworth, we have opened 52 criminal enforcement cases since March 16th. We have charged 10 defendants. We have concluded 122 civil enforcement activities since March 16th. We have initiated another 115.

So we are very active on the enforcement side, and I am very proud of our enforcement personnel across the country who are still enforcing all of our environmental statutes.

You make it very a good point on the heavy duty truck emissions, which is why we are moving forward on heavy duty diesel truck emissions regulations, which is not required under statute, and it is not required under any court order. But it is very important because by 2025, it will be the largest source of NO_x emissions from mobile sources. It does have a disproportionate impact, in particular, in inner cities.

We believe it is very important to move forward on new regulations to reduce NO_x emissions from the heavy duty diesel trucks. So we are moving forward on that, and that will help, in particular, New York.

I also just want to point out, we have been working very closely with the New York City Transit Authority on long lasting antimicrobial coating research. The Transit Authority has actually praised the work.

This is not the work that I have done, or my political people, but our career scientists at the agency that are working hand in hand with your Transit Authority to try to ensure that we have in place antimicrobial coatings on the transit system in New York to protect the New York residents as the city begins to reopen.

We are working hard on that to see what we can develop. It is probably more long term or medium term research. But we want

to make sure that the people who are dependent upon mass transit in your city and other cities, and I want to applaud the New York Transit Authority, because they are working hand in hand with us, and the important research that we are doing in New York will be able to be used in other communities around the country.

Senator GILLIBRAND. Well, specifically, last year the EPA denied New York's petition under Section 126 of the Clean Air Act for ground level ozone emitted by polluters in States that are upwind from New York. New York has petitioned the EPA to require those sources to reduce the emissions that are traveling across State lines, resulting in adverse health impacts for New Yorkers.

Given the extraordinary circumstances now and the fact that continued exposure to ground level ozone will undoubtedly put more New Yorkers at risk, will the EPA drop its opposition to New York's Section 126 petition?

Mr. WHEELER. Well, we are working. We have a number of different decisions from the courts over the last 6 months or so, I believe three decisions that we are working to figure out how to move forward on. Of course, on the 126, it doesn't just impact New York, but it also impacts the other States as well, and we have pushback from those States.

So, we are working, but at the same time, we are working on the 126 petitions. As Senator Carper likes to refer to it, the good neighbor policies, we are working to make sure that all the communities, wherever they are located, including New York, have the tools to try to reach attainment on their own, which is why we have worked with 38 communities around the country to redesignate them after they have met their air quality standards as attainment. We will continue to work with all the New York communities to try to make sure that they all have healthy air, regardless of where those communities are.

We also, I do want to mention, because you mentioned environmental justice, I believe, we put out a round of environmental justice grants just a couple weeks ago to help environmental justice communities address the COVID-19. So we are working aggressively on that as well.

Senator GILLIBRAND. If I have any minutes left, I just want an update on PFAS. I know you know about the Norlite Facility in Cohoes. We learned that between 2018 and 2019, 2.4 million pounds of toxic firefighting foam was sent by the Department of Defense to Norlite to be destroyed by incineration.

Senator BARRASSO. Senator Gillibrand, I am going to ask him to respond in writing to this, because you are a couple of minutes over, and we have a couple more Senators who are waiting to go.

Senator GILLIBRAND. OK, thank you. I will send these questions.

Mr. WHEELER. We are working with the State agency hand in hand.

Senator GILLIBRAND. Thank you.

Senator BARRASSO. Thank you, Senator Gillibrand.

Senator Markey, there is a lot of interest in this hearing. You are actually the 17th member to engage at this point. I know you have been very patiently waiting. So Senator Markey, it is your turn.

Senator MARKEY. [Indiscernible] have borne some of the worst burdens of the coronavirus. They are dying and becoming ill at a

disproportionately higher rate. Emerging research has linked higher rates of coronavirus to higher rates of air pollution.

In Massachusetts, I have seen that first hand in communities like Chelsea. Chelsea is an industrial hub of Boston and a vibrant community of working Latinx immigrants. It has also some of the highest asthma rates in the State, in the country. It is the hardest hit community in Massachusetts, with a rate of coronavirus infection that is more than five times the State-wide average.

Despite this clear connection between air pollution and higher rates of coronavirus infection and death, the Trump administration is waging a full out assault on air quality standards during this respiratory pandemic. Since the beginning of March alone, you have proposed or finalized eight different rules and guidance documents that would increase air pollution, just since the start of this pandemic. Eight different rule changes.

You rolled back the Clean Car standards, which the Environmental Defense Fund estimates will result in as many as 18,500 American deaths by 2050.

You decided not to update the National Ambient Air Quality Standards, which your own EPA scientists found could mean that 12,500 more Americans die each and every year.

You undermined the Mercury and Air Toxics Standards, Power Plant Emissions Standards, that the EPA itself estimates save 11,000 American lives every single year.

Mr. Wheeler, we are in the middle of a health crisis attacking people's lungs. Your agency is supposed to be the air quality fire department, but instead, you are throwing gasoline on a burning building, knowing that breathing bad air can make the impacts of the coronavirus worse, which I have seen first hand in communities like Chelsea.

Do you regret taking these eight different actions during the pandemic to make air quality worse? Do you regret doing that?

Mr. WHEELER. First of all, those regulations do not make air quality worse. CAFE will improve air quality. We will be reducing the CO₂ emissions by 1.5 percent per year between now and 2026.

The NAAQS regulation, we are maintaining the Obama NAAQS PM recommendation. At this point, it is out for public comment. We are taking comment on that, so we have not made a final decision. But we took the advice of our Clean Air Science Advisory Committee, and the career staff that you referenced, the career staff were divided.

We had multiple recommendations on that, but the CASAC panel specifically recommended that we maintain the Obama standard, and under the Mercury—the Mercury standard does not allow any increase in mercury emissions, so the premise there is off. As far as the studies—

Senator MARKEY. The premise is not off, Mr. Wheeler. You should be ashamed of yourself; your agency should be ashamed of itself. Your job is to protect the public health, and you are taking actions that will make this crisis worse.

You should apologize to the residents of Chelsea, of Brockton, of Lawrence, of Revere, and all of the communities across this country that are more exposed to this consequence. You should apologize to

Americans that you have taken these actions during the pandemic that will only make the crisis worse.

Mr. Wheeler, yes or no. Yes or no, Mr. Wheeler, black and brown communities are more likely to breathe dirtier air than white communities?

Mr. WHEELER. That is—there are certainly some environmental justice communities around the country where the air quality is much worse than other areas, but there are also air quality problems in other communities that are not brown or black. I think every American, regardless of where they live in this country, deserves to breathe clean air and drink clean water, which is why we are working with communities of all sizes across the country.

All six criteria air pollutants under the Trump administration have been decreased over the last 3 years, and we continue to work to decrease air pollution across the board. We have a very strong record on decreasing air emissions, air pollution, and the air today is healthier than what we found it 3 years ago.

Senator MARKEY. Well, shame on you, Mr. Administrator. You should be apologizing to people of color in our country for what are doing. Shame on you. You need to apologize. You should do so immediately. Every American is being asked to work together to help our communities get through this crisis, but you are taking actions that are likely to harm the most vulnerable amongst us.

Your decisions will make this pandemic worse. This is unconscionable. History will remember you for the environmental injustice you have perpetrated in the name of the EPA. You are turning the EPA into Every Polluter's Ally, and those polluters are harming the health of the most vulnerable people in our country right now, as their lungs are being attacked by coronavirus.

So shame on you, and the EPA is not doing the job which it is legally required to do.

Mr. WHEELER. Sir, your facts are not correct. The air quality is cleaner than it was [indiscernible] years ago.

Senator BARRASSO. The Senator's time has expired.

Thank you very much, Senator Markey.

I would point out that the United States is a world leader is reducing emissions of fine particulate matter, also known as PM 2.5. The Environmental Health Journal published a study entitled Implementing the U.S. Air Quality Standard for PM 2.5 Worldwide Can Prevent Millions of Premature Deaths per Year. A recent study found that the U.S. reduced its annual particulate matter 2.5 levels by 39 percent from 2000 until the year 2018. I ask unanimous consent to enter this recent report in the record.

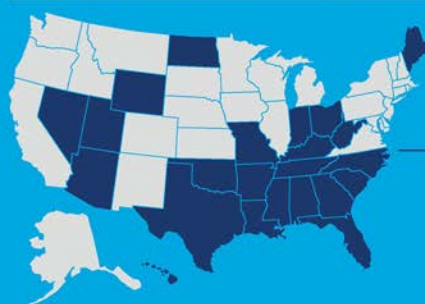
[The referenced information follows:]





The Association of Air Pollution Control Agencies, or AAPCA, is a national, non-profit, consensus-driven organization focused on assisting state and local air quality agencies and personnel with implementation and technical issues associated with the federal Clean Air Act. Created in 2012, AAPCA represents 48 state and local air pollution control agencies, and senior officials from 23 state environmental agencies currently sit on the AAPCA Board of Directors. AAPCA is housed in Lexington, Kentucky as an affiliate of The Council of State Governments. More information about AAPCA may be found by visiting www.cleanairact.org.

State Environmental Agencies Currently Represented on the AAPCA Board of Directors



Alabama	Nevada
Arizona	North Carolina
Arkansas	North Dakota
Florida	Ohio
Georgia	Oklahoma
Hawaii	South Carolina
Indiana	Tennessee
Kentucky	Texas
Louisiana	Utah
Maine	West Virginia
Mississippi	Wyoming
Missouri	

Footprint of AAPCA State Members

State members of the AAPCA Board of Directors have primary responsibility for protecting air quality for a significant portion of the country, as reflected in the following statistics:



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Foreword

Dear Readers,

This year, the United States celebrates the 50th Earth Day and the importance of the natural environment. It is also a time to reflect on the tremendous environmental progress that has been made in the United States in the past half century. Americans today enjoy cleaner air than they did 50 years ago, and trends show the environment will continue to benefit from the protections provided by state, local and federal planning. We, the state and local members of the Association of Air Pollution Control Agencies (AAPCA), have dedicated our careers to improving air quality and we are proud of this progress.

AAPCA is a consensus-driven organization of 48 state and local air agencies focused on assisting members with implementation of technical issues associated with the Clean Air Act. AAPCA's Board of Directors is comprised of senior officials from 23 geographically diverse member states' environmental protection agencies. This diversity strengthens our members' ability to learn from new perspectives that help foster the development of innovative and effective strategies to address air quality. Consensus principles encourage and promote a focus on common issues as we work to implement the Clean Air Act, and work with federal co-regulator partners to address those issues.

As AAPCA's current president, I am pleased to present our annual publication, *State Air Trends & Successes: The STATS Report*. State and local air quality agencies are responsible for making complex planning decisions affecting air quality in their communities that have unique social and economic factors to consider, and *The STATS Report* highlights the progress in air quality made while accommodating these factors. That progress is evidenced in a variety of air quality measures and indicators, including:

- From 1990 to 2018 in AAPCA Member States, aggregate emissions of the six criteria air pollutants for which there are national ambient air quality standards (NAAQS) were reduced by 53 percent, while Gross Domestic Product rose 281 percent, vehicle miles traveled increased 68 percent, and population increased 48 percent.
- Over the 20-year period from 1997 to 2017, emissions of nitrogen oxides from electric utilities in AAPCA member states were reduced by more than 82 percent, while sulfur dioxide emissions in this sector were reduced 88 percent.
- Emissions of air toxics in AAPCA member states were reduced by 350 million pounds from 2008 to 2018.

These statistics, and other metrics cataloged in this report, convey the remarkable improvements in air quality that have been made. As Air Directors, we recognize that our work is not done. We will continue to engage with our federal partners and other stakeholders to continue this progress.



KAREN HAYS
Chief, Air Protection Branch
Georgia Environmental Protection Division
President, AAPCA

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Criteria Air Pollutants | Concentration Trends

U.S. EPA's most recent analysis of monitoring data shows that ambient concentrations of the six criteria air pollutants for which there are national ambient air quality standards (NAAQS) continue to decline nationally. These air quality improvements have proven substantial over the past several decades. Compared to 1980, data for 2018 indicate at least a 31-percent reduction in the ambient levels of carbon monoxide, lead, nitrogen dioxide, ozone, and sulfur dioxide, and available monitoring data for fine and coarse particulate matter ($PM_{2.5}$ and PM_{10}) show similar trends. A decade-over-decade comparison demonstrates consistent progress in ambient air quality levels since 1980, 1990, 2000, and 2010.¹

CRITERIA POLLUTANT	1980 vs 2018	1990 vs 2018	2000 vs 2018	2010 vs 2018
Carbon Monoxide	-83%	-74%	-59%	-15%
Lead	-99%	-97%	-93%	-82%
Nitrogen Dioxide (annual)	-65%	-57%	-49%	-22%
Nitrogen Dioxide (1-hour)	-61%	-50%	-35%	-15%
Ozone (8-hour)	-31%	-21%	-16%	-4%
PM_{10} (24-hour)	---	-26%	-31%	-2%
$PM_{2.5}$ (annual)	---	---	-39%	-16%
$PM_{2.5}$ (24-hour)	---	---	-34%	-3%
Sulfur Dioxide (1-hour)	-91%	-89%	-80%	-68%

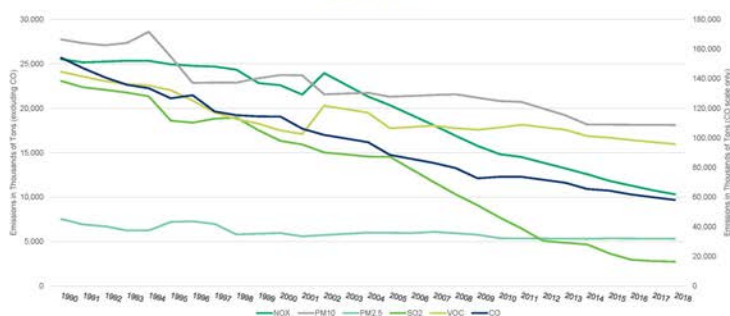
Criteria Air Pollutants | Emissions Trends

U.S. EPA estimates the national trends of criteria pollutant emissions and precursors based on monitoring data.² The trends data published by EPA for 2018 demonstrate emissions continuing to decline nationally. When comparing 1990 to 2018, there has been at least a 25 percent reduction in the emissions of all criteria pollutants or precursors, and the last decade has seen at least a 10-percent decrease.

CRITERIA POLLUTANT	1980 vs 2018	1990 vs 2018	2000 vs 2018	2010 vs 2018
Carbon Monoxide	-73%	-67%	-53%	-23%
Lead	-99%	-80%	-50%	-23%
Nitrogen Oxides (NO_x)	-62%	-59%	-54%	-31%
Volatile Organic Compounds (VOC)	-55%	-42%	-20%	-10%
Direct PM_{10}	-61%	-25%	-22%	-12%
Direct $PM_{2.5}$	---	-30%	-37%	-12%
Sulfur Dioxide	-90%	-88%	-84%	-65%

THE ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

Criteria Air Pollutants | Emissions Trends

Criteria Air Pollutant Emissions (1990–2018)
(thousands of tons)

Percent Change in Criteria Air Pollutant Emissions (1990–2018)

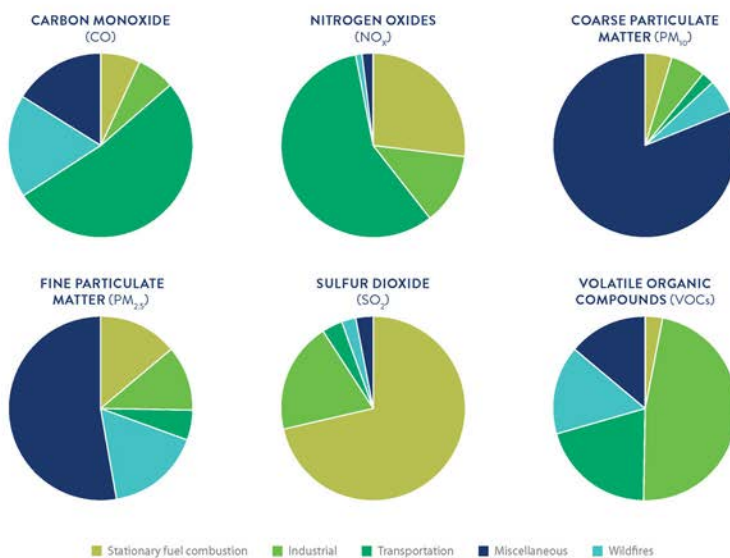


Source: U.S. EPA, *Air Pollutant Emissions Trends* (Data file: "National Annual Emissions Trend, Criteria pollutants National Tier 1 for 1970–2018"). EPA's data for lead emissions trends can be found [here](#).

THE ASSOCIATION OF AIR POLLUTION CONTROL AGENCIES

Criteria Air Pollutants | Emissions Sources

U.S. EPA tracks emissions from the following source categories: Stationary Fuel Combustion, Industrial, Transportation, Wildfires, and Miscellaneous. Included below are the sources of criteria air pollutant and precursor emissions for the year 2018.¹



Source: U.S. EPA, *Air Pollutant Emissions Trends* (Data file: "Average Annual Emissions, Criteria pollutants National Tier 1 for 1970 - 2018").

Senator BARRASSO. At this point, I would like to turn to Senator Whitehouse. We have about 4 minutes remaining.

We were going to close at noon, but I would like to turn to Senator Whitehouse.

I know you have a couple of additional questions.

Senator WHITEHOUSE. Thank you very much, Chairman.

Administrator Wheeler, to follow up on our questions about Marathon Petroleum meddling in the fuel efficiency rules, I will settle for a QFR, but I would also like to ask about how your lawyers are engaging with Marathon Petroleum lawyers in the context of the litigation between the 22 States and the Trump administration over the State fuel efficiency standards. I assume right now, you have no information on that, so I will make that a question for the record, if that is OK.

Mr. WHEELER. I have no information on that, sir.

Senator WHITEHOUSE. OK. I will ask you to look into it.

With respect to the so called Secret Science Rule, I would like to share a little bit of history that we have put together, if you don't mind, I will read for a minute from something my office put together.

In 1996, Christopher Horner, an R.J. Reynolds lobbyist, acknowledged that R.J. Reynolds had virtually no chance of stopping a second hand smoke regulation unless the company was able to exercise what he called behind the scenes leadership in constructing what he called explicit procedural hurdles for EPA to follow and ensue in scientific reports. That original proposal tracks very closely your Secret Science proposal.

In 1997, a Philip Morris memo listed the American Petroleum Institute and a Koch backed fund group as supporting that initiative. In 1998, the lobbying firm working for the tobacco industry branded this initiative the so called Secret Science Rule, the same term Scott Pruitt used when he rolled the program out in April 2018.

The Philip Morris front group, the Advancement of Sound Science Coalition, advanced this initiative through the 1990s with fossil fuel company donors, including Amoco, Chevron, ExxonMobil, and Occidental Petroleum. This group was run by Steve Milloy, who was on Philip Morris's retainer through 2005 and then worked in a number of front groups funded by the Kochs, ExxonMobil, and Shell, including serving as director of external policy and strategy of Murray Energy. Both Milloy and Christopher Horner worked in President Trump's transition team at EPA.

So, Milloy attended Scott Pruitt's announcement of the Secret Science Proposal, and declared that he had been working on advancing it for 20 years.

When you consider the rather sordid history of this proposal and the mischievous motivations of the people behind it, I look at it with a lot of skepticism, and I particularly worry because what is supposedly secret in all of this is people's individual health data, which obviously we want to keep secret, private. It doesn't mean you can't do science off it, but you don't want because science is done on it, everybody to lose the protection of their personal health records.

So here is the problem. As we are trying to regulate COVID and come up with safety regulations to help with this pandemic, we are going to have to build regulations based on people's health records.

Haven't you created something that will hobble our ability to respond to the coronavirus crisis by attacking science that is based on health records, unless you are willing to throw individual health records into the public in ways that Americans would not tolerate?

Mr. WHEELER. Senator, as you usually do, you packed a lot of information into your question. Let me see if I can try to answer the points that you raised.

First of all, I was not aware of the link to the tobacco lobbying in the 1990s. It is my understanding, and this regulation was originally proposed before I joined the agency in 2018, but it is my understanding that a lot of the original regulation proposal was based off of Congressman Lamar Smith's legislation that he introduced, I believe a couple of different Congresses here in the last 10 years or so.

We received a lot of comments on the Science Transparency, which is the actual name of the regulation, Science Transparency Regulation. We received, I want to say, close to a million comments.

When we went back out again at my direction to re-propose and take additional comments, because we want to make sure we get this right, and so we put out another notice and comment for this regulation. And we will, my goal is to get this right at the end of the day, but there are a number of safeguards in this.

The Administrator of the agency, and that is any Administrator in the future as well, can allow any study to be used, even if the information is withheld, the data is withheld. But as far as the personal information, the FDA works with science and research all the time where they mask the personal identification data of the subjects of the science or research, and we can do that at EPA as well. We can follow the FDA's lead on how they mask the individual people that are referenced in these scientific reports.

But when I started working at EPA in 1991, I worked on the Community Right to Know Act implementing the TRI and the Pollution Prevention Act across the TSCA and TRI world. I fundamentally believe the more information you put out to the American public, the more transparent we are with the basis for our regulations, the more acceptance there will be with our regulations, and the better understood our regulations will be.

So that is what is guiding me, is to try to get as much information out to the public. This is also why we went forward with our Guidance Document Proposal which we just issued this week to make sure that all of our guidance documents are put out there for the public to see. I believe in transparency, and that is why [indiscernible].

Senator WHITEHOUSE. [Indiscernible] and that, of course, is a cynical industry ploy to prevent science from getting into the regulatory domain by playing on the desire for privacy about their own health records on the part of individual Americans. And I hope you negotiate that balance well, because I think that there is a very cynical play here by big interests who simply don't want the public

to have public health science, because it will reveal the dangers of their products or emissions.

So they have put Americans into the middle, the privacy of American health records into the middle as a leverage point to try to protect their own pollution.

Mr. WHEELER. My goal is to——

Senator BARRASSO. Senator, your time has expired. We have another member who has arrived for his first round of questioning, so I want to turn at this point to Senator Sullivan.

Senator WHITEHOUSE. Thank you, Chairman.

Senator BARRASSO. Thank you.

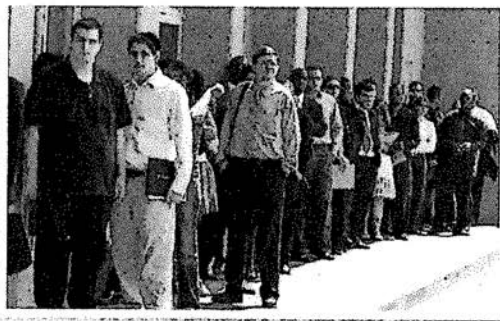
First of all, I think the EPA should be praised for its efforts to protect the environment while cutting ill conceived and duplicative regulations, over-regulation that stymies economic activity and worsens public health. My staff has issued a report in 2012 cataloguing the links between regulatory overreach worsening public health.

I ask unanimous consent to enter into the record Red Tape Making Americans Sick into the record.

Without objection, that will be submitted.

[The referenced information follows:]

Red Tape Making Americans Sick *A New Report on the Health Impacts of High Unemployment*



*Studies Show EPA Rules Cost Americans Their Jobs and Their
Health*

Minority Subcommittee Staff Report
Subcommittee on Clean Air and Nuclear Safety
Senator John Barrasso, M.D.
Ranking Member
March 2012

EPA Red Tape Increases Unemployment While Worsening Public Health

Key Findings and Recommendations:

- Congressional testimony and scientific research reveals that unemployment from Environmental Protection Agency (EPA) regulations:
 - ✓ Increases the likelihood of hospital visits, illnesses, and premature deaths in communities due to joblessness.
 - ✓ Raises healthcare costs, raising questions about the claimed health savings of EPA's regulations.
 - ✓ Hurts children's health and family well-being.
- EPA claims of health benefits from current and future Clean Air Act regulations are misleading and incomplete. The agency must adequately examine the negative health implications of unemployment into their cost-benefit analysis before making health benefit claims to the public and Congress.
- The Full Senate Environment and Public Works Committee and the Subcommittee on Clean Air and Nuclear Safety should conduct additional hearings to responsibly investigate the health implications of higher unemployment as a result of federal regulations.

Executive Summary:

President Obama's Administration continues to claim that new EPA Clean Air Act regulations for ozone, greenhouse gases, electric utilities, domestic oil and gas producers, and manufacturers deliver significant economic benefits. Specifically, the agency says that these regulations will yield billions of dollars in benefits for the U.S. economy in the form of fewer premature deaths, sick days, hospital visits, cases of bronchitis, and heart attacks.

According to the EPA:

"The benefits of avoiding early death, preventing heart attacks and asthma attacks, and reducing the number of sick days for employees far exceed costs of implementing clean air protections. These benefits lead to a more productive workforce, and enable consumers and businesses to spend less on health care – all of which help strengthen the economy."

However, the Administration's predictions do not take into account how regulations will increase unemployment and therefore negatively impact public health. A broad range of experts over

decades of research say that unemployment will hurt public health. A study published in 1985 in the *American Journal of Public Health* by Margaret W. Linn, PHD, Richard Sandifer, BS, and Shaya Stein, PHD, entitled **"Effects of unemployment on mental and physical health"**, concluded:

"After unemployment, symptoms of somatization, depression, and anxiety were significantly greater in the unemployed than employed."



"[U]nemployed men made significantly more visits to their physicians, took more medications, and spent more days in bed sick than did employed individuals ... unemployment had an adverse impact on psychological function, with the unemployed becoming more anxious, depressed, and concerned with bodily symptoms than those who continued to work."

Over the last few decades other studies have been conducted to investigate the detrimental effects of high unemployment rates:

- **"The Effects of Unemployment on Mortality following Workplace Downsizing and Workplace Closure: A Register-based Follow-up Study of Finnish Men and Women during Economic Boom and Recession"** - *American Journal of Epidemiology*, 2006

"Unemployment is strongly associated with mortality on the individual level."

- **"Effects of Unemployment on Health in a Community Survey: Main, Modifying, and Mediating Effects"** - *Journal of Social Issues*, 1988

"Results from a community survey in a sample of high-unemployment census tracts ... showed significant elevations of depression, anxiety, somatization [a chronic condition in which persons experience physical symptoms, but no physical symptoms can be found], and self-reported physical illness among the currently unemployed."

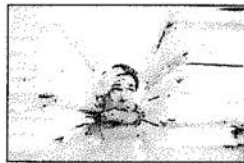
"Unemployment had health-damaging effects...severe enough to be considered clinically significant."

EPA has faced charges that their wide ranging estimates of public health benefits from their regulations show uncertainty and that the regulations actually cost jobs. EPA has not adequately responded to these charges. Recent research and testimony in Congress continues to bolster the argument that unemployment leads to poor public health and both Democrats and Republicans agree some jobs will be lost because of EPA's regulations. No matter what the predictions are for jobs losses from these regulations, those who lose their jobs will suffer negative health effects. Those effects must be counted in any benefit-cost analysis by EPA.

Unemployment from EPA Regulations:

Whether Americans believe a net increase or decrease in jobs will occur because of EPA's regulations, the fact is that all sides agree that some jobs will be lost.

In 2010, then Senator Blanche Lincoln wrote a column in the *National Journal* entitled "Regulating Small Businesses Out of Business." In it, she states:



"The significant increase in regulations being handed down by Washington is having real consequences. A recently released Gallup poll found that compliance with government regulations is now the single biggest problem facing small business owners. The same report indicated that about one in three small companies is concerned about going out of business in 2012. Similarly, earlier this year the rate of new startup businesses reached a 25 year low largely due to the uncertainty created by the government's regulatory agenda."

President Obama has stated since his original campaign that jobs would be lost in the coal industry if he were elected because of his support for cap and trade policies to address greenhouse gases. According to then Presidential Candidate Barack Obama in a 2008 interview he stated regarding the U.S. coal industry that –

"So if somebody wants to build a coal-powered plant, they can; it's just that it will bankrupt them because they're going to be charged a huge sum for all that greenhouse gas that's being emitted."

The actual number of Americans who will lose their jobs as a result of EPA's rules varies. According to the Senate Republican Policy Committee in 2011, an estimated 11.5 million Americans are projected to lose their jobs as a direct result of several proposed EPA rules:

Obama Policy	Potential Jobs Lost
New Ozone Standards	7,300,000
EPA Greenhouse Gas Regulations	1,400,000
New Utility Regulations	1,400,000
New Coal Ash Regulations	316,000
Offshore Drilling "Permitting"	187,000
Onshore Oil and Gas Lease Delays	69,000
New Boiler Regulations	60,000
Alaska Drilling Delays	54,700
New Cement Kiln Regulations	15,000

EPA Administrator Lisa Jackson and others strongly dispute these figures and her agency has stated that their regulations create jobs in the long run -- these are the so called "green jobs" that would result as businesses are created to manufacture and install new green technologies.

For example, in March of 2011 the EPA released a presentation on their proposed Mercury Air Toxics Rule that said:

"This rule will provide employment for thousands, by supporting 31,000 short-term construction jobs and 9,000 long-term utility jobs."

Director of the George Washington University Regulatory Studies Center Susan Dudley refutes this claim in a December 20, 2011, column in The Hill:

"Also disingenuous is the EPA's claim that the 'rule will provide employment for thousands, by supporting 31,000 short-term construction jobs and 9,000 long-term utility jobs.' First, this estimate quantifies only the jobs necessary to comply with the new rules, and ignores jobs lost, despite its recognition that 'the industries that use electricity will face higher electricity prices as the result of the toxics rule, reduce output, and demand less labor.'"

It is true that some jobs will be created by EPA's slew of regulations to make and install new required pollution control equipment for coal fired power plants, industrial boilers and cement plants.



But as Dudley points out, the Administration ignores the thousands of jobs that will be eliminated at the plants and factories that shut down due to higher energy and construction costs of installing that equipment. The end result is thousands of jobs being crushed to create a few green jobs, which leads to higher unemployment.

An article in the liberal magazine *Think Progress* entitled "EPA Regulations Will Create New Jobs, Says American Electric Power CEO: 'No Question About That'" even stated on November 14, 2011 that there will be some job losses in the energy industry as a result of EPA's rules regardless of what jobs will be created by them:

"Net job creation is a bit harder to gauge, as there will be jobs lost in some areas of the (energy) industry in a shift away from coal to natural gas and renewables."

Unemployment's Impact on Public Health:

In 2011, several respected health experts and scientists testified before the Senate Environment and Public Works Committee about the impact of unemployment on a person's health.

On June 15, 2011, Dr. Harvey Brenner of Johns Hopkins University testified before the Senate Environment and Public Works Committee:



"The unemployment rate is well established as a risk factor for elevated illness and mortality rates in epidemiological studies performed since the early 1980s. In addition to influences on mental disorder, suicide and alcohol abuse and alcoholism, unemployment is also an important risk factor in cardiovascular disease and overall decreases in life expectancy."

On June 8, 2011, Margaret Thorning, Chief Economist with the American Council for Capital Formation, testified before the joint subcommittees on Clean Air and Children's Health. While discussing the negative relationship between job insecurity and worker health, she referenced an article in *Social Science and Medicine* magazine by professors from the University of Michigan and the University of California, Los Angeles. The scholarly article, "Perceived job insecurity and worker health in the United States," presents findings consistent with prior studies, demonstrating a correlation between persistent insecurity of employment and poor health:

"Even after adjusting for sociodemographic and job characteristics, health prior to baseline, neuroticism, hypertension and smoking status, and objective employment insecurity...perceived job insecurity remains a significant predictor of subsequent health."

Adult workers are not the only ones affected by unemployment and widespread job loss. The National Center for Health Statistics described how poverty affects children's health:

"Children in poor families were four times as likely to be in fair or poor health as children in families that were not poor."

As Americans continue to deal with the impact of high unemployment, such studies have been in the forefront of the news since the recession began:

The Washington Post on July 8, 2011 in an article entitled "The long term impact of unemployment" referenced a June 23, 2006 report by Yale researcher Dr. William T. Gallo entitled "The Impact of Late-career Job Loss on Myocardial Infarction and Stroke: A 10-year Follow-up Using the Health and Retirement Survey". The report stated –



"Results suggest that the true costs of late career unemployment exceed financial deprivation, and include substantial health consequences. Physicians who treat individuals who lose jobs as they near retirement should consider the loss of employment a potential risk factor for adverse vascular health changes."

The Washington Post went on to say –

"Being laid off has serious long-term health effects. [P]eople who are laid off near retirement are twice as likely to have a stroke or heart attack...[Unemployment] increases one's likelihood of depression."

"...Persistent high unemployment, like the kind we're experiencing, does not just hurt people in the here and now. It hurts people decades in the future, even if the economy has recovered by then."

A March 2010 *Atlantic Monthly* story entitled "How a New Jobless Era Will Transform America" referenced a report entitled "Job Displacement and Mortality: An Analysis using Administrative Data" by researchers Daniel Sullivan of the Federal Reserve Bank of Chicago and Till von Wachter of Columbia University. The report states –

"We use administrative data on the quarterly employment and earnings of Pennsylvanian workers in the 1970s and 1980s matched to Social Security Administration death records covering 1980-2006 to estimate the effects of job displacement on mortality. We find that for high-seniority male workers, mortality rates in the year after displacement are 50-100% higher than would otherwise have been expected. The effect on mortality hazards declines sharply over time, but even 20 years after displacement, we estimate a 10-15% increase in annual death hazards."

Atlantic Monthly went on to say –

"A large and long-standing body of research shows that physical health tends to deteriorate during unemployment, most likely through a combination of fewer financial resources and a higher stress level. The most-recent research suggests that poor health is prevalent among the young, and endures for a lifetime. Till Von Wachter, an economist at Columbia University, and Daniel Sullivan, of the Federal Reserve Bank of Chicago, recently looked at the mortality rates of men who had lost their jobs in Pennsylvania in the 1970s and '80s. They found that particularly among men in their 40s or 50s, mortality rates rose markedly soon after a layoff. But regardless of age, all men were left with an elevated risk of dying in each year following their episode of unemployment, for the rest of their lives."

The Huffington Post in a November 5, 2010 article entitled "Study: Longterm Unemployment Has Disastrous Effects On Health And Longevity" quoted Dr. Elise Gould, director of health policy research at the Economic Policy Institute who stated –

"After wage losses, the most direct impact of unemployment is loss of health insurance coverage for those who had it in the first place," she said. "But this is only tip of the iceberg when we think about people's health. It's clear that many Americans are still hurting and will be hurting for a very long time."

The Huffington Post went on to say –

"[R]esearch shows that losing one's job can have a 'powerful and negative impact' on the health of the jobless, leading to feelings of failure, depression, anxiety, notably

increasing the risks of strokes, heart attacks and catastrophic illnesses, and potentially leading to premature mortality.

"...[E]ven the risk or fear of losing one's job was just as strong a predictor as the actual job loss on an older person's overall health because of internal psychological issues."

On May 8th, 2009, the *New York Times* in an article entitled "Unemployment May Be Hazardous to Your Health" referenced a study entitled "Job Loss and Health in the U.S. Labor Market" by Kate Strully with the University of Albany. The study states –

"Losing a job because of an establishment closure increased the odds of fair or poor health by 54%, and among respondents with no preexisting health conditions, it increased the odds of a new likely health condition by 83%. This suggests that there are true health costs to job loss, beyond sicker people being more likely to lose their jobs."

The *New York Times* went on to say –

"Workers who lost a job through no fault of their own...were twice as likely to report developing a new ailment like high blood pressure, diabetes or heart disease over the next year and a half, compared to people who were continuously employed."

Uncertainty and Omissions in EPA Public Health Analyses:

EPA's March 2011 report, "The Benefits and Costs of the Clean Air Act from 1990 to 2020", claims billions of dollars in benefits due to Clean Air Act regulations. This report has been cited at hearings in the full Senate Environment and Public Works Committee as well as the House Energy and Commerce Committee by EPA Administrator Lisa Jackson and EPA's Assistant Administrator of the Office of Air and Radiation, Gina McCarthy. Administration officials regularly tout this report as proof that increased EPA regulations would be a boon for public health and the economy.

According to outside experts at National Economic Research Associates (NERA), this EPA report is flawed, misleading and contains major uncertainties. NERA's report entitled "Assessment of the Obama Administration's Cost-Benefit Analysis of Clean Air Act Regulations," outlines the specific problems with EPA's analysis:

"The methodology behind these numbers is suspect, and the magnitude is greatly exaggerated."

"Existing regulations are unquestionably slowing economic growth today. Whether the environmental benefits of those regulations might be worth the cost is a policy question, but there is no denying that the cost takes the form of lower production of goods and services that go into consumption and investment."

Diane Katz of the Heritage Foundation raises serious concerns about the uncertainty behind EPA's numbers. According to her March 3, 2011 report entitled "Coming Clean on Regulatory Costs and Benefits," she states:

"Predicting the future effects of regulation can be exceedingly complex given the array of confounding factors at play and thus the multitude of assumptions that must be employed. The benefit estimates in the report range from \$250 million to \$5.7 trillion - a vast difference that indicates vast uncertainty about the EPA's claims."

"The research design is only one of myriad flaws underlying the EPA's claims. In fact, 14 elements of the study that bear directly on the valuation of regulatory benefits are unreliable and constitute 'major uncertainties' —i.e., differences in benefit estimates of \$100 billion or more, according to the authors of the report."

"The three most 'significant' of the major uncertainties relate directly to the calculation of lives saved by regulation, which accounts for the largest proportion of economic benefit and thus the basis of the agency's contention that regulatory benefits dwarf costs. Simply put, the EPA's claim that the CAA Amendments of 1990 will save 230,000 lives and generate \$2 trillion in economic benefits in 2020 is rife with 'significant' and 'major uncertainties,' according to the authors of the report."

As demonstrated earlier in this report, studies show that unemployment leads to serious health effects for individuals. Both NERA and Katz question the accuracy of the number of lives saved in the March report. NERA also specifically questions the claim that increasing regulations have a positive economic outcome for businesses and the economy. If in fact these regulations are having a negative effect on the economy, then there will be subsequent negative health effects for the public that must be taken into account by EPA.

The March 2011 report is not the only instance where EPA has been criticized for not accurately representing the benefits versus costs to public health from their regulations. A September 22, 2011, letter signed by seven members of Congress, who are also doctors, made this key point in a letter to EPA Administrator Lisa Jackson about the EPA's Utility MACT rule:

"EPA, as a federal agency, is required to perform a regulatory impact assessment with cost-benefit findings of any proposed major regulatory action. With respect to the Utility MACT rule, EPA claims that, 'significant annual health benefits will far outweigh any costs associated with implementation.' Unfortunately, EPA's benefits appear to be based on limited quantitative and qualitative analysis."

The letter goes on to say:

"Contrary to its purpose, the proposed Utility MACT rule may actually present profound challenges to public health."

The letter points out that the EPA failed to consider the impact on healthcare affordability as a result of increased electricity costs on hospitals.

"Hospital administrators have no choice but to pay attention to the cost of energy. U.S. healthcare facilities consume four percent of the total energy consumed in the U.S. spending, on average, \$8.5 billion annually on energy, often equaling between one and three percent of a hospital's operating budget. Additionally, EPA estimates, in the U.S., the health sector is the most energy-intensive commercial sector resulting in more than \$600 million per year in direct health costs and over \$5 billion in indirect costs. Under EPA's proposed rules, electricity costs in some regions may increase over 20 percent as soon as 2016. The surging cost of energy will squeeze tight hospital budgets making access to affordable healthcare all the more difficult." - September 22, 2011 letter to EPA Administrator Lisa Jackson from Rep. Michael Burgess, Rep. Phil Gingrey, Rep. Bill Cassidy, Rep. John Fleming, Rep. Paul Broun, Rep. Paul Gosar, and Rep. Larry Bucshon.



The Minority notes that the EPA's report and subsequent claims of health benefits of their rules all fail to adequately calculate the negative health impacts of their regulations. The EPA has not adequately responded to the concerns raised about the uncertainty in their numbers. The EPA also refuses to acknowledge in their analyses and reports the inevitable increase in healthcare costs due to unemployment -- billions of dollars in time and resources. This raises questions about the true environmental health benefits that are the supposed goal of new costly EPA Clean Air Act regulations.

Experts agree that understanding the impact that job loss and income has on health is vital to understanding the true representation of what a regulation's affect on public health will be. According to a 1999 report in the publication *Risk: Health, Safety & Environment* entitled **"Health Transfers: An Application of Health-Health Analysis to Assess Food Safety Regulations"** by Fred Kuchler, Jacqueline L. Teague, Richard A. Williams & Don W. Anderson, job loss and income are key factors in understanding health impacts:

"Economists take for granted that income influences individual risk choices and thereby influences health. In tallying regulatory costs and benefits, analysts usually know who will bear the costs, and analysts can estimate the cost bearers' income. However, to estimate the number of fatalities a proposed regulation might endure, analysts need to know how income loss is likely to affect the health of those who will bear regulatory costs."

The Minority agrees with this assessment. Any detailed cost-benefit analysis conducted by the EPA should incorporate the latest and best scientific analysis to understand and quantify the negative health effects of unemployment and lost income. It should also factor in the high energy costs for healthcare providers that result from costly regulations.

Conclusion:

It is undeniable that there is a negative relationship between unemployment and health status.

Today, many Americans continue to lose their jobs or live in constant fear of becoming unemployed. Losing a good paying job is devastating for families across the country who are struggling to get by.

It is fiscally and socially irresponsible for the Obama Administration to ignore how their regulations impact public health by driving up unemployment. Out of work Americans are increasingly likely to suffer: heart attack and stroke, while other effects can include increased mortality, alcoholism, cardiovascular disease, or mental ill-health: anxiety, depression, and somatization. Secondary effects extend to family members, including children, who are directly and indirectly impacted by job loss. Higher unemployment may result in poorer health across the country, leading to a higher mortality rate and an increase in hospital and emergency department visits.

According to New York Times reporter John Broder in a November 17th, 2011, article entitled **"Policy and Politics Collide as Obama Enters Campaign Mode"** a meeting occurred between the American Lung Association and then White House Chief of Staff William Daley over the EPA's proposed ozone regulations.

In that meeting, Daley asked a simple question when confronted with the argument that additional Clean Air Act regulations would improve public health. Daley asked, "What are the health impacts of unemployment?"

The Minority agrees with former White House Chief of Staff Daley that the EPA must consider and address this question as it pushes new regulations. The Full Senate Environment and Public Works Committee and the Subcommittee on Clean Air and Nuclear Safety should also conduct additional hearings on these issues to responsibly investigate the health implications of high unemployment.

The Minority recommends that all health impacts be considered equally and transparently.

Senator BARRASSO. Senator Sullivan.

Senator SULLIVAN. Thank you, Mr. Chairman, and I hope my good friend Senator Whitehouse is still watching, because I do want to compliment him, and I want to compliment you, Mr. Administrator.

I happen to think you are doing a great job, particularly relative to some of your predecessors in the Obama administration who were, in my view, lawless public servants who really, really, really hurt my State, and never listened to my State about anything. And trust me, we know more about the environment, we want to protect our environment way more than Gina McCarthy or any of these other folks did, and I just appreciate your work.

First again, what Senator Whitehouse, your work on the ocean cleanup. It is great to see that you, the President, the U.S. trade rep have all made this a high priority. We are going to continue to press it.

Senator Whitehouse's and my legislation, the Save Our Seas 2.0, which CRS told us we could call the most comprehensive ocean cleanup legislation ever to come out of Congress, we checked with the Congressional Research Service. So, that passed the Senate unanimously in January. We are trying to get it moved through the House.

So can I get your commitment—I am really glad to see you highlighted it in your report, but can I get your commitment to help us move that, get it signed into law, put it on the President's desk, not too long? And if you are over on the House, please encourage them to pass it too? I think they are very motivated to do it, but can I get your commitment on that, Mr. Administrator?

Mr. WHEELER. You have my commitment to work with you on the issues. I have to get any, as far as—I am not sure if OMB has been issued a statement on the legislation or not. I can't get ahead of the White House on endorsing legislation.

Senator SULLIVAN. Well, you guys help draft the legislation, so hopefully you are good to go with it. Good.

Take a look, I think OMB will be fine with it. We did work with the Administration on this quite a lot.

One of the things that kind of, it is interesting. People always talk about science. Again, my colleagues on the other side, I work well with them, a lot of them are my good friends.

But you know, they trot out science. The word science, sometimes, there is occasional—I mean, we had a great example in Alaska during the Obama administration. The science of the Federal agencies came and said the National Petroleum Reserve of Alaska had no more oil in it. Really? I was the DNR Commissioner at the time in Alaska.

Of course, we knew that was a bunch of bunk science. It was totally politicized. We were, until this pandemic, having one of the biggest booms in the National Petroleum Reserve of Alaska ever, because there is so much natural resources.

So when I hear the science thing from the other side, I get a little skeptical how much the Obama guys politicized science, certainly in my State, to try to shut down resource development and kill the jobs in my State that are so critical to my economy, but also the U.S. economy.

Mr. Administrator, I do want to talk about an issue that I highlighted in Alaska on your visit, and again, thanks for coming. We welcome you to come back again.

In the 2016 WIN Act, I had one of my first bills, actually, got signed into law under President Obama.

And this Committee, we had a new program that was focused on small and disadvantaged community water systems. Now, as you know, in Alaska, we have over 30 communities that have no running water or flush toilets, so think about that, America, 30 communities. Thousands of patriotic Americans.

These are some of the people—you go to these communities in rural Alaska, every person there, every guy there is a veteran, right? The most patriotic place you have ever been. And yet, they can't even wash their hands.

The CDC says, wash your hands frequently. They don't have running water. American citizens. It is a scandal. It drives me crazy.

So this program was meant to address this. I appreciated you seeing some of the first hand challenges.

Unfortunately, as we discussed, when the EPA implemented this program last year, I think it failed to fully understand the congressional intent, which was very clear, which was this is meant to focus on communities that actually don't have water and sewer, and unfortunately, my State has a lot of these communities.

So, can I get your commitment, I know I got it in Alaska, but I would like to get it in this hearing, to again, work with my communities, align the implementation of this legislation with Congress's original intent to make sure those resources, which by the way, you may have seen in the bill we marked up just last week, we have additional resources in this regard for these kind of disadvantaged communities, that you can really help us focus on that, on the implementation of that legislation?

Mr. WHEELER. Absolutely, and it is my understanding that my staff have been working with your staff, and we are revamping that program to mirror the congressional intent behind it.

Senator SULLIVAN. Great. Well, I appreciate that commitment.

Mr. Chairman, is it OK if I ask one more question?

Senator BARRASSO. Please.

Senator SULLIVAN. So, I also want to commend you, Mr. Administrator, what the Chairman just said, the ability to actually get rid of excessive regulations, and yet continue to keep our air and water clean. We have very pristine air and water in our great State, some of the most pristine, beautiful environment in the world. But as you mentioned, you can do both. I think what you guys are demonstrating that.

I really think it is important when you cite these statistics on the progress we have made on pollutants, particularly 50 years of the EPA in existence, how much progress has been made. Because when you read the national media, it always sounds like it is a disaster in the environment.

And yet, as you have highlighted, we are actually making very significant progress. Again, Democrats, Republicans, people need to know that, and whether it is greenhouse gas emissions or lead or particulates.

Just two quick final questions. We did that round table in Fairbanks on the PM 2.5 issue. I would like to get an update from you on that, if you have that working with my community. It is a really, really important issue.

And then, continuing the work that we need from the EPA on this big issue of wetlands. The reason I raise that, is it is, as you know, Mr. Administrator, Alaska is currently home to 63 percent of the Nation's jurisdictional waters and 65 percent of the Nation's wetlands. One State.

When the EPA comes and tries to regulate everything like they did during the Obama administration, it just shuts down the entire State, because we take the gigantic burden for the whole country on these issues.

I was pleased that you worked on the WOTUS Rule, which again, was a usurpation of Congress's authority under the Obama administration.

But can I get your commitment to continue to work with my State on innovative ways to address these mitigation issues that are unfairly burdened, the one State in the Nation that has so much of the Nation's wetlands? Yet, there is very little recognition of that, and I think you are starting to do that. But innovative ways to work on mitigation that take into account one State is really essentially carrying the load for much of the country on this. So those two questions.

Mr. WHEELER. Absolutely, sir. On your first question, we continue to work with your community on the PM 2.5, and we will continue to do that. We want to make sure that Alaskans have clean air, but it also doesn't disproportionately impact your industry and the problems that you have with the unique air bowl, you basically have there in that community.

On the WOTUS, Waters of the U.S., our replacement for that, you know, for the first time ever in drafting a national wetlands regulations, we acknowledged the important role of the States. Just because a Water of the United States is not a water—just because an important water body or important wetland is not a Water of the United States, doesn't mean it is not already protected under different State rules.

So to have the EPA, I believe it is just a sea change, if you will pardon the metaphor, in the way we are working with the States, to acknowledge the important role that the States have in protecting their own water resources. The difference that Congress, you know, in the original Clean Water Act, as far as navigable waters, and has, of course, been expanded over the years by the Supreme Court, which is why we crafted our replacement rule this year, the Water Protection Rule, to ensure that we are following the Supreme Court cases, as well as the intent behind the Clean Water Act.

But we are, for the first time, I believe, recognizing the important partnership that we have with the States and local communities, but primarily States and tribes on protecting water resources around the country.

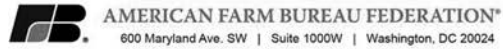
Senator SULLIVAN. Great. I will have additional questions for the record.

Thank you, Mr. Chairman.

Senator BARRASSO. Thank you very much, Senator Sullivan.

At this point, there are no more members asking questions. I do ask unanimous consent to enter materials from the American Farm Bureau Federation, from the Waters Advocacy Coalition, from the Basin Electric Power Cooperative, and the Hearth, Patio, and Barbeque Association for today's hearings, and without objection, we will do that.

[The referenced information follows:]



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May 19, 2020

The Honorable John Barrasso
Chairman
Senate Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

The Honorable Tom Carper
Ranking Member
Senate Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

The American Farm Bureau Federation (Farm Bureau) requests that the Committee accept this letter for inclusion in the record for the upcoming May 20, 2020, hearing entitled, "Oversight of the Environmental Protection Agency." The Farm Bureau is committed to clean water and believe that a clear regulation that draws lines between federal and state waters will help further the nation's clean water goals.

Farm Bureau strongly support the Navigable Waters Protection Rule ("NWPR"), as well as the Agencies' decision to repeal the 2015 WOTUS Rule. The NWPR provides a balanced approach to protecting waters and wetlands and providing clarity and predictability to farmers, ranchers, and regulators. We look forward to working with both the EPA and the Corp of Engineers as they implement the new rule.

It is Farm Bureau's position that the NWPR brings an end to persistent efforts to expand federal power by respecting the states' traditional authority over land and water resources and avoiding the sorts of difficult statutory and constitutional questions raised by prior definitions of WOTUS.

Farm Bureau appreciates the opportunity to submit this letter for the record expressing our support for the NWPR.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Paul Schlager'.



May 19, 2020

VIA EMAIL

The Honorable John Barrasso
Chairman
Senate Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

The Honorable Tom Carper
Ranking Member
Senate Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Barrasso and Ranking Member Carper:

The Waters Advocacy Coalition ("WAC" or "Coalition") respectfully asks that the Committee accept this letter for inclusion in the record for the upcoming May 20, 2020, hearing entitled, "Oversight of the Environmental Protection Agency." WAC represents a large cross-section of the nation's construction, transportation, real estate, mining, manufacturing, forestry, agriculture, energy, wildlife conservation, and public health and safety sectors—all of which are vital to a thriving national economy and provide much needed jobs. The Coalition's members are committed to the protection and restoration of America's wetlands and waters, and believe that a clear regulation that draws lines between federal and state waters will help further those goals.

The Coalition continues to strongly support the Agencies' revised definition of "waters of the United States" ("WOTUS") set forth in the Navigable Waters Protection Rule ("NWPR"), as well as the Agencies' decision to repeal the 2015 WOTUS Rule. The NWPR strikes an appropriate balance between protecting waters and wetlands and providing clarity and predictability to stakeholders and regulators. Moreover, it is firmly grounded in the Clean Water Act's ("CWA") shared federal-state responsibility for water quality and relevant court precedents. WAC's members look forward to working with the Agencies to address any challenges that arise during implementation of the new rule.

The issuance of the NWPR is a long overdue, welcome development for the Coalition's members and private landowners nationwide. Over the decades, the definition of WOTUS has at times expanded well beyond the limits of the Agencies' statutory authority under the CWA and the Constitution, at the expense of state and local authority. Because of this unlawful expansion, the Supreme Court has had to step in twice to curb the Agencies' interpretations and direct them to respect the limits that Congress placed on the federal government's authority. The Coalition believes the NWPR finally brings an end to persistent efforts to expand federal power by respecting the states' traditional authority over land and water resources and avoiding the sorts of difficult constitutional questions raised by prior definitions of WOTUS. The NWPR also accounts for relevant scientific considerations, such as the fact that connections between water features occur along a gradient. The Agencies properly exercised their legal and policy judgment to assert federal regulatory authority over only those features along the gradient that exert the

Chairman Barrasso and Ranking Member Carper
May 19, 2020
Page 2

strongest influence on downstream navigable waters. In so doing, the NWPR wisely leaves other waters to state and local governments to prevent and control pollution.

The Coalition appreciates the opportunity to submit this letter showing its members' broad support for the NWPR.

Sincerely,



WAC MEMBERSHIP

1. Agricultural Retailers Association
2. American Exploration & Mining Association
3. American Exploration & Production Council
4. American Farm Bureau Federation
5. American Forest & Paper Association
6. American Fuel & Petrochemical Manufacturers
7. American Gas Association
8. American Iron & Steel Institute
9. American Petroleum Institute
10. American Public Power Association
11. American Road & Transportation Builders Association
12. American Society of Golf Course Architects
13. Associated Builders & Contractors
14. Associated General Contractors of America
15. Association of American Railroads
16. Association of Oil Pipelines
17. Club Management Association of America
18. Corn Refiners Association
19. CropLife America
20. Edison Electric Institute
21. Florida and Texas Sugar Cane Growers
22. Golf Course Builders Association of America
23. Golf Course Superintendents Association of America
24. Independent Petroleum Association of America
25. Industrial Minerals Association North America
26. International Council of Shopping Centers
27. International Liquid Terminals Association
28. Leading Builders of America
29. National Association of Home Builders
30. National Association of Manufacturers
31. National Association of Realtors
32. National Association of State Departments of Agriculture
33. National Cattlemen's Beef Association
34. National Club Association
35. National Corn Growers Association
36. National Cotton Council of America
37. National Council of Farmer Cooperatives
38. National Mining Association
39. National Multifamily Housing Council
40. National Oilseed Processors Association
41. National Pork Producers Council
42. National Rural Electric Cooperative Association
43. National Stone Sand & Gravel Association
44. Responsible Industry for Sound Environment
45. Southeastern Lumber Manufacturers Association
46. Texas Wildlife Association
47. The Fertilizer Institute
48. Treated Wood Council
49. USA Rice Federation
50. US Chamber of Commerce



May 8, 2020

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Docket ID: EPA-HQ-OW-2020- 012

Submitted electronically via www.regulations.gov

Re: Wyoming Underground Injection Control Program; Class VI Primacy

Dear Administrator Wheeler:

Basin Electric Power Cooperative (Basin Electric) appreciates this opportunity to submit comments in support of the Environmental Protection Agency's (EPA) proposed rule to approve the State of Wyoming's request for primacy for Class VI injection wells. Basin Electric is a generation and transmission cooperative based in Bismarck, North Dakota, serving approximately three million consumers through 141 rural electric cooperatives across nine states. Basin Electric has long sought solutions to the carbon question and continues to explore options to allow utilization of affordable and abundant fossil fuels for electric power generation in a carbon constrained future.

Recently, Basin Electric has expanded its interest in developing carbon capture solutions through its partnership with the Integrated Test Center, located at Basin Electric's Dry Fork Station (DFS) outside of Gillette, Wyoming. Using flue gas provided by DFS, this test facility provides space for researchers to explore new and innovative solutions for carbon management. Further, Basin Electric has also partnered with Membrane Technology Research (MTR) Inc. to explore the feasibility of post-combustion carbon capture utilizing MTR's membrane technology at DFS. The proposed project would capture 70 percent of the carbon dioxide (CO₂) from all or a portion of the flue gas from the 385 megawatt unit. DFS is also located adjacent to the University of Wyoming's Department of Energy-funded CarbonSAFE project that is currently characterizing reservoirs for secure geologic storage of 50 million tons of CO₂.

The proposed rule would authorize the Wyoming Department of Environmental Quality (DEQ) to implement an Underground Injection Control program and issue permits for Class VI injection wells located within the State. As permitting can often be an expensive and time-consuming barrier to implementing projects, granting the Wyoming DEQ primacy for Class VI wells will provide much needed regulatory certainty for carbon management projects.

Basin Electric has long supported an "all of the above" energy strategy for the United States, and this proposed rule would play an important role in advancing carbon capture and storage technology. Thank you again for the opportunity to submit comment.

Sincerely,

Paul Sukut (May 8, 2020)

Paul M. Sukut
CEO & General Manager



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May 19, 2020

The Honorable John Barrasso
Chairman
Committee on Environment and Public Works
U.S. Senate

The Honorable Thomas Carper
Ranking Member
Committee on Environment and Public Works
U.S. Senate

The Hearth, Patio & Barbecue Association (HPBA) – the trade association representing manufacturers, retailers, distributors, and servicers of wood and pellet stoves and inserts, hydronic heaters, and wood furnaces, in addition to other sectors of the hearth, patio, and barbecue industries – writes to you today supporting the Environmental Protection Agency’s (EPA) decision to propose a sell-through period for wood heater retailers due to the impacts of COVID-19 mitigation efforts.

Until May 15 (Friday last week), all Step 1 wood heaters were EPA-certified. They went through rigorous testing and represent years of product development. With Step 2 now in effect, these wood heaters can no longer be manufactured or sold. In light of the impacts of COVID-19 mitigation efforts, stay-at-home orders, and closure of non-essential businesses, retailers lost two essential months to sell the last of their remaining Step 1 products. In a March 20, 2020 letter (*attached*) HPBA sent to congressional leadership, we included anecdotes from over 150 retailers whose businesses have been severely impacted by our country’s self-induced economic coma.

In a normal year where we didn’t face a global pandemic, these retailers likely would have been able to sell these Step 1 products. However, this is not a normal year. Recognizing these incredible challenges, EPA has proposed a retail sell-through of six months, until November 30, 2020. Acknowledging that it is highly unlikely to finalize this proposed rule for some months, the sell-through period would not take place during the full six months, perhaps only October through November 30. Sell-through does enjoy bipartisan support including from Ranking Member Carper.

On December 6, 2018, during a legislative markup of S. 1857, Senator Carper offered a substitute amendment that would have provided a one-year sell-through for Step 1 models manufactured before May 15, 2020.¹ Senator Carper recognized the economic challenges retailers would encounter with stranded inventory, and this was years before COVID-19 emerged. Now, EPA is proposing just six months of sell-through, which in reality will be less than six months. If Senator Carper wishes to aid the residential wood

¹ S. Rep. 115-422. (December 6, 2018). TO ESTABLISH A COMPLIANCE DEADLINE OF MAY 15, 2023, FOR STEP 2 EMISSIONS STANDARDS FOR NEW RESIDENTIAL WOOD HEATERS, NEW RESIDENTIAL HYDRONIC HEATERS, AND FORCED-AIR FURNACES. Retrieved from <https://www.congress.gov/congressional-report/115th-congress/senate-report/422>.

heater industry, an intent he expressed at the end of the December 6, 2018 markup, he would support this modest sell-through proposal in light of the impacts of COVID-19.²

HPBA strongly supports EPA's proposed sell-through and urges the Agency to finalize it as soon as possible. Following this letter are the initial reactions of some retailers to the news that there could be sell-through in the future.

Sincerely,

A handwritten signature in blue ink that reads "Jack W. Goldman". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jack Goldman
President & CEO
Hearth, Patio & Barbecue Association

² At the time of the December 2018 markup, HPBA could not support the offered amendment because it included language that would prevent EPA from ever making changes to the New Source Performance Standards (NSPS) for New Residential Wood Heaters, even if the Agency determined that the standards needed to be adjusted due to technological feasibility or due to an update in wood heater technology.

Retailers React to the News of Potential Sell-Through

"It is such good news to hear EPA is proposing sell-through in light of coronavirus impacts. Our showroom has been closed for two months due to the pandemic and we have been unable to host sales events to move these products. We are a small business in a rural area and we've been trying to sell these units, but they are not moving. We have issued really large discounts and now are almost giving them away. Any extra time to sell these products would be amazing."

-Sean Kraemer
Holy Smoke Inc.
California

"Hearing that EPA was proposing sell-through felt like opening a Christmas present. We currently have over \$35,000 in retail inventory we were hoping to blow-out this spring. Well, we all know that possibility evaporated when this global pandemic struck our country. I hope this small business relief becomes a reality for the small hearth shops across the country who, like us, have some excellent stoves to sell."

-Pete Orrfelt
Malm Fireplace Center
California

"I am a 22-year combat-retired-disabled-veteran who just purchased a 34-year-old hearth store. I am new to the industry and trying to start a new career. My business is down 60% and I need additional time to sell through the Step 1 stoves the previous owner transferred to me during the sale of the business. Any consideration would be greatly appreciated. Thank you."

-Mark Major
Inglenook Energy, LLC
Colorado

"We are glad the EPA has come around to accommodate our small industry. March 6 was the last day our employees worked. Trying to do the right thing, we continued to pay them, but kept them home to be safe. Our employees and our customers are our top priority. Family always comes first. Tough to sell our remaining wood stoves when our retail store is closed for 2+ months. The extension is the right thing to do. Thank you."

-Scott & Martha Robinson
Nordic Stove & Fireplace Center
Connecticut

“We greatly appreciate the EPA’s willingness, during these extraordinary times, to provide our industry (and the primarily small family-run businesses within it) a means to recover valuable lost selling opportunity caused by the pandemic and the resulting shutdown of the entire economy. With staggering losses in business volume and revenues hitting our members it is incomprehensible that further financial suffrage – by way of simply having to throw away valuable and viable product and write it off as a total loss – makes any sense what-so-ever. This extension allows a much needed grace period while we all get back on our feet. Thanks to the EPA for taking a reasonable course of action.”

-David Esau
North Atlanta Fireplace
Georgia

“I welcome the news that EPA is proposing sell-through for Step 1 wood heaters! Before COVID-19, we were in the process of a close-out sale that we were advertising in the local magazines, newspapers, and electronic media. At present, we have less than one person per day coming into our stores where we would normally have at least a couple dozen. We have four full-time employees that are affected by the current shutdown. Thank you, EPA, for recognizing these challenges and providing some relief.”

-Greg Hopkins
A Cozy Fireplace
Illinois

“The EPA’s proposed sell through period would offer some welcome relief. As a hearth retailer, we have worked hard to sell through all Step 1 products. The last two months have offered little relief as our store has been closed due to the pandemic. Being a small business that supports eight employees, the lost revenue is significant. We’ve slashed prices on products and offered free incentives. Despite our efforts, we still have \$14,000 (at-cost) in products to move. All of these products are EPA-certified, efficient, and clean burning. Thank you for the opportunity for additional selling time during these unprecedented times.”

-Mark Johnson
Grass Roots Energy Inc.
Illinois

“Thank you, EPA for proposing this much needed sell-through relief. Living in a state with the third highest number of coronavirus cases in the country, reopening anytime soon looks very unlikely. We have 39 Step 1 stoves at a cost of \$39,130. We haven’t been able to sell them because consumers are not shopping because of virus. We can’t bring them to a recycler because of employee lay off (because of lack of business, because of virus) and don’t know if recycle plants are open. A loss like this would seriously impact the profitability of our company, that may cause permanent employee layoffs.”

-Rich Russo
Russo Products
Massachusetts

"It is great news to be able to salvage the last of our Step 1 stoves. In these unprecedented times, a sell-through period will enable our small business to recoup what would have been a loss. This decision also gives us an opportunity to help consumers in our communities who are similarly feeling the effects of the pandemic."

-Karen Hindemith
Woodstoves & Fireplaces Unlimited
Massachusetts

"Sell-through later this year is welcome news! Due to the coronavirus, we have been closed since the first week march. We had planned to have a tent sale on April 1, but we had to cancel. This outbreak has hurt us and many shops. Thank you for recognizing this hardship and proposing much needed relief."

-Gary Asselin
Fireside Stove Shop
Maine

"Additional selling time for Step 1 products would tremendously help save my business. I still have Step 1 products that I cannot afford to take a loss on. With the store closures and everything that we've dealt with already due to coronavirus, we need to at least get our costs back from the sale of these perfectly good stoves. Without this relief, my business and employees would be severely hurt. Thank you for proposing this assistance."

-Eric Stevenson
Emmett's Energy
Michigan

"If the EPA would extend the time period to sell out the existing stock in showrooms, it would be very helpful to small businesses like my own. In Michigan, we have been closed to retail operations due to the state mandated closures due to COVID-19 since March 23. Our showroom closed, we cannot go to client homes to quote materials or installations. Even though my remaining Step-1 inventory is low, any inventory that I cannot sell is a burden on the business."

-Thomas Oldfield
Hodgson Light and Log
Michigan

"EPA providing sell-through would be a great relief. Our business would probably be able to survive and we could get sleep at night. This historic pandemic is an unforeseen circumstance that no one could have predicted. We really took a hard hit these past few months despite ads we'd already placed to promote big sales on the Step 1 products. The ads still ran and no customers came through the door. We were ready to make a valiant last push to sell our Step 1 stoves but that just didn't happen. With New Hampshire's stay-at-home orders extended to May 31, we really need this. Thank you so much for this consideration."

-Phil Lariviere
Seacoast Fireplace & Stove
New Hampshire

"We are so appreciative of EPA proposing sell-through. I don't see any reason why we wouldn't be able to sell our remaining inventory with some extra time. We have been completely closed since March 18 and won't be open for business at all until early June. Even then, it will be by appointment-only and curbside pickup. We're taking every precaution and not going into people's homes for their protection, especially for our elderly customers and our own newborn at home. When we do begin business again in early June, we will take every precaution to protect our customers and employees as we work in customers' homes. Our stoves were all made in the last five years, are clean burning, very efficient, and just don't have Step 2 label. Thank you for recognizing the hardship caused by this global pandemic and providing additional time to sell these perfectly good stoves."

-Julie Toomey
Big Ash Fireplace & Stoves
New York

"Thank you, EPA, for proposing additional time to sell Step 1 products. Since the coronavirus outbreak, the phone is barely ringing and there have been little to no customers visiting our store. With 10 stoves that we still need to sell, this extra time will be a tremendous help to keeping our business from closing permanently."

-Kim O'Brien
The Tinderbox Ltd.
New York

"We thank EPA for acknowledging these difficult times and giving time to sell Step 1 woodstoves. Installing new units and building improvements have been halted due to the sudden stoppage of sales since this outbreak picked up in March. I typically sell two to three stoves a week, but over the past month or two, I have sold zero. Thank you again for this extra time in light of these incredible circumstances."

-Jeff Spencer
Coal and Woodburner Shop
Ohio

"It's good news that the EPA is considering extending the deadline to sell Step 1 products. In the past two months, plans and sales have been completely disrupted by coronavirus. Before this proposal, we were dealing with two conflicting mandates from different government entities: one from the EPA prohibiting us from selling Step 1 stoves after May 15 while our local government cutting short our selling time by closing businesses. It just didn't seem right. A sell-through period is fair given the current situation."

-Roger Oberg
Midgleys Stove & Fireplace Center
Oregon

"It is fantastic to hear that EPA is strongly considering an extended sell through period for Step 1 EPA-certified stoves. It has been extremely tough these last three months of the coronavirus crisis. It is almost impossible to get customers in our door let alone be able to purchase product with all the restrictions applied to us. We are on the Oregon/Washington border where the regulations have been extremely tight, and the public has stayed in! Hearth products are a specialty product that should not be sold over the internet for extreme safety concerns and should only be installed by professionals which is why the six-foot social distancing rule has hindered installs to-date. The EPA is doing the right thing by proposing sell-through, which we greatly support and are very thankful."

-Scott Ongley
Lisac's Fireplaces and Stoves
Oregon

"The news of EPA proposing additional time to sell Step 1 products is most welcome. We do have some Step 1 products left, but the COVID-19 outbreak and the resulting loss of business has hurt us. To throw away these appliances seems like a complete waste of resources. I'm sure there are people who will buy a "well priced" Step 1 stove to replace an old polluting stove who will not invest in a 2020 compliant model because of the price. So, the harm to the environment from that consumer is greater than if we could replace old stoves even with Step 1 appliances."

-Rob Woroniak
Salter's Fireplace
Pennsylvania

"We are ecstatic that the EPA is moving towards the allowance of pushed back sell-through dates for our industry. We have been working diligently to meet the final deadline of May 15th, however the unforeseen COVID-19 pandemic and the subsequent state-mandated closures put a huge dampener on our final marketing push. The proposed allowance will significantly help small businesses like ourselves survive in such a time of economic uncertainty. We feel the EPA is taking the moral, ethical approach to propose this sell-through and we back this action 100%."

-The Woody's Fireplace Family
Woodys Fireplace INC.
Pennsylvania

"It would be a huge help for EPA to provide our industry with sell-through relief in light of COVID-19. We have really tried to sell our remaining Step 1 products these past couple months. With the store closed to public traffic, we've been advertising on Facebook and Google and have had zero results. Extra time would help prevent this complete financial loss."

-Rebecca Kneller
The Chimney Doctors
Tennessee

"We were overjoyed to hear that the EPA is proposing and finally considering granting some relief to small "Mom & Pop" hearth businesses like ours by offering a sell through period for Step 1 units. This could literally mean life rather than death for not only our business and livelihood, but our employees and their families as well. These past two months have been extremely challenging in light of store closures in response to coronavirus. Without sell-through, the extreme financial loss will result in almost certain financial ruin to a business we have run and survived both good and bad times for 39 years. Thank you!"

-Fran Marengo
Custom Fireplaces & More
Tennessee

"The proposed sell-through would be a fantastic opportunity for small businesses like ourselves that were greatly impacted by the COVID-19 closures. We would greatly appreciate and look forward to any help we can get with this. With zero store traffic and order cancellations, we really need this."

-Debbie Fawver
Leonard's Stone & Fireplace
Texas

ATTACHMENT – MARCH 20, 2020 HPBA LETTER TO CONGRESSIONAL LEADERSHIP



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March 20, 2020

The Honorable Nancy Pelosi
 Speaker of the House
 U.S. House of Representatives

The Honorable Kevin McCarthy
 Minority Leader
 U.S. House of Representatives

The Honorable Mitch McConnell
 Majority Leader
 U.S. Senate

The Honorable Chuck Schumer
 Minority Leader
 U.S. Senate

The Hearth, Patio & Barbecue Association (HPBA) – the trade association representing manufacturers, retailers, distributors, and servicers of wood and pellet stoves and inserts, hydronic heaters, and wood furnaces, in addition to other sectors of the hearth, patio, and barbecue industries – writes to you today requesting relief for an industry that is in dire straights during these uncertain times.

Retailers of wood and pellet stoves and other wood heating products have been hard at work over the past few years trying to sell any remaining products that don't meet the requirements of a new EPA emissions standard set to go into effect on May 15, 2020, just under two months from now. "Step 1" of the standards went into effect on May 15, 2015 and now "Step 2" is about to arrive. In less than two months, it will be illegal to sell any covered products that don't meet the Step 2 requirements. During a normal year, retailers would use this time to sell those Step 1 stoves that didn't sell during the heating season. Now, everything has changed.

We ask for a sell-through period, delaying the May 15, 2020 effective date until December 31, 2020, to give retailers time to sell these soon-to-be stranded products. Without this relief, and in combination with impacts all small businesses are facing at this time, numerous stores will close permanently.

Business has come to a complete standstill for small retailers across the United States. Some states have ordered or advised any "non-essential" businesses to close their doors. Any hope of selling those remaining Step 1 stoves has been crushed under the weight of public efforts to stem the spread of COVID-19. February through April can be a busy time for retailers, as price-conscious consumers look for deals at the end of the season.

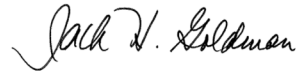
Since many Step 1 products can be quite expensive, retailers have been hesitant to offer deep discounts on them until about a year ago. A Step 1 stove can cost \$2,000 wholesale

and is no small investment for the industry's small specialty retailers. As we come to the end of the heating season, many retailers are in the middle of their season-end sales. The impacts of closures, public health and safety warnings, and a terrified public have had devastating consequences for hearth retailers. Not only have sales come to a complete standstill, but some products that have already been sold have been returned or sales cancelled because customers don't want installers in their home during quarantine, or installers are unable to get to a home because of a community lockdown.

We surveyed our retailer and distributor members, and found that almost \$4 million in product will be stranded without Congressional action. In addition, some of our members supply major home center chains, and report that over \$10 million worth of product will not sell in time and must be repurchased. This may even call into question the continued existence of these small manufacturers. It is worth noting that these manufacturing companies are in rural areas. This may not appear to be much, but for small businesses in mostly rural areas, the loss of jobs will be a significant shock to the local economies. All our sector is asking is for language to be included in the upcoming relief package to allow our retailers to sell existing product through December 31, 2020.

Following this letter is feedback we received from small business retailers and distributors in just the past three days.

Thank you for your consideration,

A handwritten signature in black ink that reads "Jack V. Goldman". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Jack Goldman
President & CEO
Hearth, Patio & Barbecue Association

What plans or sales have been disrupted and what is happening in communities?

Below is the feedback we received from retailers and distributors, organized by state. We have removed any information that could identify individual businesses as many are fearful of being targeted for future enforcement action.

Alabama

- “Our showroom has been completely empty since Thursday March 12, 2020. Our outside sales/ inspections are not having any immediate sales due to the Corona Virus outbreak as everyone has decided to wait and see what is going to happen with their jobs and the stock market.”

Alaska

- “The vast majority of our sells takes place in 4 months: Aug, Sept, Oct, Nov. We survive on repairs and chimney sweeps most of the year. As of Jan 1st till today, March 19th, we’ve sold 2 stoves. The installation cannot take place till May. We’ve ran full page advertising sale on stoves and deals on spring installation. However it is difficult to sell stoves when we cannot install them for months due to Alaska’s harsh weather condition.”

Arkansas

- “Even with social media posts, clearance signage, and use of online sales sites, now that COVID-19 represents a very real potential to many, our showroom has gone from several people a day to several a week. A majority of all sales in the last week and a half have been people getting their last few bags of pellets for the season. At a time where people are worried school and business closing, or about stores being able to stock commodities; our ability to sell through our remaining Phase I stoves has dwindled to almost nothing. This is a small, family owned business. Loss of revenue from COVID-19 coupled with the loss of capital by us scraping our remaining stoves will be financially devastating to our business.

I am the lone salesman for this store. Up until the last year or so, we have used family members to help with sales during the off season. As a husband and father of three, I have a family that is depending on me for this job. The current climate certainly lends itself to the real possibility of me losing my job, and my ability to take care of my family. I imagine many others in the industry have similar stories.”

California

- “We have closed the store to customers but remain inside to answer phones and receive deliveries. 2 people are working from home. Our installers are limiting their installations for now. Anticipate sales will be down at least 30% or more.”

- “We are one of the oldest hearth dealers in California, established in 1960. The COVID-19 virus has certainly affected our foot traffic at our retail location. With only 6 employees, we try to take of any “early buy” purchasing options we can; the current crisis, coupled with the Northern California fires over the last few years, has left us with an overstock of wood-burning products. People aren’t out currently, and the fires created a general sensitivity to wood-fired appliances. We normally sell anywhere from 20-30 wood-burning appliances annually, and another 40+ pellet appliances. 2020 has not followed any trend I’ve seen in the 30+ years I’ve been in the trade.

It is my belief that many small retailers, like us, will suffer at the end of this. Manufacturers consider those units bought and paid for. They will be our ‘boat anchors’ come May.”

- “Foot traffic is way down due to the hysteria surrounding COVID-19 which makes it difficult to sell through the step one units.”
- “The impact of coronavirus will impact the hearth industry significantly. The risk of 7 grams of particulate versus 2 grams per hour is minuscule compared to the economic impact. Please consider and vote showing mercy.”
- “We were anticipating having a large sale in April, but I am unsure if we will be able to. We may have to close our doors, because my office employees are getting concerned about coming into work. We are taking as many precautions as we can, but if the virus progresses we could be left with a lot of step 1 products.”
- “I cut staff to 3.”
- “Just showing my concerns with the deadline for sell through on the non 2020 compliant stoves. We employ about 53 employees. We have been in business for over 50 years. It seems that having a cut and dried time frame for selling out of a non-compliant stove is a little over the top. Now with the COVID-19 closures going on and cancelling of events I am not sure how some businesses will survive let alone trying to sell out of a non-compliant stoves (without little to no profit at this point with the deadline coming up). We rely on two big events with lots of exposure to show and sell our product each year and they have both been canceled. A Home Show and a City wide event called Cool April Nights. Our business is very much influenced by weather and we had a record of 0” of rain for February and 80 degree temps, which has not helped in selling heating products. With all of that said please push for an extension on the non-compliant deadline.”

Colorado

- “All plans and sales have been disrupted. Down 60%”
- “Prior customer interest has been put on hold due to financial uncertainty”

Connecticut

- "Coronavirus has stopped our floor traffic to sell the last remaining stoves in stock."
- "Winter Savings Sale – lack of traffic, not able to get people into our showrooms based on the Coronavirus."
- "Both the number of customer visits and purchasing have evaporated because the shoppers have been refocused on basics like toilet paper and being told they should shelter in place or limit shopping and gathering activities. Further, the economic impact to furloughed employees diminishes their spending and we now have the largest employers, the casinos, shuttered. We have instructed our advertising media to cut our ad spend in half as a result. The virus has also crippled world markets including oil prices in an added wound to the prospects of sales."
- "Now, more than ever, with the coronavirus effecting all of our daily wellbeing this EPA change out has us on the brink of shut down. We have 17 units left to move out. The price markdowns are drastic. But the city is a ghost town as no one ventures out of their home. Hard to make sales when we are told to stay home. Businesses are struggling and some won't make it. People will lose their jobs and many already have. Many are sick, will get sick, or worse. And right now, many are feeling isolated. The EPA should step in line with other government agencies in the attempt of trying to help in these difficult times, not create more hardships. And we would gladly trade all 17 wood stoves for 17 respirators and give them to people who really need help. Stay healthy. Be safe."

Delaware

- "Due to Governor mandates in our state we have canceled our large end of season event, and are experiencing much lower than normal floor traffic."

Georgia

- "We have already discounted the remaining product by 50% and posted for sale/promotion on all of our electronic media venues. We have signage indicating clearance/moving sale outside the store and have email-blasted our entire client list. With the current state of affairs our store traffic has dropped to almost zero."
- "We have had our store traffic drop by 95% in the last week. Our sales are off the same amount on a week to week basis and it does not look good to improve any time soon. I am not sure what to do at this point but to wait it out. It does not look good." (Georgia and North Carolina locations)

Illinois

- “We were in the process of a close out sale that we were advertising in the local magazines, papers & electronic media. We have 4 full time employees that are being affected by the current shut down. At present we have less than 1 customer per day coming into our stores where we would normally have a least a couple dozen.”
- “Showroom traffic is very minimal due to coronavirus state mandated rules. Cannot sell product if no one can see to purchase. In home service is limited to emergency only to minimize exposure to our service team, so no installations can happen. Homeowner addition purchases are being cancelled due to uncertainty of income.”
- “All upcoming weekend sales events officially cancelled through at least end of April - Local building economy just dropped off a cliff - We are confident that without actually paying people to take these stoves off of our hands, there is no way in this world we will be rid of them in time.”
- “Covid 19 Disrupted Commercial traffic to our store, which will make selling stage 1 inventory harder by deadline.”
- “Our advertising on radio, TV, and newspaper has been suspended; on-line advertising continues, although it now focuses more on items for delivery/pick-up rather than installed products.”
- “COVID-19 has really made our customers uncertain about spending money right now.”
- “All office, installation, and support staff have been reduced to 24 hour work weeks in an attempt to give everyone enough income to make ends meet without using earned PTO time. Retail floor traffic and sales have dropped to almost nothing and installations are difficult to get scheduled with the concerns.” (Illinois and Wisconsin locations)
- “We have cut our hours in half as people have called and cancelled appointments. We are putting 2 of the full time employees on Unemployment.”

Indiana

- “We are a one store business that has been open for over 50 years. We have scaled back our operation and we will probably close for at least two weeks because of the coronavirus.”
- “We have had to shut down completely in the last two weeks because we have had 6 cases of the Coronavirus in our area.”

Iowa

- “All these Step 1 stoves/inserts are reduced at least 25% below what we paid for them. I have only been able to sell one in the last 8 weeks. I have used radio advertising and social media boosted to a 50 miles radius to sell these items. The coronavirus is causing panic in the marketplace and no one is walking through our doors. We are hoping social media will help but right now people are holding on to their money for necessities only. Unless we are allowed to sell through longer, we don't know what to do with the inventory that we have. Our history is alternative fuel and we have slowly moved more into the gas and electric market since LP gas has remained low. We have continued to follow EPA guidelines and change our wood/pellet inventory accordingly.

We are in a rural area of Iowa where many people still want to burn wood or pellets so offering gas and electric only puts a strain on our business. To maintain our business here wood stoves are a must with pellet stoves a secondary option for those customers. We need to be able to sell our old inventory so we can get 2020 certified stoves and insert. The pandemic is adding factor that will surely make it difficult for us to survive.”

- “We are currently running advertisements with discounted pricing on our 2 remaining stoves.”
- “I have zero foot traffic and with the markets in freefall and MANY local businesses closed and employees not working it will be quite a feat to sell my remaining product.”

Kentucky

- “Roughly 5 sales of existing step 1 products have been canceled or postponed. Overall sales for March (MTD) are 18% lower than March (MTD) 2019.”
- “We are not able to do sales promotions, like Winter Clearance Sales due to the COVID-19 outbreak due to people having to stay in. Store traffic has been reduced drastically and the consumer for wood has not had the opportunity to come in.”

Maine

- “Two locations. Had to suspend current “winter clearance event” sale and take ads off the radio - not sure if we can remain open for enough hours to sell through these stoves.”
- “There is no economic activity. We have two service calls for next week. This week, we have a full schedule, about 25 service calls. No one coming into the store. No phone calls. About \$15,000 to be lost. 2 weeks worth of payroll. Maybe a bit more. We might have a couple of them sold but the deals not done yet and everybody is spooked.”

- “While we have worked hard and had sales to successfully move out most of our soon to be obsolete product but the remaining product are ones which fit a limited number of niches and, even with substantial discounts being offered, require time to find the right customer.”
- “Today we have locked our front doors to protect our employees and customers and hopefully the country from any further spread of COVID-19. If our small contribution can help flatten the curve and save lives we are all in. We will do our best to keep our 8 employees as long as it takes, but at some point with our doors shuttered we may have to shut down. We still have 26 non 2020 stoves to sell. We have reduced prices and have been moving them until now. I am confident an extension on the sell thru deadline would allow us to move out the remaining product once we can re-open. Our business has been here since 1974, and will get thru this. PLEASE GIVE US THIS EXTENSION.”
- “Due to coronavirus, consumers have stop coming in. We need help. Mandate, like all business, it is putting us and employees out of work, please help us. p.s. we have 50 stove and fireplaces that must be sold. Do the right thing, thank you.”
- “As a 40 year old established small mom- pop business, our challenges are to complete these pre 2020 sales timely, in an environment where customers are urged to stay home, compounded by self limiting our exposure in the business as owners due to our age ..all the while working to accommodate employees with unexpected child care responsibilities as schools are now closed for a month. Our son, our key salesman and single parent, is now working remotely at home while caring and online schooling his twins as he is uncomfortable with the risk of the grandparent child care option. Our other key employee is a veteran army reservist who I hope is allowed to stay with us through this all. Today our governor urged non essential businesses to close for 2 weeks however we remain open at this time as we have incoming freight. Store traffic is non existent everywhere i am told. Certainly in our shop. All sit down restaurants were ordered closed as of 8:00 tonight. We are 4 employees and have service sub contractors who depend on our sales for a portion of their income.”

Maryland

- “Our showroom foot traffic has been dramatically reduced due to COVID-19, keeping people from seeing the inventory we have for sale.”
- “We have reduced the price of the stoves to cost and have no one interested because no one is shopping. I may be forced to start giving a bag of toilet paper with every stove purchase.”
- “We had our end of burn season sale February 26th through March 8th and we were approximately 30% down from last year’s sale.”
- “How many Step 1 stoves do you have? Approximately 50 Units (Currently Unsold) ... However we added 2 Units yesterday because customers canceled sales stating that they did not want to move forward due to the concerns over the Coronavirus. Both issues were

money, job loss concerns and did not want installers in the home. This number could easily rise to 75 Units (25 Units sold but not installed) with potential cancellations. In addition to the obvious loss of inventory, I have a marketing and advertising push for “Year End Clearance Sale” that was planned to start next week with an outlay of over \$20,000 over two weeks. This plan was developed months ago to clear out remaining non – compliant units. The biggest issue for all dealers has been the record breaking warmth this winter that has dramatically impacted demand. Either way I had a big blow out planned for next couple of weeks to clear things out.” (Maryland and New Jersey locations)

Massachusetts

- “Our spring sales are effectively cancelled because no one is leaving their homes. We are also concerned because there is an expectation that Massachusetts may impose a shelter-in-place order similar to San Francisco to deter spread of the virus.”
- “We can’t afford to take a loss like this. We are a wholesale distributor. About a third of the stoves were purchased in 2014-2015 before that new standard came out. These were still current models in 2019. The wood stove market has been soft the last few years, that’s why we still have so many stoves left. We have 6 employees. We have offered them to our customers at our cost for the last several months, again the soft market didn’t do much to help move the inventory.”
- “We are closed for the next two weeks, at least. We plan to make sure every one of our 8 employees is paid during this pandemic. Our local homeshow was scheduled for the third week of March and has now been cancelled. Our hope was this would be our final push to get rid of the remaining non 2020 stoves. We currently have 20 stoves that we were hoping to sell through by the May deadline. This pandemic is having a HUGE impact on our ability to do so. I am hoping the EPA can see their way clear to giving us the same compassion that we are giving our customers and employees during this unfortunate time. We totalled the value of the remaining 20 and wholesale cost would be about \$30,535. That’s huge loss for a small business like ours.”
- “We have very little traffic coming through the doors due to the current situation.”
- “We have 8 employees and are no longer doing installs or service in people’s homes until further notice. We have no one coming into the shop except to purchase a few bags of pellets or propane. We are discussing closing for the next few weeks to see what happens and trying to keep our staff protected.”
- “Our current End-of-Season Spring Clearance sale is doing nothing (people are at grocery stores in anticipation of any area lockdowns.”
- “With this current virus there has been almost no traffic shopping in our place of business. We don’t see ourselves selling them before the deadline.”

- “We had planned on holding a “tent sale” this spring but had to cancel due to Covid-19.” (Massachusetts and Rhode Island locations)
- “I am closing the storefront a couple weeks. Hopefully we can find a way to get rid of them or write them off.”
- “Cut back on hours, not doing routine service calls, only service calls for out-of-service problems as well as installations already scheduled. Taking extreme caution educating employees, in store posting signs for keeping six-foot distances, washing hands, cleaning all surfaces, asking customers if they have illness in the home. We are open, but are seeing very little traffic in the store. Trying to keep paychecks paid, but if necessary, we will have to lay off.”
- “We are closing for at least one month.”

Michigan

- “SPRING SALES EVENT THAT USUALLY DRAWS 100+ PEOPLE WAS CANCELED TO MAINTAIN SOCIAL DISTANCE.”
- “We have 2 stores with a total of 16 employees. Since this started we have NO traffic. If they don’t allow any sell through this could severely hurt our business and all involved. Please pass this on to whoever might be able to help.”
- “At this time we are seeing much reduced store traffic do to the Virus situation. I believe this will have a big impact on our ability to move these stoves by the current deadline. To be stuck with these units we would have a loss of at least 25,000.00 dollars. That amounts to 4-5 weeks payroll.”
- “Walk in’s - Like a Ghost town.”
- “We have 17 Step 1 stoves left to sell. We have averaged 87 total stoves sold throughout the last 2 years. We normally run a layaway sale through April 15th, and part the final step of our step 1 close out included our advertisement during that sale that includes clearances prices on our step 1 stoves that is just now below cost for final liquidation. People are getting the message to stay home and not shop (restaurants in MI are closed except for takeout) and this will disrupt our final step of our closeout plan.”
- “Since the outbreak the showroom traffic has dropped off over 80%. Some people are putting off repairs and running electric heaters instead of having a tech come into the home. Lot’s of people are worried and not letting us in to work.”
- “It is still unknown as to if we are to close the store, but there is virtually no traffic. We have reduced hours.”

- “Major sale of Step 1 product clearance has been disrupted.”
- “Since the scare of the virus we have been open with limited people working. 5 working, 6 people laid off. I highly doubt we will be able to move these stoves with the problems we are facing in the next months. We are getting very few calls for emergencies and next to no customers coming in to the store. We sold some wood pellets Thursday that was about all we had for business. It has been a very warm winter here so it had already slowed a bit before the virus hit, now business is about stopped completely.”

Minnesota

- “We have been forced to limit store hours which limits our ability to sell these step one stoves. Depending on the progress we are likely going to have to limit hours worked. The fear caused by COVID-19 has slowed store traffic a great deal. With the money on the above step 1 stoves already invested in the product, an allowed sell through period would greatly help our bottom line, more importantly keep our current staff fully employed.”
- “Shortened hours due to the virus outbreak, customer traffic has slowed WAY down. Like most within the last 12 hours we have reduced hours going forward and will likely be cutting staff by the end of next week.”
- “Had our local home show last weekend and attendance was lacking. Customers have cancelled estimates/previews as they do not want anybody in the home.”
- “Traffic is way off - and our bbq demos are cancelled.”
- “All of our plans for 2020 are disrupted at this point. (in prediction we will lose \$400k-\$500k per month at the current rate. If the government shuts down business, we will lose \$650k per month).”
- “Our largest show of the year, Arrowhead Home and builder show, has been cancelled. Last year this show produced six percent of our gross sales for the year. Foot traffic in the store has stopped. We have furloughed one service tech and reduced hours for the office staff, and plan to reduce additional staff hours in the following weeks.”

Missouri

- “While I have been able to sell 3 in stock Phase 1 units over the past 2-3 months, Covid-19 has brought our entire company to almost a screeching halt. While I had a plan of action to try to offload these units, in the wake of this virus outbreak, I will most likely end up eating these units as bad debt should the May 15 deadline remain intact. We have been blowing these out at cost for months but now the season is over and very doubtful these will sell. Business has been disrupted dramatically since the virus outbreak and seems it will get worse.”

- “We have had zero foot traffic and the phone calls have slowed down dramatically.”
- “Planned on holding an End of season sale/ Foot Traffic has been bad.”
- “Our floor traffic has gotten almost flat at this time! We need more time to sell!! Please help!”

New Hampshire

- “What plans/sales have been disrupted: Slower foot traffic, slower than normal sales, people not spending, just waiting to see what's going to happen.”
- “No sales events have been interrupted currently but I imagine it will as door swings have declined significantly in the passing weeks, and continue to decline as the days roll on. In addition, clients are postponing technicians and installers coming into their homes. Even as a sales guy I have already had 2 site inspections cancel this week as people are concerned for their health and safety (which is understandable). Sales will continue to slow. Sales, and sales events will be impacted over the next several weeks/months. The hardest part about this is that no one buys wood stoves on May 14th... these next few weeks into early April will be a lot of hearth dealers best shot at getting rid of their 2019 inventory, and the next few weeks will likely be some of the most impacted times by this virus.”
- “Last Summer we ceased purchasing any Step 1 models that had comparable Step 2 alternatives available, but several of our manufacturers didn't have Step 2 alternatives ready until just a few months ago (some still aren't ready.) Each year we have a large “Spring Cleaning Sale” promotion in March where we clear out previous year inventory, and this year we marked down Step 1 models to our cost (meaning no profit) to make sure they clear out. Normally we would easily clear out as many units as we have left during the annual promotion, and in the first few days we were off to a good start, but with the current National Emergency our store traffic is now almost zero and our customer base is being financially impacted in ways that make them unlikely to be able to purchase a stove before the May 15th deadline.”
- “Our late winter early spring step 1 spring sell off sale has been affected by the Coronavirus repercussions. Mainly the Federal and State Governments advisories/recommendations to utilize social distancing, stay away from places where 10 or more people gather (NH) and the public's general fear have slowed our business to a crawl at this point in time. Our plans are to wait and see the economic impact and evaluate conditions on a daily basis.”
- “We are remaining open at this time but each day we see a big drop in walk-ins as well as phone calls. Honestly, this is our historic slow period anyway but it certainly feels more ominous than usual and I don't anticipate it getting better in the next six weeks or more.

We felt confident that we could easily sell the remaining stoves prior to this outbreak but again, now it is unclear. In fact, I am wondering how many current contracts/sales orders will be cancelled from our clients because of the overall uncertainty of this ongoing crisis."

- "We've had several jobs cancel due to people not wanting service techs in their home. We also had 2 restaurant jobs cancel due the cash flow issues with restaurants and bars being closed. The phones just aren't ringing and there hasn't been foot traffic in the store due to the "social distancing" requirement. We have 5 Step 1 stoves left. Our entire showroom was changed over during the peak season but these is inventory that just hasn't sold. Our sales were primarily pellet and gas this year with limited wood sales. This is strange for us, our market is usually the opposite."
- "Business has been slow this past year and now it is DEAD! No one is coming through the door in spite of print and radio ads. And signage out front. Discounts are not bringing in the customers, either."

We are a small "mom & pop" shop with one, sometimes two additional employees with only one location. We are going to take a huge hit if we cannot sell through the Step 1 stoves. The emissions of the stoves we have in stock are very low as it is, and would not make any measurable impact on the environment if they were to be sold. It is really sad that a committee of few have dug their feet in the sand to affect thousands, just because they can."

- "Our sales right now are ... non-existent."

New Jersey

- "How many Step 1 stoves do you have? Approximately 50 Units (Currently Unsold) However we added 2 Units yesterday because customers canceled sales stating that they did not want to move forward due to the concerns over the Coronavirus. Both issues were money, job loss concerns and did not want installers in the home. This number could easily rise to 75 Units (25 Units sold but not installed) with potential cancellations. In addition to the obvious loss of inventory. I have a marketing and advertising push for "Year End Clearance Sale" that was planned to start next week with an outlay of over \$20,000 over two weeks. This plan was developed months ago to clear out remaining non-compliant units. The biggest issue for all dealers has been the record breaking warmth this winter that has dramatically impacted demand. Either way I had a big blow out planned for next couple of weeks to clear things out." (Maryland and New Jersey locations)
- "Currently 50% off sale, no traffic at this time. Warren County, NJ and surrounding areas have minimal virus outbreaks, but no foot traffic on Saturday which is our best day. Customers are staying home."
- "Store closed due to virus, no traffic, no sales. Approx \$27,000 loss between units, venting, labor."

- “We had planned a very aggressive marketing plan to sell them off prior to the May 15, 2020 deadline, however with the current Covid-19 issue myself and my twelve employees are respecting the request to quarantine making it unlikely that these stoves will find new homes any time soon.”

Nevada

- “We have had to shut down Saturdays so far and may eventually shut down temporarily.”

New York

- “Since the Coronavirus outbreak, the phone is barely ringing, and little to no customers visiting our store.”
- “We are seeing reduced store traffic, but everything is changing by the hour.”
- “Showroom closed for two weeks.”
- “Money, and often their investments in “display stoves” comes out of their own pockets. Preventing these dealers from selling off these perfectly good stoves is hurtful and damaging to the industry! All the stoves that meet the 2015 standards already burn close to the 2020 standards, so extending these sales will NOT do any harm to the environment! BUT, it will negatively affect all the small businesses that still have some remaining stock.”
- “We have seen sales on these units stop over the past 2-3 weeks with concerns in the world with the virus and economy. We’ve had several orders for non-2020 units canceled by dealers due to their customers canceling or postponing jobs due to financial concerns. The customers are saying they still want the units, but are concerned with their current financial situation and are asking to have the units installed later in 2020. We offered these dealers great discounts on product to help move inventory through, of which the dealers sold the product at equal discounts. If the customers wait until after May 15th, 2020 they will not be able to purchase these units that they had already intended to buy and will most likely back up of any purchase. The recent events is going to cause hardship.”
- “Although this is normally our slow season, our in store sales have dropped to zero. All of our customers have stopped spending money on anything that is not a necessity. Within the next week or so we will have to make the decision on if we will have to close entirely. This will hurt our more vulnerable customers as they will still need stove repairs, and pellets for their heat.”
- “Unfortunately, we started seeing uncertainty in the market and an end to the selling season much earlier than we have in recent years due to the COVID-19 crisis. We have had little to no activity at the store for going on weeks. This week, we are closed to the public, and employees will be filing for unemployment. Due to financial market conditions and

volatility, I don't think it's possible to vacate the remaining models without doing so at a great loss."

North Carolina

- "We have 6 employees and have recently invested \$10,000 in an ad campaign as an attempt to sell them just before COVID-19 struck. Traffic has stopped."
- "We've had zero walk in traffic since Monday and jobs that were currently on the schedule are being canceled by the homeowners out of fear."
- "Business nearly halted...much shutdown ...opportunity to sell these dwindling by the minute. Projects on back burner for most people. Question even keeping showroom open."
- "Floor traffic is dead, may have to lay off installers."
- "We have had our store traffic drop by 95% in the last week. Our sales are off the same amount on a week to week basis and it does not look good to improve any time soon. I am not sure what to do at this point but to wait it out. It does not look good on selling those six stove though." (North Carolina and Georgia locations)
- "We have closed our doors to the public and are doing our best to give our six employees hours in the morning, cleaning, repairing things at the store and out doing some on site projects which haven't been finished while waiting for parts and shipments."

North Dakota

- "We have zero walk in traffic at this time, only people that we have been working on getting a project going for before the Covid-19 virus. Hopefully we have a little extra time to get rid of the units or we must eat the money spent on inventory of them, zero profit...cost of advertising is gone also then."

Ohio

- "We are a small business the impact from people scared to get out, let alone short window to sell in, we cannot absorb the cost don't know if we can stay in business."
- "Due to the adverse issues going on I will be forced to lay off 2 of my employees at the end of March until business picks back up. What plans/sales have been disrupted - Installing new units and building improvements have been halted dot the sudden stoppage of sales since this outbreak. I typically sell 2 to 3 stoves a week and during the spring time sell 8 to 10 gas grills a week. Over the last 2 weeks I have sold 0 of both products."

- "The store traffic has gone from very heavy this time of year. To just about nobody. The stoves that people do want to buy don't want us to deliver until this virus passes over. Which is good thinking and I don't want to send my guys out either. So to sum this up. We need this deadline extended or my company whom is already losing sales will have to take another loss in May. Thank you for listening."
- "We have two sales set up. One is being impacted from the virus, the other was not successful due to warm weather."
- "Customer traffic is much lower as compared to previous years at this time. Coming out of the winter season, it will be difficult to move the wood burning product before the deadline."
- "Everything is shut down – people are scared both to shop in stores for fear of catching something and to make large purchases for fear of the economy not recovering any time soon. Traffic and sales are way down as a result with no idea of when things will go back to normal."
- "We have our hours the same but no traffic. The phones are dead, the media is saying to stay home except for nonessential business. Most people don't feel a wood or pellet stove/insert is essential particularly since we are looking at spring and it's been a very mild winter. Demand is way down. The virus restrictions are killing the little there has been."

Oklahoma

- "Big ad campaign started 3 weeks ago and is not bringing in customers...First week was good but last 2 have been zero."

Oregon

- "We are located on border of Washington State a National Hot Bed for Covid19. The state of Wa. and Or. have instructed everyone to limit there leaving home only for essential items which has literally halted floor traffic regardless of T.V. advertising stating we are open for business. We are now out of Woodstove Season which makes it near impossible to move these stoves."
- "Plans and sales have been disrupted with the impact of the coronavirus and we strongly urge the EPA to extend the sell-through date for these stoves. We currently have two install technicians out sick and are under quarantine. With a small business and under staffed, we are having a difficult time selling our inventory because of the extended wait times."
- "Store traffic for new products is practically nonexistent, which is highly unusual for this time of year. Store hours will be cut back by 55% starting next week for 30-45 days, then be re-evaluated. We have not yet laid off any employees, but hourly workers will have hours cut back to 25 hours."

Pennsylvania

- “Both our retail stores are closed to the public because of corona virus. PA State “strongly recommends” so we are complying.”
- “We are willing to dispose of all of these units at or below cost. Perfect storm conditions: seasonal slowdown, mild weather, very low heating oil prices, stock market crash, impending recession. It is highly unlikely that we will see any buyers between now and May 15.”
- “We started a sale at the beginning of the month that we are calling March Mania End of Season Clearance and just as the advertising kicked in and we were starting to get some traction this coronavirus shutdown hit (Pennsylvania’s governor has ordered a shutdown of non-essential businesses). We weren’t waiting until now to sell them off; this is the third iteration of the sale, we had Holiday and New Years’ versions previously, increasing the discount each time. Given the extraordinary nature of this pandemic I don’t think some relief is coming out of left field here.”
- “Home shows have been canceled, customers staying home, people fearful of economic downturn holding off on making big purchases.”
- “About 3 sales of wood stoves have been disrupted as of today. Plans we had to mark down them down further and advertise in the paper we typically do as well as online.”
- “Closed for 14 days due to order by Governor Tom Wolf. And urged by President Trump. We are a high risk household with 2 kids who have Crohns Disease and my husband/owner who has diabetes.”
- “Obviously the Coronavirus had slowed down retail traffic into our store. Despite the state of PA recommending most businesses close we have maintained normal hours so far. But given how the media scarred the general consumer people are not traveling so of course our retail volume is down. An extension of the 2020 May deadline would of course be helpful to not only our store but to most Hearth Dealers in general...Everyone is in the same boat.”
- “As of March 6, 2020: *NO SALES; *NO CUSTOMERS INTO OUR STORE; *Stove Sales have been disrupted/non existent and waiting to hear whats the next step our company needs to take.”
- “As of Tuesday when Governor closed non-essential retail establishments, we laid off 3 FT positions.). What plans/sales have been disrupted: Showroom has had little foot-traffic as the COVID-10 Pandemic started to spread. We have historically moved over 30 units in March. (This year, while only the 18th we have moved 3...there is no way our sales volume will increase as only more restrictions are on the horizon.”

- "Sales have slowed down quite a bit this week."
- "To make things worse we have lost our only chimney sweep crew and 2 install crews do to the COVID 19 Virus. We have 1 location and usually 25 employees. At this moment we have lost 7 employees for one reason or another due to this virus. We will most likely not meet the deadline for clearance of last year's E.P.A. Appliances. We have been trying to clear product out around cost the last 7 months. But it hasn't been as successful as we hoped with the warm winter."
- "We were supposed to have a clearance sale to move the remainder of the phase 1 units but have had to delay the sale due to the present health crisis."

Rhode Island

- "We had planned on holding a "tent sale" this spring but had to cancel due to Covid-19." (Rhode Island and Massachusetts locations)

South Dakota

- "As of 3/18/20 traffic is low due to the Virus."

Tennessee

- "Since the start of restrictive movement policy and the fear factor that the public is going through our traffic in the store has dropped drastically. We have reduced the prices on these significantly but with the current situation it is unlikely that we will be able to move all of these units. We will try some other means to stimulate interest but we feel that more time is needed. We respectfully ask that you request on behalf of all dealers at least a 6 month extension. Worst case scenario we would welcome even a 90 day extension. We have been dropping the price on these units in some cases below our cost. But if we can't get the traffic to the store we can't move the product."
- "We are right now looking at laying off 3 of our office staff as business has slowed to a crawl. We will probably have to reduce our store hours as that leaves me as the only one in the office full time."
- "The Corona virus has just about shut business down. Schools, government offices, restaurants, are shutting down. Even some grocery stores in our area have announced they are shutting the doors as soon as their stock is gone. Our loss by having no other choice but to literally give away this huge inventory investment, even with tax breaks, will be devastating, especially to my 76 year old husband and partner."

We have been working over a 100 hours a week to try to keep up with the advertising, marking products down and it is just not going to work. We have worked very hard all

these to build a successful business supporting 16 employees and their families, We were near being able to retire, only now, we are afraid we will not make it through and may lose this business and our retirement. A Mom & Pop business (especially at our age range) just cannot sustain a total loss to their inventory at this stage in our lives. We would appreciate some compassion and aid so we can get additional time to sell of the stoves and pull through this, so our family's lives, as well as the lives of the families of our 16 staff members will not be wrecked by loss of their jobs after we get through this corona virus difficulty. Of course, sales Sales and more SALES! We had signage outside and inside the store as well. From one themed sale to another, advertising in different venues from print – local newspapers, several “shopper” publications with wide reach, online on local classified online ads, Craigslist and Ebay. Google ads, Facebook posts and ads. We did sell quite a few in Sept. and October, but we had a whole lot to start with. After the holidays, no amount of advertising at highly discounted prices seemed to change the lack of interest. Even marking them down to the 50%- 60% off range has not attracted customers at this time.”

Texas

- “We started the year with somewhere less than 150 units. We now are down to around 25 mostly Hearthstone units. With the turn in the economy I doubt we will sell through. We went through this in...what the 80's. I would not say we have ignored but I am not living my life around this. I feel for small Mom and Pop that get caught with 3-4 units. They are sunk. It is enough to deal with all the changing regulations, tax laws and new competition online but with all of this we have put together stellar years.”
- “We have worked and worked to sell the 41 units since October. We just sold one to a couple but they will not come to our store due to the COVID 19 outbreak. We have seen our walk-in traffic decrease last week and less this week. We have calls asking if we are open. Our builders, which is a large part of our business are seeing a slow down too.”
- “We were going to have a big sale the week after Easter but that is ‘to be determined’ now.”
- “We had plans to build a new larger building, already had land lined up to buy and plans drawn up, that's on hold now.”
- “Store traffic has gone to 0, orders from customers have been postponed or cancelled all together until further notice. Some new construction builders have shut down work sites, until further notice. Customers will not allow us into their homes to preform requested work and or service calls.”

Vermont

- “Sales are still good but traffic has definitely slowed this last week and customers are starting to reschedule March jobs into June.”

Virginia

- “Things have tanked. We will have to give them away at the beginning of May.”
- “We have no idea where we will be come May 15th but even with an aggressive 25% off we have no sales of stoves in March and only two phone contacts about wood stoves of any kind.”

Washington

- “Our sales are off 50% since the National Emergency was announced. We stand to lose \$50,000-\$60,000 if our remaining Step 1 product goes unsold.”
- “The COVID-19 fears and resulting governmental restrictions to avoid going out in public have significantly and detrimentally affected our ability to sell these products before the current deadline. We have a single location store with 6 employees. Since the government requirements for social distancing, our store traffic has all but ceased. We join our voices in appealing this deadline as it is detrimental to our business and seek relief for this burden due to these exceptional circumstances.”
- “Disrupted Plans/Sales: Home and Garden Show March 21st and 22nd was cancelled.”
- “We had to cancel our Two County Home Show (Mar 27-29), Service has been postponed for older customers, We have Annual Spring/Summer Cleanings (April 1st – July 31st) which gets us thru the off season, Service calls and installations we can do are taking longer because of all the protocol for Covid-19 virus we have had to implement, Employee’s (3) working from Home, Store traffic and over counter sales has dropped dramatically.”
- “What plans/sales have been disrupted: Our Spring Sale and Skagit Valley Home Show.”

Wisconsin

- “I have fourteen employees, one with an immune system compromised child, and three employees over 60 years of age. In considering closing my locations I have decided I cannot afford the financial sacrifice my family would endure not selling these brand new products. I have thus decided because of the policy of the EPA of not allowing a sell through period that I will have to keep all employees on staff and my locations open in order to not endure the financial hardship that the coronavirus will inevitably cause on top of having to destroy inventory. Extraordinary times require extraordinary actions and our governmental agency (EPA) is failing its citizens miserably.”
- “We will be having our annual anniversary sale in April, but with the arbitrary depression, people will not be making purchases as normal do to either not working or people not coming into their personal business and spending money. We normally make in the one

month sales what we would do in a "in season" month. This will hurt us and our employees."

- "The retail value on these products is over \$20,000 and we have already reduced the sale prices to our cost (or below) but the majority of consumers have little interest in shopping for a cold weather seasonal product as Spring is approaching and are now very hesitant to spend money and won't leave their home as the Coronavirus has overtaken the minds of everyone. We definitely need more time. December 31st, 2020, as a minimum, would help greatly, as that is the time of year consumers search for this type of heating product and look for deals around the holidays to finalize a purchase."
- "Was going to have a spring sale. But now nobody is spending money."
- "New proposals are being signed very slow if any. If we don't see improvement in the economy and this situation within a month we could be in trouble. We had a sports show signed up for this weekend. Because this situation is an act beyond the expos control we are out the deposit of \$2000 and out \$3000 of brochures and banners that we bought for the event. This is definitely hurting the pocket books and account payables."
- "Due to the COVID-19 virus it will be extremely unlikely to sell off inventory by May 15th, already we have customers delaying and or cancelling projects, I'm sure this is only going to get worse in the next month or so. Sure would be practical to extend deadline on the inventory sell off. As of this week things have slowed down to a trickle form what is normal business this time of year (70 % less/down)."
- "All office, installation, and support staff have been reduced to 24 hour work weeks in an attempt to give everyone enough income to make ends meet without using earned PTO time. Retail floor traffic and sales have dropped to almost nothing and installations are difficult to get scheduled with the concerns." (Wisconsin and Illinois locations)
- "The impact of the covid 19 warnings and restrictions has led to a 90% reduction in foot and phone traffic into our fireplace store. Virtually no new sales are happening. If there is no sell thru allowance this will be another economic impact in an already economical stressful year. Please do what you can to allow a reasonable sell thru period for these units be cleared out."

Wyoming

- "Customers are financially capped. We have had multiple already sold step 1 units try to back out in the last two day, but due to the fact that we won't be able to sell them in time we have had to tell them no."

Senator BARRASSO. I would also point out, in the front page this morning of the Washington Post, and you may not have seen it yet, Administrator Wheeler—

Mr. WHEELER. No, I haven't.

Senator BARRASSO. Emissions plunged 17 percent, an unprecedented decline.

So when I hear the Democrats here claiming the issue of emissions causing deaths related to coronavirus, emissions are specifically down.

Senator Sullivan, you wanted to make a comment on that?

Senator SULLIVAN. Yes, thank you Mr. Chairman, recognizing that there are no more of my colleagues waiting, I did have just one final question, Mr. Administrator.

It was an innovative idea that came up, and again, relating to mitigation and stuff in Alaska. As you know, we have Alaska Native Corporation lands that were given to the Native people by the Congress, 44 million acres. A lot of that land was actually contaminated before it was received, and the cleanup costs are enormous, because some of it is very contaminated.

These are the kinds of issues that I want to be able to continue to discuss with your office on maybe looking at wetland mitigation, ways to say, all right, if people are helping clean up those lands, that that can be an offset, not just kind of a one for one offset as it relates normally in the Clean Water Act.

Because that is something that I would like to get your commitment to continue to look at those kind of innovative solutions, particularly for my State, which, as I mentioned, has so much of the country's wetlands and is obviously a big focus of this.

Mr. WHEELER. Absolutely, and I believe the last meeting that I had when I was in Alaska was with some tribal leaders to talk specifically about that issue.

So that is something that I hope we have made some progress since I was there. I will go back and check with my staff to make sure that we are making progress. That is very important, and it cuts across the board in a number of areas, not just for the lands that they took possession of from the Federal Government, but also, if you look at abandoned mines across the country.

I know Senator Gardner has very important Good Samaritan legislation that would go a long way to cleaning up a lot of these sites that we need to get cleaned up around the country.

Senator SULLIVAN. Great. Thank you.

Thank you again, Mr. Chairman.

Senator BARRASSO. Thank you, Senator Sullivan.

The other issue, Administrator Wheeler, is on the USA Today coronavirus pandemic page. Today, the headline, Coronavirus has led to a 17 percent drop in carbon emissions. So again, the comments that we were hearing from some of our colleagues on the other side of the aisle on issues of emissions and a correlation with coronavirus, emissions are down significantly as a result of the diminished amount of commerce that is being done.

Mr. WHEELER. Senator, could you indulge me for just 2 more minutes, I would like to praise the career EPA staff on our disinfectants.

Senator BARRASSO. Yes, please.

Mr. WHEELER. They have, since March 6th, approved over 400 disinfectants that can be used by the American public to clean their homes, offices, factories—exactly. We have it available on a searchable data base at epa.gov.

We also created an app so that when you are out shopping, and you are trying to purchase disinfectants, to make sure it is important that people buy a disinfectant that is actually authorized by EPA to be effective against the coronavirus.

I don't want people to buy a product that is not effective against the coronavirus. It is very important for the health and safety of all of our families across the country. And our EPA scientists have been working 7 days a week around the clock to approve more disinfectants, and they have done an outstanding job in getting these approved.

Senator BARRASSO. Thank you very much. I appreciate all the good work that is being done by the EPA and your dedicated staff.

You will notice in this room, every member has disinfectant available to them at every seat, we are distanced from 6 feet, we all have our masks that we wore, once we are down here at the questioning, with the distance of taking them off.

But I do want to thank you, and thank all of you for being here today with us.

Thank you for your time, thank you for your testimony.

The hearing is adjourned.

[Whereupon, at 12:20 p.m., the hearing was adjourned.]

[Additional material submitted for the record follows:]

COVID-19 PM2.5

A national study on long-term exposure to air pollution and COVID-19 mortality in the United States

Exposure to air pollution and COVID-19 mortality in the United States: A nationwide cross-sectional study (Updated April 24, 2020)

Notice: In the revision on **April 24, 2020**, we have updated our analysis using data up to April 22, and importantly in which we have adjusted for additional confounding factors that also reflect the timing of the epidemic's spread, the timing of the social distancing policies and the population age distribution. Consequently, we have revised our finding as that an increase of 1 $\mu\text{g}/\text{m}^3$ in $\text{PM}_{2.5}$ is associated with an 8% increase in the COVID-19 death rate (95% confidence interval [CI]: 2%, 15%).

Figure: COVID-19 mortality rate ratios (MRR) per 1 $\mu\text{g}/\text{m}^3$ increase in $\text{PM}_{2.5}$ and 95% CI using daily cumulative COVID-19 death counts from April 18, 2020 to September 7, 2020.

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Background: United States government scientists estimate that COVID-19 may kill tens of thousands of Americans. Many of the pre-existing conditions that increase the risk of death in those with COVID-19 are the same diseases that are affected by long-term exposure to air pollution. We investigated whether long-term average exposure to fine particulate matter ($\text{PM}_{2.5}$) is associated with an increased risk of COVID-19 death in the United States.

Design: A nationwide, cross-sectional study using county-level data.

Data sources: COVID-19 death counts were collected for more than 3,000 counties in the United States (representing 98% of the population) up to April 22, 2020 from Johns Hopkins University, Center for Systems Science and Engineering Coronavirus Resource Center.

Methods: We fit negative binomial mixed models using county-level COVID-19 deaths as the outcome and county-level long-term average of $\text{PM}_{2.5}$ as the exposure. In the main analysis, we adjusted by 20 potential confounding factors including population size, age distribution, population density, time since the beginning of the outbreak, time since state's issuance of stay-at-home order, hospital beds, number of individuals tested, weather, and socioeconomic and behavioral variables such as obesity and smoking. We included a random intercept by state to account for potential correlation in counties within the same state. We conducted more than 68 additional sensitivity analyses.

Results: We found that an increase of only 1 $\mu\text{g}/\text{m}^3$ in $\text{PM}_{2.5}$ is associated with an 8% increase in the COVID-19 death rate (95% confidence interval [CI]: 2%, 15%). The results were statistically significant and robust to secondary and sensitivity analyses.

9/16/2020

COVID-19 PM2.5

Conclusions: A small increase in long-term exposure to PM_{2.5} leads to a large increase in the COVID-19 death rate. Despite inherent limitations of the ecological study design, our results underscore the importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis. The data and code are publicly available so our analyses can be updated routinely.

Data and Code:

Our data and code is available on github [here](#). (Updated May 6, 2020)

Manuscript and Supplemental Material

- Manuscript

- MedRxiv: <https://www.medrxiv.org/content/10.1101/2020.04.05.20054502v2>

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