

## Table of Contents

U.S. Senate  
 Date: Wednesday, July 13, 2022  
 Committee on Environment  
 and Public Works  
 Washington, D.C.

| STATEMENT OF:   | PAGE: |
|---|-------|
| THE HONORABLE THOMAS R. CARPER, A UNITED STATES<br>SENATOR FROM THE STATE OF DELAWARE                   | 3     |
| THE HONORABLE SHELLEY MOORE CAPITO, A UNITED STATES<br>SENATOR FROM THE STATE OF WEST VIRGINIA          | 9     |
| THE HONORABLE ED MARKEY, A UNITED STATES SENATOR<br>FROM THE STATE OF MASSACHUSETTS                     | 14    |
| THE HONORABLE TAMMY DUCKWORTH, A UNITED STATES<br>SENATOR FROM THE STATE OF ILLINOIS                    | 20    |
| THE HONORABLE SUSAN COLLINS, A UNITED STATES SENATOR<br>FROM THE STATE OF MAINE                         | 24    |
| THE HONORABLE LISA BLUNT ROCHESTER, A UNITED STATES<br>REPRESENTATIVE FROM THE STATE OF DELAWARE        | 32    |
| J. ALFREDO GOMEZ, DIRECTOR, NATURAL RESOURCES AND<br>ENVIRONMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE | 38    |
| KATHY FALLON, DIRECTOR OF LAND AND CLIMATE, CLEAN<br>AIR TASK FORCE                                     | 53    |
| THE HONORABLE JASON ISAAC, DIRECTOR, LIFE:POWERED,<br>A PROJECT OF THE TEXAS PUBLIC POLICY FOUNDATION   | 59    |
| DANA JOHNSON, SENIOR DIRECTOR OF STRATEGY AND<br>FEDERAL POLICY, WE ACT FOR ENVIRONMENTAL JUSTICE       | 64    |
| BART EKLUND, SENIOR TECHNICAL EXPERT, HALEY AND ALDRICH   | 70    |

A LEGISLATIVE HEARING TO EXAMINE S. 1345, THE COMPREHENSIVE NATIONAL MERCURY MONITORING ACT; S. 2476, THE ENVIRONMENTAL JUSTICE AIR QUALITY MONITORING ACT OF 2021, AND S. \_\_\_\_\_, THE PUBLIC HEALTH AIR QUALITY ACT

Wednesday, July 13, 2022

United States Senate

Committee on Environment and Public Works

Washington, D.C.

The committee, met, pursuant to notice, at 10:03 a.m. in room 406, Dirksen Senate Office Building, the Honorable Thomas R. Carper [chairman of the committee] presiding.

Present: Senators Carper, Capito, Cardin, Whitehouse, Markey, Duckworth, Kelly, Padilla, Sullivan, Ernst.

STATEMENT OF THE HONORABLE THOMAS R. CARPER, A UNITED STATES  
SENATOR FROM THE STATE OF DELAWARE

Senator Carper. Good morning, everyone.

Two of my favorite colleagues are here. Isn't this great? How wonderful to have my Congresswoman, Lisa Blunt Rochester here, one of my great mentors, and Susan Collins, who has been my collaborator on so many issues over the years. This is like dying and going to heaven. Could you come back every day? That probably wouldn't work. Anyway, on a serious note, we are happy to be here with you and are grateful for your service.

I want to call this hearing to order. As you know, we are here today to examine three bills that are intended to improve our Nation's antiquated air quality monitoring system and better protect Americans from air pollution.

Since enacting the Clean Air Act, I guess it has been a half century ago now, our Nation has made great progress in cleaning up the air that we breathe without harming economic growth. I like to say everything I do I know I can do better, and the same is true with respect to the quality of the air that we breathe.

Soot and smog pollution in the United States have decreased since 1970 by 80 percent. We don't oftentimes reflect on the accomplishments we have made and the progress we have made. That is pretty good, an 80 percent reduction since 1970. Over

that same period of time, our gross domestic product has grown by 250 percent.

The question is, can we have cleaner air, cleaner water, and create jobs and economic opportunity? The answer is, I think, clear that we can.

The benefits of clean air far outweigh the costs, and it is not hard to understand why. Clean air is good for human health; it is good for our planet, and as it turns out, it is good for our Nation's economy.

As my colleagues know, I have already said it once today but I will say it again, everything I do, I know I can do better. We can do better still on this front, too. Despite our successes, we still have far too many people in this Country who are negatively impacted by the quality of the air that they breathe, and especially those from low-income and historically disadvantaged communities. According to the EPA, nonwhite children are much more likely to die from air pollution than white children in the United States today.

Why are environmental justice communities at risk? One answer is proximity. More often than not, those in our Nation's environmental justice communities live near or downwind of facilities that emit harmful air pollution. These "fenceline communities" as they are known, bear the immediate impacts of exposure to harmful pollutants and the burdens of the cumulative

health effects that can arise from repeated, long-term exposure to air pollution.

But you don't have to live near a source of air pollution to suffer its consequences. When emitted into the air, persistent air toxics like mercury can fall into our waterways and bioaccumulate in fish over decades, long after a source may clean up or close down. Many Americans today do not even know that they are being exposed to dangerous levels of air pollution. There are real gaps in what the Federal Government knows, as well.

Today, the Government Accountability Office, which we affectionately call GAO, will testify on its troubling 2020 study on the state of our Nation's air monitoring systems. Their report found that our air monitoring systems are woefully out of date and under-resourced.

According to GAO's findings, these out-of-date systems have left our State air quality managers buying replacement parts on eBay. Why do they do that? They do that because the air monitoring technology that States are using today is no longer being manufactured. We continue to rely on yesterday's systems to address today's problems.

GAO also found what we have long known, and that is while the health threats posed by air toxics are well-documented, the data we have on where, when, and how they are released into our

air are not well-documented. That is just not acceptable. We can and we must do more to support federal, State, and local officials who are tasked with maintaining and improving our air monitoring systems.

That brings us to the legislation that we are considering here today. For more than a decade now, I have had the privilege of working alongside Senator Collins on a bunch of issues, but in particular, on the one that is before us today, and that is the Comprehensive National Mercury Monitoring Act. She has been a leader on this for more than a dozen years, and we are grateful for that. I am grateful for her letting me be her wingman on this issue and others.

Mercury is a powerful neurotoxin that is especially dangerous to pregnant women and developing children. An estimated 100,000 to 200,000 children born in our Country each year are exposed to levels of mercury in the womb that are high enough to impair neurological development.

Congresswoman Rochester, I don't know exactly how many children we have in Delaware under the age of 18, but we probably have about 200,000. So how many is 200,000? Every child in our State is really what it is comparable to.

In the last decade, we have known that there have been more mercury consumption fish advisories in U.S. lakes and rivers than all other pollutants combined. However, we still have data

gaps on where mercury persists in our environment.

Our legislation fills in the gaps by establishing a first-ever National Mercury Monitoring Network to track long-term trends in mercury concentrations in communities and ecosystems across our Country. Under our legislation, the public would have free access to the network's findings, empowering communities with the information that they need to better protect themselves from mercury pollution. I am grateful that my partner in this effort, Senator Collins, is joining us today to speak further on this legislation, which she leads.

We will also examine Senator Duckworth's and Congresswoman Lisa Blunt Rochester's legislation, the Public Health Air Quality Act, of which I am also a cosponsor. This legislation would upgrade and expand our Nation's outdated air quality monitoring networks, which includes providing immediate monitoring for air toxics in fenceline communities experiencing high cancer rates and other health impacts.

Finally, we will review the Environmental Justice Air Quality Monitoring Act, sponsored by Senator Markey, a member of this committee. His legislation would help ensure that communities have access to relevant, local air quality information. Our current air monitoring systems do not always provide accurate, localized data, which makes it harder for communities to assess their exposure to certain toxics.

All three bills are intended to help Americans understand who is being exposed to air pollutants and who is not. These investments in our air quality monitoring systems are investments in healthier communities and a stronger economy. Where I come from, that is a win-win situation.

We look forward to hearing more from our colleagues and our witnesses on the benefits of these important pieces of legislation.

Before we do, I am pleased to turn to our Ranking Member, Senator Capito, for her opening statement. Senator Capito, please.

[The prepared statement of Senator Carper follows:]



STATEMENT OF THE HONORABLE SHELLEY MOORE CAPITO, A UNITED STATES  
SENATOR FROM THE STATE OF WEST VIRGINIA

Senator Capito. Thank you, Chairman Carper, and welcome to Representative Rochester and Senator Collins, my friend. We are happy to have all of the witnesses joining us here today.

As we consider the topic of air quality monitoring today, it is important, as Senator Carper began his statement, just how much air pollution in the United States has fallen in the past few decades.

With environmental issues, sometimes there is a tendency to just fixate on the negative, but I am an optimist and believe, while there is always room for improvement, we need to recognize and applaud what the U.S. has accomplished.

Looking forward, we must also bear in mind that costs rise and benefits diminish as emission targets approach the limits of what our technology can actually measure and mitigate.

According to the EPA data, between 1970 and 2021, the combined emissions of particulate material, carbon monoxide, lead, nitrogen oxides, sulfur dioxide, and volatile organic compounds were reduced by 78 percent. From 1990 to 2017, emissions of hazardous air pollutants declined by 74 percent. On top of that, U.S. greenhouse gas emissions have also decreased, thanks primarily to the shale revolution and American ingenuity, not our regulatory policies.

While our emissions have been decreasing, this has not been the case around the world. According to the World Air Quality Report for 2021, using particulate matter as a proxy for air quality, Central and South Asia are home to 46 of the world's most polluted cities, and the trends there are dire.

Given the fact that we are seeing continual air quality improvements under current authorities in the U.S., it is unclear to me why the EPA needs new air quality authorities. I especially question granting EPA new powers given the agency's reaction to last month's decision by the Supreme Court in *West Virginia v. EPA*. That decision should have been a clear signal to the EPA that its planned regulatory overreach needs to be reigned in, but the Administration's immediate reaction to the *West Virginia* decision has been quite the opposite, doubling down on plants to serve the interests of progressive environmental groups and the trial bar, no matter what the law says, what the costs are to society, or even if there are meaningful environmental benefits as a result.

As Administrator Regan said following the decision, "We are going to continue to use every tool in our toolbox because it is under our legal authority and it is our obligation to protect communities, reduce pollution that is driving climate change, and provide certainty and transparency for the energy sector to grow the clean energy economy."

EPA clearly wants to force wholesale changes on our economy based on overly expansive readings of existing law, regardless of what the Supreme Court has said. This mission means reducing affordable, reliable sources of baseload energy generations and slamming manufacturing with an onslaught of new regulation.

If EPA is going to continue to read existing statutes well beyond Congress's intent and pursue regulations beyond the scope of the law, only to continue losing in court, then I have concerns about giving EPA new authorities to abuse, much less delegate those supposed authorities to illogically favored advocacy groups to feed fundraising drives and frivolous lawsuits.

For example, EPA stated in its proposed methane rule that the agency plans to allow third-party monitoring in an upcoming supplemental proposal. Congress never intended to empower environmental groups to use taxpayer dollars to purchase and use potentially unreliable monitoring equipment with no oversight and report that data back to the agency, and then they have that data, which they use to empower the trial bar to pursue their sue-and-settle lawsuits.

Congress provides funding for air quality management activities, including air quality monitoring, through the annual appropriations process. EPA typically receives that funding through State and Tribal Assistance Grants under two primary

authorities: Section 103 and Section 105 of the Clean Air Act. EPA provides that funding to States and local air agencies, which in turn, they decide where and how to spend their funding on a range of air quality management activities.

While the GAO did provide suggestions for EPA to improve implementation in a 2020 report, improvements in implementation of existing authority are not the same as granting new authorities. Indeed, if GAO has concerns about implementation of existing authorities, it begs the question what problem adding new authorities would actually solve.

I am interested in hearing from our witnesses their views on these questions and how monitoring is actually conducted in the field under existing law as they react to the legislative proposals before them.

Thank you, Mr. Chairman.

[The prepared statement of Senator Capito follows:]

Senator Carper. Thank you, Senator Capito.

We are now being joined by Senator Markey. He is just settling into his seat, and just two days after his birthday. I sent him a text message, and I said the president, Senator Capito is president host, as you know, of the Annual Congressional Picnic yesterday, and somehow they didn't put it on Eddy's birthday. It was a day late.

[Laughter.]

Senator Carper. So today we are two days late. We are having this hearing to honor your birthday.

As Eddy knows and Lisa and others know, Senator Capito and Senator Collins, I love to call my colleagues on their birthdays if I don't see them, and if I don't reach them, I send them a text message or whatever.

We hope you had a great birthday, and we are delighted to be here today to listen to your comments, please, on the legislation that you have proposed. I think it is called the Environmental Justice Air Quality Monitoring Act, and we are pleased today to be examining it today. Senator Markey, you are recognized for your statement.

STATEMENT OF THE HONORABLE ED MARKEY, A UNITED STATES SENATOR  
FROM THE STATE OF MASSACHUSETTS

Senator Markey. Thank you, Mr. Chairman, and thank you for your birthday wishes.

Senator Carper. One of the people I love to call, we have three or four Senators who are 88 or 89, and I called Chuck Grassley when he turned 88, and he was in Iowa, and I called him to wish him a happy birthday. I said to him, Chuck, you are amazing. I think he just announced he is running for re-election, I think. I said, I don't think I am going to be running for re-election when I am 88. I just hope I know who I am and where I am. He said, I hope you do too.

[Laughter.]

Senator Markey. Satchel Paige, the great baseball player, when asked how could he still be pitching in the major leagues when he was 48 years old, he said, well, let me ask you this question. If you didn't know how old you were, how old would you be?

That is a good question. For me, and I think for you as well, that I think I am still 40 years old, because I don't really know how old I am unless people call me to remind me on my birthday. But other than that, every day, including this hearing, 40 years old. Thank you, Mr. Chairman.

When it comes to federal efforts to improve air quality in

the United States, we must first acknowledge the deep-rooted injustices of air pollution in communities across our Country. Black, brown, and low-income families are historically more likely to be located near pollution sources. As a result, they have been overburdened by the dirtiest air, yet they have not been given enough federal support to address it or even understand the risks.

Some pilot studies have found that concentrations of air pollutants can vary by as much as 800 percent between one block and another. That exposure makes a big difference for people as they go through their daily lives, and that knowledge could make a big difference as we try to help limit public health challenges.

I would like to ask unanimous consent to submit for the record three articles about this block-by-block disparity and the correlation between race and redlining of neighborhoods on air quality.

Senator Carper. Without objection.

[The referenced information follows:]

Senator Markey. Let me also use this as an opportunity to ask unanimous consent to submit for the record a Congressional Research Service Report released on July 12th, 2022 on the West Virginia v. EPA decision, which states, and I quote, "on that decision, EPA retains the ability to regulate greenhouse gas emissions from power plants and other sources." Without objection.

[The referenced information follows:]



Senator Carper. Back to you.

Senator Markey. Thank you, Mr. Chairman. Formerly redlined communities experience as much as double the amount of air pollution as non-redlined communities, and race plays a big role, even within the same communities. We can't accept that, and we have to do a better job of understanding it. We can't properly manage what we don't measure.

This is why I partnered with health experts and advocates, including the Clean Air Task Force and WE ACT, who are represented by some of our esteemed witnesses here with us today, to write and to introduce the Environmental Justice Air Quality Monitoring Act of 2021, which is co-sponsored by several members of this committee, including Senators Padilla and Sanders and Duckworth.

This legislation would authorize \$100 million annually to establish a five-year pilot program for hyper-local air quality monitoring projects in environmental justice communities. Under this program, State, local, and tribal air agencies would be able to partner with local nonprofit organizations or air quality data providers to identify block level hotspots for multiple pollutants, increased community engagement, informed air pollution management decisions, and recommend action for reducing pollution burden in identified hotspots.

While our current network of traditional monitors is sparse

and often misses areas of poor air quality, hyper-local air quality monitors can better detect air pollution in the specific areas in which people live and work and go about their daily lives. When it comes to approaches to improve air quality, one size does not fit all from block to block all across our Country. With more air quality monitors to capture hyper-local data and better inform ways to cut down pollution exposure in hotspots, we can make sure that healthy air is no longer determined by ZIP code.

I would also like to submit a statement of support from House Select Committee on the Climate Crisis Chair, Kathy Castor, who introduced the Environmental Justice Air Quality Monitoring Act in the House of Representatives along with the support and statements from stakeholders.

Senator Carper. Without objection.

[The referenced information follows:]

Senator Markey. Thank you. I want to thank Chairman Carper and Ranking Member Capito for including my Environmental Justice Air Quality Monitoring Act of 2021 in today's hearing. I look forward to hearing from the witnesses. Thank you.

[The prepared statement of Senator Markey follows:]

Senator Carper. Thanks so much. Before we turn to Senator Duckworth, who I think is going to join us remotely to make a statement about her legislation, the Public Health Air Quality Act, one last word from Satchel Paige.

Not only did Satchel Paige break into the majors in his early 40s, as Senator Markey has said, he used to, when he pitched in the Negro Leagues, he was so good, that when he would take the mound, his infield, he would call his infielders and tell them to sit down. They would sit down in the outfield grass, and he would strike out the team, game after game, week after week, he was that good.

He broke into the majors in his early 40s, and made the All-Star team, pitched for another half-dozen years or so. Eddy gave at the beginning of the quote about how old you are. He also said, the rest of that quote goes something like this: work like you don't need the money, dance like nobody is looking, love like you have never been hurt, live each day like it is your last, and someday, you will be right.

[Laughter.]

Senator Carper. With that introduction, here is a Senator who needs no introduction, Senator Tammy Duckworth.

Senator, it was great to be with you and your kids last night at the picnic, and you are recognized to speak about your legislation, the Public Health Air Quality Act. I am proud to

be one of your co-sponsors.

You are recognized to speak. Please proceed.

STATEMENT OF THE HONORABLE TAMMY DUCKWORTH, A UNITED STATES  
SENATOR FROM THE STATE OF ILLINOIS

Senator Duckworth. Thank you so much, Mr. Chairman. That was a great quote. It was great to see everybody at the White House yesterday.

Thank you also to Ranking Member Capito for holding this important hearing to examine important legislative proposals to improve air quality and monitoring, including the Public Health Air Quality Monitoring Act of 2022. I was very proud to partner with Congresswoman Lisa Blunt Rochester in developing our legislation, and I am very pleased that the Congresswoman is testifying this morning as the author of the House version of our bill.

Protecting our Nation's public health requires achieving clean air for all Americans, yet our current air monitoring system is woefully deficient, both in terms of capacity and capability. This is simply unacceptable status quo. It inflicts devastating and disproportionate harm on low-income communities and communities of color that suffer from higher rates of cancer, asthma, and other diseases just because of where they happen to live. It is outrageous that in the wealthiest Country in the world, communities of color are exposed to 63 percent more air pollution than they create.

Last month, I had the opportunity to tour Altgeld Gardens,

a public housing community just outside of Chicago, that is known as the birthplace of environmental justice. Their community leader and activist, Cheryl Johnson, explained the environmental justice challenges her community faces and finished the tour by showing me the Altgeld Gardens cancer memorial wall.

On the wall, one can see name after name after name of community members who have fallen to cancer and respiratory illnesses resulting from the cumulative impacts of a variety of sources, creating poor air quality that has plagued the area for decades. This harrowing physical representation of the devastating effects of cumulative air pollution should inspire us all to act. No community, no community should have a wall of fallen mothers, fathers, sisters, and brothers because they were denied one of the most fundamental human rights: clean air to breathe.

That is why this committee must swiftly advance the Public Health Air Quality Monitoring Act and other air quality monitoring legislation. Our bill doesn't seek to reinvent the wheel. Instead, we propose building upon existing monitoring framework to require EPA to implement immediate fence-line monitoring for toxic air pollutants at facilities contributing to high local cancer rates and other health rates from dangerous pollutants. This increased mapping will help support local

communities on further actions to confront air pollution, better inform local government and agencies on permit decisions, and illustrate where federal investments will have the largest benefits to health and equity.

By increasing our air monitoring network, updating our existing regulations and methods, and improving our data collection and public engagements, we can help to close the gaping holes in our air monitoring systems. Advancing my Public Health Air Quality Monitoring Act is an important first step towards clean air for all.

I look forward to today's discussion. I also want to thank the Chairman for helping me introduce this bill as an original co-sponsor, along with Senators Durbin, Booker, Markey, and Warren.

Thank you, Mr. Chairman, and I yield back.

[The prepared statement of Senator Duckworth follows:]



Senator Carper. Thank you, Senator Duckworth.

Now, it is time to hear from our first panel of witnesses. We are fortunate to have Senator Collins with us today. She is the lead sponsor of the third and final piece of legislation we are examining today, the Comprehensive National Mercury Monitoring Act.

I am grateful to co-sponsor, to work with you on this legislation and so many other bills in the past. You are recognized and warmly welcomed. Thank you.

STATEMENT OF THE HONORABLE SUSAN COLLINS, A UNITED STATES  
SENATOR FROM THE STATE OF MAINE

Senator Collins. Thank you very much.

Mr. Chairman, Ranking Member Capito, I want to begin by thanking you for holding today's hearing and to also say what a pleasure it is to share the witness table with my friend from the House, Representative Lisa Blunt Rochester. It is great to have you over on the Senate side.

I appreciate the opportunity to testify on the Comprehensive National Mercury Monitoring Act, which I have introduced with the distinguished Chairman. Chairman Carper mentioned it in his opening comments that this is the 50th anniversary of the Clean Air Act, and it is a point of pride for me that that landmark law was authored by Maine Senator Edmund Muskie. Earlier this summer, I participated in an event in Senator Muskie's hometown of Rumford with his son, Ned Muskie, where we commemorated the 50th anniversary of the Clean Air Act.

Senator Carper. Boy, it doesn't get much better than that.

Senator Collins. It doesn't. So, your hearing is particularly timely.

Our bipartisan mercury monitoring bill would help ensure that we have accurate, scientifically based data about mercury pollution in our Country.

As this committee well knows, mercury is a potent

neurotoxin. Exposure can lead to significant health problems, especially in children and pregnant women. Mercury exposure has gone down as U.S. mercury emissions have declined; however, levels remain unacceptably high, and in some cases, we really don't know how much mercury is in our environment.

In Maine, some of our lands and bodies of water face higher mercury pollution compared to the national average. That is because of Maine's location. It is sometimes called the tailpipe of the Nation.

Senator Carper. Delaware is oftentimes, we refer to us as the tailpipe, right at the tailpipe, just like you.

Senator Collins. It is the same concept, that the winds from the west are blowing pollution into the pristine air of my beautiful State.

A system for collecting information, such as we have already for acid rain and other pollution, does not currently exist for mercury, despite its dangers. A comprehensive national mercury monitoring network is needed to protect human health, safeguard our fisheries, and track the effect of reduced emissions. This monitoring network would also help policy makers, scientists, and the public better understand the sources, consequences, and trends in mercury pollution.

Specifically, our legislation would do the following. First, it would direct the EPA, in conjunction with other

agencies, to establish a national mercury monitoring program to measure and monitor levels in the air and watersheds, water and soil chemistry, and in marine, freshwater, and land organisms at multiple sites across our Country.

Second, it would establish a scientific advisory panel to make recommendations for the establishment, site selection, measurement, recording protocols, and operations of the monitoring program.

Third, our bill would establish a centralized database for existing and newly collected environmental mercury data that could be accessed easily on the internet. These data would be compatible with similar international efforts.

Fourth, the reporting requirements in our bill will help Congress assess the mercury pollution reduction levels that are needed in order to help prevent adverse human and ecological effects.

Finally, our bill would authorize a modest \$95 million over three years to carry out these important activities.

A robust national mercury monitoring network is needed to provide the data to help Congress and others make informed decisions to protect the people of our Nation. I would ask unanimous consent that two endorsement letters, one from the American Lung Association and another from the American Geophysical Union, be entered into the hearing record, which

further explain the need for this legislation.

Senator Carper. Without objection.

[The referenced information follows:]

Senator Collins. The Chairman mentioned that he and I have worked together to try to get up this monitoring system so that we have accurate data nationwide, for many years. I hope that this can be the year where we finally enact it into law.

I hope the committee will favorably report our bill for consideration by the full Senate, and I thank you both for the opportunity to testify before the committee today. Thank you.

[The prepared statement of Senator Collins follows:]

Senator Carper. From your lips to God's ears. Thanks so much for joining us today. I know you got a lot on your schedule this morning. Feel free to leave us when you need to go. Thank you so much for joining us, for your testimony, and for your leadership for so long on this issue and so many other issues. Thank you.

Senator Collins. Thank you. I appreciate it.

Senator Carper. Now, it is a special privilege to introduce a woman who has not only served as Cabinet Secretary and administration-wise, privileged to be the governor and the subsequent governor as well, she has led several major departments in the State of Delaware for many, many years. Not only the first African American to serve in the House of Representatives from Delaware, the first woman to be elected and to serve in the House of Representatives from Delaware, and someone we are just extremely proud of and have great respect and affection for.

Thank you for coming to our committee today to discuss your legislation with us. You may proceed with your statement at this time. Thank you.

STATEMENT OF THE HONORABLE LISA BLUNT ROCHESTER, A UNITED STATES REPRESENTATIVE FROM THE STATE OF DELAWARE

Ms. Rochester. Good morning, Chairman Carper and Ranking Member Capito and members of the committee, and also our fellow witnesses. A special thank-you. It was good to be with Senator Collins, who was one of the great supporters of me in my freshman term. Thank you, Senator, for all of your years of service, as well, for Delaware and our Nation.

I want to start by thanking you and the Ranking Member for calling this important hearing today and giving me the opportunity to speak about the need to protect the health and wellbeing of all Americans by expanding our air quality monitoring system. I also want to thank Senator Duckworth for her leadership and partnership on this important issue.

"Living with a time bomb." That was the headline emblazoned across the front page of Delaware's largest newspaper, the News Journal, earlier this year. The story underneath the headline went on to describe the fear and anxiety that residents of New Castle County's Route 9 corridor feel every day as they live in the shadow of chemical and industrial plants. Communities such as Newport, Belvedere, and Southbridge have lived with this reality, with this time bomb, for decades and suffer from higher cancer rates and respiratory hazards as a result.



This is an issue of health, education, but more importantly, justice, both environmental and racial. The justice cannot come as an afterthought. It has to be at the center of our response.

We know that decades of discrimination and environmental racism have resulted in disproportionate numbers of communities of color at the frontlines where they risk significant disparities in health outcomes. These disparities are then passed on from generation to generation. It is past time we break the cycle.

Communities like the ones I described in New Castle County aren't an anomaly. Communities across the Country that neighbor industrial and chemical facilities are more likely to suffer from higher rates of cancer and respiratory disease.

In these communities, it is often the most vulnerable, including children and the elderly, that suffer the most from air pollution health emergencies. For example, exposure to toxic pollutants during a child's development phase has been shown to cause lifelong health and education problems, and ongoing exposure to toxic pollutants may cause premature death in the elderly population, often due to existing comorbidities.

We need to work together to address these health disparities and the impacts. Our first step in protecting these communities is to use our air quality monitors in each

neighborhood to identify the pollutants of greatest concern. We cannot address the issue without addressing the problem, which is why we need to have a more robust air monitoring system across the Country.

That is why, today, I am proud to join Senator Duckworth and other House and Senate environmental justice leaders in reintroducing the Public Health Air Quality Act, and why I am also proud to partner with Representatives Castor and Torres and Senator Markey on the Environmental Justice Air Quality Monitoring Act.

The Public Health Air Quality Monitoring Act will better inform and protect communities by requiring EPA to enhance and expand its air quality monitoring network and will ensure that EPA has the resources they need to do it well. Beyond collecting the data, this legislation will help the community access and understand the data.

All too often, the communities that live closest to polluting facilities are the last to find out what toxic pollutants are in their air and how these toxic pollutants impact their health. With the Public Health Air Quality Act, they will be one of the first to know.

From enhancing air monitoring systems at the highest-polluting facilities to supporting pilot program for hyper-local air monitoring project in under-resourced communities and

communities of color, we need to work together to expand our environmental protection infrastructure.

Too many communities throughout our Country are living with that time bomb, wondering when or if their government will be there to protect their health. Well, today, let's come together to say that we are here to give them the protection they deserve. We are here to hold polluters accountable, and here to make our communities safer and healthier. Health care costs are impacted, education costs are impacted, but the ultimate cost is the cost of life.

Thank you so much for this opportunity, and I look forward to working with the Senate to pass these important pieces of legislation. I yield back.

[The prepared statement of Ms. Rochester follows:]

Senator Carper. We look forward to it as well. Thank you so much for joining us today.

I understand the House is not doing anything today, so you can stay with us for the whole hearing, but if that is not true, feel free to leave when you have to go. Great to see you. Thanks for your leadership on this and so many other issues.

Ms. Rochester. Thank you so much, Senator.

Senator Carper. See you soon. It was a great pleasure with your mom and dad yesterday at the White House, along with your sister.

Ms. Rochester. Thank you so much. I also have to join in your conversation about birthdays and say that I broke into Congress in the mid-50s, and I am happy this year to turn 60, so I am proud of that 60. Thanks, and thanks for all the happy birthdays over the past 30 years.

Senator Carper. You keep having them, I will keep calling.

I now get to call the witness for our second panel. As Congresswoman Rochester leaves, our next witness is Alfredo Gomez.

I am going to go ahead and give a brief introduction, Mr. Gomez. Welcome. I got to say hello to you before we started. It is good of you to come and join us today. Alfredo Gomez is the Director for Natural Resources and Environment at the U.S. Government Accountability Office, or GAO. I just spoke with

Gene Dodaro yesterday, the Comptroller General, which is always a pleasure.

You are, I understand, a leader on GAO's recent comprehensive study on the state of our Nation's air quality monitoring system. Mr. Gomez, we welcome you. Thank you for being here today to discuss your agency's important findings. You may begin your statement at this time.

Welcome. Thank you.

STATEMENT OF J. ALFREDO GOMEZ, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. Gomez. Chairman Carper, Ranking Member Capito, and members of the committee, good morning. Thank you for the opportunity to testify today. I hope that GAO's work helps inform the committee as it considers legislation related to air quality monitoring.

Mr. Chairman, as you noted, while the U.S. has made significant progress in reducing air pollution levels since the 1970s, air pollution continues to harm public health and the environment in certain locations. Concerns remain about the health effects of air toxics and wildfire smoke and concentrations of air pollutants in local areas.

The air quality monitoring system includes thousands of monitoring sites across the Country that measure specific air pollutants. The EPA is responsible for ensuring that this system produces information that is needed to manage air quality. EPA sets the requirements for the system's design, and State and local agencies are the ones that operate the majority of monitoring sites, ensure that data are accurate, and report the data to EPA and the public. EPA, State, and local agencies provide funding for the system.

I would like to focus today on two areas covered in our 2020 Air Quality Monitoring Report. The first is the need for

additional air quality monitoring information, and the second is challenges that EPA and selected States and local agencies face in meeting these needs.

Regarding information, in November 2020, we reported that more information was needed in several areas. The first is the need for information about local-scale air quality in real time. This information would help identify air pollution hotspots and provide insights into air quality in rural areas.

The second is the need for information about the concentrations of air toxics in key areas. This information would help EPA and other understand hotspots like cancer clusters. It could also help promote environmental justice by highlighting where pollutants are concentrated.

The third is information about the quality and performance of low-cost sensors. While low-cost sensors are increasingly available to measure air quality and offer much promise, some officials express concerns about the quality of the data they produce. Having this information could help give insights about the reliability and accepted uses of low-cost sensors.

Moving now to the topic of challenges that EPA and States face in providing this information, the challenges include establishing priorities for air toxics monitoring, developing and improving air quality monitoring methods, integrating emerging technology such as low-cost sensors, and managing and

integrating additional monitoring data. EPA, State, and local officials told us that they have incomplete information about the public health risk associated with air toxics, making it difficult to understand which present the highest risks and should be priorities for monitoring.

With regard to challenges with air quality monitoring methods, some existing methods were not sufficiently cost-effective, timely, or sensitive, meaning that they did not detect pollution at low enough levels needed to understand health effects.

With the third challenge of integrating emerging technologies, EPA has worked with State and local agencies to study low-cost sensors, but performance issues with low-cost sensor measurements have persisted.

While EPA has strategies aimed at better meeting needs for additional information on air quality, we found that these strategies were outdated and incomplete. For example, these strategies did not reflect needs for additional information or changes in the agency's approaches and resources.

To address these challenges, we recommended that one, EPA develop and implement an asset management framework so that limited resources are directed towards the highest priorities, and two, to develop an air quality monitoring modernization plan that aligns with leading practices. Such a plan can help EPA



provide information needed to understand and address changing air quality issues, such as wildfire smoke and air toxics, and to make better use of new technologies. EPA agreed with our recommendations and has begun implementing them.

Chairman Carper and Ranking Member Capito, members of the committee, this completes my statement, and I am happy to answer questions.

[The prepared statement of Mr. Gomez follows:]

Senator Carper. Great, thanks so much for doing that. From time to time, I say to my staff when we are dealing with a particular issue or challenge, I ask them to help make me or a committee or the Senate a guided missile, as opposed to an unguided missile. What I think I read in listening to your testimony and preparing for this hearing, my sense is that what you are trying to do, what GAO is trying to do here, is help make us a guided missile as we face what is a real challenge, but an opportunity as well.

As I mentioned in my opening statement, GAO found that some of the air monitoring technology in use in our Country is so outdated that air officials have to resort to eBay to purchase equipment because the manufacturer has discontinued the needed parts. I am struck, in fact, I am disappointed by this story, and what it tells us about the state of air quality monitoring systems, I think, and my colleagues ought to be, as well.

Are you able to tell us more about this story, or share with us any other anecdotes that you and your team heard directly from air agency officials? Was this a unique incident, or does this story reflect a pattern in the challenges of our air agencies across the Country that they are facing?

Mr. Gomez. Thank you for that question, Chairman Carper, and yes. This is an aging infrastructure, as we have been talking about. Those were the stories that we have heard. We

have heard other stories where the air conditioning, for example, failed. There were leaking roofs. One of the States told us how they had to throw away a whole week of data because the air conditioning wasn't working, and it affected the measurements that they were collecting.

That is one of the challenges that we heard across the board from State and local air quality monitoring agencies. It is just an old system that needs to be updated, which is consistent with our recommendation, as why we told the EPA, we really need to modernize the system, figure out what you need, what the resources are, and put that into place, and really to partner with the State and local agencies who are really the ones operating the system.

Senator Carper. That is a good point. Thank you.

Second question: GAO's report found that federal funding for State and for local air monitoring programs has declined by about 20 percent over the last 16 years, adjusted for inflation. At the same time, air agencies at the federal, at the State, and local levels are facing rising costs associated with maintaining aging, inefficient infrastructure, purchasing new, more expensive equipment, and staffing needs.

Given the dire financial situation, many air monitoring programs find themselves in it appears that additional federal funding may well help to alleviate much, not all, but much of

the strain that these agencies are facing. Would additional funding for updating our Nation's air quality monitoring systems help address some of the challenges found in GAO's report?

Mr. Gomez. Right. So, that is exactly what we learned when we looked at the funding across the last 15 years, that it had decreased by 20 percent. We did hear from local and State agencies and from EPA, that more resources would help them do the job. Again, I go back to our recommendation. It is really up to EPA as they modernize the system to identify what resources they need and come forward to Congress with that.

Senator Carper. Okay. My last question deals again with monitoring of air toxics. I believe that GAO found EPA's strategies for air toxic and local monitoring were, I think this is a correct quote, "outdated and incomplete." I think that is the correct quote. Briefly, based on the GAO report, what are the greatest gaps in how EPA currently monitors for air toxics in local air pollution, and how could Congress help address these gaps?

Mr. Gomez. Sure. So, in the areas of air toxics, we did find where there are additional information needs for air toxics in key locations, such as identified cancer clusters and environmental justice areas around industrial facilities. There is also a need for timely information on air toxics. What I mean by that is currently, when you monitor air toxics, the

samples are collected in canisters over a 24-hour period. They are sent to the lab. So, there is really a lack of information for real-time, exactly when do those elevated readings happen, for example.

Then, there is also information, as I noted in my opening statement, about air toxics at low levels. So currently, the methods that we have for analyzing toxic samples, they are not sensitive enough at these low levels to detect and see if, in fact, these things might be causing bad health effects.

Senator Carper. Thanks so much. Senator Capito?

Senator Capito. Thank you, and thank you for coming before the committee, and thank you for your work at GAO.

I would like to go to the two recommendations that you mentioned in your statement. You mentioned for EPA to develop and implement an asset management framework for National Ambient Air Quality monitoring systems, and secondly for EPA to develop and make public an air quality modernization plan. You addressed this a little bit.

I am wondering, what has EPA done, your study came out two years ago, in the last two years to implement your recommendations?

Mr. Gomez. Yes, thank you for that question, Senator Capito. We do follow up with our recommendations. First of all, EPA agreed with those recommendations. They have been

meeting and working with their local and State partners. They have plans already in place to develop an asset management framework, which we think would be really useful, as that would allow them to focus their limited resources on the highest priorities.

We understand, at the upcoming conference that EPA is having next month on air quality monitoring in Pittsburgh, our report and our recommendations are part of the discussion as they partner with State and local folks to figure out the bigger job on a modernization plan. We are touching base with them and following up, so we are hopeful that those recommendations will be implemented, as well.

Senator Capito. Let me ask you a question on the modernization plan. Let me ask first about the funding issue. It was 20 percent down, funding since 2004, adjusted for inflation. Is that real dollars down, or is that, I don't have the figures in front of me. Has the amount gone up, or just hasn't gone up as much to keep up with inflation, or how is that?

Mr. Gomez. Sure. So, when we did the report in 2020, we looked back 15 years. What we found was that, for that time period, there was a decrease in funding of 20 percent while controlling for inflation. We can also submit for the record the more details about those numbers.

Senator Capito. Okay. So, I guess what I am wondering is, why do you think EPA, with knowing, you cited some of the real physical problems, lack of air conditioning and things of that nature, why do you think they haven't already moved to a modernization where you can have low-cost monitoring, you can reshape? Do you think it is a bureaucracy that is kind of immovable, or you like to do it the way it has always been and think it is accurate? Are States resisting? Where do you think the real problems are with why they haven't already moved to a modernization plan ten years ago?

Mr. Gomez. I think it is a variety of issues. This is an aging infrastructure. It is fairly complex, and many different networks. You can look at our statement and our report. There are thousands of monitors across the Country.

Now, EPA has been working with its local and State partners, especially as they are looking at these low-cost sensors to figure out where they can be deployed, what the particular uses of them could be. We just didn't see an overall plan, where they are really focusing on this aging infrastructure, and really coming up with ways to modernize it. Again, they are supportive, they are moving in that direction, so we are hopeful to see that come about.

Senator Capito. Well, I would hope sooner. You mentioned it, and I just caught what you said in your opening statement.

I went back and tried to find it, but I couldn't find it. You said something about an incomplete list as to what is more toxic than, can you go back to your statement and read that?

Mr. Gomez. Let's see. If it was about air toxics --

Senator Capito. Yes, and you started -- I do have the quotes on here about an incomplete list.

Mr. Gomez. With air toxics, it was more that EPA needs to better understand the hotspots, like cancer clusters. It could also help promote environmental justice by highlighting where the pollutants are concentrated.

Essentially, there is just a need for additional information when it comes to air toxics, like more local-scale information about where those hotspots are, and then also the timing information in real time.

Senator Capito. Maybe I was thinking what you were saying is that local and State authorities working with the EPA don't have a clear view of what is the most toxic, or what the toxicity level of certain things, that is not what you are saying.

Mr. Gomez. No, I mean, there are already 188, I believe, air toxics that have been identified. It is more the measurement of these toxics in particular locations that is needed.

Senator Capito. Okay, I heard that wrong, because I



thought what you were saying was that the EPA hasn't provided the data to the local and States to say, this type of toxin is more critical or should be monitored more.

Mr. Gomez. So, that is one of the challenges, prioritizing air toxics.

Senator Capito. Yes, that was the incomplete list.

Mr. Gomez. There is a need for EPA to figure out which air toxics need priority, because of a lack of information, so that is why we are saying there is information that is needed so that the agency can begin to prioritize which air toxics they should monitor.

Senator Capito. Yes, well it seemed to me that would be a critical responsibility for the EPA, in my view, should already be pretty apparent with all the science and data that they generate. Thank you very much.

Senator Carper. Senator Capito, thanks very much.

We have been joined, as you may have noticed, Mr. Gomez, by several of our colleagues. Senator Whitehouse has been able to come and stay for a bit. He has to leave very shortly. Senator Ernst from Iowa just joined us.

We all serve on multiple committees and subcommittees, and for some reason, a lot of them are meeting right now at the same time, so folks are coming and going. Senator Padilla from California joined us by WebEx for an earlier part of the

hearing, including your testimony, and Senator Cardin has joined us and had to leave and go to another meeting that he is scheduled to have at the same time.

I am going to do something, since we have an extra minute or two here, that I don't often do, but I want to do it right now. Is there a question that you wish you had been asked by somebody on our committee? Is there a question that you wish you had been asked by somebody on our committee, and what would that question be?

Mr. Gomez. Sure. I would say, again, there is a lot of information needs for air toxics, as we were just talking about them, information about air toxics in key locations, more timely information on air toxics, and then also, again, being able to have analysis methods so that you can get measurements for them.

The other question, maybe, that we haven't talked about as much is about these low-cost sensors, because low-cost sensors are widely available. GAO, as part of our report, purchased some of these low-cost sensors, and we actually deployed them outside the building because we wanted to test them to see --

Senator Carper. Outside this building?

Mr. Gomez. Outside the GAO building, we put our low-cost sensors to see what kind of information we got. This was for PM 2.5. This is one of the things that we have reported on, that there is a need for more work in looking at the quality and

performance of the sensors, because we had two sensors, different sensors, and they gave us different measurements. It is a question about, what do you do with the data, do they need to be calibrated, so that is something that EPA, again, is focused on, because low-cost sensors do provide a lot of information and are widely available now. We need to figure out where we can use them and how we can use them.

Senator Carper. Good. Thank you. Thank you for asking and answering the same question. Not every witness gets that opportunity. To our friends at GAO and to our Comptroller General, our best regards and thanks for all the good work that you and your colleagues do. Thank you so much.

Mr. Gomez. Thank you.

Senator Carper. And I am sure we will have some questions for the record, so we look forward to your responses. Thank you.

All right, our third and final panel for the morning. Let me introduce and welcome four witnesses: Kathy Fallon, the Honorable Jason Isaac, Dana Johnson, and Bart Eklund. We thank you all for joining us today and for appearing.

Okay, I understand that Kathy Fallon is joining us virtually, and I understand that Dana Johnson is joining us virtually. We have, live and in person, Jason Isaac and Bart Eklund, who is named after the Bay Area Rapid Transit Authority.

[Laughter.]

Senator Carper. I was a Naval flight officer stationed at Moffett Field, California. I used to occasionally travel on your systems. It is nice to see what you look like in person.

[Laughter.]

Senator Carper. Kathy entered a bio by way of introduction. Kathy Fallon, joining us remotely, is currently serving as the Director of Land and Climate at Clean Air Task Force in Boston Massachusetts. Prior to joining Clean Air Task Force, Ms. Fallon was a senior advisor at the Center for Climate Health and Global Environment at Harvard, T.H. Chan School of Public Health.

Ms. Fallon, you may begin your statement at this time.  
Thank you for joining us remotely.

STATEMENT OF THE HONORABLE KATHY FALLON, DIRECTOR OF LAND AND CLIMATE, CLEAN AIR TASK FORCE

Ms. Fallon. Thank you, Chairman Carper, Ranking Member Capito, and members of the committee for the opportunity to testify today.

I am Kathy Fallon. I am Director of Land and Climate at the Clean Air Task Force, which is an environmental organization founded in 1996 to curb air and climate pollution through policy and --

Senator Carper. Kathy, where are you today?

Ms. Fallon. I am actually sitting in the Town of Hartland, Vermont.

Senator Carper. All right. Why?

Ms. Fallon. Interestingly, I hail from Maine, and my family is from Rumford, Maine, where apparently, Senator Collins celebrated the Clean Air Act.

Senator Carper. That is great. Small world, small world. Go right ahead. Sorry to interrupt.

Ms. Fallon. Small world indeed. Thank you. The Clean Air Task Force strongly supports all three bills before the committee today. There is an urgent need to improve air quality monitoring, especially in overburdened and underserved communities, as called for in the Environmental Justice Air Quality Monitoring Act and in the Public Health Air Quality Act.

My oral testimony today will focus on the comprehensive National Mercury Monitoring Act.

Here are my key takeaways: mercury poses serious health risks, and millions of Americans are exposed to elevated methylmercury through fish consumption. Remarkable progress has been made in reducing mercury emissions in the U.S., particularly from power plants, and that has brought the American public major health benefits. Despite this progress, mercury pollution remains a widespread problem, due in part to the long-range transport of mercury emissions from China.

Unfortunately, about half of our mercury deposition monitoring sites have closed due to lack of funding, and there is no federally supported long-term mercury monitoring for fish and wildlife and water. The problem hasn't been solved, and the nature of the problem is changing, and it is more important than ever to establish and fund a National Mercury Monitoring Network.

Mercury in the form of methylmercury can lead to lost IQ, impaired motor function, and cardiovascular disease, including risk of stroke and fatal heart attacks at elevated levels. Approximately 200,000 children are born in the U.S. each year exposed to elevated methylmercury at levels that exceed EPA's reference dose. Unfortunately, there is no threshold below which neurodevelopmental impacts don't occur.

Most people are exposed to methylmercury through fish consumption. Sensitive populations include the developing fetus, pregnant women, women of child-bearing age, and people who consume a lot of fish. This can include people from households with lower incomes and education levels, as well as high-income populations and individuals from several non-white racial and ethnic groups, as detailed in my written testimony.

Most of the methylmercury in fish originates from air emissions. Mercury, once emitted, can be transported locally or globally, depending on its form, and methylmercury is staggering in its ability to bioaccumulate in food chains. It can reach levels 100 million times higher in fish than levels in water.

Unfortunately, mercury is also somewhat of an equal opportunity contaminant. Any watershed anywhere with the right conditions, like areas in rural Maine with lots of forest cover and wetlands, can have high mercury levels in fish and wildlife, even if they are far from sources and have relatively low mercury inputs.

Remarkable progress has been made in cutting mercury emissions from the U.S. In fact, coal-fired power plants have cut their mercury emissions by an incredible 90 percent. Despite this progress, though, the total mercury deposited to the U.S. has shown only modest improvements and may be increasing in some areas, but we don't know, for lack of

monitoring. According to the most recent compilation in 2013, fish consumption advisories for mercury still exist in all 50 States.

Here are three of the reasons why mercury pollution is still a problem. Global emissions, particularly emissions from China, have increased, offsetting the benefits of emissions reductions here at home. Climate change is making the problem worse. Mercury is being released from thawing permafrost and by more frequent wildfires, and it is bioaccumulating to higher levels as waters warm. Third, there are sensitive watersheds across the U.S. where even a small amount of mercury can have a large impact.

Mercury monitoring today is pieced together with annual funding from various sources. Funding levels have fluctuated over time, and we have lost about half of our mercury deposition monitoring sites, so that we can no longer even produce a map of deposition for the whole Country. There are large gaps in Western States and in Gulf States.

Also, even though fish consumption is the dominant pathway of human exposure, there is no coordinated national long-term mercury monitoring for fish and water.

To wrap up, given the hazardous nature of mercury pollution, it is wonderful that we have made so much progress here in the U.S., but the problem hasn't been solved, and the



nature of the problem is changing. It is more important than ever to establish and fund a national mercury monitoring so that the American public can know where it is a problem and where it is not and can make informed choices about mercury exposure and their health; so that environmental managers can determine whether to delist water bodies that may no longer be impaired by mercury or to list new ones that now are'; and so that policy makers have the data needed to understand how the American public is being impacted by mercury emissions that originate from outside our borders.

Thank you for the opportunity to testify.

[The prepared statement of Ms. Fallon follows:]

Senator Carper. Thank you so much. We look forward to asking you some questions in just a few minutes, but first we want to welcome Mr. Isaac, who is currently serving, as I understand, as the Director of Life:Powered, a national initiative of the Texas Public Policy Foundation. Do you live in Texas?

Mr. Isaac. Yes.

Senator Carper. Where?

Mr. Isaac. Just outside of Austin, in the hill country.

Senator Carper. Welcome back to our committee, Mr. Isaac. We have, I think, seen you here before.

Mr. Isaac. Yes, it is great to be back.

Senator Carper. We are happy you are back, and you are recognized and welcome to proceed with your statement. Thank you.

STATEMENT OF THE HONORABLE JASON ISAAC, DIRECTOR, LIFE:POWERED,  
A PROJECT OF THE TEXAS PUBLIC POLICY FOUNDATION

Mr. Isaac. Thank you. Good morning, Chairman and members. I am Jason Isaac, the Director of Life:Powered, a national Initiative of the Texas Public Policy Foundation to raise America's energy IQ.

From 2011 to 2019, I served in the Texas House of Representatives, and during my freshman session, carried the Texas Emission Reduction Plan legislation. I was a House sponsor for the ozone standards set by the EPA under the Clean Air Act in our State.

Senator Carper. How long were you in State legislature?

Mr. Isaac. Eight years, yes, four terms. That was our SIP that I carried, the State Implementation Plan.

The EPA's National Emissions Inventory finds that mercury emissions from stationary sources in the U.S. fell 85 percent from 1990 to 2017, over 200 tons annually to about 30 tons annually. According to a 2018 UN study, 80 percent of the mercury deposited in North America comes from other continents, with half coming from Asia.

A mercury deposition network already exists at the University of Wisconsin. The network consists of approximately 100 stations across the Country and is supported by State, federal, and private funding.

The Mercury Air Toxics Rule, which cost billions of dollars and resulted in the closure of many coal plants, increased electricity prices and reduced grid reliability in many areas. It was estimated, originally, by the EPA that there would be \$90 billion in health benefits, but resulted in only \$6 million in health benefits from reducing mercury emissions.

Instead of repeating the narrative that we are dirty and setting impossible emission reduction goals for ourselves, we need to recognize our success, which you both have touted, in our clean air here in the United States. We need to get the rest of the world to align with our air quality standards that improve human health. Until we do, our Nation will continue to export jobs and import pollution.

Regarding environmental justice, the real injustice: American's lack of access to affordable and reliable energy. This year, Americans will pay \$5,200 more than last year to cover rising prices of gas, electricity, and everyday items.

Even before the current energy crisis that Americans are facing, a lawsuit was filed in California that specifically addressed the issue. The plaintiff, the more than 200 civil rights organizations accuses the California Air Resources Board of being racially biased in its environmental regulations and environmental lobby organization. The evidence they present for this case is that the regulations they created primarily hurt

minorities, while not doing anything to help the environment in California.

The effects of clean energy policies have been catastrophic, as are the measures being taken by the Federal Government that ignore the science behind air quality and responsible energy practices. When it comes to air quality, we are a world leader. We have reduced the six criteria pollutants that the EPA has the authority to regulate under the Clean Air Act by 78 percent in the past five decades, which both of you have touted.

The message in the bill is clear: environmental extremists want to say that the air in these communities is racist and unfair, but what matters more to Americans is not having to choose between food and electricity.

The last bill on public health air quality refuses to acknowledge the monumental wins I have already mentioned, as well as the fact that we have the cleanest air of any Country with over 50 million people. We should be celebrating our success, not spending more money to spread unnecessary climate alarmism.

If we want to improve the lives of all Americans, then we should do so with our affordable, reliable energy from fossil fuels. Until the EPA demonstrates that it will end its war on American energy, Congress should not bless it with more funding.

Environmental leadership and economic prosperity do go hand-in-hand. We cannot address injustice without monitoring, but we can with energy. To improve the global environment and eradicate poverty as we know it, we should produce and export our energy and our clean air around the world

Thank you for the opportunity to be here.

[The prepared statement of Mr. Isaac follows:]

Senator Carper. Thank you very much, Mr. Isaac.

Next, I want to welcome, I believe remotely, Dana Johnson, currently serving as the Senior Director of Strategy and Federal Policy at WE ACT for Environmental Justice.

Welcome, Ms. Johnson. Please begin your statement at this time. Welcome.

STATEMENT OF DANA JOHNSON, SENIOR DIRECTOR OF STRATEGY AND  
FEDERAL POLICY, WE ACT FOR ENVIRONMENTAL JUSTICE

Ms. Johnson. Good morning. Thank you, Chairman Carper,  
Ranking Member Caputo, and all the members of the committee.

Senator Carper. It is Capito. It is confusing because we  
have a witness, a nominee just before this committee, whose name  
is Caputo.

Ms. Johnson. Senator Capito, I am sorry.

Senator Capito. You are confusing her even more.

[Laughter.]

Senator Carper. You are not entirely wrong. Where are you  
today, Ms. Johnson? Where are you talking to us from?

Ms. Johnson. I am talking to you from Washington, D.C.,  
and I am a Chicago native.

Senator Carper. Oh, welcome. This is a home game.  
Chicago, good. Welcome aboard. Senator Capito and I are  
delighted to welcome you.

Ms. Johnson. Yes, my apologies, Senator Capito.

Senator Capito. Not a problem, don't worry about it.

Ms. Johnson. Thank you.

I want to thank all of you for convening this important  
dialogue on how we can improve the air quality in communities  
across this Country for all Americans. As noted, my name is  
Dana Johnson. I serve as Senior Director of Strategy and



Federal Policy with WE ACT for Environmental Justice.

We are a member-based organization whose mission is to build healthy communities by ensuring that people living in a community of color or low-income residents are able to participate meaningfully in decision-making at every level of government when it comes to environmental and public health policies and practices. We are based in Northern Manhattan and organized in New York City, New York State, and here in Washington, D.C.

We are the only environmental justice organization that has a federal presence here, a federal policy office. In this office, we convene the Environmental Justice Leadership Forum, which is a network of EJ groups representing 22 States, and there are about 50 members that make up that body.

Americans living in communities of color have a racially disproportionate exposure to air pollution because of institutionalized bias in our environmental, energy, land use, and economic decision-making. Last year, researchers at the University of Illinois at Urbana-Champaign found that African Americans have a higher-than-average exposure to particulate matter from every pollution emitting source studied, including cars, trucks, power plants, construction, industrial operations, and agriculture. This outsized and dangerous exposure was repeated in nearly all categories where researchers grouped

Blacks, Hispanics, and Asians into a "people of color" category and compared the risk pollution exposure to whites.

Millions of Americans live, work, and play in conditions that can only be described as environmental emergencies. This was true in 1997 when our Northern Manhattan community housed six of the eight bus depots in New York City. We had one-third of the city's bus fleet, which was diesel at the time, emitting pollution in our communities, and we did not have a single particulate matter air monitor present during the eight-hour period when particulate matter pollution was four times higher than it would be for annual levels set by the Environmental Protection Agency.

We saw this again in 2005 in the Sauget community of St. Louis, which is an area of importance to Senator Duckworth, where there was a lack of air quality monitoring data available for an investigation into the health hazards associated with the operation of a waste incinerator.

We saw it again in Chelsea, Massachusetts, where Congresswoman Pressley and Senator Markey intervened to have an air quality monitor placed in that city when no air quality monitor was present before 2020, and that area of the community ranked third in the State for environmental hazards and had the highest asthma rates in the city.

There are hundreds of cases like these across the Country,

and they tell us an important theme. Every facet of existence, including the health and economic conditions for those living in a front and fenceline community demands bold and decisive action to alleviate the cumulative burden of being exposed to carbon, ozone, nitrous oxide, particulate matter, methane, and sulfur dioxide. The proposed legislation for modernizing our air quality monitoring processes, our tools, our resources, staff, and technology that we are discussing today is that bold and decisive action that we need to begin to dramatically improve the quality of lives for all Americans.

I just want to flag four things really quickly from the bills that we think are important to highlight. The community engagement and data gathering processes that are available really partner well with the principles of environmental justice that note that people have the right to participate in decision-making at every level of government. This includes needs assessment, planning, implementation enforcement, and evaluation.

Communities have the right to know and be educated when it comes to pollution where they live, work, and play. For pollution present in their community, we have a right to know about the health risks associated with it and how it might exacerbate any present health conditions.

And we have a right to corrective action. Once there is an

awareness and understanding of air pollution in our communities, corrective action must be taken. Environmental justice principle number six demands that there be a cessation of the production of all toxins, hazardous wastes, and radioactive materials, and that all present and current producers be held strictly accountable to the people for detoxifying contaminants at the point of production. We believe that these three bills being discussed today give us the opportunities to do that.

I will just make quickly one final point around the investments. I think it was noted that there has been a 20 percent decrease in funding for the EPA to do this important work, and we want to highlight the need to have the financial resources available to invest in the people, the technology, and the equipment necessary to really do quality monitoring in communities that have a legacy of harm as it relates to air pollution.

Thank you.

[The prepared statement of Ms. Johnson follows:]

Senator Carper. Ms. Johnson, thank you so much for joining us today.

Now, batting cleanup, we are pleased to welcome Bart Eklund, currently serving as the Senior Technical Expert at Haley and Aldrich. Welcome, Mr. Eklund. We invite you to proceed with your statement. Glad you could be with us. Thank you.

STATEMENT OF BART EKLUND, SENIOR TECHNICAL EXPERT, HALEY AND ALDRICH

Mr. Eklund. Thank you, Chairman Carper, Ranking Member Capito, distinguished Senators, for the opportunity to speak today.

I concur with the statements that various folks have made about the success in improving air quality over my working lifetime. Some of the reasons for the success of the Clean Air Act for the NAAQS is that we have standards, we agree upon what we are trying to achieve for those six pollutants, and we have reference or equivalent methods so that when people gather data, they used agreed-upon methods, and we don't argue about the data, we argue about what the implications might be.

When it comes to air toxics, we have some additional challenges. We do not have any national standards for air toxics, with the exception of lead. From jurisdiction to jurisdiction, there are differences in what is an acceptable level. If I am doing a study for dry cleaning fluid or arsenic or benzene, what concentrations we have to achieve in California may be different in Illinois may be different in New York. What concentration we have to achieve drives some of our choices on monitoring methodologies.

We don't have any standard methods for some of the air toxics. I know one of the bills calls out ethylene oxide. I

developed a method for ethylene oxide 15 years ago. There are a couple other methods out there. There hasn't been methods development done to compare those different approaches to see how they compare, and EPA doesn't necessarily endorse any of them at this point.

When we are looking for monitoring in communities for air toxics, we need to look at the timeframes of interest. Sometimes, we are interested in very short-term exposures, such as during an accidental release or process upset. Sometimes we are interested in lifetime exposure to low levels of carcinogens.

A mistake that is often made is trying to use one measurement method to address all those different objectives. Generally, we wind up needing to fine tune our approach for the specific objective at hand. The trends in the monitoring community have been towards continuous monitoring, and sometimes that is needed, sometimes it is not, but we are generating huge amounts of data now.

The other, I don't know if it is a trend, but there is a lot of enthusiasm for low-cost sensors. There is very little enthusiasm among people like me that are experts in air monitoring for low-cost sensors. They have some pros and cons, obviously, but there are some deficiencies in their accuracy, precision, and sensitivity. I know some of the bills have

called out more use of low-cost sensors.

I would suggest, as an alternative, more short-term intensive studies. We have done that many times in the past when we are interested in understanding more about an issue to intensively study it for a shorter period of time with the kinds of equipment that we all have confidence in. That is a potential trade-off.

I would also point out that we are generating huge amounts of data, millions and millions and millions of data points a year for air quality. Unfortunately, I don't think there is really the funding for review and interpretation of that information. So, for example, EPA has an Urban Air Toxics Monitoring Program. They generate data across the U.S. and urban areas for things like formaldehyde, mercury, benzene, many of the compounds we are interested in.

But they ceased doing reporting of that in 2016. The data is still available, but it is no longer in a usable format for the public. They no longer can see a summary report. There is a lot of reason to do more with the data we have in addition to considering collecting more data.

My final point is, in recent years, I have done a lot of indoor air work. People spend, the typical number you will see is 89 percent of their time indoors. When we are doing indoor air studies, we collect outdoor air samples, but what people are



exposed to in that 89 percent of the time they spend is overwhelmingly due to consumer products and other things they have indoors. It is rarely outdoor air being a significant contributor to their overall exposure.

Thank you.

[The prepared statement of Mr. Eklund follows:]

Senator Carper. Thank you very, very much.

Senator Capito has to head out for another responsibility here in a second, but she is going to be asking questions. I think I will turn it over next to Senator Whitehouse. I will probably go right after her, so Senator Capito.

Senator Capito. Thank you, and thank you all for being here. Mr. Eklund, let me ask you if you can explain in really general terms, because I know you are a technical expert, the difference between monitors that are used to regulate criteria for air pollutants, and then air toxics. Is there a difference there?

Mr. Eklund. Certainly. For criteria pollutants, they are largely the combustion products for things like vehicle use and burning coal. We are interested in short-term exposure, so we have monitors that give us time resolution of a few seconds or a few minutes.

For air toxics, we are often interested in lifetime exposure, because of the potential for them being cancer causing. In those cases, we don't need that same time resolution, but we need to get very, very sensitive results. So as a previous witness pointed out, we may be collecting a sample and shipping it off to a lab and getting the answer back in a matter of weeks, rather than instantaneously.

Senator Capito. We have heard testimony that there are

gaps, and some of these bills are aimed at trying to fill gaps. You mentioned enormous amounts of data that EPA is generating, or has, collects, and then we are hearing all these gaps.

I am curious to know, why did EPA stop publishing the data in 2016, that you could extrapolate for regular people like me to be able to see what it going on, rather than to have to dig deep, and what gaps would you say there are in light of the testimony that you have heard before you?

Mr. Eklund. I can't speak to EPA's --

Senator Capito. You don't know?

Mr. Eklund. I don't know.

Senator Capito. Okay.

Mr. Eklund. In terms of gaps, there are emerging pollutants.

Senator Capito. What would be an example of an emerging pollutant?

Mr. Eklund. Well, PFAS is one, but also some of the things that were listed in Senator Duckworth's bill: ethylene oxide, formaldehyde. One of the issues is that the methods that we use to look at things like around a refinery aren't good tools for those chemicals. Each of those chemicals presents some challenges from an analytical chemistry standpoint, and we wind up needing to spend a lot of money and effort to get data for one chemical at a time, as opposed to some of the existing

methods that allow us to look at dozens or hundreds of chemicals with a single sample.

Senator Capito. Okay. Mr. Isaac, I want to ask you about the Permian Basin, because domestic air emissions, including ground-level ozone, have fallen significantly over the past few decades, meaning our Country has much cleaner air, but that has not stopped this Administration from moving forward with plans to redesignate your area, the Permian Basin, as being in nonattainment with the ozone standard. How would a finding of nonattainment with the ozone standard impact what goes on in the Permian Basin, and how do you interpret their interpretation?

Mr. Isaac. Their interpretation is wrong. The EPA nonattainment areas should be based on vehicular traffic, and they are looking at remote areas where there is no vehicular traffic. You are looking at one of the largest areas of production for oil and gas in this Country, and so it would be absolutely catastrophic to put EPA nonattainment, and that is why our governor, Governor Abbott, has come out full throttle against this and will work diligently to make sure that this is not implemented over the Permian Basin, whether it is Texas or New Mexico.

But that energy that we are producing is really providing the fuel for this Country and the rest of the world, and quite honestly, we need to be increasing production. We need to get

the financial industry off of the backs of the oil and gas companies and the fossil fuel producers in this Country. We need to get them to quit discriminating against responsible American energy producers. We need to get the government to get out of the way and get off the backs of these responsible energy producers so that we can be helping people that are facing troubles in Sri Lanka, in Germany, in France, and the Netherlands, and Ghana and South Africa that are just being crushed by energy poverty because they have adopted these policies to decarbonize their governments, their countries, which does nothing to improve the environment, but does everything to increase the cost of energy. It is just another assault on the oil and gas industry.

Senator Capito. Thank you. We have heard that, and we have stated, both of us, and you all have as well, that the mercury levels have come way, way down over the last 20 to 30 years. Consistent with everybody's testimony is that the reason that we have any issues with this, I wouldn't say any, but issues with this is because of what goes on in China. I am curious to know, does China monitor their mercury emissions? Mr. Eklund, do you know?

Mr. Eklund. No, I don't know, but I would be surprised if they do.

Mr. Isaac. I do know they have the pollution control

technology, they just don't utilize it. I have often said that there are, of all the technology the Chinese steal from us, it would be nice if they would utilize our pollution control technology. They don't. We are world leaders in clean air, and that impacts, as I said in our testimony, over 80 percent of the mercury deposits in the U.S. today come from foreign sources, and over half of that is from Asia.

Senator Capito. Thank you.

Senator Carper. Senator Capito, thanks so much for joining us. I look forward to seeing you on the Floor in a little bit.

I am going to ask unanimous consent to submit for the record letters and statements of support for today's legislative hearing. These letters come from environmental organizations, environmental justice groups, public health advocates, including a July 12th, 2022 letter from the American Lung Association in support of all three pieces of legislation we are examining today.

[The referenced information follows:]

Senator Carper. I believe a series of votes have just started on the Senate Floor. We will have to be out of here in less than 30 minutes. I am going to ask questions next, and I will yield to a Marine friend of mine, I am a Navy guy, different uniform, same team, and I will yield to Senator Sullivan next, and Senator Whitehouse is back. He will be following Senator Sullivan. Okay.

My question, let me just start off with a quick statement. My colleagues have heard me say this more times than they want to remember, Mr. Isaac, but there is an old saying that says where you sit helps determine where you stand on a particular issue. I don't sit in Delaware, but I live in Delaware. I have lived there forever since I got out of the Navy a million years ago at the end of the Vietnam War when I moved there.

My State is sinking. We are the lowest-lying State in America. We are sinking. The seas around us are rising. Up and down the east coast, you find similar situations. Although our colleagues from Louisiana remind me from time to time, both Republicans, that in their State, that they lose about every hundred minutes, a piece of land the size of a football field. During the course of this hearing, they are going to lose, in Louisiana, enough land for two football fields, and it is going off into the sea.

We have wildfires across the Country as big as my State.

There is stuff going on here. There are reasons why we are still concerned about reducing carbon emissions, as you know. The challenge for us, and the opportunity for us, going back to what Ms. Johnson said, she was talking about diesel bus emissions.

One of the things that Senator Sullivan and I focus on is how do we clean up, do good things for our planet, for air, water, and so forth, and create economic opportunity at the same time? One of the things that, this is the committee that helped write the Bipartisan Infrastructure Bill and reported out unanimously both the Surface Transportation piece and all the water legislation.

We are proud of the work that we did. We also provide a lot of opportunity to address, through electric vehicles and buses, reducing bus pollution, diesel emissions and that sort of thing. There is a lot of opportunity for economic development and job creation, as well, so we are focused on both sides of that.

In terms of questions, I will start with Ms. Fallon. Ms. Fallon, are you still with us?

Ms. Fallon. Yes, Senator.

Senator Carper. Good, good. Mercury is a dangerous air toxic, as we know, that persists and bioaccumulates in the environment long after its release, meaning it gets more



dangerous over time.

Unlike particulate matter and ozone pollution, mercury air pollution is more dangerous when it settles into our waterways and our food than when it is in the air, yet we have significant data gaps in knowing how much mercury is present in our environment at one time. For example, as you mentioned in your testimony, it has been a decade since EPA last compiled State mercury fish consumption advisories.

The question, Ms. Fallon, is this: how is the mercury monitoring authorized and the Comprehensive National Mercury Monitoring Act different? How is it different from EPA's current air toxics monitoring programs, and why is this new type of mercury monitoring necessary to better protect health?

Ms. Fallon. Thank you for that question. Currently, as you said, as you rightly said, mercury is not just an air pollution problem. While mercury levels, specifically mercury emissions, have gone down, the amount of mercury deposited to watersheds has not, and may be increasing. The funding is currently to measure that deposition being pieced together from State agencies, universities, nonprofit organizations.

We don't have dedicated federal funding to measure mercury deposition, and we are down to 82 sites that measure mercury deposition. There have been about 90 others that were online at one point or another. As the patterns of where mercury is

coming from changes, it is particularly notable that we lack federal funding for measuring mercury deposition in Western States.

So, with the influx of mercury from emissions in China, it is really important that we are able to document mercury deposition in those Western States. Given the fishery and the Gulf States, it is equally important that we measure mercury deposition there. We shouldn't take the fact that mercury emissions in the U.S. are declining to mean that the mercury problem has been solved.

Senator Carper. Thanks very much. A quick question, and a quick answer, I would ask from Ms. Johnson. You explained in your testimony how vulnerable populations like children, like seniors, and pregnant women are more sensitive to the effects of air pollution, especially if they live in low-income communities or communities of color.

Do you believe that the three pieces of legislation before us today complement one another to address the deficiencies of our current air monitoring systems and adequately protect vulnerable communities? Why should Congress, through these bills and other legislative action, continue to invest in air monitoring? I ask you to be succinct in responding to that question. Go ahead, Ms. Johnson.

Ms. Johnson. Yes, thank you for your question, Chair

Carper.

I absolutely believe that the three pieces of legislation work well to address the issue of air pollution in our communities. I think that people living in an environmental justice community oftentimes notice the adverse health outcomes plaguing their community before data is available to validate that source.

I think the burden of health protection has been placed on people living in communities, whether it is fundraising for monitors or performing community-based participatory research, and the passage of these bills, the Environmental Justice Air Quality Monitoring Act and the Public Health Air Quality Act, as well as the bill focused on mercury, can shift the burden of protecting communities, protecting the environment away from residents and place that burden on our agencies and departments that have that responsibility.

I think it also, as was mentioned earlier, can provide economic opportunities for individuals. We talked about the age of the monitors that we currently have in place and a need for us to do robust maintenance and care for them, and we believe that those are opportunities, economic opportunities, that are available for individuals to be trained, to have jobs, as well as to have entrepreneurial opportunities in that space.

Senator Carper. That was good. Thanks very much.

Senator Sullivan is next, followed by Senator Whitehouse. Senator Padilla will be coming back after that; he will be next. Okay, Senator Sullivan, welcome. Good to see you.

Senator Sullivan. Thank you, Mr. Chairman. You, too.

Mr. Isaac, Mr. Eklund, I want to follow up on Mr. Isaac's discussions on the energy sector and the importance in terms of jobs, national security, economic security, prices at the pump. I couldn't agree with you more that this Administration has undertaken a full assault on these sectors.

One thing, though, that never gets talked about, I am from Alaska. I was the Commissioner of Natural Resources and Energy in Alaska. We have the highest environmental standards on production of any place in the world, in the world, by far. It is not even a close call, but that goes for America in general. I think Alaska is the highest.

But can you just comment on that, because a lot of people don't know that. When we produce oil and gas in Texas and Alaska, New Mexico, by the way, New Mexico is just cranking. Deb Haaland, Martin Heinrich, their State, boy, do they crank on oil and gas. They get special treatment by the Biden Administration. Almost half the federal permits, half the federal permits issued by the Biden Administration go to one State. Not Texas, not Alaska, they try to shut my State down every day.

New Mexico; I think it would be a great hearing to have, why is New Mexico getting all this special treatment for oil and gas? Maybe it is the Secretary of the Interior. Maybe it is the Senior Senator, but who knows. I am digressing here. It is an issue I am a little hot and bothered about.

Do we have higher standards than, say, Russia, Saudi Arabia, Venezuela, Iran, where the President is going around begging for more oil production? Do we, and shouldn't that matter?

Mr. Isaac. Absolutely, Senator. The National Energy Technology Lab issued a report. You could take natural gas produced in this Country, you export, you produce it, you pipe it, you liquefy it, and then you put it on a ship and you transport it around the world, and you can get that gas to Europe and the India with greater than 40 percent fewer life cycle emissions than getting the same gas just piped from Russia.

Senator Sullivan. From Russia, 40 percent. Yes.

Mr. Isaac. You are absolutely right, yes.

Senator Sullivan. Greater than, Venezuela is 18 times higher in terms of pollution, including air, than U.S. energy production. Isn't that true as well?

Mr. Isaac. That is absolutely correct.

Senator Sullivan. Okay.

Mr. Isaac. We are world leaders in environmental protection.

Senator Sullivan. But that never gets out. When they come after the energy sector, oh, you guys are horrible. We are the leader in the world, aren't we?

Mr. Isaac. Yes, we are.

Senator Sullivan. Let me show you another chart that is really important. I bring this out a lot. By the way, all the national media has fact-checked this because they hate it, but it happens to be true. Even they have to admit it is true.

This is a chart of CO2 emissions since 2005, okay? That is the United States. We have reduced CO2 emissions by almost 15 percent. There is China; there is India, through the roof. Why do you think that happened?

Mr. Isaac. It is technology, and it is environmental leadership.

Senator Sullivan. Technology, and it is also the revolution and the production of natural gas in America, correct?

Mr. Isaac. Yes.

Senator Sullivan. Because it is clean-burning, relative to other sources. We moved off coal, and we went to the production of natural gas.

Mr. Isaac. I am glad you brought up CO2, because I am

ingesting higher concentrations than what is prevalent in the atmosphere, and I am not spontaneously combusting, so we can't demonize CO2. It is necessary for life on Earth.

Senator Sullivan. My point is, if other countries had the profile that we do, don't you think the global emissions problem would make significant, if China and India had our profile, wouldn't that be good for global emissions around the world?

Mr. Isaac. Oh, absolutely.

Senator Sullivan. Does everybody, Mr. Eklund, do you agree with that?

Mr. Eklund. I think that is pretty obvious, yes.

Senator Sullivan. Okay. Ms. Fallon, do you agree with that?

Ms. Fallon. Could you repeat your question, please?

Senator Carper. Try to make it really short.

Senator Sullivan. I am going to be out of time here.

I want to ask, Ms. Johnson, I want to ask one final question. It is a really important one for me. I have brought this chart up a lot, too. This is a chart about life expectancy in my State, in America. Dark blue, even purple, is the most life expectancy, increases from 1980 to 2014.

Unfortunately, in America, there are a couple areas you look, orange, red, yellow, the life expectancy in America decreases. It is mostly the places where there is opioid

challenges.

Alaska has had the biggest life expectancy increases of any place in the Country, almost 13 years. What is remarkable about this, and the reason it happened, is because resource development happened. That is the North Slope of Alaska, Northwest Arctic Borough, Aleutian Island Chain with the Magnuson-Stevens Act. That is fisheries, that is oil, gas, mining.

My question is, this Administration likes to talk a lot about environmental justice, environmental equity, but when it comes to Alaska Natives, they don't count. They don't count, because they try to shut down resource development projects in these parts of my State that will not only hurt people, it is a matter of life and death. Thirteen years life expectancy increase.

So when people talk about environmental justice and environmental equity, Ms. Johnson, shouldn't they also include the Alaska Native people who are communities of color, who are often targeted by the Biden Administration, not helped, and to promote policies that actually increase life expectancy?

Senator Carper. Ms. Johnson, I am going to ask you to be succinct in responding to that question.

Senator Sullivan. Yes, that is my question.

Senator Carper. Three more folks to ask questions, and



then we have to go vote. Ms. Johnson, very briefly, please.

Thank you.

Ms. Johnson. Yes. I will note that there are indigenous tribes in Alaska, and they are considered environmental justice communities. So I would make the assumption that when one is talking about Native Alaskans, one could also be talking about an environmental justice community.

Senator Sullivan. Good. Thank you very much. Thank you, Mr. Chairman.

Senator Carper. Thank you, Senator Sullivan.

Senator Whitehouse, please. Thanks for coming back, Sheldon.

Senator Whitehouse. Thanks. I love following Senator Sullivan, because I get the chance to point out that his graph does not include methane and is based on coal-to-gas transition that has unleashed enormous amounts of excess methane, and it is not based on percentage, which is interesting, because the U.S. has been the biggest carbon dioxide emitter. It is based on raw emissions.

So yes, we have a bigger number because we are a bigger emitter. I think that is what the fact-checking shows.

Mr. Isaac, the Texas Public Policy Foundation has received funding from the fossil fuel billionaire Koch operation, from ExxonMobil, Chevron, Conoco-Phillips, Devon Energy and other

fossil fuel companies. Is that correct?

Mr. Isaac. If that is public knowledge. I don't keep track of who our donors are, but I know that we are supported by over close to 10,000 people across the United States that believe in liberty, free enterprise and personal responsibility.

Senator Whitehouse. Here is what TPPF's former vice president said about the organization producing industry-friendly research and advocacy in exchange for donations from industries that would financially benefit from the industry-friendly policies. The fundraising involved approaching corporations, wealthy businessmen and corporate-funded foundations with a pitch described as "We think this is beneficial to your industry and would you consider providing us with a non-profit contribution? Here is the timeline for the completion of the research, the parameters of the research are this, we expect it to result in some savings or outsourcing."

I would like to put this article from the Texas Observer into the record.

Senator Carper. Without objection.

[The referenced information follows:]

Senator Whitehouse. Mr. Isaac, in 2020, the most recent year for which we have your TPPF 990 form, TPPF reported receiving over \$17 million in donations, correct?

Mr. Isaac. That is correct. That is my understanding.

Senator Whitehouse. How much of that comes from entities connected to the fossil fuel industry?

Mr. Isaac. I am not advised.

Senator Whitehouse. You really don't know that that funding comes from the fossil fuel industry?

Mr. Isaac. I am going to say it comes 100 percent from people that benefit from fossil fuels.

[Laughter.]

Senator Whitehouse. Yes, I bet they do.

I am assuming that you are a fan of and familiar with the economist Milton Friedman, the godfather of conservative libertarianism.

Mr. Isaac. Yes.

Senator Whitehouse. In fact, TPPF honored Dr. Friedman at a commemorative event for the important role he played in promoting economic freedom in the United States, correct?

Mr. Isaac. I believe so, yes.

Senator Whitehouse. Are you aware that Dr. Friedman supported pricing of emissions, pollution pricing, indeed said it was the best way to deal with pollution, and he considered

pollution to be a market failure? Is that correct?

Mr. Isaac. I am not advised of his comments on pollution pricing.

Senator Whitehouse. Is this being the one area where TPPF doesn't follow Friedman's principles related to the fossil fuel donors of TPPF?

Mr. Isaac. I would say that we are proud of our American achievement and having the cleanest air on record, and we are world leaders in environmental protection.

Senator Whitehouse. We, meaning?

Mr. Isaac. The foundation. The foundation is absolutely proud of our Country and the clean air that we have, the safest, we are number one when it comes to access to clean and safe drinking water. There is almost a billion people on the face of the earth that have no access to electricity.

Senator Whitehouse. We keep trying to improve that, and your industry keeps trying to oppose us, and you work for the industry.

You cite a Bloomberg article in your testimony saying that the average household paid \$5,200 more a year because of inflation, much of it from gas price hikes by big oil, which sets gas prices. At the same time, the International Monetary Fund estimates that damages associated with fossil fuel combustion to people's healthy, property, lives, amount to

approximately \$640 billion in 2020, which works out per household to almost exactly \$5,200. That hits those households every year, not just when inflation surges, correct?

Mr. Isaac. Yes, I believe those are referring to statistical lives, and that is flawed, much like the UN IPCC climate model.

Senator Whitehouse. So you disagree with that?

Mr. Isaac. Yes.

Senator Whitehouse. How much is the Ike Dike going to cost to protect the Texas coast from future hurricanes? Is it \$31 billion?

Mr. Isaac. I am not sure of the cost of the Ike Dike. The only levee that I am aware of was built around Galveston.

Senator Whitehouse. How much is the damage from Hurricane Harvey? Is it \$125 billion?

Mr. Isaac. I am not advised.

Senator Whitehouse. Ninety-one percent of families in the Houston area with flood insurance policies projected to see their rates go up due to increasing weather events like Hurricane Harvey?

Mr. Isaac. I would say it is due to extreme insurance companies that are no longer making funds available to the fossil fuel industry or the timber industry in this Country as well as financial institutions discriminating --

Senator Whitehouse. How do they make funds available to the fossil fuel industry?

Mr. Isaac. If you are limiting access to insurance policies --

Senator Whitehouse. Hold on. Hold on. Hear my question. This is home insurance I am talking about.

Mr. Isaac. Yes.

Senator Whitehouse. You are talking about business insurance.

Mr. Isaac. Correct.

Senator Whitehouse. Okay. Just wanted to be clear about that. I would like to put into the record the article about the increased cost to Houston families from flooding.

Senator Carper. Without objection.

[The referenced information follows:]

Senator Whitehouse. In other States, Florida, average homeowner's insurance premiums up 55 percent in the last three years due largely to increased hurricanes and flooding. California, more than 350,000 home and business owners saw property and casualty properties dropped because of more frequent and severe wildfires. Cargill's executive director has stated that climate change could reduce grain yields in the U.S. by 14 percent by mid-century and 42, 42 percent by late century.

What effect on prices would a 42 percent reduction in midwestern grain yields have, Mr. Isaac?

Mr. Isaac. I think the key word there is could. What we are seeing is climate is absolutely changing and man is having an impact on it. But over the last 100 years we have seen around a 90 percent --

Senator Whitehouse. And a 42 percent reduction in supply would have an effect on price, would it not?

Mr. Isaac. It could. Could.

Senator Whitehouse. Thank you. My time is expired.

Senator Carper. Thank you very much.

Now we have Senator Kelly.

Senator Kelly. Thank you, Mr. Chairman. Thank you to everybody who is testifying today.

Mr. Eklund, I want to ask you about emission reduction credits and what flexibilities currently do or could exist under

the Clean Air Act. As you know, under the Clean Air Act, any new manufacturing or development must identify emission offsets through emission reduction credits. These credits are traditionally created by installing pollution controls at factories or at generation facilities.

In Arizona, where we do not have a legacy of heavy polluting industries, finding sources of emission reduction credits from traditional sources is challenging. This has led Maricopa County, the largest county in Arizona, to explore opportunities to create non-traditional credits from offsets from the transportation sector or improving efficiencies in refrigeration technologies. But they have encountered challenges working with EPA Region Nine, given limitations of the Clean Air Act.

Mr. Eklund, do you believe that there are opportunities in the Clean Air Act legislation that we are considering today or another legislation to give EPA the additional ability to help localities create non-traditional emission reduction credits?

Mr. Eklund. I am not an expert in that topic, but I think we all would agree that EPA should have flexibility to reach goals that are agreed upon by non-traditional methods, if necessary, for those kinds of situations like you described.

Senator Kelly. Yes. So this is getting rather challenging for Arizona. If you could, after the hearing today, if there is



any other information you can get on this topic, and would work with my office, I would appreciate that.

Ms. Fallon is testifying remotely. Ms. Fallon, thank you as well for being here today. Your testimony and that of several other of our witnesses has focused on the potential benefits that could come from the deployment of small, low-cost sensors to help localities monitor air quality in more locations and at a lower cost. Yet some have raised concerns that this technology has not been fully proven out and in some cases, it creates false positives, which can push a community into non-compliance.

Ms. Fallon, do you believe that the new, small, low-cost sensors are able to perform at the same level or before than existing level, or better than existing air quality management tools?

Ms. Fallon. Thank you, Senator. That is a bit outside my specific area of expertise, so we can certainly get back to you with more details. But in general, innovations in air quality monitoring are pretty commonplace. As new methods are adopted and new equipment is used over time, they are often co-located and coupled with the conventional methods for a period of time. So that through a pilot project, for example, we learn how to calibrate and better use new equipment.

So innovation in air quality monitoring is important and

should be funded so that we can continuously improve our measurement of air quality.

Senator Kelly. I would appreciate your getting back to us because there have been a number of cases where this has created false positive situations. Mr. Eklund, if you would like to comment?

Mr. Eklund. The low-cost sensors cannot be used for enforcement or compliance purposes, because they don't have the capabilities to do that. So we can put them out for informational purposes, but when we have put them side by side with EPA reference or equivalent methods, they don't perform very well. That is why I was making the case for alternative approaches like short-term intensive studies using more robust methods than relying on low-cost sensors to gain that knowledge about how pollution might vary on a local scale.

Senator Kelly. Yes, I am all in favor of game-changing technology. We just need to make sure it is ready for widespread use.

Thank you, Mr. Eklund, Ms. Fallon, and I yield back.

Senator Carper. Senator Markey, have you voted?

Senator Markey. I have not voted.

Senator Carper. Senator Padilla, have you voted? Would you mind if Senator Markey goes ahead and speaks, asks his question? Are you able to do that? That would be helpful.

Thanks very much.

Senator Markey. Thank you, Senator Padilla.

Just a few years ago, Chelsea, Massachusetts, a major industrial hub with some of the highest rates of asthma in the United States, the most elevated rates of lung disease, did not have any permanent air quality monitors, while nearby Boston had three. I am proud that we were able to get some monitors deployed in Chelsea.

But we have a lot more work to do to correct our patchwork approach to pollution measurements within affected communities. Ambient air quality monitors are critical tools to get baseline air quality measurements on a regional average.

But we also need to understand that the air quality issues that can vary substantially from neighborhood to neighborhood are very real. Communities like Chelsea or Springfield or Lawrence deserve real-time data on a block-by-block basis in order to make day to day decisions about public health risks, as well as long-term decisions about siting infrastructure.

Ms. Fallon, do you agree that hyper-local monitors are helpful and provide additional data to regional ambient air monitors that will help us really to target the areas that need the most help?

Ms. Fallon. Yes, Senator, I do agree with that. As you have mentioned, a lot of the existing monitoring provides

regional average information. We can have very strong gradients in air pollution exposure and air quality.

So we need to begin to better understand how people are affected who live close to these sources such as people who live in Chelsea and hyper-local monitoring is the way to get there.

Senator Markey. Thank you. Because the national average or the State average doesn't tell us anything about Chelsea. Because you only get the average from the extremes. So the suburbs, they are great. But you have to identify the Chelseas to know where the protections are in need of being placed. We can't manage what we don't measure. We have to use the best available technology to make the best possible decisions.

That is why I introduced the Technology Assessment for Air Quality Management Act, in addition to the Environmental Justice Air Quality Monitoring Act. This legislation would help the EPA annually update and expand its online air quality toolbox with the best available monitoring technology and connect the toolbox with environmental justice mapping and screening tools.

It is 2022. We have new, advanced technology that can fill critical hyper-local data gaps. But today's communities aren't reaping the benefits of today's monitors. We need to pass the Environmental Justice Air Quality Monitoring Act in order to provide EPA with the resources to kickstart hyper-local monitoring programs in environmental justice communities across

the Nation.

Ms. Johnson, do you agree that it is important that communities have access to air quality data that lets them know how healthy the air is in their neighborhood, especially for neighborhoods that have historically been redlined or afflicted with higher levels of pollution?

Ms. Johnson. Yes, thank you for the question, Senator Markey, and your leadership on this issue. We do believe that it is important for communities to have this air quality data. We believe that they are already with citizen science projects identifying pollution in their communities and this gives us an opportunity to match real time data, real time information with the lived experiences that people are having on the ground.

It also helps to address, as you noted in your comments, how communities have been redlined and how we have centralized pollution. While we may have seen improvements in air quality at a national level, this does give us the opportunity to really drill down and at a hyper-local level be able to quantify and qualify the experiences that people are having.

Senator Markey. I thank you so much. You also, I hope, believe that it is important to provide people on the front lines with jobs and training to work on community air monitoring issues. Do you agree with that?

Ms. Johnson. Yes, absolutely. As I noted earlier, this is

an opportunity for us to train those who are under-employed or unemployed in a new skill set. It is an opportunity to give folks entrepreneurial possibilities, in sort of managing and monitoring the upkeep of these systems and technologies. So we do think it is a great opportunity and WE ACT does have experience in training and developing people in these areas.

Senator Markey. Thank you, Ms. Johnson. Thank you, Mr. Chairman. Thank you to Senator Padilla for your indulgence.

Senator Carper. Thanks for coming back.

Senator Padilla, thank you for joining us again.

Senator Padilla. Thank you, Mr. Chairman. I want to thank you for holding this hearing on the bills to improve air quality monitoring. All three of the bills that we are talking about today will improve our air monitoring network, which is desperately needed to improve public health and access to clean air in our communities.

California is no stranger to polluted air. Going back to 1955, 15 years before the Clean Air Act and before the creation of California's own Air Resources Board, the city of Los Angeles, where I was born and raised, experienced the single smoggiest day in its history. I know firsthand what that is like. When I was a kid growing up in Los Angeles, I remember the smog days when we were sent home from school early due to the devastating air quality.

We have come a long way in improving air quality and clean air access for our communities. But California's clean air gains have not necessarily been equitable throughout the State. I won't go into the entire history of redlining, but I think the results are devastatingly clear in many California communities.

I will give an initial example. In the East Bay area in California, redlined neighborhoods in Berkley and Oakland, among others, were closer in proximity to polluting industries and further harmed by major highways that separated communities and increased exposure to pollution.

Data shows that even today, people in those areas disproportionately suffer from higher levels of nitrogen dioxide pollution which in turn increases rates of childhood asthma. A study from 2019 that focused on eight California cities found that residents of historically redlined neighborhoods were twice as likely to visit emergency rooms for asthma.

So my first question is for Ms. Johnson. Ms. Johnson, how would the Environmental Justice Air Quality Monitoring Act help redlined neighborhoods, specifically like those in the East Bay, achieve the same air quality gains that non-redlined communities have enjoyed?

Ms. Johnson. Thank you for your question, Senator. I think there are examples of hyper-local air quality monitoring projects in California that give us an idea of the benefits that

we can gain from these bills. One is a pollution monitoring project that was designed to increase youth literacy around air quality issues. But what it really found was that as it followed youth in their day-to-day activities, it found that their exposure at home and at school to transportation pollution was higher than expected because of the path that they needed to take to walk back and forth between those two places.

When we think about a project that the NRDC, The Environmental Group and Google engaged in it really showed that people living in a redlined community have a higher percentage of exposure to pollution that is eight times that of any other area. So I think our ability to really be able to capture this data will be the step, the first step or an additional step, in the path that we need to be able to actually bring corrective action to these communities that will improve air quality.

Senator Padilla. Thank you. I want to piggyback on the question and topic raised by Senator Markey about hyper-local monitoring, which you just acknowledged once again. We have been working together with Senator Duckworth as well on an item.

I will preface it with highlighting once again the tool developed in California known as CalEnviroScreen, that helps identify communities with the most significant pollution burden. Part of the innovation of CalEnviroScreen is how it maps communities that are impacted by multiple sources of pollution,



not just each source in isolation. It collects data on over 20 indicators to help California policy makers identify disadvantaged communities so we can better target climate investments.

We are working, as I mentioned, with my colleagues as well as the Council on Environmental Quality to make recommendations for how to improve the federal climate and economic justice screening tool, and we hope that the recommendations, which are based on lessons learned from California, can be used to improve both the federal tools and the States that have similar tools.

Ms. Johnson, how is CalEnviroScreen unique in its use of air quality data? How would the legislation that we are focused on today help improve California's tool and the federal tools at CEQ and EPA?

Senator Carper. Ms. Johnson, I am going to ask you to answer very briefly. Time has expired on the Floor. Answer that very briefly and we will ask you to answer it more completely for the record. Go ahead, Ms. Johnson.

Ms. Johnson. The CalEnviroScreen is unique in that it uses satellite data and pairs that with other sensor technologies. It is a process for that tool, had a robust community engagement complement to it. When we think about the climate and economic justice screening tool, married with other data sets, as noted in these pieces of legislation today, we do think that that

community engagement, the use of satellite data and other data sets will really go a long way in ensuring that we are able to direct benefits to communities that have been most impacted by redlining and air pollution.

Senator Carper. Good. AI am going to ask you to hold it at that.

Again, Senator Padilla, thanks so much for coming back. I want to thank all of our witnesses for being with us. I want to thank Senator Capito. I want to thank the other colleagues who joined us here. There is going to be much interest in this issue, more than I even expected. We are delighted with the kind of participation that we have had.

I want to thank our staffs on both sides of the aisle for the work they have done on this, and especially our witnesses. Our Nation's air quality monitoring networks face some real challenges, but I think we have some opportunities within those challenges to address them through the legislative solutions we have talked about today and discussed today.

Before we adjourn, a little bit of housekeeping. Senators will be allowed to submit written questions for the record through the close of business on Wednesday, July 27th, 2022. We will compile those questions, send them to our witnesses, and ask our witnesses to reply by August 10th, 2022.

One of the questions I am going to ask for the record is

for the witnesses, having a diverse panel like this ensures that there is not a lot of unanimity. But one of the things I will be asking you to do is maybe to come back and share with us, each of you, what may be an area or two that we have talked about today with respect to improving the quality of air, where do we agree. Not just where do we disagree, where do we agree. That is what I always look for.

With that, it is a wrap. Thank you all so much. Great to be with you. This hearing is adjourned.

[Whereupon, at 12:13 p.m., the hearing was adjourned.]