AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

CRITICAL MISSION: FORMER ADMINISTRATORS ADDRESS THE DIRECTION OF THE EPA

HEARING

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

JUNE 11, 2019

Serial No. 116–42



Printed for the use of the Committee on Energy and Commerce
govinfo.gov/committee/house-energy
energycommerce.house.gov

U.S. GOVERNMENT PUBLISHING OFFICE
40–572 PDF WASHINGTON : 2020

COMMITTEE ON ENERGY AND COMMERCE

FRANK PALLONE, JR., New Jersey
Chairman

BOBBY L. RUSH, Illinois
ANNA G. ESHOO, California
ELIOT L. ENGEL, New York
DIANA DEGETTE, Colorado
MIKE DOYLE, Pennsylvania
JAN SCHAKOWSKY, Illinois
G. K. BUTTERFIELD, North Carolina
DORIS O. MATSUI, California
KATHY CASTOR, Florida
JOHN P. SARBANES, Maryland
JERRY MCNERNEY, California
PETER WELCH, Vermont
BEN RAY LUJAN, New Mexico
PAUL TONKO, New York
YVETTE D. CLARKE, New York, *Vice Chair*
DAVID LOEBSACK, Iowa
KURT SCHRADER, Oregon
JOSEPH P. KENNEDY III, Massachusetts
TONY CÁRDENAS, California
RAUL RUIZ, California
SCOTT H. PETERS, California
DEBBIE DINGELL, Michigan
MARC A. VEASEY, Texas
ANN M. KUSTER, New Hampshire
ROBIN L. KELLY, Illinois
NANETTE DIAZ BARRAGÁN, California
A. DONALD MCEACHIN, Virginia
LISA BLUNT ROCHESTER, Delaware
DARREN SOTO, Florida
TOM O'HALLERAN, Arizona

GREG WALDEN, Oregon
Ranking Member
FRED UPTON, Michigan
JOHN SHIMKUS, Illinois
MICHAEL C. BURGESS, Texas
STEVE SCALISE, Louisiana
ROBERT E. LATTA, Ohio
CATHY MCMORRIS RODGERS, Washington
BRETT GUTHRIE, Kentucky
PETE OLSON, Texas
DAVID B. MCKINLEY, West Virginia
ADAM KINZINGER, Illinois
H. MORGAN GRIFFITH, Virginia
GUS M. BILIRAKIS, Florida
BILL JOHNSON, Ohio
BILLY LONG, Missouri
LARRY BUCSHON, Indiana
BILL FLORES, Texas
SUSAN W. BROOKS, Indiana
MARKWAYNE MULLIN, Oklahoma
RICHARD HUDSON, North Carolina
TIM WALBERG, Michigan
EARL L. "BUDDY" CARTER, Georgia
JEFF DUNCAN, South Carolina
GREG GIANFORTE, Montana

PROFESSIONAL STAFF

JEFFREY C. CARROLL, *Staff Director*
TIFFANY GUARASCIO, *Deputy Staff Director*
MIKE BLOOMQUIST, *Minority Staff Director*

SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

DIANA DEGETTE, Colorado
Chair

JAN SCHAKOWSKY, Illinois
JOSEPH P. KENNEDY III, Massachusetts, *Vice Chair*
RAUL RUIZ, California
ANN M. KUSTER, New Hampshire
KATHY CASTOR, Florida
JOHN P. SARBANES, Maryland
PAUL TONKO, New York
YVETTE D. CLARKE, New York
SCOTT H. PETERS, California
FRANK PALLONE, JR., New Jersey *(ex officio)*

BRETT GUTHRIE, Kentucky
Ranking Member
MICHAEL C. BURGESS, Texas
DAVID B. MCKINLEY, West Virginia
H. MORGAN GRIFFITH, Virginia
SUSAN W. BROOKS, Indiana
MARKWAYNE MULLIN, Oklahoma
JEFF DUNCAN, South Carolina
GREG WALDEN, Oregon *(ex officio)*

C O N T E N T S

Page

Hon. Diana DeGette, a Representative in Congress from the State of Colorado, opening statement 2
Prepared statement 4
Hon. Brett Guthrie, a Representative in Congress from the Commonwealth of Kentucky, opening statement 5
Prepared statement 6
Hon. Frank Pallone, Jr., a Representative in Congress from the State of New Jersey, opening statement 7
Prepared statement 9
Hon. Greg Walden, a Representative in Congress from the State of Oregon, opening statement 10
Prepared statement 12

WITNESSES

Gina McCarthy, Former Administrator (2013–2017), Environmental Protection Agency 14
Prepared statement 17
Christine Todd Whitman, Former Administrator (2001–2003), Environmental Protection Agency 24
Prepared statement 26
William K. Reilly, Former Administrator (1989–1993), Environmental Protection Agency 34
Prepared statement 36
Answers to submitted questions 120
Lee M. Thomas, Former Administrator (1985–1989), Environmental Protection Agency 46
Prepared statement 49
Answers to submitted questions 123

SUBMITTED MATERIAL

Article of June 8, 2019, "White House Tried to Stop Climate Science Testimony, Documents Show," by Lisa Friedman, New York Times, submitted by Ms. Schakowsky 82
Testimony, original, of Dr. Rod Schoonover before the House Permanent Select Committee on Intelligence, June 5, 2019, submitted by Ms. Schakowsky 84
Testimony, corrected, of Dr. Rod Schoonover before the House Permanent Select Committee on Intelligence, June 5, 2019, submitted by Ms. Schakowsky 96
Letter of February 13, 2019, from Mr. Walden and Mr. Shimkus to Mr. Pallone and Mr. Tonko, submitted by Mr. Walden 109
Letter of April 8, 2019, from Carol Browner, EPA Administrator, 1993–2001, et al., to Mr. Pallone and Mr. Walden, submitted by Ms. DeGette 110
Letter of June 10, 2019, from Mary B. Rice, Chair, Environmental Health Policy Committee, American Thoracic Society, et al., to Ms. DeGette and Mr. Guthrie, submitted by Mr. Ruiz 113

CRITICAL MISSION: FORMER ADMINISTRATORS ADDRESS THE DIRECTION OF THE EPA

TUESDAY, JUNE 11, 2019

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:01 a.m., in the John D. Dingell Room 2123, Rayburn House Office Building, Hon. Diana DeGette (chair of the subcommittee) presiding.

Members present: Representatives DeGette, Schakowsky, Kennedy, Ruiz, Castor, Sarbanes, Tonko, Clarke, Pallone (ex officio), Guthrie (subcommittee ranking member), Burgess, McKinley, Brooks, Mullin, Duncan, and Walden (ex officio).

Also present: Representatives McNerney, Soto, and O'Halleran.

Staff present: Kevin Barstow, Chief Oversight Counsel; Billy Benjamin, Systems Administrator; Jeffrey C. Carroll, Staff Director; Waverly Gordon, Deputy Chief Counsel; Tiffany Guarascio, Deputy Staff Director; Judy Harvey, Counsel; Chris Knauer, Oversight Staff Director; Brendan Larkin, Policy Coordinator; Jourdan Lewis, Policy Analyst; Perry Lusk, GAO Detailee; Jon Monger, Counsel; Elysa Montfort, Press Secretary; Alivia Roberts, Press Assistant; Tim Robinson, Chief Counsel; Jen Barblan, Minority Chief Counsel, Oversight and Investigations; Mike Bloomquist, Minority Staff Director; Jerry Couri, Minority Deputy Chief Counsel, Environment and Climate Change; Melissa Froelich, Minority Chief Counsel, Consumer Protection and Commerce; Brittany Havens, Minority Professional Staff Member, Oversight and Investigations; Peter Kielty, Minority General Counsel; Bijan Koohmaraie, Minority Counsel, Consumer Protection and Commerce; Brandon Mooney, Minority Deputy Chief Counsel, Energy; Brannon Rains, Minority Staff Assistant; Zach Roday, Minority Director of Communications; and Alan Slobodin, Minority Chief Investigative Counsel, Oversight and Investigations.

Ms. DEGETTE. The Subcommittee on Oversight and Investigations hearing will now come to order.

Today, we are holding a hearing entitled "Critical Mission: Former Administrators Address the Direction of the EPA." The purpose of today's hearing is to address the mission and future of the U.S. Environmental Protection Agency, and I particularly want to thank all of our former Administrators for joining us today.

You may see an empty chair. That's not for effect. That's because Administrator McCarthy is trying to make her way here. She has had now three planes canceled because of mechanical difficulties this morning.

And so, with the assent of the minority, what we will do is the Members will have their opening statements and then we will recess until Administrator McCarthy gets here, which should be fairly soon. And I think what we will do, we will probably recess until 11 o'clock to be respectful to the Members.

And so the Chair now is going to recognize herself for purposes of an opening statement.

OPENING STATEMENT OF HON. DIANA DEGETTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

As I said, I am particularly pleased to welcome our four former EPA Administrators back to the Energy and Commerce Committee this morning.

I know at least Administrator Whitman appeared in front of this committee when I was in my early days on this committee. The other two, I fear, were before my time. But I am happy to have all of you here today.

I think it's really noteworthy that we are having a hearing in the House with four former EPA Administrators testifying together on the future of the EPA.

All of these four Administrators have dedicated their careers both before and after their service to leading on environmental issues, serving in both Democratic and Republican administrations going all the way back to President Reagan. They worked tirelessly to ensure that the EPA, working with its partners both here in the U.S. and abroad, tackled the environmental challenges of the day head on.

There has never been a more important time for our environment and our planet. Communities across the country are facing grave environmental threats. Homes and businesses are being lost to historic flooding, hurricanes, and wildfires.

Our oceans are rising, threatening coastal communities. Our coral reefs are disappearing, along with vast swaths of forest and habitat across the globe, and we are seeing biodiversity facing yearly declines.

Across the globe and here in the U.S., we are seeing record temperatures year after year, increasing the risk of severe agricultural drought and leading to deadly heat waves.

In my home State of Colorado, we have seen once-year-round glaciers retreat while wildfire season only seems to grow in length.

And just last week, a new report by the National Oceanic and Atmospheric Administration found that carbon dioxide levels in the Earth's atmosphere hit a record level and, according to the Intergovernmental Panel on Climate Change, current CO_2 levels are likely at the highest level in human history.

Let me say that again. The levels are currently at the highest level in human history. Now, more than ever, we need environmental leadership that rises to the challenges of our time.

We need an EPA that will strengthen existing efforts to fight climate change, because we know that States, businesses, and cities cannot address this crisis on their own.

We need an EPA that's committed to protecting public health and the environment, and we need an agency that can help the U.S. lead on the international stage.

The global issues we are facing today not only threaten our quality of life but increasingly are becoming national security issues.

As the Administrators here today know all too well, strong environmental leadership requires an EPA with unimpeachable scientific credibility. The EPA must constantly be strengthening its science to make sure that the policies are driven by science and not the other way around.

Strong environmental leadership also means an EPA that's transparent and accountable to the public so that Americans can understand and participate in the processes that affect contamination in their communities, and environmental leadership also means holding polluters accountable by enforcing laws that are already on the books.

Instead of leading on human health and environmental protection, the track record of the current EPA has been abysmal. This EPA has abandoned action on air quality and climate change.

It has done away with sensible carbon reduction limits and automobile standards that would save consumers thousands of dollars at the pump.

It attacked mercury and air toxic standards that protect communities from deadly mercury and other hazardous air pollution, which even industry supports leaving in place.

And the EPA has ceded global leadership and effectively been forced off the world's stage. And now, again, the Trump administration has proposed cutting the funding of the EPA.

Of course, EPA's talented career staff heard this message, too. In the first 18 months of the Trump administration, we saw over 1,600 career employees leave the EPA, resulting in staffing levels not last seen in decades.

And against this backdrop, seven former EPA Administrators who served under Democratic and Republican administrations sent this committee a letter calling for renewed oversight of the Agency.

Their message of unity and bipartisan support was here. Four of these Administrators are sitting right here today, and so we can learn what happened with them when they were at the Agency.

The committee continues to conduct oversight on a broad range of EPA issues, including rollbacks of clean air and climate protections, the drop in EPA enforcement activity, drinking water safety, EPA's attack on science, and ethical issues.

Now is the time for a strong and renewed EPA that will protect American communities from the many environmental threats of our time, and I am pleased to hear what additional oversight that those here today think that we can have.

So I hope this morning our former Administrators will discuss these serious issues facing EPA.

[The prepared statement of Ms. DeGette follows:]

PREPARED STATEMENT OF HON. DIANA DEGETTE

Today, we continue the Subcommittee on Oversight and Investigations' long record of oversight of the U.S. Environmental Protection Agency.

I am particularly pleased to welcome four former EPA Administrators back to the Energy and Commerce Committee this morning.

This is an important and timely moment, and it is particularly noteworthy to have a hearing in the House with four former EPA Administrators testifying together on the mission of the Agency.

Administrator McCarthy, Governor Whitman, Administrator Reilly, and Administrator Thomas have dedicated their careers to leading on environmental issues, serving in both Democratic and Republican administrations going back to President Reagan.

They worked tirelessly to ensure that EPA, working with its partners both here in the United States and abroad, tackled the environmental challenges of the day head on.

There has never been a more important time for our environment and our planet.

Communities across the country are facing grave environmental threats—homes and businesses are being lost to historic flooding, hurricanes, and wildfires. Our oceans are rising, threatening coastal communities. Our coral reefs are disappearing along with vast swaths of forests and habitat across the globe, and we are seeing biodiversity facing yearly declines. Across the globe and here in the U.S., we are seeing record temperatures year after year, increasing the risk of severe agricultural drought and leading to deadly heat waves. My State of Colorado has seen once year-round glaciers retreating while its wildfire season seems only to grow in length.

And just last week, a new report by the National Oceanic and Atmospheric Administration found that carbon dioxide levels in Earth's atmosphere recently hit a record high. And according to the Intergovernmental Panel on Climate Change, current CO_2 levels are likely at the highest level in human history. Let me say that again:the highest level in human history.

Now more than ever, we need environmental leadership that rises to the challenges of our time.

We need an EPA that will strengthen existing efforts to fight climate change, because we know that States, businesses, and cities cannot address this crisis on their own.

We need an EPA that is committed to protecting public health and the environment and we need an agency that can help the U.S. lead on the international stage. The global issues we are confronting today, not only threaten our quality of life but increasingly are becoming national security concerns.

As the Administrators with us this morning know all too well, strong environmental leadership requires an EPA with unimpeachable scientific credibility. EPA must constantly be strengthening its science to ensure its policies are driven by science, and not the other way around.

Strong environmental leadership also means an EPA that is transparent and accountable to the public, so that Americans can understand and participate in the processes that affect pollution in their own communities.

Environmental leadership also means holding polluters accountable by enforcing laws that are already on the books.

Instead of leading on human health and environmental protection, the track record of the current EPA for the last 2 years has been abysmal. The current EPA has abandoned action on air quality and climate change. It has done away with sensible carbon reduction limits and automobile standards that would save consumers thousands of dollars at the pump. It has attacked mercury and air toxic standards that protect communities from deadly mercury and other hazardous air pollution—which even industry supports leaving in place.

And EPA—once regarded as the international leader on environmental protection—has ceded global leadership and has effectively been forced off the world stage.

And, year after year, the Trump administration has proposed extreme cuts to EPA's funding, sending a clear message that President Trump intends to make good on his campaign promise to break EPA into "little tidbits."

Of course, EPA's talented career staff heard this message, too. In the first 18 months of the Trump administration—as President Trump was filling EPA political appointments with former industry lawyers and lobbyists—we saw over 1,600 career employees leave EPA, resulting in staffing levels not seen in decades.

Against this backdrop, in April of this year, seven former EPA Administrators who served under Democratic and Republican administrations sent this committee a letter calling for renewed oversight of the Agency.

Their message of unity and bipartisan support was clear, and we are fortunate to have four here today, so we can learn from their years of wisdom on how EPA should be run.

This committee continues to conduct oversight on a broad range of EPA issues, including rollbacks of key clean air and climate protections, the dramatic drop in EPA enforcement activity, drinking water safety, EPA's attack on science, and ethical issues at EPA.

Now is the time for a strong and renewed EPA that will protect American communities from the many environmental threats of our time, and we are pleased to hear what additional oversight those that are here today believe is still needed at the Agency.

So, I hope this morning our former Administrators will discuss the serious challenges facing EPA, and how the Agency and Congress can best address the urgent environmental issues of our time, now and going forward.

Ms. DEGETTE. And I am very pleased to now recognize the ranking member, Mr. Guthrie, for 5 minutes for purposes of an opening statement.

OPENING STATEMENT OF HON. BRETT GUTHRIE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY

Mr. GUTHRIE. Thank you, Chair DeGette, for holding this hearing to focus on the future of the U.S. Environmental Protection Agency, and thank all of our witnesses for taking the time to be here today.

Today's hearing is an important discussion for us to have in order to build on the important work that the Energy and Commerce Committee has done, especially in the last Congress.

We held hearings focused on reducing carbon emissions, boosting renewable energy options, including emissions-free nuclear power, modernizing our power generation, and empowering industry to lead the way through innovation.

Additionally in the 115th Congress, the committee led legislative efforts on numerous bills, including the reauthorization of the Brownfields program, nuclear energy innovation and modernization, hydropower, and increasing compliance for drinking water infrastructure, which all passed the House and was signed into law.

Further, there were additional bills that passed the House, including ozone standards, energy-efficient government technology, advanced nuclear technology, new source performance standards, and nuclear waste policy, just to name a few.

There are exciting new ideas in sight, like carbon capture technology that can capture up to 90 percent of the carbon dioxide emissions that come from the use of fossil fuels and power generation and other industrial sources.

This technology means that the carbon dioxide emissions do not even make it to the atmosphere to begin with. Since fossil fuels will be used to power our country for decades to come, the EPA should be working with its other Federal, State, and local partners to help speed the way for innovative new technologies such as this.

I want to be clear. We all want clean air, clean water, and environmental protection. But those things do not have to be achieved at the expense of jobs, prosperity, and national security.

We are ready and willing to continue to have serious solutions-oriented discussions about how to address issues facing our public health and environment such as climate change risks through

American innovation rather than a massive takeover of the Federal Government.

In addition to this committee evaluating ways for U.S. to be leaders in the environmental protection space, today we will hear from Members and the witnesses about concerns regarding the current direction of the EPA.

While there may be differences of opinion on how to best approach some of the issues facing the Agency today, it is not out of the desire to have a polluted environment.

Let us not forget the EPA's nearly 50 years of age. It might be appropriate to think beyond the model of the last 5 decades to contemplate an agency poised to tackle problems of today and tomorrow, not armed for those of yesterday.

I think it is an important opportunity for this committee to broadly examine structural and legal areas where Congress may need to provide the Agency with clearer direction on its responsibilities.

That is, after all, one of the main functions of congressional oversight. Additionally, I am expecting that we will hear concerns from the witnesses regarding changes to regulations and how the ebb and flow of regulations from administration to administration could have a negative impact on industry.

I think that this highlights the importance of bipartisan policy solutions, consistently transparent administrative practice, and Agency regulations that appropriately balance the goals of regulation with the cost of implementation.

Finally, it is no secret that much of rural America views the EPA with—views it with distrust, and has for quite some time.

Many Members of Congress have heard stories from their district about family farmers and other small businesses attempting to comply with Federal environmental regulations and feeling that the EPA was not a helpful partner.

I am particularly interested in learning from our witnesses today about what can be done to earn back the trust of these communities.

Ultimately, to truly succeed we need stronger local, State, Federal, Tribal, and private partnerships where we can team up and leverage all available resources to accomplish the goals of cleaner water, air, and soil.

I hope that we can have a thorough and honest discussion to inform the future of the EPA, its mission, and how we can best protect the environment.

I thank our witnesses for being here today and sharing their perspectives, giving each of their experiences as former EPA Administrators.

And I yield back.

[The prepared statement of Mr. Guthrie follows:]

PREPARED STATEMENT OF HON. BRETT GUTHRIE

Thank you, Chair DeGette, for holding this hearing to focus on the future of the U.S. Environmental Protection Agency.

Today's hearing is an important discussion for us to have in order to build on the important work that the Energy and Commerce Committee has done, especially in the last Congress. We held hearings focused on reducing carbon emissions, boosting

renewable energy options including emissions-free nuclear power, modernizing our power generation, and empowering industry to lead the way through innovation.

Additionally, in the 115th Congress, this committee led the legislative efforts on numerous bills, including the reauthorization of the Brownfields program, nuclear energy innovation and modernization, hydropower, and increasing compliance for drinking water infrastructure, which all passed the House and were signed into law. Further, there were additional bills that passed the House, including ozone standards, energy efficient government technology, advanced nuclear technology, new source performance standards, and nuclear waste policy, to name a few.

There are exciting new ideas in sight, like carbon capture technology. Carbon capture is a technology that can capture up to 90 percent of the carbon dioxide emissions that come from the use of fossil fuels in power generation and other industrial sources. This technology means that the carbon dioxide emissions do not even make it to the atmosphere to begin with. Since fossil fuels will be used to power our country for decades to come, the EPA should be working with its other Federal, State, and local partners to help speed the way for innovative new technologies such as this.

I want to be clear—we all want clean air, clean water, and environmental protection; but those things do not have to be achieved at the expense of jobs, prosperity, and national security. We are ready and willing to continue to have serious, solutions-oriented discussions about how to address issues facing our public health and environment, such as climate change risks, through American innovation, rather than a massive takeover by the Federal Government.

In addition to this committee evaluating ways for the U.S. to be leaders in the environmental protection space, today we will hear from both Members and the witnesses about concerns regarding the current direction of the EPA. While there may be a difference of opinion on how best to approach some of the issues facing the Agency today, it is not out of a desire to have a polluted environment.

Let's not forget that EPA is nearly 50 years of age. It might be appropriate to think beyond the model of the last 5 decades to contemplate an agency poised to tackle the problems of today and tomorrow, not armed for those of yesterday. I think it is an important opportunity for this committee to broadly examine structural and legal areas where Congress may need to provide the Agency with clearer direction on its responsibilities. That is, after all, one of the main functions of congressional oversight.

Additionally, I am expecting that we will hear concerns from the witnesses regarding changes to regulations and how the ebb and flow of regulations from administration to administration could have a negative impact on industry. I think that this highlights the importance of bipartisan policy solutions, consistently transparent administrative practice, and Agency regulations that appropriately balance the goals of a regulation with the costs of implementation.

Finally, it is no secret that much of rural America views the EPA with distrust, and has for quite some time. Many Members of Congress have heard stories from their districts about family farmers and other small businesses attempting to comply with Federal environmental regulations, and feeling that the EPA was not a helpful partner. I am particularly interested in learning more from our witnesses today about what can be done to earn back the trust of these communities. Ultimately, to truly succeed we need stronger local, State, Federal, Tribal, and private partnerships where we can team up and leverage all available resources to accomplish the goals of cleaner water, air, and soil.

I hope that we can have a thorough and honest discussion to inform the future of the EPA, its mission, and how we can best protect the environment. I thank our witnesses for being here today and sharing their perspectives given each of their experiences as former EPA Administrators, and I yield back.

Ms. DEGETTE. The Chair now recognizes the chairman of the full committee, Mr. Pallone, for 5 minutes for purposes of an opening statement.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Madam Chair, and welcome to our former EPA Administrators. We really appreciate your being here today.

I think we are going to have four—because I think Gina's on her way—who served under four different Presidents, and obviously you're uniquely qualified to share your opinions with us on President Trump's EPA and whether it's fulfilling the Agency mission of protecting human health and the environment.

I want to thank you for your efforts and the actions of previous administrations, both Republican and Democrat. Because of them, our air and water is cleaner, our land is better protected, and that's true not just here in the United States but around the world as other countries followed America's example of strong environmental leadership.

EPA's record of accomplishment over the years has shown that protecting the environment and public health is not only good policy but also good for the economy.

This is a challenging moment in history. The United States must decide whether we are going to sit on the sidelines or do everything we can to combat climate change and a host of other environmental threats facing our planet.

You don't have to look too far to see the risks communities across America are facing: historic floods threatening farms and cities in the Midwest; a permanent wildfire season that now regularly decimates vast amounts of land in the West, destroying homes and businesses; rising oceans making coastal communities even more vulnerable to extreme weather events; and record high temperatures year after year, which can be deadly, particularly for vulnerable populations.

Governor Whitman and I saw firsthand the tragic devastation of Superstorm Sandy in New Jersey in 2012. I had never seen worse storm damage in our area in my lifetime.

For many, the storm was the worst-case scenario. Lives were lost. Businesses and homes were destroyed. As Governor Whitman points out in her testimony, according to a recent report, 35 U.S. cities could be uninhabitable by the end of this century because of climate change, and 9 of those cities are in our State, New Jersey.

Just a week ago, the National Oceanographic and Atmospheric Administration reported that the Earth's levels of carbon dioxide have now jumped to a record high.

More than ever before we need a strong EPA that can protect public health and the environment against today's many threats and help lead this effort on the international stage.

Unfortunately, we have seen over and over again that the Trump administration is failing to rise to this challenge. In the past 2½ years we have seen our country abdicate our role as a global leader on meaningful climate action and ignore consensus science that humans are now a major driver of global warming.

We have seen the Trump EPA roll back commonsense limits on pollution from power plants, attack protections which keep American families safe from mercury and other toxic pollution.

The Trump administration has also moved to weaken successful automobile efficiency standards, a decision that 17 of the world's largest automakers just last week threatened to cut—they say threatens to cut their profits and produce untenable instability in the manufacturing sector, and these actions seriously undermine

our ability to reduce greenhouse gas pollution, making the climate crisis even worse.

We have also seen the Trump administration propose extreme cuts, in my opinion, to the EPA's budget, which would eliminate key Agency programs, cut money for States and Tribes, and eviscerate the Agency's science apparatus.

Now, fortunately, Congress, on a bipartisan basis, has not accepted those cuts. And not only is the Trump EPA sidelining science, in some cases it's purging it altogether.

As these events unfolded at EPA in April, the committee received a letter from seven former EPA Administrators who served under Presidents of both parties as far back as President Nixon.

The former Administrators, four of whom are with us this morning, urged oversight of EPA, offered to be a resource, and affirmed the vital bipartisan mission of the EPA, and during this Congress the committee has already conducted oversight on a range of key issues affecting EPA, including rollbacks of clean-air and climate protections, continued attacks on science, lack of enforcement of environmental laws, failure to protect workers from chemical risks, and the impact of the Trump administration's drastic proposed cuts to EPA's budget.

And so we are looking forward now to hearing from this distinguished bipartisan panel. The four former Administrators with us this morning truly know what is at stake, because they were there, and how to accomplish EPA's mission.

So more than ever our communities, families, and planet need a robust EPA that is fully committed to protecting human health and the environment, and we appreciate all the fact that, you know, what you did in your distinguished service and want to see what lessons there are to tell us for today.

Thank you, and I yield back, Madam Chair.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Good morning. I am very pleased to welcome four former EPA Administrators who served four different Presidents to our hearing today. You are all uniquely qualified to share your opinions with us on President Trump's EPA and whether it is fulfilling the Agency mission of protecting human health and the environment.

Thanks to your efforts and the actions of previous administrations—both Republican and Democrat—our air and water is cleaner, and our land is better protected. And that is true not just here in the United States, but around the world, as other countries followed America's example of strong environmental leadership.

EPA's record of accomplishments over the years has shown that protecting the environment and public health is not only good policy, but also good for the economy.

This is a challenging moment in history. The United States must decide whether we are going to sit on the sidelines or do everything we can to combat climate change and a host of other environmental threats facing our planet.

You don't have to look too far to see the risks communities across America are facing. Historic floods threatening farms and cities in the Midwest. A permanent wildfire season that now regularly decimates vast amounts of land in the West, destroying homes and businesses. Rising oceans making coastal communities even more vulnerable to extreme weather events. And record high temperatures year after year, which can be deadly, particularly for vulnerable populations.

Governor Whitman and I saw firsthand the tragic devastation of Superstorm Sandy in New Jersey in 2012. I had never seen worse storm damage in our area in my lifetime. For many, the storm was a worst-case scenario: lives were lost, businesses and homes destroyed.

As Governor Whitman points out in her testimony, according to a recent report, 35 U.S. cities could be uninhabitable by the end of this century because of climate change, and 9 of those cities are in New Jersey.

And, just a week ago, the National Oceanic and Atmospheric Administration reported that the Earth's levels of carbon dioxide have now jumped to a record high.

More than ever before, we need a strong EPA that can protect public health and the environment against today's many threats and help lead this effort on the international stage.

Unfortunately, we have seen over and over again that the Trump administration is failing to rise to this challenge. In the past 2½ years, we have seen our country abdicate our role as a global leader on meaningful climate action and ignore consensus science that humans are now a major driver of global warming.

We've seen the Trump EPA roll back commonsense limits on pollution from power plants, and attack protections which keep American families safe from mercury and other toxic pollution. The Trump administration has also moved to weaken successful automobile efficiency standards—a decision that 17 of the world's largest automakers said last week threatens to cut their profits and produce "untenable" instability in the manufacturing sector. These actions seriously undermine our ability to reduce greenhouse gas pollution, making the climate crisis even worse.

We have also seen the Trump administration propose extreme cuts to EPA's budget, which would eliminate key Agency programs, cut money for States and Tribes, and eviscerate the Agency's science apparatus.

And not only is the Trump EPA sidelining science; in some cases, it's purging it altogether.

As these events unfolded at EPA, in April, the committee received a letter from seven former EPA Administrators, who served under Presidents of both parties as far back as President Nixon. The former Administrators—four of whom are with us this morning—urged oversight of EPA, offered to be a resource, and affirmed the vital bipartisan mission of the Agency.

During this Congress, the committee has already conducted oversight on a range of key issues affecting EPA, including rollbacks of key clean-air and climate protections, continued attacks on science, lack of enforcement of environmental laws, failure to protect workers from chemical risks, and the impact of the Trump administration's drastic proposed cuts to EPA's budget. And we now look forward to hearing from this distinguished bipartisan panel. The four former Administrators with us this morning truly know what is at stake and how to accomplish EPA's mission.

More than ever, our communities, families, and planet need a robust EPA that is fully committed to protecting human health and the environment.

Ms. DEGETTE. The Chair now recognizes the ranking member of the full committee, Mr. Walden, for 5 minutes for purposes of an opening statement.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Thank you, Madam Chair.

Regardless of whether you're in government or not, we must always keep in mind the EPA's core mission tasked by Congress in statute: clean air for Americans to breathe, safe water for our citizens to drink, soils free from pollution. That is the core mission.

Too often people fall into the trap of assuming a clean environment is incompatible with economic growth and job creation. But we can and must have both.

We need commonsense regulations that protect the public, actually clean up the environment, and do so in a way that doesn't unnecessarily suffocate the economy or fail to consider the impact on American consumers and taxpayers.

To this end, the EPA should focus on innovative problem solving and partnerships with States, Tribes, communities, the private sector, and other stakeholders that leverage their resources and enterprise.

I anticipate much of the discussion today will focus on climate change and the appropriate role of the EPA in combating it.

I want to be clear—climate change is real, and as I have stated numerous times, Republicans on this committee stand ready, willing, and able to work with Democrats in a bipartisan way to continue to tackle climate change in a prudent and thoughtful manner.

I ask unanimous consent to enter in the record a February 13th letter to Chairman Pallone and Environment and Climate Change Subcommittee Chairman Tonko from myself and Mr. Shimkus asking to do just that.

[The information appears at the conclusion of the hearing.]

Mr. WALDEN. We can and must address climate change risks through American innovation, conservation, as well as adaptation and preparation, which should be focused on continuing to reduce emissions, developing and exporting clean energy technologies, and making our communities more resilient by adapting what we grow and how we build.

The EPA has an important role to play in that by collecting emissions information and setting meaningful standards and regulations within the bounds of statutory authority granted to the Agency by the Congress.

We should continue to make progress on reducing global climate risks without adding unnecessary regulatory burdens by promoting policies favoring clean energy like nuclear, hydropower, natural gas, wind, solar, and carbon capture technologies, and by removing barriers to development and deployment of new technologies and innovation. I think we could all agree on that.

Republicans have a clear record of bipartisan legislation from this committee to do just that. Over the past several Congresses we have removed regulatory barriers to new technological advances in power generation from hydroelectric power to small modular nuclear, from carbon capture and storage incentives to power grid reforms.

Because innovation is where the long-term solutions to climate change are, we want America to lead the world in innovation as we always have, especially on clean energy and environmental cleanup.

It also never hurts to work hard to root out unnecessary red tape, to provide greater regulatory transparency so that stakeholders, including the regulated community, better know what is expected of them and to promote prompt, even, and fair enforcement of the law.

So let's work together as we have in the past to reduce the barriers to innovation, to unleash American ingenuity, to develop new technologies to help confront the climate and other environmental and public health challenges of the future.

For example, the previous Republican-led Congresses have seen bipartisan responses to address contaminated drinking water in Flint, Michigan—need I say the EPA kind of dragged its feet and got that one wrong; renew important drinking water programs, including those to address lead pipes; reinforce the essential Federal/State dynamic in environmental protection; and update toxic chemicals review and management. Those were all done in a Republican-led Congress in a bipartisan way.

Moving forward, there is much that we could do right now in a bipartisan way. For example, we could improve new source review permitting, essential to ensuring more efficient cleaner-operating stationary sources, and we could streamline the air quality standards process to ensure more effective implementation by States and localities.

This hearing is also a good opportunity to discuss whether and how the EPA itself and its legal authority need to be modernized to face 21st century challenges.

We are beginning another wildfire season in Oregon and on the west coast. Last summer, smoke filled the air across large parts of Oregon and California, giving us the worst air quality short of Beijing for almost a month.

The Clean Air Act was last updated in 1990. Does this nearly 30-year-old statute stand up in the face of issues the EPA confronts today?

I think on nearly every EPA's watch there has been failure to update legally mandated programs by Congress, and that's a question we should be asking today, as well, as we go forward. The EPA itself has never been authorized by Congress. Never. So how should we do that?

I thank your witnesses for being here today. I know you each have—had difficulties on your watches, challenges on your watches. You always tried to do the right thing for the American people.

But it's hard to always get it right. And so we want to work with you and with our colleagues on the other side of the aisle to get it right more often for the American people and do the right thing for our environment.

And with that, Madam Chair, I yield back.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Thank you, Chair DeGette, for convening this hearing with four former Administrators of the EPA. I welcome our witnesses and this conversation about the future and direction of the EPA.

Regardless of whether you are in government or not, we must always keep in mind that EPA's core mission, tasked by Congress in statute: clean air for Americans to breathe, safe water for our citizens to drink, and soils free from pollution.

Too often, people fall into the trap of assuming a clean environment is incompatible with economic growth and job creation. But we can and must have both. We need commonsense regulations that protect the public, actually clean up the environment, and do so in a way that don't unnecessarily suffocate the economy or fail to consider the impact on American consumers and taxpayers. To this end, the EPA should focus on innovative problem solving and partnerships with States, Tribes, and communities, the private sector, and other stakeholders that leverage their resources and enterprise.

I anticipate that much of the discussion today will focus on climate change and the appropriate role of the EPA in combating it. I want to be clear—climate change is real. And as I have stated numerous times, Republicans on this committee stand ready, willing, and able to work with Democrats in a bipartisan way to continue to tackle climate change in a prudent and thoughtful manner.

I ask unanimous consent to enter into the record a February 13, 2019, letter to Chairman Pallone and Environment and Climate Change Subcommittee Chairman Tonko from myself and Mr. Shimkus asking to do just that.

We can and must address climate change risks through American innovation, conservation, as well as adaptation and preparation. We should be focused on continuing to reduce emissions, developing and exporting clean energy technologies, and making our communities more resilient by adapting what we grow and how we build.

The EPA has an important role to play, by collecting emissions information and setting meaningful standards and regulations within the bounds of the statutory authority granted to the Agency by Congress.

We should continue to make progress on reducing global climate risks without adding unnecessary regulatory burden by promoting policies favoring clean energy—like nuclear, hydropower, natural gas, wind, solar, and carbon capture, and removing barriers to the deployment of new technologies and innovation.

Republicans have a clear record of bipartisan legislation from this committee to do just that. Over the past several Congresses, we have removed regulatory barriers to new technological advances in power generation, from hydroelectric power to small modular nuclear, from carbon capture and storage incentives to power grid reforms. Because innovation is where the long-term solutions to climate change are. We want America to lead the world in innovation, as we always have, especially on clean energy and environmental cleanup.

It also never hurts to work hard to root out unnecessary red tape, to provide greater regulatory transparency so that stakeholders, including the regulated community, better know what is expected of them, and to promote prompt, even, and fair enforcement of the law.

Let's work together, as we have in the past, to reduce the barriers to innovation and unleash American ingenuity to develop new technologies to help confront the climate and other environment and public health challenges of the future. For example, the previous Republican-led Congresses have seen bipartisan responses to address contaminated drinking water in Flint, renew important drinking water programs—including those to address lead pipes—reinforce the essential Federal/State dynamic in environmental protection, and update toxic chemical review and management.

Moving forward, there is much that we could do right now, in a bipartisan way. For example, we could improve new source review permitting, essential to ensuring more efficient, cleaner operating stationary sources, and we could streamline the air quality standards process to ensure more effective implementation by States and localities.

This hearing is also a good opportunity to discuss whether and how the EPA itself and its legal authority need to be modernized to face 21st century challenges. We are beginning another wildfire season in Oregon and on the west coast. Last summer, smoke filled the air across large parts of Oregon and California, and certainly had a negative impact on air quality. The Clean Air Act was last updated in 1990. Does this nearly 30-year-old statute stand up in the face of the issues the EPA confronts today? The EPA itself has never been authorized by Congress—is it time for us to do so?

I thank our witnesses for being here today and hope that we can have a constructive conversation about the future and mission of the EPA.

Ms. DEGETTE. I thank the gentleman.

The Chair now asks unanimous consent that the Members' written statements be made part of the record.

Without objection, so ordered.

And the committee will now stand in recess until 11 o'clock sharp.

[Recess.]

Ms. DEGETTE. The hearing will come to order, and the Chair will thank everybody for their comity and welcome Ms. McCarthy, who has had quite a morning of travel to get here, and we appreciate it.

I now want to introduce the panel of witnesses for today's hearing: Ms. Gina McCarthy, Administrator of the U.S. Environmental Protection Agency from 2013 to 2017; Governor Christine Todd Whitman, Administrator of the U.S. Environmental Protection Agency from 2001 to 2003; Mr. William R. Kelly, the Administrator of the U.S. Environmental Protection Agency from 1989 to 1993.

Mr. REILLY. It's Reilly.

Ms. DEGETTE. Kelly. Reilly. I am sorry.

[Laughter.]

Ms. DEGETTE. Reilly. Kelly. They are all good Irish names. Mr. Lee M. Thomas, Administrator of the U.S. Environmental Protection Agency from 1985 to 1989. And I do want to again thank all of you for coming today.

I know you're aware that the committee is holding an investigative hearing, and when doing so we have the practice of taking testimony under oath.

Do any of you object to testifying under oath today?

Let the record reflect that the witnesses have responded no. The Chair advises you that, under the rules of the House and the rules of the committee, you're entitled to be accompanied by counsel.

Do you desire to be accompanied by counsel today?

Let the record reflect the witnesses have responded no.

If you would, please rise and raise your right hand so that you may be sworn in.

[Witnesses sworn.]

Ms. DEGETTE. Let the record reflect that the witnesses have responded affirmatively, and you may be seated. You're now under oath and subject to the penalties set forth in Title 18 Section 1001 of the U.S. Code.

The Chair will now recognize our witnesses for a 5-minute summary of their written statements. In front of you—I think you all know the drill, having testified in front of this committee many times—there's a microphone and a series of lights. The light will turn yellow when you have a minute left and red to indicate your time has come to an end.

And so, Administrator McCarthy, you are now recognized for 5 minutes.

STATEMENTS OF GINA MCCARTHY, FORMER ADMINISTRATOR (2013–2017), CHRISTINE TODD WHITMAN, FORMER ADMINISTRATOR (2001–2003), WILLIAM K. REILLY, FORMER ADMINISTRATOR (1989–1993), AND LEE M. THOMAS, FORMER ADMINISTRATOR (1985–1989), ENVIRONMENTAL PROTECTION AGENCY

STATEMENT OF GINA MCCARTHY

Ms. MCCARTHY. First of all, I want to send my thanks to Chairman Pallone and Ranking Member Walden for holding the hearing, Chair DeGette and Ranking Member Guthrie for asking me to speak today about the important work of EPA, and I apologize for keeping everybody waiting. I appreciate it very much that you waited for me.

I have spent all of my professional life working to protect people from the dangers posed by pollution. As a kid, I could literally see, taste, and feel pollution.

I can remember my third-grade classmates and I at St. John's Elementary School, running to shut windows when the stench from the Plymouth Rubber Company started wafting in the windows.

What amazed me most was that the nuns never stopped marching us through our times table, even when we were holding our noses.

It wasn't until years later when I finished graduate school and became the first full-time Board of Health agent in my hometown

that I figured out just how many people in and around that plant had died from brain cancer.

And it was only 12 years or so after that when a dear friend of mine died of brain cancer and I wondered whether her classmates had just been a bit slower than me at shutting the windows.

I know pollution kills, and it is not an equal-opportunity killer. It attacks our children and the elderly, the poor and the powerless. That's why environmental statutes have been enacted to provide layers of protection between pollution and the people that we love, so they have the fighting chance to live healthy lives.

And for nearly 50 years we have been so lucky to have dedicated public servants at EPA who are smart and amazing human beings that we can rely on to implement those laws, and political leaders like the three that I am sitting with today who help to lead the agencies.

And I am here today for one reason and one reason only, and it is not to weep about all my precious rules being rolled back, although I admit that the constant rollback is beginning to tick me off a bit, maybe even more than just a bit.

But this is not the real message for me this morning. I am here to remind the political leadership at EPA that what they do matters, and it is time for them to step up and to do their jobs.

So just do your jobs. Right now, this administration is trying to systematically undo health protections by running roughshod over the law, by obfuscating the science while only paying lip service to public disclosure and transparency, and that is just not good enough.

EPA's mission is to protect public health and the natural resources that we all depend on. EPA's success is measured in human lives saved, fewer kids with asthma attacks, and how well we protect those most vulnerable from human exposures to pollution and arm the public with information and opportunities so they can live better, healthier, safer, and more just lives.

That is worth standing up for, and I am here to ask the committee to hold EPA accountable to its mission and its duty to American families across the country who fully expect that laws will be implemented, science will be followed, and people will be given a chance to engage in decisions that matter to them and their children and their future.

Right now, it feels like the fox is minding the henhouse. EPA's political leadership is filled with conflicts that put special interests and former clients ahead of our kids and hard-working families.

Ethics investigations are ongoing across the Agency while EPA rollbacks and divestments continue, with science being sidelined, policies not being publicly vetted, and efforts ongoing to change the way the Agency conducts its business, and it's all designed to mask increases in pollution and to deny health benefits of pollution reductions.

What does this all mean? Well, if we allow more pollution to be emitted, if we stop supporting and listening to the best available science, and if we start limiting EPA's ability to monitor and enforce pollution standards, then we are putting at risk the health and the future of every single child in our country.

And make no mistake, our children are watching, and we need to deliver for them, especially when it comes to climate change, which has the ability to literally rob them of their future if we don't act and don't act now.

If the American dream is about giving the next generation a better life than the one we have, I fear with this administration that dream may be slipping away, and I cannot sit on the sidelines and allow that to happen.

I have a 9-month-old grandson, and I have a granddaughter on the way. They are my face of climate change. They are my moral compass and my reason to sit here today.

So we know what we are all fighting for, and we need to remind ourselves of that every day. At times like these, the onslaught of controversies creates an overwhelming problem.

But we mustn't lose sight of the core values that bind us together. Surely, one of those values must be protecting the health and well-being of our kids. It's time for this EPA to do what is right for American families and start doing their jobs.

Thank you for your attention, and you can find many more specifics in my written testimony.

[The prepared statement of Ms. McCarthy follows:]

June 11

Gina Mccarthy
Written Testimony
House Committee on Energy and Commerce
Subcommittee on Oversight and Investigations

Thank you to Chairman Pallone and Ranking Member Walden for holding this hearing. Thank you to Chair DeGette and Ranking Member Guthrie for asking me to speak about the important work of the U.S. Environmental Protection Agency and to voice my deep appreciation and gratitude for the dedicated career staff keeping the agency going during the agency's most tumultuous time in its nearly 50 year history.

Throughout my career, I have worked for environmental agencies at all levels of government, including six governors (five Republicans and one Democrat), prior to the eight years I worked for President Obama. Throughout that time my goal has been to protect people's health from the dangers of pollution in our air, water, and land, as well as dangerous chemicals that find their way into our bodies through the food we eat, the products we produce and the places we live, work and play. Local and state environmental agencies and EPA are essentially public health agencies. What these agencies do matters. What EPA does matters. It matters to every single person living in this country and beyond because EPA's job – its mission - is to protect public health and the natural resources we depend on. EPA's measures its success based on human lives saved, fewer kids with asthma attacks, how well we ensure that all people, especially those most vulnerable, are protected against harmful exposure to pollution and communities are empowered with information and opportunities to build healthier, safer, more just and sustainable communities..

EPA was established by Richard Nixon, a Republican president. The Clean Air Act Amendments of 1990 championed by President George H.W. Bush, a Republican president. Pollution as we all know, doesn't respect political boundaries and that includes political parties. Pollution is non-partisan as is environmental protection. Which is why every leader of EPA must do their best to ensure that the work of EPA is non-partisan and driven not by party politics but by an unwavering commitment to the mission of the agency using the law, science, transparency, accountability and robust public engagement as its guideposts.

I cannot tell you how disconcerting it is to me that I am sitting here with three colleagues all of whom served as Administrators of EPA during Republican administrations – not because I don't like or respect them – I do. In fact, I admire each of them and offer my sincere gratitude for all their efforts to build an increasingly stronger, smarter and more effective EPA that I very gratefully inherited from them and others like Bill Ruckelshaus who I believe has submitted written testimony to the Subcommittee.

But I find it disconcerting because this collection of past EPA Administrators feel obligated to testify together and individually to make the case that what is happening at EPA today is simply put, not normal and to solicit your help to get it on a more productive path.

In my opinion, our beloved EPA is in serious trouble and if I am right, it means that American families are facing increasing risks to their health and wellbeing, especially the very young, the elderly and those living in poverty that are most vulnerable to the impacts of pollution. And I am hoping this subcommittee will hold EPA accountable to its duty to American families across this country who expect that laws will be

implemented, science will be followed and people across this country will have the opportunity to understand and engage in decisions that matter to their children's health and the heath of future generations.

Collectively we are here to make the case that EPA's core mission remains as relevant and critical to the health of all Americans today as it has ever been. While pollution is not as visible as it was 50 years ago and EPA has over the past decades been a big part of that success, we have not completed our mission to protect public health and natural resources from the dangers of pollution.

We all know from experience that making progress on EPA's mission means respecting the enormously talented and dedicated career staff at EPA and protecting them from political interference. It means fully engaging career employees in efforts to advance the agency's mission by designing policies, programs and rules that are smart, reasonable and produce cost effective results that continue to build on EPA's solid record of success in demonstrating that a clean, healthy environment goes hand in hand with growing a strong economy. And it means the agency must fully embrace the challenge of climate change, which is the most significant threat to public health and wellbeing that humanity has ever faced.

EPA was the gold standard in environmental protection for many decades; we must strive to emulate that again. For the first time in U.S. history, our children are expected to live shorter life spans than their parents. We cannot allow ourselves to go backwards – we must go forwards.

I for one am here to implore the Subcommittee to use its authority to ensure that EPA is focused on its mission. To question whether the agency is appropriately including career staff in decision-making, is protecting scientists from political interference, and is taking actions that make our lives healthier and our natural resources cleaner. Evidence so far suggests that today's EPA is not focused on the agency's mission but is instead focused on specific results which will deliver on President Trump's campaign promises to dismantle the EPA.

With every passing day, EPA seems to be losing valuable career staff while agency leadership has been on a seemingly unstoppable crusade to rollback rules with seemingly little regard to the health impacts of their rollbacks. In short, EPA is going backwards on health protections in favor of lowering costs to polluting industries at every turn.

Over time, many of the early rollbacks failed due to process fouls or simply an inability to make sound legal arguments that the Obama rules were somehow flawed. In other cases, like the Obama Clean Car Rules, Mercury and Air Toxics Standards, Clean Power Plan and Clean Water Rule often referred to as WOTUS, EPA leadership shifted to more dangerous and insidious strategies in the design of their rollback proposals. These strategies essentially unravel decades of established "rules of the road" that guide how the agency does its business by attacking the science, changing how the agency estimates costs and benefits, and undermining implementation and enforcement of current rules. These fundamental changes to the ways in which the agency conducts its work present the gravest threat to EPA and to the health of American families. If successful, those efforts will, over time, weaken or even eliminate the ability of the agency to do its job for the American people.

It seems pertinent to note that in a few cases, the agency's appetite for rollbacks has been so voracious that EPA leadership has shown a total disregard to the concerns of the affected regulated industries who view the rollbacks as a source of unnecessary uncertainty and recommended that the agency either withdraw or moderate them. For example, Electric Edison Institute asked the EPA Administrator to not reconsider the MATS since it was essentially already complied with and any rollback could create

stranded assets. The Auto Manufacturers recently expressed their grave concerns about EPA'sproposed Clean Car rollback which they see as a threat to their profits and a source of untenable instability given the timeline needed to plan model revisions. And the companies in the U.S. that manufacturer chemicals that offer alternatives to highly global warming hydrofluorocarbons are seeking EPA support for SNAP rulemaking or Congressional and White House ratification of the Kigali Amendment which they estimate would add thousands of new jobs. So far, EPA seems to be turning deaf ears to these pleas and instead looking at the changes in the rules of the road as perhaps the more important, longer lasting and damaging path forward – rather than its mission.

Is EPA Doing Its Job?

There seem to be a number of ways that EPA is undermining its own mission to protect public health and our precious natural resources. With the help of public information provided by the Harvard Law School Environmental &Energy Law Program that I paraphrased and embellished below, I have outlined issues that I would ask the Subcommittee to consider.er.

Denying Health Benefits of Pollution Reduction: The White House Office of Management and Budget's annual report on the costs and benefits of Obama era rules found them to be hugely cost beneficial and therefore harder to abandon (2006-2016: Benefits between $216B and $685B v costs between $59B and $88B). So if the goal of EPA is to rollback Obama rules, EPA is likely to take steps that limit the consideration of health benefits in ways that support rollbacks and erode EPA's ability and its responsibility to require more stringent pollution standards when all costs and benefits are considered. And that is exactly what we see happening.

EX: Even though science tells us that climate change is a global public health emergency and there is no safe level of particulate matter pollution, the *CPP Rollback Rule (ACE)* doesn't count co-benefits, doesn't count health benefits to PM pollution reductions below the NAAQS standards, limits consideration of benefits to direct U.S. carbon mitigation benefits which effectively slashes climate benefits by ignoring the effect our pollution has on other countries and applies the highest discount rate (7%) to discount the benefits climate actions provide to future generations, and shifts energy efficiency from a benefit to a cost. Even EPA's ACE analysis shows the rule would result in more pollution with carbon dioxide emissions increasing by 20 to 60 million tons per year. Similarly, emissions of pollutants like SO2 and NOx would increase by 25,000 to 50,000 tons per year each as compared to the CPP. That means more emergency room visits, increased asthma rates, worsening allergies and more threats from extreme weather. This is part of a pattern of denial of climate science and its health impacts, reflecting a callous disregard for EPA's mission and an inexcusable indifference to the consequences for carbon and other pollution.

EX: The health impacts of mercury, a potent neurotoxin, are large and disproportionately affect children and other vulnerable populations. Children exposed to methylmercury during a mother's pregnancy can experience persistent and lifelong IQ and motor function deficits. In adults, high levels of methylmercury exposure have been associated with adverse cardiovascular effects, including increased risk of fatal heart attacks. Other adverse health effects include endocrine disruption, diabetes risk, and compromised immune function. But rather than leave the MATS Rule in place as a done deal - done well, EPA's has proposed revising the MATS appropriate and necessary finding which would completely undermine it by removing the legal prerequisite for the standards. To allow the agency to propose this change, the agency had to take positions that are contrary to OMB guidance, sound

science, and common sense, and the law. The MATS rollback excludes consideration of co-benefits, limited direct benefits to children of freshwater recreational anglers in the U.S., recent science which increased the MATS benefits to $4.8B in 2017, and recent data that changes the $10M estimate of annualized benefits in 2011 to an annual value between $24B and $80B.

Subverting the Process of Setting Health-Based Air Quality Standards: In addition to rollbacks, EPA leadership used a memo to change the way National Ambient Air Quality Standards are set, to consider both science and costs simultaneously when setting what has been health-based standards, which runs contrary to agency policy and practice as well as a DC Circuit opinion. In addition, EPA dismantled the PM Expert Panel right before the start of CASAC's PM NAAQS review prompting objections by a few of the newly appointed CASAC.

Misleading on Climate Science: Climate Science has been taken off the webpage and what's left is in archives and hard to find. Political employees have given climate change talking points to staff that sow doubt on climate science, and a climate skeptic was appointed to the Science Advisory Board. A new panel is planned at the White House to talk about Climate Security, headed by a climate skeptic. And it has been reported that the White House is curtailing the scope of federal reports, like the National Climate Assessment, by excluding information on the future impacts of climate change which can be the most damaging by far. And lastly, climate executive orders that guide agency purchases and decision-making under NEPA have been rescinded.

Diminishing Public Accountability: A directive has been issued that makes it harder to reach settlements on mandatory duty suits and tilts the scale in favor of regulated industry, making it harder for communities and impacted individuals to push the agency to do its job in a timely way.

Curtailing High Quality Scientists and Science – Air Pollution:
High quality scientists across EPA, most notable at EPA's Office of Research and Development (ORD), as well as programs including the Integrated Risk Information System and the National Center for Environmental Assessment have been in EPA leadership's firing line. While efforts to defund ORD research have been unsuccessful, scientists at management levels across the agency, including ORD have been transferred to new offices and given new assignments that are at times far afield of their current responsibilities.

Scientific advisors have been removed from panels and replaced with industry scientists and at least one of those industry scientists is a known climate skeptic.

EPA leadership has redefined conflict of interest to preclude scientists who have received an EPA agency grant from serving as an advisor but no exclusion for scientists working for regulated industry. Under the guise of *Transparency*, the kind of science that EPA can take into consideration has changed, eliminating from consideration any studies that do not make all raw data public to allow researchers to reproduce results. This directive targets in particular two peer-reviewed studies called the Harvard Six-Cities Study and the American Cancer Society Prevention Study that relied on confidentiality agreements and the collection of HIPPA protected personal data that cannot be made public. While these studies were thoroughly peer reviewed and the Harvard study was independently reanalyzed using the raw data accessed through a confidentiality agreement, EPA plans to preclude both studies from consideration even though – or more likely because - they provide the data that enables EPA to represent the health benefits

of reducing pollution in terms of dollar values and provide meaningful cost benefit information that allows EPA to roughly capture the scale of the benefits. This directive will also make it impossible to utilize analysis of unique events as well as some older studies where raw data may not be available. In sum, the Transparency rule is not about transparency, it is a poorly disguised attack on cost-benefit analysis to weaken the ability of the agency to consider the best science and the full health benefits associated with pollution reductions. It flies in the face of a 2002 DC circuit decision that preserved the agency's ability to consider these studies, recognizing the impracticality and unreasonableness of requiring raw data to be made publicly available.

EPA is also proposing to broadly – even beyond the ACE rule discussed above - to eliminate consideration of benefits below NAAQS thresholds by eliminating the weight of the evidence approach currently used to assess the existence and strengths of links between air pollution and health. At the request of the new SAB Chair, the SAB is considering a shift away from the consideration of multiple lines of evidence across different disciplines and instead rely solely on a specific narrow approach to inform causality determinations which the Chair has developed. This proposed shift in framework has raised significant concern to SAB members and other scientists who believe that the Cox method has not been sufficiently tested or proven and places a nearly unattainable burden of proofwhich could limit protections for those who need protections most. The SAB appears to be having significant discussions about the Cox proposal and the full SAB has decided to review the Transparency rule given its broad impacts on the agency's ability to consider the benefits of reducing PM. Reductions in PM pollution accounts for 1/3rd to ½ of all monetized benefits of all major federal rules. If agency leadership were looking to weaken the ability of the agency to do its job, I can see no more effective way to accomplish this than by seeking to make these changesto the way science is taken into considered by the agency. These arguments are expressed in more detail in "Don't abandon evidence and process on air pollution policy" by Gretchen T. Goldman and Francesca Dominici in Science Magazine.

> **EX:** The newly reconstituted SAB is currently reviewing the WOTUS rollback. Recent news articles report that the SAB members were somewhat perplexed when they were told that their review should consider the rule a policy determination, not a science matter so they should limit their scope of review. According to an *E&E News* article, members of the SAB have significant concerns that the WOTUS rollback was inconsistent with the science summarized in the Connectivity Report that the SAB produced during the Obama Administration and instead failed to include protections for ephemeral streams and other water features that the SAB had identified as warranting protections. It is hard to understand how EPA leadership can separate policy from science when making what are essentially science decisions. As David Gray at IIASA once said, "Science with policy is science, policy without science is gambling."

Stepping Back from Air Program Enforcement: The Assistant Administrator for the Office of Air & Radiation has issued non-binding guidance, exchanged letters with outside parties, and responded directly to industry inquiries to provide direction that in essential and consequential ways, changes the way the agency is implementing CAA permitting without - or prior to in some cases - soliciting any public comment. These informal directives and clarifications allow companies to break up their facilities into smaller units to avoid major permitting obligations, change the way emissions are calculated to avoid the need for pollution controls to avoid increases in emissions, and tell the agency career staff that they can no longer scrutinize industry emissions estimates in certain permit applications which they have always double checked to ensure compliance – leaving emission estimates solely in the hand of the regulated industries. This directive flies in the face of ruling in the

DC circuit that confirmed the agency's authority to check those numbers. The Assistant Administrator must remember that decision clearly since he was the lawyer on the losing side of that argument.

Other memos and informal guidance have weakened the Good Neighbor Provisions under the CAA and abandoned the "Once in Always in Policy" to allow major sources of hazardous air pollutants that were required to install modern technology to meet the levels of reductions of the best industry performers, to emit more than the equipment is capable of reducing rather than the reductions required at the time of permitting.

EPA is also stepping back from enforcement undermining the rule of law that has set EPA apart from environmental protection efforts in many other countries. Contrary to the rhetoric in the 2018 Year in Review and the impressive Obama Administration accomplishments reflected in Trump EPA's 2017 enforcement numbers, the Trump EPA enforcement numbers are abysmal. Civil penalties dropped dramatically in Trump's first two years to the lowest levels since 1994. In the two decades before Trump, EPA civil penalties averaged higher than $500M when adjusted for inflation. Last year, civil penalties totaled $72M, 85% lower than the average of the last two decades. That is the lowest amount on record since the Office of Enforcement and Compliance Assistance was established.

Impairing Critical Information-Gathering: A newEPA directivewas issued requiring that all requests for information from polluters be sent to headquarters for approval, adding a significant barrier to investigations and enforcement – with no assurance that the review will be insulated from political influence.

Politicizing Grants and More: While EPA grants are relatively modest in size, it's important that the grantmaking process be free political influence for what seems like obvious reasons. However, EPA chose to send all grants to a political appointee who was engaged in the Trump campaign for final review. It was reported that he advised colleagues that he would be looking for certain phrases like climate change when conducting his review. Clearly that opens up concerns that EPA funds are being politically directed. But the potential for politicization of grants seems to pail in significance to the potential for conflicts of interest among the EPA senior management. To outsiders like me, it sure looks like the fox is minding the henhouse.

In addition, the current Administrator spent years as an energy industry lobbyist. His former clients created an action plan which calls for cutting the agency and overturning rules limiting mercury, carbon and air pollution- which he is now acting on. Political leadership worked for industry lobbying groups like the National Mining Association, the American Petroleum Institute, the American Fuel & Petrochemical Manufacturers, the American Chemistry Council, and the National Association of Manufacturers. They've worked for oil and gas companies, electric utilities, Koch subsidiaries and affiliated organizations and others whose priorities are profits over people. Behind-the-scenes, the Utility Air Regulatory Group, run by Hunton & Williams, participated in advocacy for over 40 electric companies and trade associations, fighting EPA's climate rules and mercury standards and permitting for conventional pollutants, especially ozone. And the current Assistant Administrator and General Counsel for EPA's Office of Air and Radiation were both lawyers at that firm and are now using their current positions to try and rollback or change regulations throughout the agency.

Why EPA's Rigorous Pursuit of Its Mission Matters

The ability and willingness of EPA to do its job matters to me, as does the ability of the U.S. to once again actively participate in the Paris Agreement and lead a worldwide effort to get to zero carbon emissions in

the timeline science demands. And it should matter to each and every one of you regardless of your party affiliation. Why? Because we all love our families. We want to protect them and keep them healthy and safe – now and in the future. And we all have a moral responsibility to our children to protect them from pollution today while we act on climate to protect their future. We cannot let EPA turn its back on its mandate to protect human health and the environment.

I fully realize that as hard as the four of us on this panel have worked, we still have a lot more to do to address our pollution and public health challenges. We cannot allow our country to put the needs of special interests above the health and future of our kids. In the onslaught of controversies this administration is creating that threaten to overwhelm us, we cannot lose sight of the core values that bind us together. Surely one of those values must be protecting the health and wellbeing of our kids.

Thank you for your attention and I look forward to working with the Subcommittee in its important efforts to keep federal agencies focused on the job Congress gave them.



Ms. DEGETTE. Thank you very much, Administrator McCarthy.

I am now pleased to recognize Governor Whitman for 5 minutes for purposes of an opening statement.

STATEMENT OF CHRISTINE TODD WHITMAN

Ms. WHITMAN. Thank you, Chairman.

Chairman Pallone, Chairwoman DeGette, Ranking Member Guthrie, all members of the subcommittee, thank you very much for inviting us here today.

I believe you have a copy of my written testimony, which I would like accepted into the record. Thank you.

I am here today because I am deeply concerned that 5 decades of environmental progress are at risk because of the attitude and approach of the current administration.

I would like to touch briefly on several areas of particular concern to me about EPA's current direction.

First is the Agency's retreat from science. The current administration has been on a steady march to reduce if not eliminate the role of science in developing and implementing environmental policy.

There are numerous examples, but none illustrates this retreat better than the understandable confusions among members of the EPA Science Advisory Board at a meeting held just last week.

At this meeting, the members of the Advisory Board were told that the administration's effort to roll back certain clean-water standards for the waters of the United States proposal was strictly a policy call and had little to do with science.

That seems surprising to me.

Second is the influence of the regulated community. All stakeholders should be heard as EPA develops policy. But none should be heard at the relative exclusion of any others.

A study published last year found that the Trump administration has explicitly sought to reorient the EPA toward industrial and industry-friendly interests, often with little or no acknowledgment of the Agency's health and environmental missions.

This is wrong. It's wrong for the Agency, it's wrong for the environment, and it's wrong for public health. It skews policymaking away from EPA's mission and diminishes public confidence in its decisionmaking. This trend must be reversed.

Third is an apparent decline in concern by EPA's leadership about EPA's public health mission. The United States has made significant progress in improving the environment and safeguarding public health from pollution.

But millions of Americans, especially children, continue to suffer from the effects caused by pollutants. That is why it is almost impossible for me to understand EPA's failure to commit to continue to fund the research projects at the 13 Children's Environmental Health and Disease Prevention Research Centers.

EPA's own Children's Health Protection Advisory Committee has urged the EPA to continue to fund these centers. Inexplicably, the administration has refused to commit to doing so.

Children are not small adults. They metabolize differently. They need different sets of protections. This isn't an isolated example. It's part of a troubling trend that must be addressed.

Fourth is the erosion of the morale at the EPA. This has been documented by studies, and I have observed it myself. It is also reflected in the large number of departures of career scientists and others from the Agency.

The hostility of EPA leadership to its own mission is driving people out and keeping new people away.

Finally is the EPA's denial of the importance of climate change. The Earth's climate has always changed, but never before has that change been accelerated by human activity.

We are not the sole cause of climate change, but we are having a real effect. But the White House is still not convinced and is reportedly going to require certain Federal scientists to debate whether the widely held accepted scientific consensus on climate change is correct.

These researchers are concerned that participating in such an exercise might harm their credibility and their careers. And yet, they stand to be forced to participate.

Putting the administration's doubts aside, I am especially concerned about the effects of climate change on the world's oceans. As a former Governor and lifelong resident of a coastal State, I cannot help but focus on the damage climate change is doing to our oceans.

Oceans bear the brunt of climate change. From the sea level rise, growing acidification, and coral bleaching to increased coastal flooding, expanding dead zones, and an increase in marine diseases, our oceans are in trouble, and what threatens the health of our oceans threatens life on Earth.

Climate change is real, and the administration is abdicating its responsibilities by denying it.

Madam Chair, members of the committee, there is no doubt in my mind that under the current administration the EPA is retreating from its historic mission to protect our environment and the health of the public from environmental hazards.

Therefore, I urge this committee in the strongest possible terms to exercise Congress's oversight responsibility over the actions and directions of the Environmental Protection Agency in the areas I have raised, and especially when it comes to climate change.

Thank you, and I look forward to taking your questions.

[The prepared statement of Ms. Whitman follows:]

Statement of the Honorable Christine Todd Whitman
to the
House Committee on Energy and Commerce
Subcommittee on Oversight and Investigations
Washington, D.C.

June 11, 2019

Chairwoman DeGette, Ranking Member Guthrie, members of the subcommittee: thank you for providing me and three of my fellow former EPA administrators the opportunity to share with you our concerns about the current direction of the EPA.

I am honored to be on this panel with Lee Thomas, Bill Reilly, and Gina McCarthy, each of whom has, over the course of their tenures at the EPA left America's air cleaner, its water purer, and its land better protected than they found it.

Next year will mark 50 years since the enactment of the nation's first major environmental law, the National Environmental Policy Act, and the establishment, by President Nixon, of the Environmental Protection Agency. It is worth noting that NEPA, and virtually all of the nation's subsequent significant environmental laws, were enacted with strong bipartisan support.

I make this point because it is important to note that for much of the last half century – and certainly in the early decades of the nation's modern commitment to protecting the environment and public health – this important mission enjoyed broad bipartisan consensus.

I should also point out that I have come to know most of my predecessors and several of my successors and each of those I've known took very seriously EPA's fundamental mission during their tenure and beyond – to protect our nation's environment and the public health from the dangers of pollution in all of its many forms.

Sadly, and alarmingly, that no longer seems to be the case. Today, as never before, the mission of EPA is being seriously undermined by the very people who have been entrusted with carrying that mission out.

Protecting the environment and the public health has never been a partisan issue. Three of the four of us before you today served in Republican administrations. None of us are here looking to score political points.

We are here because we are deeply concerned that decades of environmental progress are at risk of being lost because of two misguided beliefs. First, that environmental policy over the years has been driven by ideology instead of by science. Second, that environmental protection and economic prosperity are mutually exclusive goals.

In fact, the exact opposite is true in both cases. It is the current administration that is using ideology to drive environmental policy instead of letting science drive policy.

And the record clearly shows that environmental protection and economic prosperity do go hand-in-hand.

Over the 37 years from 1980 to 2017, The United States' Gross Domestic Product grew by 165 percent, while the total emissions of the six major air pollutants dropped by 67 percent. And this occurred while energy consumption grew by 25 percent, the population of our nation jumped by 44 percent, and vehicle miles driven more than doubled, growing by 110 percent.

The Retreat from Science

It was no secret that a Trump administration would take a jaundiced view of the EPA if it came to office. As a candidate, Mr. Trump made that very clear. During the 2016 campaign, Mr. Trump said of the EPA, "We are going to get rid of it in almost every form. We're going to have little tidbits left but we're going to take a tremendous amount out."

As it turns out, he wasn't just talking. Just weeks into his presidency, President Trump acted on his campaign rhetoric by proposing to cut EPA's budget by one-third – which would have been a $2.7 billion hit to EPA's budget – and signing an Executive Order that signaled a 180-degree shift in how the EPA, and other departments and agencies connected with environmental protection, would conduct themselves going forward.

In the years since, the Administration has been on a steady march to reduce, if not eliminate, the role of science in developing and implementing environmental policy. Among the more egregious actions are these:

- Dismissing several members of EPA's Science Advisory Board to make room for industry representatives;
- Pulling the United States out of the Paris Climate Accord;
- Relaxing regulations on toxic air pollution by dropping the "once in, always in" policy that sought to make permanent reductions in dangerous air emissions from industry;
- Rolling back vehicle emission standards, even in the face of auto industry opposition;
- Seeking to limit EPA's ability to consider certain scientific studies;
- Repealing rules governing the monitoring of methane emissions;
- Disbanding EPA's Particulate Matter Review Panel;
- Reducing environmental enforcement to a 30-year low; and,
- Limiting the scientific information and proscribing the methodologies used in preparing the next National Climate Assessment.

Just last week, the *New York Times* published a running tally of environmental rules that the Trump administration either has or is working to eliminate. They counted a total of 84 such rules, 49 which have already been rolled back and another 35 that are in progress of being rescinded. Of those already rolled back, 10 affect air pollution and emissions rules, 3 impact toxic substances and safety, and 4 target clean water protections.[1]

This unprecedented attack on science-based regulations designed to protect the environment and public health represents the gravest threat to the effectiveness of the EPA – and to the federal government's overall ability to do the same – in the nation's history.

Influence of the Regulated Community

Every EPA administrator has an obligation to listen to all sides of any issue she or he has to consider. During my tenure at the agency, I made a point of meeting with representatives from both industry and from the environmental community, as well as, of course, from EPA's own scientists and environmental experts not affiliated with any group.

These meetings were sometimes difficult, as one side or another not only argued their points but also questioned my motives. Nevertheless, I believed it was important to give all those with an interest in what we were considering a chance to air their views. I also believed it would be a mistake – both a process mistake and a policy mistake – to grant one side favored access over another. Apparently the leadership of the EPA in the Trump administration does not subscribe to this approach to policy making.

Last year, the *American Journal of Public Health* published a study which sought to determine whether the Trump EPA, during its first six months in office, was shifting the Agency's focus from the public interest to the interest of the regulated community. This peer-reviewed study studied Administrator Scott Pruitt's schedule, conducted lengthy interviews with 45 former and current EPA employees, and examined policy changes and statements by the President and other administration officials.

The study concluded that, "The Trump administration has explicitly sought to reorient the EPA toward industrial and industry-friendly interest, often with little or no acknowledgement of the agency's health and environmental missions."[2]

The study posited that the EPA, in the first months of the current administration, had "open[ed] the door to full-blown regulatory capture," and concluded that "The consequences of this for public and environmental health would be far-reaching." Now, nearly two-and-a-half years into President Trump's term, it is clear that the study's warning has come to pass. By all accounts, industry has captured EPA's regulatory process. This is a disaster for the agency, the environment, and public health.

---

[1] https://www.nytimes.com/interactive/2019/climate/trump-environment-rollbacks.html

[2] https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2018.304360

I am not opposed to deregulation in principle. Indeed, as science advances and experience often teaches, some regulations outlive their usefulness and regulatory reform can, if done properly, produce greater results than originally envisioned. But changes to, or the elimination of, existing regulations must be driven by careful scientific analysis and solid facts. Deregulation for its own sake is rarely prudent and often unwise.

Concern for Public Health Weakened

Although many people think of the EPA as focused only on protecting the environment, the agency is also charged with protecting public health from environmental hazards. That part of its mission is no less important than protecting the environment. Indeed, the two are inextricably linked.

The dangers to public health from dirty air, polluted water, and contaminated land are well known to the members of this committee. Over the past 50 years, the United States has made significant progress in improving the environment and safeguarding public health from pollution. Yet, millions of Americans, especially children, continue to suffer from health effects caused by pollution. We, as a nation, have accomplished much, but we still have more to do.

That is why it is almost impossible to understand the EPA's failure to commit to continue to fund research projects at the 13 Children's Environmental Health and Disease Prevention Research Centers that have, for more than 20 years, conducted research that has contributed to our understanding of how various pollutants affect the health of America's children.

EPA's own Children's Health Protection Advisory Committee has urged the EPA to continue to fund these centers, yet the administration has refused to commit to doing so. As the committee's chair wrote in late 2017, "The network of collaborating Children's Centers advances the field of children's environmental health more profoundly and significantly than what can be accomplished with individual studies."

EPA's leadership's refusal to affirm its commitment to continue to fund these centers through EPA's Science To Achieve Results program has caused some of the centers to begin to wind down their work. It would be tragic to lose the work these centers are doing to research health effects of pollution on children and to inform local health workers of how they can help families protect their health of their children.

Erosion of EPA Morale

I have seen studies that have concluded, and I have personally found, that morale at EPA is at a low point. At the end of last year, the Partnership for Public Service and Boston Consulting Group released a study that found that of all midsize federal agencies, EPA ranked 22nd of 27 as a place people thought was a good place to work and that provided satisfaction with both their jobs and their organizations.[3] This was actually down from the previous year, so things grew worse in the second year of the current administration. My own experience in speaking

[3] https://bestplacestowork.org/rankings/overall/mid

with current and former career leaders at EPA echoes those findings and has convinced me that morale at the agency is at a low ebb. This is reflected in the number of departures of career scientists and others from the agency.

The *Washington Post* reported this past September that in the first 18 months of the Trump administration, more than 1,600 career employees left EPA. During that same period, only 400 new hires came on board.[4]

As the *Post* reported, "Those who have resigned or retired include some of the agency's most experienced veterans, as well as young environmental experts who traditionally would have replaced them — stirring fears about brain drain at the EPA. The sheer number of departures also has prompted concerns over what sort of work is falling by the wayside, from enforcement investigations to environmental research."

A 33-year career civil servant who resigned from her job as a scientist and supervisor in EPA's Region 10 office in Seattle gave the *Post* her reason for leaving. "I felt it was time to leave given the irresponsible, ongoing diminishment of agency resources, which has recklessly endangered our ability to execute our responsibilities as public servants.... I did not want to any longer be any part of this administration's nonsense."

I have heard much the same from many of those at EPA with whom I have spoken or heard from over the past several years. With almost half of EPA's workforce eligible to retire by 2023, how will the agency recruit new scientists and policy experts who have committed their careers to protecting the environment when its reputation as anti-science and its agenda of undoing environmental policy is so widespread? The administration is driving people out and keeping potential new people away. One might almost think this is part of a deliberate strategy to gut the EPA.

EPA and the States as Strong Partners

Experience has proven time and again that partnerships between EPA and the states often can advance environmental and public health protection more effectively than either acting alone. But this is only the case when the partnerships are strong – and neither member of the partnership is weak.

Strong federal regulations to protect our air, water, land, and human health are absolutely necessary. We need only look back at conditions prior to the advent of modern environmental policymaking in the early 1970s to know that. But the states have an important role to play, which is why many of our most important environmental laws are designed for EPA to delegate authority to the states.

---

[4] https://www.washingtonpost.com/national/health-science/with-a-shrinking-epa-trump-delivers-on-his-promise-to-cut-government/2018/09/08/6b058f9e-b143-11e8-a20b-5f4f84429666_story.html?noredirect=on&utm_term=.a1181a468301

The Trump administration has talked about returning power to the states – a principle to which I, as a former governor, am not opposed. But doing so must not be accomplished by weakening the EPA and reducing state funding. We need both the EPA and the states to be strong partners. We also need a strong EPA that can step in when local or state governments fail in their responsibility to safeguard the environment and the public health in their communities.

Climate Change and the Planet's Oceans

Perhaps the most discouraging – and dangerous – fallout of the approach of the current administration at EPA is the abandonment of any concern about the threat posed by global climate change. The earth's climate is changing. It has always changed. We live on a dynamic planet which has, over 4.5 billion years, seen numerous examples of climate change. Sometimes the change is relatively minor and benign. But often, climate change has had a dramatic and disastrous affect on life on earth.

Never in our planet's history, however, has climate change been directly affected by life on earth. Until now. There is no doubt that human activity is accelerating global climate change and human beings, therefore, have a moral obligation to act to decrease their influence on earth's climate. We are not the sole cause of climate change. But we are having a real effect.

I am especially interested in the affects of climate change on the world's oceans. Seventy-one percent of the earth's surface is covered by its oceans. From space, the earth is seen, as Carl Sagan once wrote, as a small blue dot. And as the former governor and lifelong resident of a coastal state, I cannot help but focus on the damage climate change is doing to our oceans.

After all, New Jersey's culture, economy, and history is linked directly to the Atlantic Ocean. My state and its people has an almost mystical connection to the sea. It's impossible to think of New Jersey without what we call "the shore." And I know Congressman Pallone, who chairs your full committee, feels the same way.

Oceans bear the brunt of climate change. The most obvious way global climate change is affecting the oceans is in sea level rise. But our oceans are also undergoing other troubling changes, including:

- Growing acidification – the acidity of our oceans has increased by 30 percent since the onset of the Industrial Revolution, disrupting the ocean food chain;
- Increasing coral bleaching from rising ocean temperatures. From 2014-2017, about half of the planet's coral was under stress from higher ocean temperatures. In 2016 and 2017, half of shallow water coral in the Great Barrier reef died;
- Intensifying coastal flooding. EPA's own data shows that coastal flooding in the Mid-Atlantic states has increased dramatically since tbe 1950s. Floods are "now at least 10 times more common than they were in the 1950s," according to EPA. For the skeptics I have two words for you: Superstorm Sandy;
- Expanding dead zones. Dead zones in the ocean are caused by low levels of oxygen in the water, which kills off life in that zone. A 2014 study led by the Smithsonian found that "nearly all ocean dead zones will increase by the end of the century because of climate change.";

- Increased threat to the survival of creatures that are dependent on cold seas, such as seals, walruses, polar bears, and penguins. And just last month, research found that a recent massive die off, from starvation, of puffins in Alaska may be linked to climate change; and,
- Increase in marine disease and the spread of invasive species resulting from warmer water temperatures.

Last week, 24/7 Wall Street, a financial firm based in Delaware, issued a study that concluded that 35 American cities might be rendered uninhabitable by the end of this century due to climate change. Nine of those cities are in New Jersey.

All of the results of climate change threaten the health of our oceans, and what threatens the health of our oceans threatens life on earth.

I recognize that there are some skeptics about the science behind climate change. Those skeptics seem to be overrepresented in the Trump administration. But controversy over the validity of climate science should have been set aside a long time ago. The science is not confined to computer models any more. We have physical observations consistent with what climate scientists anticipate.

Scientists from around the world, participating in the IPCC, have been monitoring climate research for more than 30 years now. As their confidence grew about the reality and severity of global warming, we should have treated climate change as a risk-management issue.

Our military is treating it that way. In 2014, the Pentagon declared that climate change posed "immediate risks" to national security. Threats to American military installations caused by rising sea levels, unrest and instability in areas experiencing food shortages, land loss, and other effects of climate change, and an expected increase in extreme weather events are just some of the events that will tax the resources of our Armed Forces.

We should not overlook that one of the ways to manage the risks, and reduce greenhouse gas emissions that are helping to drive climate change, is the promotion of innovative in the production of clean energy. EPA can play a role in providing the scientific justification for greater innovation in this important area. The new generation of small modular nuclear reactors, for example, hold great promise for clean energy production. The production of nuclear energy produces no greenhouse gases. In addition, for such alternate sources of energy such as solar and wind to become truly widespread and reliable we need to achieve much greater innovation in battery storage capacity, as well as find ways to reduce the footprint of solar and wind farms. The rest of the world is investing in these technologies; we should not be left behind.

Some may deny that climate change is real, but no reasonable person can deny that it may be real. And if it may be -- if there is any possibility that the worst projections of climate change could be correct -- the proper and prudent response from public officials is to recognize that risk and help the nation manage it. We have wasted far too much time quibbling about the science rather than managing the risks.

Aggressive Congressional Oversight is Needed

There is no doubt in my mind that under the current administration the EPA is retreating from its historic mission to protect our environment and the health of the public from environmental hazards. This administration, from the beginning, has made no secret of its intention to essentially dismantle the EPA. Everything I've seen over the past two-and-a-half years suggests that this remains the Trump administration's goal.

Therefore, I urge this committee, in the strongest possible terms, to exercise Congress's oversight responsibilities over the actions and direction of EPA in all of the areas I have discussed, and especially when it comes to climate change.

The United States cannot, alone, reduce the contributions human beings around the world are making to the growing threat of global climate change. But the world cannot accomplish that goal without the leadership of the United States. If the administration continues to dismiss the very real danger posed by climate change, then the Congress must do all it can to restore American leadership to the global effort against climate change.

Thank you.

Ms. DEGETTE. Thank you so much, Governor.

I am now very pleased to recognize Administrator Reilly for 5 minutes for an opening statement.

STATEMENT OF WILLIAM K. REILLY

Mr. REILLY. [Inaudible.] Congressman Guthrie, Mr. Chairman Pallone, Congressman Walden, thank you for the opportunity to appear here today. I will try not to recapitulate, though, in fact, I could because my prepared testimony very much tracks the testimony that you have just heard of two of my admired predecessors, or successors.

I want to say in my 5 minutes, first of all, something about science. The Science Advisory Board, which has been vital through several Administrators, was particularly important to mine when I asked in the early weeks of my term that they rank the priorities in terms of health and ecology to the people of the United States—what are the most serious threats—and then estimate the degree to which the budget priorities of the Agency corresponded to those priorities.

They did that, and we followed that as a template throughout, and I think the last time I acted on one of their recommendations it was that we pay more attention to indoor air. And so we declared side-stream smoke a Class A carcinogen.

Within 1 year, almost 500 communities in the United States enacted laws forbidding smoking indoors. We didn't have the statutory authority to regulate that. Peculiarly, we regulated the air where people spend 10 percent of their time, not where they spend 90 percent of their time.

But that is a measure of the degree to which the people of the United States trusted EPA and trusted the science. That is a vital jewel of our system.

It is a characteristic of the EPA historically. It is at risk. Say no more about it now, but I would love to talk about it. There are other things that EPA has done without having any particular regulatory authority to move on it. Energy Star is the best example.

I recall talking to one of the large developers in California who built Dodger Stadium and he said, "You know, the most powerful regulation that I've ever encountered that you have is not even a regulation—it's Energy Star."

Can't get a loan for a significant building in California if it's not Energy Star. The EPA created that as part of its responsibility, in essence, for being the environmental conscience of the country.

Second point I want to say is, with respect to oversight, I think there are a number of important measures. There's budget and staffing, and I compliment the previous Congresses of the last 2 years for not accepting the proposals to gut EPA's staffing by a third and its budget by a third, and maintaining the amount of support, the resources available to the Agency, for its vital missions at just about where they were.

It's significantly below in inflation-adjusted terms where it was in my time. But it's sure a lot better than what the administration proposed.

Budget and staffing, enforcement numbers, regulatory justifications—these are the measures of integrity of a regulatory agency which fashions itself in deregulatory mode.

Look at the justifications for the mercury rule, the methane rule, the coal ash rule, the waters of the United States. The Administrator said in his testimony and confirmation that they are very proud of having some 33 major regulations or deregulations efforts proposed or completed.

Look at the language that justifies and explains those measures. Look for the environment and health and ecology as a priority. They are invariably presented in terms of their economic advantages, and he said that they in fact would reduce by $2 billion the burdens on industry to conform to those rules.

With all due respect, EPA is supposed to pay attention—and tries to, with its cost/benefit—to the economic impact of its regulations. But the environment health come first. They don't even come first in the justifications for most of the actions affecting the matters I described.

Finally, I just want to say something relative to the future. As we address, if we ever do—and I certainly hope that we will do it in this Congress—the climate challenge, it will be vital to have the Environmental Protection Agency play a key role, I think, both in mitigation and in adaptation.

Therefore, I am particularly mistrustful of the proposal to have a $40 carbon tax associated with a group of very respectable people, progressive people concerned about the environment, and a carbon tax, I think, is a positive thing. I don't think $40 is anywhere near what it's going to have to be to really transform behavior.

But the fine print says that EPA would be removed—its regulatory authority—from any actions affecting climate if that proposal were enacted.

By the same token, so would the courts. Well, the two Federal institutions that have addressed the climate problem are EPA and the courts, and to immunize major emitters for a $40 tax is, in my view, very unwise, and I would keep a close eye on the efforts to remove the authority—the regulatory authority—from the Agency, the one Agency that has really tried to address that problem.

Ms. DEGETTE. If you could sum up.

Mr. REILLY. I guess I've run out my clock, Madam Chair. I appreciate your time. But I want to say how much I respect and admire the attention that you are paying to oversight of EPA. There has never been a time when it was more urgently needed.

Thank you.

[The prepared statement of Mr. Reilly follows:]

WILLIAM K REILLY

June 11, 2019

Oversight and Investigations Subcommittee Testimony

Congresswoman DeGette, Congressman Guthrie, Congressman Pallone, Congressman Walden, thank you for the chance to appear before you today and to outline what I consider the challenges and opportunities facing the U.S. Environmental Protection Agency. I expect I share with my colleagues here at the table a deep and abiding respect for what EPA has accomplished in its nearly 50 years, a milestone anniversary we will celebrate next year. The Agency has made great strides in protecting Americans' health and the natural resources on which we depend, our economy and well-being included.

Of course, many institutions, other levels of government, the private sector, environmental groups, scientists, and many others contributed substantially to this progress. And it came not without more litigation and setbacks than we might have liked but progress nonetheless.

Many Americans alive today were not yet born when EPA was founded by President Nixon by Executive Order in December 1970, or they were too young to comprehend what conditions were like. Rivers catching fire. Polluted air in some cities like Los Angeles so thick you could not only see it, but smell it, even taste it. Troubling pesticides and other chemicals in commerce. The worst of those days are over even while there remains more to do.

Several weeks ago, I took part in a conference organized by American University on "EPA and the Future of Environmental Protection." We were joined by more than 300 individuals, former EPA officials and career staff, representatives from state and local government, companies, non-governmental groups, universities, media, and others to discuss how to reinvigorate the environmental enterprise so as to confront the range of challenges we face today and anticipate, at home and indeed around the world.

As a contribution to this forum, the EPA Alumni Association surveyed about 1500 members from around the country and prepared a report on the findings.

I want to draw on the themes and discussions from the conference in my remarks this morning. Herewith the major insights and observations I took away.

First, our country continues to face serious challenges in protecting public health and natural resources: climate change and building community resiliency to address the impacts of extreme weather events, coastal erosion and sea level rise, and the like; water security, scarcity, and affordability; non-point source runoff linked to toxic algae blooms; troublesome chemicals and materials like microbeads in water and air and even food; habitat loss and species extinction.

These challenges require an EPA that is strong, credible, and sufficiently resourced to conduct and sponsor timely research and risk assessments. Few states have their own capability to conduct needed research and analyses to set standards for air and water quality and pollutants generally. EPA does this and provides a regulatory

framework as a backstop to ensure compliance, especially by low performing entities, and to take enforcement actions if and when necessary.

I hasten to add that past is not prologue. Since EPA was founded in 1970, the nature of environmental problems has changed from egregious pollution sources to smaller scale, decentralized sources along with problems that cut across political boundaries including widespread global problems. Environmental justice for communities of color and the less affluent has become a priority. While protecting public health remains paramount, with these changes have come an uptick in the range of constructive actions by a variety of players -- states, communities, nongovernmental groups, universities, and private companies increasingly concerned about their reputation, about consumer choices, about attracting and retaining talented employees, not to mention concern for their bottom line.

This is a new context, one that requires EPA to consider new approaches and innovative strategies. These include using market-based signals, incentives, and voluntary programs that can prompt environmental improvements. When I was at EPA, we started Green Lights to encourage more efficient lighting with an eye on reducing air emissions from power generation; this evolved into Energy Star promoting efficiency standards for a range of consumer products and for buildings. These programs are major contributors to efficiency. A developer in Los Angeles told me that he couldn't get financing for his project without LEED certification, another voluntary program that has yielded significant results.

We need to foster and improve partnerships and collaborative endeavors, encouraging regional cooperation and place-based initiatives, jointly with other federal agencies. Chesapeake Bay, the Great Lakes, Puget Sound, the Gulf of Mexico – all have benefited from geographically targeted interventions, drawing on the model set by the National Estuary Program. I hasten to add much more is needed, especially with respect to runoff of fertilizers and pesticides from working lands that have triggered algae blooms.

These targeted approaches are especially needed in rural America where EPA is mistrusted and in state relations where frictions are evident, litigation by states is widespread, and cross-state environmental problems, like air pollution or water quality, need to be dealt with. I appreciate and respect that states may see the challenges and the means to address them differently, which underscores for me the need to foster ongoing exchanges and consultations.

To achieve what we need in new strategies and approaches, EPA needs to re-establish the Agency's scientific credibility by appointing well qualified scientists from key disciplines to advisory committees and to consider the full range of peer reviewed research and data bases that are relevant to questions at hand. Also important are cost-benefit analyses that fairly and credibly tally the best available estimates as a tool to aid decision making. To take one example, such analyses underscore that the benefits of clean air far outweigh the costs.

And in the era of Big Data, EPA needs to upgrade, at not insignificant cost I might add, the technology hardware and software along with skilled staff to compile data, facilitate online reporting and compliance monitoring, to mine the information to help diagnose problems, assess risks, identify priorities, target resources, and prepare reports, maps and other materials that can help address environmental problems. Key data and related information need to be made available to all sectors in the environmental enterprise--industry, NGOs, states, tribes, international organizations--because it is all of their actions, combined, which are needed to make progress.

I recall a conversation when I was at EPA with the CEO of a major chemical company, who told me when he saw data from the Toxic Release Inventory he learned how much high value product was going up the smokestack and he vowed to reduce the waste.

This speaks to EPA's internal technology. Perhaps even more of a challenge will be anticipating and understanding the fast-developing fields of artificial intelligence, robotics, drones, biological advances, and other fields that could well upend how we assess and respond to environmental concerns.

EPA's story has not been well told. Improving communications is essential, both with the mainstream press and via social media. The story about progress over 50 years in improving public health and cleaning the air, lakes and rivers, and other resources needs to be told as many Americans do not know what conditions were like before EPA,

nor what has been required to make the progress we have. EPA needs a straightforward message, repeated widely and often by a variety of trusted messengers and new voices to reach broader audiences. Among the most important are younger Americans who care deeply about the environment and will experience changes first hand.

The international agenda remains critical. This includes making relevant U.S. experience available to receptive countries to address a variety of problems, from oil spills to air pollution. Given the global scope of climate change, trade, marine pollution, and other timely matters, U.S. engagement and leadership around the world is indispensable.

Internal operations at EPA also need attention, from attracting and retaining skilled career staff, including mentoring young staff, to improving the efficiency, transparency, and timeliness of decision making, to overcoming media and office silos to foster cross media strategies to address pollution problems. We need creative approaches, the ability to work cooperatively with other actors, to negotiate all the while keeping the end results in mind.

I would argue finally that a number of important steps are called for: re-issuing the Ruckelshaus "Fishbowl" memo on transparency, which I and other Administrators endorsed; reviewing the protocols and directives for incorporating peer reviewed

science and cost-benefit analyses, and revising Executive Orders that constrain EPA's mission.

The statutory framework that has governed environmental policy needs reform and updating in recognition of both the progress we've made, what's worked, what hasn't, with an eye on the challenges we face and the approaches we need to devise and adopt. Save for the toxics substances act, many key statutes – clean air, clean water, Superfund, RCRA, and so on – are long overdue for reform. I recall when I first went to EPA with President Bush's promise to propose a new clean air act, which we did, there were complaints that the air law hadn't been updated in 13 years! And here we are 29 years after the '90 law was enacted, with little prospect for near term reform.

The time may not be right now given how polarized our politics are. I take a cue from the economist Milton Friedman, who observed:

> "Only a crisis – actual or perceived – produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around. That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes politically inevitable..."

As I think about the future and try to envision the challenges it will bring, I conclude that EPA is the best federal agency to orchestrate both the mitigation and the adaptation to the future scientists foresee. Only two institutions at the federal government have a history of addressing climate change, EPA and the courts. Predictably, in the circles

where the fear of economic instability and uncertainty outweighs concern about the disruptions to society expected from climate change, there are proposals to remove power from EPA and the courts from a role in averting climate change. Instead the more progressive of those who consider they are seriously anticipating the coming warming substitute a modest carbon tax. In return they propose removing EPA's authority to regulate greenhouse gasses, and immunizing major emitters of carbon dioxide from any legal liability. I strongly reject such proposals and I encourage Congress to also. I support an impactful carbon tax, but those favoring immunity for energy companies from any liability have not embraced one.

And by recommending the removal of EPA and all forms of regulation - automobile efficiency standards, rules requiring energy efficiency in appliances, best practices in various industrial sectors, the advocates of a 40 dollar carbon tax as a stand alone response to climate change would surrender by having us lay down vital armaments that have played the key role in the 50 year restoration of America's environment. Don't go there. Maintain a vigorous and effective EPA and plan for a climate strategy that exploits its unique regulatory powers.

In closing, I would underscore the importance of addressing climate change and the extreme and variable weather we are going to experience more of. Building community resiliency while we also reduce greenhouse gas emissions and promote clean energy sources is of paramount importance. We are seeing effects now in

flooding, droughts, excessive heat with implications for public health, in agricultural production, expanded ranges for pests and pathogens.

There are any number of approaches and proposals on the table, from pricing carbon to investing in clean energy to move aggressively on efficiency to planting millions of trees and protecting habitat from encroachment. I'm intrigued by the new generation of small nuclear reactors that could fuel installations, campuses, industrial parks, even neighborhoods. And by the advent of micro-grids and stand-alone power sources, fuel cells, for example, that may provide greater resiliency and security in the face of extreme weather and cyber-security concerns. And we now hear of start-ups that propose to suck carbon dioxide out of the atmosphere and redirect it to productive uses.

If there was a price put on carbon emissions, there are any number of proposals for spending the revenues, from reducing the national debt to rebates to households to earmarking proceeds to vulnerable sectors.

I know in some circles it's fashionable to attack EPA for job-killing regulations as if EPA staff have been determined to undermine the economy. This is nonsense. I learned first hand at EPA that career staff are every bit attuned to economic concerns as they are to environmental results consistent, of course, with statutory requirements. What's more, new industries, new companies, new opportunities, new jobs come with the laws and programs EPA and other agencies administer. That is certainly evident in the clean energy sector. And for those sectors that are hurting from these changes,

there are interventions we can encourage – job training and educational benefits, community investments, and more.

What we need, in my opinion, is a serious dialogue and a coming to terms on the part of Republicans and Democrats in Congress with input from the nation's governors and local officials, industry leaders, and others. This is not the first time our political leaders have had to reconcile competing or conflicting points of view. I'm convinced not only that we can do it, but we must. Our children, their children and generations to come stand to inherit this good earth and the productive resources that have sustained us. Only the projections of what they will inherit, absent serious efforts on our part today, now, are less than reassuring.

Thank you.

Ms. DEGETTE. Thank you so much, Administrator Reilly.

And now I am pleased to recognize you, Administrator Thomas, for 5 minutes for an opening statement.

STATEMENT OF LEE M. THOMAS

Mr. THOMAS. Thank you. Chair DeGette, Ranking Member Guthrie, and other members of the committee.

I appreciate the opportunity come and talk about the mission of EPA, and particularly to talk about the role of this committee as far as oversight is concerned.

You know, I was at EPA for 6 years, first as Assistant Administrator, then Administrator, from '83 to '89. At that time, I went into business after 20 years in government. I've been in business for 30 years, and I have directed companies, particularly in the natural resource area and industrial manufacturing.

So I have seen regulation and environmental regulation as a regulator, and I have seen it as a regulated. I can tell you in both instances EPA, as the Agency who in fact has the charge for protecting our environment, needs to be a strong, credible agency. The public demands it. The public deserves it.

Business needs it. It needs a consistent, credible set of rules to operate by, I would say, not only nationally but internationally if possible. So the leadership of EPA at a national level and international level is critical from business's point of view just like it is from the public's point of view.

So given this mission, you look at the law and what you find is Congress has given EPA over the last 50 years incredibly broad and deep set of authorities. Built into those authorities are natural tensions.

It is the tension between the regulator and the regulated. There's tensions between individual rights and the community's rights. There's tension between cost of regulation and benefits to the environment and the public.

Well, you have told EPA, "Look, you're going to have to make the tough decisions. You're going to have to come to grips with these kind of tensions." Well, the only way they can do that in an adequate way and a somewhat balanced way—and it's balanced in the different laws in different ways—is if they have the capacity to do it: scientific capacity, economic analysis capacity. Have they got that kind of capacity in the Agency?

Well, in fact, I am very concerned about do they have that capacity. Very concerned about whether they in fact are tapping into the kind of external scientific expertise that we always used that's critical to the decisionmaking in the Agency.

I am very concerned about are they in fact doing the kind of intergovernmental coordination that needs to be done. We can't operate in this country from a business point of view if we've got 50 different sets of standards trying to regulate how we are going to operate.

I am very concerned about, are they taking a leadership role as far as global issues are concerned? In many cases, I think they're stepping back from the global issues as opposed to taking on the global issues.

So, overall, I would say this committee as far as an oversight committee has a critically important role to play in looking at those kind of issues.

Now, let me just drop back and tell you how I got to EPA. I was the deputy at FEMA. It was an independent agency at that point in time.

EPA, in 1983, was in the middle of chaos and turmoil. There were 6 different congressional committees that were investigating what was going on at EPA. I was asked to come over to EPA on a 90-day detail to help the Administrator as far as management is concerned. I ended up staying 6 years, so I must have liked it.

But in fact what I found was the Agency at that point in time and the committees that were investigating the Agency, there was a deregulatory agenda. It was an attack on science at many levels as far as the Agency is concerned, and a debate going on about how you get scientific input or should you have scientific input.

There were major requests for budget cuts of EPA. It was a division between political and career staff as far as the allegations of inappropriate contacts by the regulated industry. There was a lack of transparency in terms of how the Agency was making its decisions.

Does all that sound familiar? Well, there's an awful lot of that going on today. Well, I can tell you Congress played a major role in highlighting those kinds of issues, bringing to light those kind of issues. The media picked right up on it, played a major role.

I remember being told how many days in a row the Washington Post had a story about that on the front page every day. Well, what happened?

The President said, that's not how I want this agency to operate. The President made a major change. He brought Bill Ruckelshaus back, who had been the first Administrator.

I had the opportunity then to work with Bill for the next 2 years, and then I became Administrator. I will tell you what Bill did. He put a new management team in place. He said, "We are recommitted to the mission of EPA, protecting the environment.

"We are recommitted to implementing the laws the way they are. We are going to have the most transparent operation possible. We are going to pull in as much scientific knowledge as possible.

"We are going to make sure we've got capability within our agency to make the kind—support to make the kind of decisions that need to be made."

So this committee, in my opinion, plays a vital role in trying to correct what I see as some of the issues that are going on in that agency today.

The other thing this committee plays a role in is looking at and determining where is there ambiguity—where is there lack of direction as far as existing law is concerned.

We worked on a bipartisan basis with Congress. We reauthorized all the law related to hazardous waste. We reauthorized Superfund. We reauthorized Clean Water.

We reauthorized the Safe Drinking Water Act. We did all of that over that 6-year period of time I was there. In each case, there was total——

Ms. DEGETTE. If you can sum up, please.

Mr. THOMAS. There was total bipartisan support to get those things done. That's what EPA is all about. It needs bipartisan support and clear direction under the law.

And, in fact, it needs that because, in order to make the tough calls it has to make, it needs broad support.

Thank you for the opportunity to be here.

[The prepared statement of Mr. Thomas follows:]

TESTIMONY

THE SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS
COMMITTEE ON ENERGY AND COMMERCE
of the
US HOUSE of REPRESENTATIVES
on the
MISSION and FUTURE of THE US EPA

Washington,DC
JUNE 11,2019

LEE M THOMAS
FORMER ADMINISTRATOR
US EPA

Chair DeGette ,Ranking member Guthrie and members of the Committee.Thank you for the opportunity to appear today to discuss EPA and the role the Committee plays in it's oversight.

As you know , I was Assistant Administrator of the Agency from 1983 to 1985 and Administrator from 1985 to 1989 serving under President Reagan.I left government at that time after 20 years and have spent the last 30 years in business serving as President,CEO or Director of a number of companies both natural resource and industrial manufacturing.I have seen environmental regulations from the perspective of the regulator and the regulated.In both cases ,I have seen the need for a strong credible EPA providing leadership at a national and global level to protect human health and our environment.The public demands and deserves that protection and industry needs that credible, consistent regulation.

I recognize that this committee has been asked to explore the various regulatory issues that have become controversial during this Administration.Rather than discuss those specific regulatory matters, today I would like to address my remarks to broader yet critical environmental issues facing this country and the tools the Agency needs to appropriately and adequately address them.I believe these matters offer important opportunity for oversight.

EPA has been given a critically important mission i.e.protecting human health and the environment.It's authority is broad and deep resulting in a natural tension between the regulator and the regulated ,the individual's

rights vs. the communities' rights, regulatory costs vs.environmental and human health benefits. Establishing the proper balance isn't easy and yet that is what the agency should strive to achieve within the requirements of the laws that guide it.Does it have the capacity to make sound decisions?Are the laws strong enough and clear enough for proper decisions to be made? Has the Agency given the public the opportunity for input and explained the basis for it's decisions? These are the questions oversight should address. The integrity of the Agency and the credibility of it.s decisions are critical to it's ability to implement them.

It is critically important that the Agency have the capacity to insure that credibility in it's decisions.Is there a sound scientific basis for the decision? Has a rigorous economic analysis of the costs and benefits been completed? Was there an open and transparent review process for the public input? To answer these questions positively requires strong internal science and economic capacity and active review and input from a broad external science and economic community.It requires close intergovernmental coordination and ongoing communication with the public.It also requires coordination with other countries to confront global problems.We would never have completed the Montreal Protocol to protect the stratospheric ozone layer in 1987 if we had not worked for years on environmental issues with other countries and multinational agencies.

As oversight goes beyond Agency capacity and looks at the laws that authorize it's actions there is the opportunity to identify areas for improvement. We have made

important progress controlling air and water pollution ,providing safe drinking water, managing hazardous waste and chemical and pesticide products under the laws enacted by Congress over the last 50 years. Whether it is addressing gaps in these laws or resolving ambiguity it is important that a bipartisan approach is taken. During my tenure Congress did this with reauthorization of the Resource Conservation and Recovery Act , the Superfund law, the Clean Water Act and the Safe Drinking Water Act.In each case ,there was coordination with the Administration and important new provisions were added. Also ,during that period ,the Senate unanimously approved the international Montreal Protocol to phase out ozone depleting chemicals. These bipartisan Congressional actions endorsed by President Reagan gave the Agency a strong mandate for it's actions.

As I look at the Agency today I see the progress that has been made on environmental protection, yet there are important issues which must be addressed .Wetlands protection, non point source water pollution, air toxics control and global warming are some examples. I see a need for a stronger capacity and a clearer mandate, both areas which oversight should explore.Does the Agency have adequate resources with the strong scientific capability it needs? Is it seeking input from key scientific advisory committees? Is it coordinating actively with the broad scientific community on research surrounding environmental issues.I don't think they do.Is the Agency working actively with the states to insure compliance with environmental regulations through education and

enforcement? Is the Agency coordinating closely internationally to address global environmental issues? I don't think they are.Can Congress give the Agency clearer direction on how it should deal with the complexity of global warming? I believe you should.

In summary,I believe there is a need for rigorous oversight by the committee of the Agency's capacity for sound decisions, their efforts at insuring compliance with regulations and the processes they use for interacting and seeking public input .Additionally gaps, ambiguity or weaknesses in our laws should be identified by the committee and solutions proposed.That happened during my tenure and should happen today.

Thank you again for the opportunity to present my views to the committee.I'll be glad to answer your questions.

Ms. DEGETTE. Thank you so much.

Now it's time for the Members to ask you questions. I want to thank all of you for your opening statements. The Chair will now recognize for 5 minutes.

As I noted in my opening statement, I am deeply concerned about the direction of the EPA and the Trump administration, as are you as signatories of the letter.

I would like to draw on your wisdom this morning to hear from each of you what you think the EPA and Congress can do to better address the serious environmental issues we are facing.

I only have 5 minutes. Some of you probably heard John Dingell say this, so I would like to channel that. So if you can be brief, that would be great.

And I will start with you, Administrator McCarthy. Now, during your tenure, the EPA set the first-ever national standards for reducing carbon emissions from existing power plants, and this really underscored the United States' commitment to climate action and spurred international efforts.

I am assuming when you said that you had a lot of frustrations with the Trump administration, the efforts to roll back those standards are one of them. I am wondering if you can talk about those standards and any others that you feel are at risk and why you are concerned about this.

Ms. MCCARTHY. Well, it is not just the ACE rule, which is replacing the Clean Power Plan. It's not just the Mercury Air Toxic Standard. It's not just the car rules.

It is basically the fact that I believe they're undermining the science and the law in how they are trying to roll back those rules.

I do not dispute any administration coming in with different policies. But the challenge I think we are facing is they are really changing the rules of the road.

Ms. DEGETTE. And why——

Ms. MCCARTHY. They are not using sound science. They're not looking at cost/benefits. They're trying to inflate the cost and lower the benefits in order to justify rules that simply don't make sense under the law.

Ms. DEGETTE. Thank you.

And, Administrator Whitman, that kind of goes to what I was going to ask you about. In your testimony today, you talked about the importance of science, and just to let you know, when I took over the chairmanship of this committee I announced that our agenda this year was science. So perfect.

But I am wondering if you can tell us, with respect to the rules that Administrator McCarthy was talking about with the others, why is it important for the Agency to make rules from a science-based perspective? It seems almost a given that we should look at those standards. But I think it's important to say why science is important, and not political impetus or something else.

Ms. WHITMAN. Well, science underpins it all. Yes, there are always political considerations. Yes, there needs to be cost/benefit analysis. It's appropriate in some places under the Clean Air Act.

In others you may use cost/benefit analysis. Some you must, and others you cannot use cost/benefit analysis. That was part of the enabling legislation that determined that.

But for the Agency—since the Agency's mission is to protect public health and the environment, that's based on science. That's not politics. That's not political. You do your best advice, and then the political decision is made—is layered on top of that.

But, really, if you don't have access to pure science, to clear science—not science that is purely coming from one side or the other, but balanced science that is based on the facts—you're not going to get to the kind of position that's protective of public health and the environment.

Ms. DEGETTE. And that's the bottom line.

Ms. WHITMAN. And that's why it's so critical.

Ms. DEGETTE. Yes.

Mr. Reilly, when you were Administrator, you really solidified the EPA's reputation as an international leader by working with international partners on environmental programs like decreasing greenhouse gas emissions.

I am wondering if you can tell us briefly why it's so important for the U.S. to be an active international partner.

Mr. REILLY. Well, first of all, we cannot alone, even as large and powerful as we are, solve the climate problem. We are the number 2 emitter in the world. China is number 1.

In my time we dealt with upper atmospheric ozone, which the Chinese did not want to deal with and were planning to introduce some hundred million refrigerators over the course of the next 10 years, all containing CFCs, which would have blown away everything that we had.

EPA was the key actor in dissuading them from doing that. We were able to do that because of EPA's own reputation for solid science and integrity, and I remember Secretary of State Baker saying to me once when we had been active in China, he said—and we were not allowed to go there because, at my level, at least, because of Tiananmen Square—he said, "I don't know what you're doing with the Chinese, and I don't need to know. Keep it up. They love you."

I said, "Well, what we are doing is addressing methane reduction and cement kiln pollution control and very practical engineering problems that are essential to their developing economy."

Ms. DEGETTE. Thank you.

I apologize, but I have very little time and I do want to get to Mr. Thomas, and what I want you to ask is you talked about your role and Mr. Ruckelhaus's role in increasing the professionalism of the EPA and building morale.

What have—why is that important and what have you seen in the recent EPA that gives you pause?

Mr. THOMAS. Well, it's critically important that the EPA staff understand that there's an overall commitment to the mission of the Agency: protection of public health and the environment.

And in fact, you're going to work hard with them not only to ensure that there are adequate resources but you're going to work hard with them to ensure that their voices and the voices of external particularly scientists are heard in the process of decision making.

It's critical if the Agency is going to have the credibility in its decisions that in fact will enable the public, the regulated community, to have confidence in what they're doing.

So morale basically flows from does the staff understand that there is an overall commitment—are you working with the staff to provide them with the tools and the resources they need to do their job and do they in fact feel like this is an open and transparent agency and our decisions—and in fact our decisions will be supported by the public because the public had sufficient input into us making those decisions.

Ms. DEGETTE. Thank you so much.

The Chair now recognizes Mr. Guthrie for 5 minutes.

Mr. GUTHRIE. Thank you, Madam Chair. Thank you all for being here.

And Mr. Reilly, in your testimony you mentioned rural America is where EPA is mistrusted. I represent the 2nd District of Kentucky—several rural areas, several counties. A lot of us represent rural America. So I am interested in that comment you made, and why do you think the EPA is mistrusted in rural America?

Mr. REILLY. First of all, I think that the intrusiveness of some of the regulatory priorities, particularly with regard to ephemeral wetlands, impacts especially hard on farmers and ranchers, and they encounter controls they don't fully understand, and when they do they don't often agree with them because these are areas that may not be wet for some part of the year.

Many of the States we are talking about, though, have already lost 90 percent of their wetlands, and wetlands, in fact, have critical roles with respect to habitat and species and the rest.

I think it may also be true that we've got to learn better the lessons of things like total quality management in terms of how to interface with people who are affected directly by regulation.

Mr. GUTHRIE. So, what do you think EPA could do? I know you're just—it sounds like you are starting to get that, but what do you think EPA should do to become more trustworthy with rural America?

Mr. REILLY. Well, I think it's got to do a better job of communicating the validity of some of the priorities that they have and particularly how they act to enforce them.

I know the kind of anger that I've encountered in some parts of the country has surprised me, and it's not an accident that the president can say the kinds of things he said about wanting to break up EPA into little bits, because of the existing anger.

Rural America has its own problems that go well beyond the environment and far beyond EPA. But any regulatory agency that affects farmers—I have a farm; I am on my way to my farm tomorrow in Illinois—is particularly dealing with an independent community of people who don't like to have their use of their land interfered with.

That's a given, that it has to be to respect some of these values and administer some of these laws. No net loss of wetlands was a priority of my President, President George H. W. Bush, whom I served. But it's not a popular one.

Mr. GUTHRIE. I need to get to a couple more questions. I understand.

Mr. REILLY. Sure.

Mr. GUTHRIE. So you also mentioned frictions are evident in State relations with EPA. What kind of frictions were you referring to in your testimony, and you said frictions are evident between State—in your testimony you said that—between State and Federal.

Mr. REILLY. Oh. Well, the structure of our laws anticipates the cooperative relationship between the Federal Government and the States and particularly lays upon the States minimal requirements that EPA is in charge of overseeing.

That is, obviously, a fraught relationship, in many cases, with States having either different priorities or a different sense of their own resources.

We all, I think—all four of us here who had to deal with States that had a different opinion on the administration of laws, perhaps, than we had, and sometimes they were successful in preventing, sometimes we were. But that—I don't consider that in any way——

Mr. GUTHRIE. You mentioned in your opening statement WOTUS particularly, and I know that's where—from the rural area, and in my rural areas a lot of people talk about the WOTUS rule that was coming down.

Mr. REILLY. Yes.

Mr. GUTHRIE. And, you know, the statute clearly uses the word "navigable," and "navigable" means something. Does navigable mean something in that law, or was it something—so that's a friction where the Federal Government seems to be encroaching on what Congress clearly wanted the States to do. Or the word "navigable" means nothing.

Mr. REILLY. My sense is that "navigable" is part of the Rivers and Harbors Act but not necessarily the authority that they're drawing on here.

But I am very aware of those differences of opinion and certainly aware that the agriculture community sees them very differently from the environmental community but—and have the sense myself, frankly, that a hierarchy of wetlands characterization would probably make the administration of wetlands regulation more popular, or at least less unpopular in the rural areas.

Mr. GUTHRIE. And, Mr. Thomas, I know we have to clarify this, and I appreciate you saying this is the committee that needs to be looking at this. I think Congress does need to step in.

And a question: Should EPA's role with regulated entities be collaborative, adversarial, or impartial?

Mr. Thomas?

Mr. THOMAS. You know, my own sense is it needs to be a very disciplined process that EPA uses in terms of its decisionmaking. There then——

Mr. GUTHRIE. I am almost out of time, so I was going to add "and with environmental groups." So if you will throw that together. I was going to ask you that next.

Mr. THOMAS. I would like to see—I would like to see special-interest groups as a part of that process, having their input. I would also like to see a broader community having their input, as far as the Agency is concerned.

And so you have got interest as far as the regulated community. You have got interest as far as environmental interests. All of that needs to have a process for input as part of dialogue.

One of the things I did, by the way, is on a number of rules I set up a regulatory negotiation process as opposed to going through the typical process. We actually got stakeholders around the table with a mediator and we actually tried to work through a negotiation process.

And in some cases we were pretty successful. It eliminated litigation down the road. It gave us a good rule that allowed us actually to implement things more quickly.

So I think you can use different approaches. The one thing you don't want to do because of credibility is you don't want to have one side or the other side have unfettered access—inappropriate access. It needs to be open and equal.

Mr. GUTHRIE. I absolutely agree with what you just said. So thank you very much, and my time has expired, and I yield back.

Ms. DEGETTE. Thank you so much.

The Chair now recognizes the chairman of the full committee, Mr. Pallone, for 5 minutes.

Mr. PALLONE. Thank you, Madam Chair.

I wanted to get Governor Whitman and Administrator McCarthy to elaborate a little more on what they think needs to be done by the EPA with regard to climate change and science.

So let me start with Governor Whitman. Do you believe that the current administration is doing enough to combat climate change, and if not, what is preventing them from playing a more active role?

Ms. WHITMAN. Well, I think what we've seen from the administration is actually the opposite. When they have told scientists that they can't participate in various meetings that have anything to do with climate change—that they're not allowed to mention climate change in many of their reports.

It's a denial that doesn't make any sense. We need to be at the table. It's understood and the American people understand that the climate is changing.

We can debate over how much is human action or not, but we certainly know that humans are having an impact on the climate and a serious one.

We can't deny it. It won't go away because we are not talking about it and, unfortunately, what we are seeing today is there are a number of communications that have been put out and things that have been made known to staff that they are not to engage in climate change.

They are not to talk about it, and it's not just at EPA. DOA, DOE—we've seen it at the Department of Interior. Throughout the administration, there's the attitude that we don't want to talk about climate change, and that's going to hamper us in the long run from our ability to truly look at the science and see what's underneath it, see what can we do.

We are not going to stop it. It's a natural phenomenon. We are not going to stop climate change. But we need to know what we can do to slow it down and how do we prepare for it because it has

very significant implications for us, New Jersey particularly, being a coastal State.

But it's a national security issue, and the Joint Chiefs of Staff have agreed that it's a national security issue, and actually it was Ronald Reagan, as I understand it, who put it on the National Security Council agenda for the first time.

Not that he fully believed that humans were the cause, but he knew it was something coming at us, it was important, and we needed to keep our eye on it, and I am afraid we are taking our eye off that ball.

Mr. PALLONE. Thank you.

Ms. McCarthy, what are your concerns about how this administration is using or not using science to guide its climate change policies at EPA?

Ms. MCCARTHY. You know, I am concerned that they are limiting science to disallow the Agency from looking at some of the best science available.

I am worried that they are dismantling expert panels at a time when their expertise is needed most. I am worried that they're looking at programs like New Source Review, which is a significant permitting program to ensure that excess pollution isn't unfettered, and they're under the radar screen doing memos about this and letters to industry without any potential for public input.

I am worried about many things at EPA now about transparency as well as the science. I am worried that they won't let academic scientists on the Science Advisory Board or expert panels, if they've taken any resources in terms of grants from the Agency while they're not applying that same standard in terms of looking at all at industry scientists and whether they have potential conflicts of interest.

I am worried about the fact that there seems to be, you know, industry communications in a way that's not made public. Decisions are being made by letters, by policies, by memo that normally would have had public participation, and should.

And I am worried about the fact that all of the ways in which the Agency has traditionally since the Reagan administration looked at cost/benefit is being tossed on its head.

We are throwing out the rules of the road that have given stability, that have taught the industry that they can rely on how we implement and enforce. I am worried about enforcement. You know, enforcement now is the weakest it's been in 20 years.

It's the lowest number ever in terms of civil penalties. That matters. It sends signals to the industry, and it upsets them. I am really concerned about—one more thing, if I may, because I know I am taking probably too long.

Mr. PALLONE. No, go ahead.

Ms. MCCARTHY. But one other thing is that you have three rules: the Mercury and Air Toxics rule, you have the clean-car rules, and you have a decision to not actually move forward to regular hydrofluorocarbons, where the industries themselves differ.

The regulated industry differs from the Agency outlook, and they're actually—look at the automakers. They're saying this is absolutely tremendously bad for them—for their profits, for their stability.

I have never seen an administration come in and, instead of having new policies, their sole goal seems to reverse everything that has ever been done.

The instability in industry is palpable right now. The signal it sends is don't worry about anything, but you also can't have the guarantee of a level playing field.

Those things are important.

Mr. PALLONE. Thank you. Thank you, Madam Chair.

Ms. DEGETTE. Thank you so much.

The Chair now recognizes Mr. Walden for 5 minutes.

Mr. WALDEN. Thank you, Madam Chair, and I want to thank you all for being here and for your service to the American people in the cause of better health and cleaner air and water.

I agree with many of the statements you made regarding the importance of sound science. I believe we can not only support the use of good science or public input when it guarantees our preferred policy solutions. We should always support that science.

I also believe it should be transparent to the public. We've had fights in this committee and in this Congress over that. I think it ought to be peer reviewed so we know it's not politically biased.

I fought for that when it came to listings in ESA. Usually got push back by my friends on the other side of the aisle. But I think we are better served, whether we agree or disagree with the outcome, when it's actually science we can believe in and trust and that it's publicly available.

And so you will always find me on that side of it. Do you think—I am going to ask you each kind of a yes or no—this isn't a gotcha, by the way. It's just a yes or no.

Should Congress substitute its own judgment on a matter of scientific concern or truncate the time EPA has to review a matter, therefore shortcutting consideration of solid scientific data needed to inform policy and regulatory decisions before the scientific research is complete? Because we have those debates here.

Should we step in before EPA and the professionals you have all talked about have finished their work? Can you just—I know it's a wide-ranging question, but maybe just right to left.

Mr. Thomas? Yes or no.

Mr. THOMAS. There's such a thing as a precautionary principle, which I think underlies a lot of the decisions at EPA. You won't reach a point where all the uncertainty has been defined.

Mr. WALDEN. Correct.

Mr. THOMAS. You have to begin. I did that.

Mr. WALDEN. All right.

Mr. THOMAS. Hopefully we did that with the stratospheric ozone approach when we negotiated the Montreal Protocol. There was debate on that. But we used a precautionary principle and, fortunately, we were absolutely right.

Mr. WALDEN. All right. So, but should Congress truncate EPA's scientific efforts? That's the question here.

Mr. THOMAS. No.

Mr. WALDEN. Mr. Reilly?

Mr. REILLY. My answer is to say that what you want is an Environmental Protection Agency or any agency working on a problem

that's doing so vigorously, seriously, with an end to getting an answer.

And if you have that kind of agency, then Congress should not substitute itself.

Mr. WALDEN. All right.

Ms. Whitman?

Ms. WHITMAN. If Congress is confident in the quality of the science, they shouldn't step in before that's completed to the extent it can be completed.

Mr. WALDEN. Thank you.

Ms. McCarthy?

Ms. MCCARTHY. Yes, I am with the rest. Yes, I believe that Congress's job is to charge the Agency, give it authority it believes——

Mr. WALDEN. And let them finish their work.

Ms. MCCARTHY [continuing]. And let the scientists make the science decisions. Keep politics out of it.

Mr. WALDEN. Thank you.

As I mentioned in my opening statement, the Clean Air Act was last updated in 1990, nearly 30 years ago. Included in the Clean Air Act is a requirement that the EPA complete a review of criteria air pollutants—including ozone, particulate matter, carbon monoxide, and others—at the 5-year intervals.

Yet, EPA has regularly missed those deadlines, as you all know. For example, the last review for carbon monoxide took place in 2011, 8 years ago.

The last review for the primary standard for nitrogen dioxide took place in 2010, 9 years ago, and at one point the secondary standard for sulfur dioxide was not updated for 39 years, a period that included the tenures of 3 of you.

By our count, you all missed multiple NAAQS deadlines during your tenures as Administrator. I think, Ms. McCarthy, you're on the hook for three of those, Ms. Whitman six, Mr. Reilly four, Mr. Thomas two.

So my question is, because the Agency falls so far behind on these deadlines, by the time one criteria air pollutant standard is complete, EPA has to start the process over again or risk missing the next deadline, which you have all proved capable of doing.

And the States are struggling to keep up, as they are the ones that subsequently have to create and enact implementation plans to come into attainment with those standards.

So, having laid the predicate here, this all begs the question. Is the process envisioned by the Clean Air Act—should we keep the 5-year standard and the resulting failures of compliance we've seen at EPA for decades, or should we lengthen the time period for review to 10 years or another appropriate length of time?

We'll go left to right, and I've only got a minute 22. So Ms. McCarthy?

Ms. MCCARTHY. What I would suggest is that you be careful doing either. You want their science to be correct. The Agency moves to the extent that it can as quickly as it can and——

Mr. WALDEN. If the law says 5 years——

Ms. MCCARTHY. Yes.

Mr. WALDEN [continuing]. You missed it a couple times.

Ms. Whitman, let's go to you.

Ms. WHITMAN. If the Agency has the staffing that it needs, if it has the scientists it needs, it should be held to that standard and move as quickly as it can.

Mr. WALDEN. So, given the number you missed——

Ms. WHITMAN. But it's frustrating——

Mr. WALDEN [continuing]. You're telling me you didn't have the staffing or what you needed then under the Bush administration?

Ms. WHITMAN. No, it's frustrating because it is a tight time frame, and there are a lot of complicated things.

Mr. WALDEN. That's why I am asking the question. Is it too tight? Because it seems like nobody's able to meet it regularly, and yet all this spills out to the States——

Ms. WHITMAN. Clearly, too tight.

Mr. WALDEN [continuing]. And you are chasing an old standard, right? So——

Ms. WHITMAN. Clearly, too tight.

Mr. WALDEN. All right. Mr. Reilly?

Mr. REILLY. Mr. Walden, I think that's a smart question and——

Mr. WALDEN. Thank you.

Mr. REILLY [continuing]. And I think there are many reasons why we missed deadlines and, frankly, some of them are political. Sometimes the Office of Management and Budget intervenes to prevent that.

Other times, many of the deadlines that are missed by EPA are missed because this Congress doesn't appropriate enough money or makes too many unreasonable demands with respect to the Agency.

I think of the number of reports that we were supposed to file in the course of a year.

Mr. WALDEN. I couldn't agree more.

Mr. REILLY. So my answer to that question is, I would not alter the years requirements—the 5-year rules. I would keep the heat on from Congress, which you're in the best position here on this committee to do.

Mr. WALDEN. Well, look. You have had Republican—Madam Chair, everybody went over by at least a minute and a half. If I could——

Ms. DEGETTE. The Chair will give you 20 more seconds.

Mr. WALDEN. Thank you.

I guess what I would say is Republicans and Democrats have chaired this committee, this Congress, you had Republican and Democrat Presidents, we have Republican and Democrat EPA Administrators, and nobody has been able to meet the deadline the statute requires. So I am just trying to find out what the best one is.

But we are out of time, so thank you.

Ms. DEGETTE. The Chair now recognizes Mr. Ruiz for 5 minutes.

Mr. RUIZ. Thank you.

As you all know better than anybody, EPA is truly a public health agency, and by setting limits on air and water contaminants, supervising cleanup at Superfund sites, and restricting harmful chemicals from being sprayed on crops, EPA plays a vital role in keeping our communities and families safe.

Governor Whitman, you have previously written that, quote, "Toxic waste allowed into streams, methane needlessly leaking into the air, power plant and tailpipe emissions unleashed, restricting the use of widely accepted public health research, these policies hurt all Americans, regardless of party," unquote.

So, Governor Whitman, do you believe the current EPA is doing enough to protect the public health? If not, what message do you think they are sending by rolling back vital human health protections?

Ms. WHITMAN. I think, as I've stated before, that the administration currently—the EPA currently on the track that it's on is endangering public health and the health of the environment.

I think it's critical that we continue to be protective. I am all for looking at regulations, to go over them from time to time to make sure they are relevant, that they are still meeting the needs, that there isn't new technology or we haven't found out new things, need to set another standard.

But we have to remember that this is about protecting public health and the environment, and to the extent that we roll back regulations without a thorough scientific basis for those rollbacks and setting new standards, it concerns me greatly about what that means for the mission of the Agency.

Mr. RUIZ. Thank you.

Administrator McCarthy, since leaving the administration you have continued to advocate for public health, and now you are a professor at the Harvard T. H. Chan School of Public Health, of which I am a graduate in 2007.

Ms. MCCARTHY. Want to make a donation?

[Laughter.]

Ms. MCCARTHY. Just kidding. Just kidding.

Mr. RUIZ. Ms. McCarthy, what is the Agency not doing right now that, in your opinion, it must do to fulfill its public health mission?

Ms. MCCARTHY. Well, it's not making evidence-based decisions. It's not following standard practice throughout the Federal Government on how you look at science, what science is acceptable, how do you do a peer review process, and it's certainly not following the cost/benefit rules.

And I think that, clearly, there is an end point they're trying to get to that common and standard practice for how you do evidence-based decisions won't get them there.

And so it's—and they are also not being transparent, which I think if we are dealing with public health, I want to know the impacts of decisions. I want to know what they mean for me and my family, and I think every other person in the United States should know what you're doing, what you're contemplating, and be able to weigh in.

Mr. RUIZ. Same question to you, Governor Whitman. What is the Agency not doing right now that, in your opinion, is critical to fulfilling its public health mission?

Ms. WHITMAN. Well, I agree with Administrator McCarthy. The real problem is the availability and the transparency of the science underlying the decisions that are currently being made, and I don't think we are seeing that.

I don't think we are seeing the kind of evidence base that we need to see in order for the public to have confidence in the decisions that are being made or the regulations that are being rolled back. That is what we are missing, and that is what we need.

Mr. RUIZ. Thank you.

Governor Whitman, in your testimony you state EPA's mission of protecting the public health and protecting the environment are, quote, "inextricably linked."

I find that this is particularly true with respect to low-wealth and minority communities who are often disproportionately impacted by polluting industries in their neighborhoods.

How important is it for EPA to support the cutting-edge research into the health effects of pollution, and do you believe the current EPA should be doing a better job in this area?

Ms. WHITMAN. The answer is very important, and yes, to keep you within your time frame.

But no, it is absolutely critical that we have the kind of cutting edge. That's what the Agency is about. The Agency can do things that the States can't. The Agency should have the resources to be able to have the depth of science that a State or an entity—a smaller entity, a community—can't do it.

That's what the Agency is there for, to set those standards, to provide that kind of in-depth, scientific-based research and decisionmaking so that people can feel confident in what's being proposed and why it's being proposed.

Mr. RUIZ. Thank you.

It is troubling when EPA's own leadership appears to be undercutting the Agency's important public health mission. To take just one example, the American Thoracic Society wrote a letter to this subcommittee in advance of this hearing on behalf of its 16,000 physicians and scientists to express concerns about EPA efforts to dismiss key air pollution health benefits that occur from reductions in particular matter below current regulatory standards, and I would like to enter their June 10th, 2019, letter into the record for this hearing.

Ms. DEGETTE. Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. RUIZ. Thank you very much, and I yield back.

Ms. DEGETTE. The Chair now recognizes Mr. Burgess for 5 minutes.

Mr. BURGESS. And thank you. Thanks for the recognition.

Administrator Thomas, you were not given the opportunity to answer Mr. Walden's question about the 5 years being too tight a time line. Would you care to respond to that?

Mr. THOMAS. I reviewed four of those standards while I was Administrator and actually set a new standard for particulate matter. Initiated additional scientific work on ozone, reaffirmed the sulfur dioxide standard, and reaffirmed the carbon monoxide standard.

I guess I would say there's extensive work that needs to be done before a standard is either reaffirmed or modified, and I think a 5-year time frame is pretty arbitrary.

I would say that it probably takes longer than that to do the kind of work that needs to be done. So unless you——

Mr. BURGESS. So that would be a yes to, "Is the time line too tight?"

Mr. THOMAS. That would be a yes. That would be yes.

Mr. BURGESS. OK. In the interests of time, I am going to move on.

Administrator Reilly, you talked about the ephemeral wetlands issue. Mr. Guthrie had asked a question about somehow the erosion of trust in rural communities, and you referenced the ephemeral wetlands as being perhaps one of the reasons for that erosion of trust. Did I understand that correctly?

Mr. REILLY. That's correct.

Mr. BURGESS. And, you know, I am just reminded that in a previous Congress or two that—not in this committee but in the Science Committee, there was concern about the derivation of the Waters of the United States rule, and Mr. Lucas of Oklahoma had asked whether the Agency had made the data that was used to craft the Waters of the United States rule public.

He was told the information was available. But the statement that the information—the data requested in Mr. Lucas's question was publicly available in the APA docket was in fact false and misleading, because it was not.

So, based on a memorandum from the United States Army Corps of Engineers, it's apparent those figures outlined in the EPA's final Waters of the U.S. rule were completely arbitrary and not based on science.

So do you begin to see why the distrust in the rural community might exist? Mr. Lucas represents a very rural portion of the State of Oklahoma, and I think it's pretty easy to draw the nexus between those two events.

Mr. REILLY. I am not familiar with that particular chronology. I just have to say that there was a time, and Administrator Thomas referred to it, when he established a stakeholders meeting on wetlands, which I ran at the Conservation Foundation, and everybody was present there. The agriculture community was well represented, the building community, the development community.

And we came to a support of no net loss of wetlands, and we had a definition of wetlands that was acceptable to that group at that time, and that became the basis for the President's proposal and policy of having no net loss of wetlands.

I thought that was a constructive community conversation that Lee initiated. I was central to it. Governor Kean of New Jersey was the chair, and I would encourage a similar kind of convocation to try to deal with what I think is quite a serious problem.

Mr. BURGESS. I am going to reclaim my time because I am running short, and they're very quick with the gavel here.

But do you understand why, when there is a discrepancy between what people were told in the Committee on Science and what was in fact available in the public record, that it builds that mistrust that people have?

And you acknowledge that inherently there was a lot of mistrust on the ephemeral wetlands. You know, you have talked about—I think Mr. Guthrie or one of the other Members also asked you whether it should be an adversarial role, and you recommended a disciplined process.

I know in my area of north Texas, a previous Regional Administrator was quite aggressive in his attempts to regulate oil and gas production and even referenced perhaps there needed to be pretty harsh treatment of operators, and I think that earned him a quick exit from the Region 6 Administrator position.

Now, his follow-on was someone with whom I got along very well, and we had multiple meaningful discussions, and it was a disciplined process.

So, again, we are trying to put a lot on this administration, saying they don't follow a disciplined process. Unfortunately, that has been some of the track record of the Environmental Protection Agency.

And I know my time has expired, so I will yield back.

Mr. REILLY. If I could respond briefly.

Ms. DEGETTE. I thank the gentleman.

I will allow the gentleman to respond briefly.

Mr. REILLY. Some of the issues in Texas I am very familiar with. I've been on the board of what was Energy Future Holdings, Texas Utilities, for a number of years and I—as you raise an issue on the environment there, one that really deserves attention is the methane rule.

My experience with the oil industry and the—actually the mercury rule as well—is that both of those rules had been accommodated by Texas industries. They were not in need of revisiting. They had tens of millions of dollars been laid out to accommodate them and——

Mr. BURGESS. But if I may, though, the Supreme Court recommended a cost/benefit analysis must include information on cost in the mercury rule. That was their opinion.

Ms. DEGETTE. The gentleman's time has expired.

Mr. BURGESS. Thank you. I will yield back.

Ms. DEGETTE. Thank you.

The Chair now recognizes Mr. Sarbanes for 5 minutes.

Mr. SARBANES. Thank you, Madam Chair. I am very excited that you're here, all of you, with this really crucial perspective on the EPA and, obviously, as you know, one of the most important parts of the EPA's mission is to protect public health and the environment, ensure that our air is safe to breathe, and I would like to better understand what EPA can do to protect our communities from the dangers of air pollution.

Governor Whitman, you described the administration's rollback of environmental protections as, quote, "an unprecedented attack on science-based regulations designed to protect the environment and public health, which represents the gravest threat to the effectiveness of the EPA and to the Federal Government's overall ability to do the same in the Nation's history," unquote.

Can you just talk a little bit about how the rollbacks threaten the overall effectiveness of the EPA?

Ms. WHITMAN. Well, to start with, it undermines its authority. It undermines its credibility. When you start to remove people from scientific panels that are the peer scientists and replace them with those who represent industry to a degree that it is an unbalanced advisory board, you're starting to undermine the credibility and the

confidence that the public will have in the decisions and recommendations that come from that.

We see this happening again and again as the Agency is starved for money, as was mentioned before by one of my compatriots here, that the fact that we are not having enforcement.

It's not that you want to have penalties. It's not that you want to just have the big stick. But if industry doesn't know that in fact there will be penalties if they are bad actors, they will go ahead and do what they've been doing that might hurt public health. It is hurting public health, if that's what is determined.

Those things send messages, and if those messages aren't clear, if those messages don't reflect a real commitment to protecting public health and the environment, then the Agency is being undermined, and public confidence in the Agency is undermined and our public health, bottom line, is being undermined.

Mr. SARBANES. Thank you.

Administrator McCarthy, prior to serving as EPA Administrator, you ran the Office of Air and Radiation at EPA, which has been very busy in the current administration, as you know, proposing to roll back or undermine protections on methane, carbon, mercury, pollution, and automobile efficiency standards.

Can you talk about how those rollbacks are going to affect public health?

Ms. MCCARTHY. I would indicate to you that they are going to have a significant impact on public health if they are successful, which in many ways I question.

We all know that carbon pollution comes part and parcel with other conventional pollutants, and that those pollutants hit—that really hurt us. They impact children. They impact the elderly.

We all know that mercury is a neurotoxin, and if you roll back the mercury rule it makes no sense because it's already in place. The industry is not complaining. The science is huge to indicate that it is a tremendously cost-effective rule.

The clean-car rules offer tremendous opportunities, not just to get cleaner cars that are cheaper for people and better to drive, but we also have an opportunity to significantly reduce ozone pollution, significantly reduce particulate matter. That is one of the most dangerous kind of exposures that we have.

So this is a missed opportunity to both keep in place rules that are already effective and in the case of MATS done, but also to make sure that you work with industry that it actually promotes the kind of products that consumers want to buy and advances their interests as well.

There is no reason to believe that you can't have a strong auto industry and continue to push it towards cleaner cars. We have been doing it for a decade or more. We have to keep doing it.

Mr. SARBANES. Thank you.

And something that I find insidious is you—obviously, an agency can benefit from bringing in as much input from key stakeholders as possible—important, responsible input—and, as I understand it, the administration is relaxing protections against air pollution through memos and guidance without getting the input of key stakeholders, including States.

So speak to that, why that is structurally really a problem in terms of landing in the right place on this regulatory oversight.

Ms. MCCARTHY. Well, the EPA and States are in a partnership in order to work together to make sure that we are meeting the mission of the Agency, and part of the challenge that I face is that I know that much of the changes are being done with the idea that we are in some kind of cooperative federalism here.

I don't consider it to be cooperative federalism if you propose consistently to stop funding States. If you propose to reduce the kind of laboratories and expertise that EPA has that no State can possibly move forward and produce.

And so it's extremely important, I think, for States to be involved in these decisions. It's equally important for the regulated industry to be at the table, and it's equally important for people that care about the environment and advocate for it to be at the table.

If someone asked me what I thought about the relationship, I think the collaborative process is OK. There is no reason why you can't come to an understanding of how to meet our needs in terms of public health and the environment while at the same growing the economy.

Mr. SARBANES. And the public takes——

Ms. DEGETTE. The gentleman's time has expired.

Mr. SARBANES. And the public takes great comfort in that partnership, I will add.

I yield back.

Ms. DEGETTE. The Chair now recognizes Mr. McKinley for 5 minutes.

Mr. MCKINLEY. Thank you, Madam Chairwoman.

We can all agree that we want a cleaner environment, and we have—I think we have made tremendous strides in air and water and the environment over the years.

However, the recent EPA has had a history of overreach and been misleading Congress and the American people in the process.

Past Administrators promulgated rules and rulemaking that were in many ways aspirational and not based on science. So as a result, as you all know, many have been overturned in court.

Listen, I can't relate to you. The three of you—I didn't serve under you. But under Gina McCarthy, I do have firsthand knowledge, and thank you for coming here. And so we've had these exchanges in the committee before, because I want to focus on that—the most recent.

So under her leadership I think the EPA went rogue and it deviated from these historic missions that you all were talking about, how the EPA rose to a different level with it, and as a result of that we now have uncertainty and a decreased reliability of our electric grid.

For example, under McCarthy's tenure, with the EPA we were told that policies regarding the electric grid would have little effect on the terms of the costs and capacity requirements.

That has been proven to be untrue. On the very comment that she talked about was the mercury neurotoxic rule. We were told in this committee that the EPA rule would only cost—about 4.7 gigawatts of power would be lost across our grid. But the North American Electric Reliability Corporation—NAERC—has found

that 54 gigawatts of power have been lost, 11 times more than we were told by the EPA.

And the impact on the ratepayers, it would be very small was the quote that was given in testimony. But yet, in Ohio the rates went up 183 percent to the ratepayers.

And on this board there was an example given by the EPA back in 2014 that said this would be the impact—only 10 gigawatts of power would be lost under this rule. But yet, at the end of the day it was 172 gigawatts of power were lost as a result of this—a third of the capacity for our electric generation.

We were told that the EPA takes into consideration, as you all did, the ramifications of the proposals on the impact on communities. But across America, under the Obama administration 83,000 coal miners lost their job across America.

These regulations that were put into effect based on ideology, not science, they were—I think they caused uncertainty. The Sammis plant is another example, in Ohio. They met all the rules, $1.8 billion was invested, and then under this recent EPA another rule was promulgated as soon as that was done. They said they're done. They're retiring their plant, after all that money was invested with it, and the taxpayers are going to have to take care of it.

Plants in Virginia and California were fine by the EPA for operating at the direction of FERC. FERC says you have to operate, and they did. Then they got turned around under the recent administration of the EPA. They were fined.

So, look, if they had just—in your words, if the EPA had just done its job, the power grid would not be at risk today in America and therefore President Trump and Rick Perry would not have to be putting forth their efforts to try to restore that balance with it, because the Department of Energy, the Institute for Energy Research, ISO New England, all have concluded our power grid is at risk.

It is unreliable. Therefore, continue—I think Congress needs to have dependable, credible data coming from the EPA from which we can do it, not ideologically driven, and we need to keep focusing on carbon capture.

But I understand today that many of you are unhappy with the direction of the President's EPA. I think we are entitled to have credible, reliable information from which to make a conclusion, and I would hope—Mr. Reilly, if I could start with you. Would you agree that we should have credible, dependable information from which we can make set policy?

Mr. REILLY. Yes, sir. I think all of us have said today that we believe in more transparency.

Mr. MCKINLEY. Mr. Thomas, would you say—is there a way—when you were there at the administration, did you find—what magic did you have to be able to work collaboratively with DOE so we didn't have—because back then we didn't have grid insecurity. How did you work with the DOE to make sure that our grid was reliable?

Mr. THOMAS. You know, we didn't spend much time working with DOE back in those days. I will tell you what we did, though, across all the Cabinet agencies. The way the President operated is, you had a lot of interaction in the Cabinet process. He operated like I

would if I was chairman of a company and was having my board of directors. That's the way he did.

So there was an awful lot of communication back and forth about issues. I don't recall the grid and the reliability of the grid coming forward as an issue that we were trying to deal with.

Mr. MCKINLEY. Thank you. I yield back.

Ms. DEGETTE. The gentleman's time has expired.

The Chair now recognizes Mr. Tonko for 5 minutes.

Mr. TONKO. Thank you, Madam Chairwoman.

Administrator McCarthy, do you want to take some time to just respond before I move on with my questions?

Ms. MCCARTHY. Thank you. Just very quickly. You know, the Mercury and Air Toxic Standard was put in place because mercury is a neurotoxin to our kids, and it's found almost in every lake and stream in the United States of America where we have fish advisories.

And we took a look at it. We estimated costs. We estimated benefits, and years later, now that it's done we totally overestimated the cost and by orders of magnitude underestimated the benefits.

We are in great shape in terms of mercury emissions. They have dropped 85 percent. And so I am proud of that rule. I think we did it right. I don't think it has anything to do with any instability in the grid that I certainly have read out.

But it should be something we celebrate because we have healthier kids today. We have fewer fish advisories, and we made a difference with that rule.

Mr. TONKO. Thank you. Thank you.

Environmental protection is fundamentally about how to use good science to understand and reduce threats to public health. As we have, unfortunately, seen, the Trump EPA has actively worked to weaken science at the Agency by blocking reports from being published, ignoring Agency scientists, eliminating key expertise on science boards, and proposing a rule which would restrict data available in the regulatory process.

So I would like to ask some questions to better understand the implications of this administration's treatment of science.

Governor Whitman, I will start with you. You state in your testimony that this attack on science at EPA is, and I quote, "unprecedented and represents the gravest threat to the effectiveness of EPA." You also fault this administration for, and I again quote, "using ideology to drive environmental policy instead of letting science drive policy."

So, Governor, from what you have observed, is EPA's current culture allowing scientists to speak up on issues like scientific integrity without pressure or fear of retaliation at the Agency?

Ms. WHITMAN. No. From what I have heard from members of the EPA who are still there, the best thing is to keep your head down. If you have something that you believe is contrary to where you think the administration wants to see the Agency go, then you have to be very careful about how you come forward with it, if you do at all.

And so that is not, I don't—I believe that is not healthy. It's not good for the environment at the Agency itself, and it is not good

for us in getting transparency and understanding what really is behind some of the issues that we face today.

Mr. TONKO. I would say it's tragic for the American public.

Administrator McCarthy, EPA's scientific integrity policy states that it is, and I quote, "essential that political or other officials not suppress or alter scientific findings."

What do you think are the most fundamental flaws in how the current EPA is handling science, particularly as it relates to issues such as climate change?

Ms. MCCARTHY. Well, I think that one of the—this is an area where I would really ask the attention of the committee in terms of oversight.

From what I can understand from outside, not only is the Agency trying to add doubt and fuel doubt on climate change, but even some of the actions they're doing, for example, actions that they're taking to squish together the decisionmaking under national ambient air quality standards and decide that we are going to shortcut the process by including cost in the analysis on what's healthy air, that is just abominable.

It's not the process under the law, and it shouldn't be tolerated, and I think that right now you see political appointees that are reviewing on grants these days.

One of the things that political appointee reportedly said is, he going to look for phrases like "climate change," so you see the entrance of political interests into decisionmaking in the Agency. That cannot happen.

Mr. TONKO. Thank you.

Mr. Reilly, you actively engaged EPA's science apparatus as Administrator and recently urged Administrator Wheeler to reconstitute a credible science advisory committee.

Mr. Reilly, what can EPA do to establish the Agency's scientific credibility?

Mr. REILLY. Sir, you start, I think, by filling some of the positions that are currently empty and have been from the beginning of the administration, such as the Assistant Administrator for Research and Science.

That is a key role, and it ordinarily is the chief staff person who serves within the Agency for the composition of the Science Advisory Board, for convening them, for organizing their material, and so forth.

The quality and distinction of scientists is absolutely crucial to the trust that people have and the recommendations they make relative to priorities. That has to be established by making clear that the people are predominantly independent, that they are respected in their fields, that they have distinguished themselves very significantly, typically in each of their fields.

It is not encouraged by taking a predominant number of them from roles where they have previously advocated for business interests rather than environmental or health-related reasons or ecological reasons.

It is, I think, a profound mistake——

Ms. DEGETTE. Excuse me. The chairman's time has expired.

The Chair now recognizes Mr. Duncan for 5 minutes.

Mr. DUNCAN. Thank you. Thank you, everyone, for being here. I think Mr. Thomas is from the great State of South Carolina. Welcome.

Governor Whitman, you mentioned in your testimony that, over the past 37 years, the United States GDP grew by 165 percent while total emissions of the 6 major pollutants dropped by 67 percent.

You alluded to the fact the United States alone cannot reduce the contributions human beings around the world are making to the growing threat of climate change.

Between the years 2005 and 2017, the United States' electricity sector had CO_2 emissions drop by 3.9 billion metric tons. During that same period of time, China's carbon emissions increased by 4 billion metric tons per year. Per year.

And we can't adopt all of these policies that drive up the cost of electricity while countries like China do absolutely nothing. According to the International Energy Agency, Germans, which have moved toward more renewables, Germans pay, roughly, three times the amount that Americans pay for electricity due to government restrictions on carbon emissions.

So if we move toward these policies, then average American families' electrical rates will go up. If we follow the policies of Germany, which the Paris Climate Accord was pushing us toward, we would see the average electrical bill for the average American family triple.

Are you OK with that? It's a yes or no question.

Ms. McCarthy, are you OK with the average American electrical bill tripling? That would be a yes or no.

Ms. MCCARTHY. I am not at all aware that moving to clean energy consistent with climate change——

Mr. DUNCAN. Ms. Whitman?

Ms. MCCARTHY [continuing]. Needs is increasing——

Mr. DUNCAN. Yes or no.

Ms. MCCARTHY [continuing]. Electricity prices.

Ms. WHITMAN. I don't believe it's a yes or no question, sir, because I don't think that that's going to be the outcome if we go to clean energy or utilize our nuclear energy that we have today.

Mr. DUNCAN. Look, these aren't my numbers. This is the International Energy Agency saying that Germans pay, roughly, three times. If we move—it's been proven. We've had testimony in this committee that——

Ms. WHITMAN. We are not Germany, and I have more faith in our ability to improvise.

Mr. DUNCAN [continuing]. The rates will go up. So, no, we are not Germany but bottom line is electrical rates will go up and, as a percentage of income, lower-income families will pay more as a percentage of their income for electrical rates.

We just need to be careful as we continue this push towards more expensive electricity, which wind and solar truly is. And, look, I am an all-of-the-above guy.

But let me tell you what will lower the carbon emissions for this country. That's nuclear power, because right now in this country 56 percent of our carbon-free emissions come from nuclear power. In

South Carolina, my home State, 96 percent of our carbon-free emissions come from nuclear power.

Would you all agree, as the Governor of Connecticut recently admitted, that if they want to meet their attainment goals for carbon-free emissions and lower their carbon footprint, they need to keep their nuclear power plants that they were thinking about decommissioning—they need to keep those online and have them—license renewed.

So would you all agree with me nuclear power ought to be a part of the mix? I see all the heads shaking. OK.

Ms. WHITMAN. Absolutely, and small modular reactors offer a great deal of promise for our nuclear force, going forward.

Mr. DUNCAN. OK. So I agree, nuclear power, I think small modular reactors, molten salt reactors, new technology, Gen 5, Gen 6, all these things that are being talked about should come online.

But nuclear waste sits at 121 nondefense sites around this country—121 commercial reactors. Two on the shores of Lake Erie in Ohio. There are six in Illinois. There's one sitting in my district on the shores of Lake Keowee, a beautiful clear-water lake.

So we know there is a byproduct of nuclear waste. Let me ask you this: Should the Nation have a long-term repository, Ms. McCarthy, for nuclear waste? Or should it sit at 121 sites around the country?

Ms. MCCARTHY. I am really not prepared to answer that question. I believe that the repositories need to be safe wherever we keep them. I've helped with the decommissioning of two——

Mr. DUNCAN. Should it sit at 121 sites on the shores of Lake Erie and places like that, or should it be in a long-term repository?

Ms. MCCARTHY. Well, that's what the law indicates, is it should go to a central repository.

Mr. DUNCAN. Ms. Whitman?

Ms. WHITMAN. The law calls for it, and we have a site.

Mr. DUNCAN. Mr. Reilly?

Mr. REILLY. I think the—there are ample opportunities to store that waste. I've always seen it as a technical problem. It's not an insurmountable one.

We've made too much of it, and I think the—would that the repository in Nevada had more room, but it ought to be filled up before we go anywhere else. But then I think we ought to if we have to.

Mr. DUNCAN. About out of time.

Mr. Thomas?

Mr. THOMAS. I really agree with you on nuclear power, and yes, I think there ought to be a central repository.

Mr. DUNCAN. So the committee will understand that these folks agree with us that nuclear power ought to be a part to lower our carbon emissions. It plays a big part of that.

There is a byproduct, and we need a long-term repository for that nuclear waste or it will sit in our home States, in our districts, with the possibility of problems. We ought to send it to Yucca Mountain.

I yield back.

Ms. DEGETTE. The gentleman's time has expired.

The Chair recognizes Ms. Schakowsky for 5 minutes.

Ms. SCHAKOWSKY. I thank the chairwoman.

So there's been some discussion about making sure that the facts are right and that things are reported correctly, and I have been very troubled by what we've seen in regard to what the President said when he was running for office, that he would break the EPA into little tidbits and that he had no respect, essentially, for the work of the Environmental Protection Agency, and I think one of the ways that we've seen that evidenced is some of the language that has been taken off of the websites.

And if we are talking about truth, we heard Mr. McKinley talking about facts and truth or whatever on the—that it wasn't there.

But it seems to me that what we've seen is a scrubbing of any mentions of climate change, and this is from an article in Time magazine—actually, Administrator Whitman, you have been quoted in that article—and some of the language that's been scrubbed definitely has to do primarily with climate change.

Let's see, some of the things—the EPA site is now riddled with missing links, redirecting pages and buried information. Over the past year terms like "fossil fuels," "greenhouse gases," and "global warming" have been excised, even the term, quote, "'science' is no longer safe."

I know you were interviewed for this article, which happened last year, and I just wondered if you wanted to comment on how—let's say you're a student and you want to find out more about these issues. Is this a reliable website to go to?

Ms. WHITMAN. There are a variety of websites. That's one of the things the internet gives us. But, unfortunately, we find that people don't go to multiple sites. They want to go to one site, and with the way that——

Ms. SCHAKOWSKY. No, but I am concerned about the official——

Ms. WHITMAN. Right. I was going to say and the way, unfortunately, that the site seems to be being managed now at the Environmental Protection Agency, it doesn't give them the confidence that that presents the whole story and that they're getting everything.

Ms. SCHAKOWSKY. Very concerned about that. Just even more recently, and I was just putting together some information, there was a scientist who—Dr. Rod Schoonover, a senior analyst for the Bureau of Intelligence and Research Department, who was giving testimony to the Intelligence Committee. This is unclassified information, but there are all these tracked changes that wanted to take out things like in the word "climate change"—take out the word "change."

And according to a New York Times article—and I want to put all these things in the record—that the White House tried to stop State Department senior intelligence analysts from discussing climate science in the congressional testimony this week.

He was able to give the testimony—this is new. But if you look at—and that's why I want to put it in the record, Madam Chairman, both the statement that he wrote and then the one with the tracked changes that they wanted, to put that into—these are public statements.

These are public statements. I have to say that because it was for the Intelligence Committee. And this—oh, no. Time goes so fast.

I am concerned about the number of people that are leaving the Environmental Protection Agency, and I am wondering, Administrator McCarthy, if you could comment on that.

Ms. MCCARTHY. Yes. There has been a significant number, probably a couple of thousand at this point that have left the Agency. I am confident, however, that many of the great career staff are sticking it out as best they can.

But they're in an uncomfortable situation of not being respected, of being under threat of being moved if they don't do what the political leadership wants.

I think they're worried not just about what they can and can't say or what you can and can't find on their website. They're concerned that you have a repeal of the clean power plan and a reproposal that literally will increase greenhouse gas emissions. If you don't have it, either one, you will be better off.

Ms. SCHAKOWSKY. If I could just make one final comment that the greenhouse gas emissions increased in 2018 in the United States and at the highest level around the world as well. We are going in the wrong direction.

Ms. DEGETTE. The gentlelady yields back.

The Chair—without objection, the documents—the New York Times article dated June 8th, 2019, and the two statements for the record by Dr. Rod Schoonover are introduced into the record.

[The information appears at the conclusion of the hearing.]

Ms. DEGETTE. The Chair now recognizes Mr. Soto for 5 minutes.

Mr. SOTO. Thank you, Madam Chairwoman.

What I am hearing from all of you today—and thank you all for your service to protect our environment—on the domestic front, we see an antiscience, propolluter EPA that fosters a culture of silence and has a Green Inquisition going on. So thank you for that testimony. I hope Americans across the Nation understand that.

On the world stage, we see a retreat from international leadership since we are the only country in the entire world not in the Paris Climate Accord, or at least there's been a notice to withdraw us, and, of course, we've passed our bill out to get back in.

But I want to talk a little bit about ceding international leadership from the EPA. We are seeing consequences of global warming, including through more extreme weather, rising seas, and diminishing Arctic ice.

And last week, the State of Global Air 2019 Report was released, which found that air pollution is the fifth-leading risk factor for mortality, responsible for more global deaths than malnutrition, alcohol use, traffic accidents, or malaria.

Mr. Reilly, as Administrator you established the EPA's international office. During your tenure, EPA made great progress working with other countries on environmental priorities, and you recently stated, however, that, quote, "American leadership that was essential to the commitments of China and so vital to the success of the Paris Climate Accord have been effectively repudiated during the Trump administration."

In your opinion, is there a risk if the U.S. lowers environmental standards that other countries could follow suit and lower their standards?

Mr. REILLY. Thank you, Mr. Soto.

I cannot count the number of times that ministers from other countries—I specifically remember Mexico, Brazil making these points—that, were the United States to reduce its NOx standard, for example, they would do likewise.

They already had a significantly less onerous, less restrictive NOx standard than we, but that would even be more reduced.

That is the kind of beacon that the United States has been on the environment. I mentioned a little earlier that we had a role with China—a very effective role that finally caused them to decide they could forego all their 100 million new refrigerators with CFCs and use the substitutes.

That happened because they saw American leadership. They saw what it had produced in our country. They saw that we were serious and we knew the issues and we were genuinely trying to help them do the same.

Mr. SOTO. Thank you, Mr. Reilly.

Since I am from Florida and knowing that you serve as cochair of the bipartisan National Commission for the BP Deepwater Horizon oil spill and offshore drilling and are familiar with a lot of the health, environmental, and regional economy threats, what should EPA be doing to ensure that we prepare for future oil spills?

Mr. REILLY. Well, EPA has a critical role with respect to oil spills. I can recall a decision that we made after the Exxon Valdez to not allow dispersants to kind of—to control the pollution, and I was told by some—it was a disputed issue—that the fish—if there were no dispersants and the oil was on the surface that the new fish, and they were just about to swim down from their fisheries hatcheries, would swim under the spill.

That's a kind of decision that EPA went against the other Agencies of the Government and against the oil company, and it turned out to be correct, and we saved the fish harvest that year as a result.

EPA has that role. It's not the central role. The Interior Department has the significant role on offshore drilling. But the EPA has an essential one.

Mr. SOTO. Thank you, Mr. Reilly.

Ms. McCarthy, during the Obama administration you all had an ambitious set of standards to protect air quality—probably just what was needed, but we call it ambitious nowadays.

Based upon your experience, how important is EPA's leadership encouraging other countries to act on climate?

Ms. MCCARTHY. EPA has been, at least in my experience, viewed internationally as the gold standard. You know, frankly, right now, I am a little bit embarrassed when I talk to colleagues in other countries, because they don't understand what's going on.

They see EPA as not making decisions consistent with the mission. They see EPA as backing off the rule of law or in terms of enforcement. They don't see us using our example to advance international interests.

So we are in a little bit of trouble in terms of the confidence that we are providing to the rest of the world and the fact that our challenges today are international challenges.

We can't fix climate change ourselves, and we have to have leadership that is ethical, leadership that focuses on the mission of the

Agency, and I think those are issues that I would love to see this committee look into more closely.

Mr. SOTO. Thank you. My time has expired.

Ms. DEGETTE. I thank the gentleman.

The Chair now recognizes Mr. O'Halleran for 5 minutes for the questioning.

Mr. O'HALLERAN. Thank you, Madam Chairwoman, for holding today's hearing to reflect on the direction of the Environmental Protection Agency with witnesses who know the Agency best and the Agency's important role to American citizens' health.

As many of you know, Arizona's 1st Congressional District is unlike any other. It is home to not only the Grand Canyon but also many Tribal communities such as the Navajo Nation.

In all my district's beauty, I would like to highlight an ongoing health and contamination issue that has plagued my district since 1944, 75 years, and that is uranium mining.

During the Cold War, over 4 million tons of uranium ore were mined on Navajo lands. Today, over 520 of these uranium mines remain, abandoned and still unremediated. The EPA has indicated clearly that none of them are safe.

I believe the Federal Government has an obligation to take swift action to right these wrongs. It is within EPA's mission.

Since coming to Congress, I've made addressing the abandoned uranium mines in my district a top priority, and I have worked closely with EPA's region 9 office to hold the Agency accountable and our Government accountable.

I will continue to do so until every mine site is fully remediated. Beyond the environmental impacts to local communities and watersheds, cancer rates have skyrocketed due to unsafe levels of uranium exposure from these mines.

The public health effects from uranium mining is dangerous, which has led the Centers for Disease Control and the University of New Mexico to study the birth outcomes from uranium exposure within the Navajo Nation.

Without the EPA, I don't know how we'd address this problem at all. I know that there is a mother that has lost eight children a quarter mile away from one of these mines, her husband, and her sister-in-law, who all lived there.

Administrator McCarthy, I appreciate you coming before us today as you have most recently served as head of the Agency, until 2017. Under the interagency 5-year plan addressing this issue starting in 2014, under the EPA plan have you seen the Agency take the proper steps to address public health from toxic chemicals and other threats?

Ms. MCCARTHY. I have seen the Agency utilize its resources as best it can to do that, but, frankly, the money isn't there. Frankly, we need to continue to push. You know, this issue is not unlike many of the issues plaguing Native Americans in this country.

We simply haven't met our responsibilities, and I would agree with you that more money, more resources, and more action at EPA is necessary.

I would just also point out that uranium mining continues to happen. Right now, there's a lot of in situ mining going on, and

EPA had actually proposed a rule to try to bring some semblance of order to that to ensure that it was done safely.

That rule is now sitting on the sidelines. So we not only have to look at what we've already contaminated but continue to work forward to make sure that we are not continuing to plague those among us with the least ability to care for themselves.

Mr. O'HALLERAN. And Administrator McCarthy, we have Superfund sites all over America.

Ms. MCCARTHY. We do.

Mr. O'HALLERAN. How important is the Superfund program to cleaning up contaminated sites, and what can the Agency be doing to fully support this program and to fully ask the Congress for the appropriate amount of funding to do so?

Ms. MCCARTHY. I think that the Superfund is extremely important. We know contaminated sites continue to pose threats to those who live around them and folks that are exposed to contaminants that exit those sites.

The Superfund program is overloaded with things in the pipeline, not sufficiently resourced, and as of late there's been a lot of inclination to sort of get those ready to be cleaned out for economic development, which is a very good idea but it takes away from securing the sites that are as yet secured from access for individuals that would threaten their health and well-being.

So it is a delicate balance about how to use the money. But, clearly, we are nowhere near the kind of money we need to get that list down, and every year we keep adding and adding and adding.

Mr. O'HALLERAN. And have you seen any attempts by this administration to address those issues?

Ms. MCCARTHY. They have made Superfund one of the issues that they talk about. But, again, I think they're talking about it as an economic opportunity at the end of the game instead of looking at how we manage exposures today to the contaminated sites that already exist.

Mr. O'HALLERAN. Thank you, and thank you, Madam Chair. I yield.

Ms. DEGETTE. I thank the gentleman.

The ranking member and I will each ask one round of questions to wrap up, and I now recognize Mr. Guthrie for 5 minutes.

Mr. GUTHRIE. Thank you very much. I appreciate you all being here. It's been informative. But all of you, as former Administrators of a Federal Agency, each of you more than most understands the importance of the rulemaking process under the Administrative Procedures Act.

The APA provides the roadmap for Federal regulatory process, and one of the cornerstones of that process is public notice and comment. Members of Congress make the laws, and Agencies write implementing regulations.

But that is not the complete picture. Input from the public is another critical piece. I am going to read three questions and get you all to comment, if you would.

One, do you agree that it is important that Federal Agencies provide the opportunity for public comment?

Do you agree that the opportunity should be afforded to all stakeholders—States, Tribes, regulated community, environmental groups?

So is public comment important—all stakeholders—and do you agree that different stakeholders can provide unique and needed expertise when it comes to proposed rules?

Start with Mr. Thomas and go to the left.

Mr. THOMAS. Yes. Yes. Yes.

[Laughter.]

Mr. REILLY. Yes. Yes. Yes.

Ms. WHITMAN. Yes. Yes. Yes.

Ms. MCCARTHY. Yes. Yes. Yes.

Mr. GUTHRIE. OK. That's simple. That was quick.

I would just ask Mr. Thomas, you talked about the collaborative, and it really sounds like you put together and tried to effort a really—work together, work through these issues, and tried to come to the balance that we need to make sure we have clean water and clean air and clean soil, as we've talked about, but also do it in a way that's responsible and sustainable.

And so, given that the same office of the EPA handles both compliance and enforcement, how should those two be balanced within that office?

Mr. THOMAS. Well, you know, I think they really go together, and the approach you take I think is really good communication.

First you have got to have credible rules and credible regulations. You got to make sure the regulated community understands that. You got to have a really good intergovernmental process to work with the States.

Then I think enforcement is a very important part of it. So you're educating, but you're also saying, "If you don't follow the rules, there are consequences," and you make sure those consequences are felt, whether it's at a Federal level or a State level.

If a State doesn't have the ability to go forward or the commitment to go forward, the Federal Government steps in. So I think it is both. Collaboration and communication, but ultimately accountability.

Mr. GUTHRIE. OK. Thank you.

In the couple minutes, so Mr. Reilly, I have a question. In a 2009 report, the bipartisan Policy Center on Improving the Use of Science in Regulatory Policy recommended that regulatory policies differentiate between questions of science and questions of other matters of policy.

The question is, do you see value in having a section of an EPA Federal Register notice for any proposed guidance or rule when that action is informed by scientific studies describe the primary scientific questions and the primary policy questions that needed to be answered in drafting the rule or guidance? It's a long question but——

[Laughter.]

Mr. REILLY. And I think I lost it, actually.

Mr. GUTHRIE. OK. Yes. So do you see—do you see the value—maybe all of you can answer it. Do you see the value of EPA Federal Register notice for any proposed guidance or rule when that action is informed by scientific studies?

Do you think that the notice should describe the primary scientific questions and the primary policy questions?

Mr. REILLY. I would generally say yes. Yes.

Mr. GUTHRIE. Mr. Thomas, I guess.

Mr. THOMAS. Yes, I agree with that.

Mr. GUTHRIE. Governor?

Ms. WHITMAN. You're going to get another yes.

Mr. GUTHRIE. OK. Ms. McCarthy?

Ms. MCCARTHY. Actually, I will be a little bit more qualified——

Mr. GUTHRIE. OK.

Ms. MCCARTHY [CONTINUING]. BECAUSE THERE ARE PROCESSES WITHIN THE AGENCY THAT ARE FAIRLY EXCLUSIVELY SCIENCE DRIVEN—RISK ASSESSMENTS, THOSE TYPES OF ISSUES. THEY ARE OFTEN SEPARATELY MANAGED, AND WHERE THERE'S A PUBLIC PROCESS WITHIN THAT WHERE ALL OF THE AFFECTED PARTIES GET AN OPPORTUNITY TO PARTICIPATE.

But it may not be subject to public—everybody advancing their interests outside. So that there are times, I believe, when it's less fruitful to go to the general public than it is to rely on scientists themselves to make decisions, as long as that process is open and deliberate and has all the necessary parties.

Mr. GUTHRIE. OK. Thank you, and my time is close to expiring, so I will yield back.

Ms. DEGETTE. Thank you so much.

In Governor Whitman's testimony, you said, quote, "Today, as never before, the mission of EPA is being seriously undermined by the very people who have been entrusted with carrying that mission out," and that sentiment was echoed in some form today by all four of the witnesses.

So I just want to ask each witness very briefly if they can say for the record if you have one message for this administration, what would it be.

Mr. Thomas, we'll start with you.

Mr. THOMAS. I think it starts from the top with a commitment to the mission of EPA. I don't think that is there, and I think a lot of what we are talking about as far as the Agency's concerned are symptomatic of that.

Ms. DEGETTE. Thank you.

Mr. THOMAS. So the one message is commit to the mission as it is defined in the laws.

Ms. DEGETTE. Thank you.

Mr. Reilly?

Mr. REILLY. Mr. Thomas has characterized that very well, I think. In my own meeting with the Administrator when he was still Acting Administrator—no, I guess he had just been confirmed—I recommended beginning with science, reasserting the primary role of science in all of the regulatory decisions he was making, consulting science and making that clear and reconstituting the Science Advisory Board with very distinguished members.

Ms. DEGETTE. Thank you. Thank you.

Governor?

Ms. WHITMAN. I think it's incumbent on the administration to commit to the mission of the Environmental Protection Agency, the

importance of it—to recommit and restate the importance of it and the importance of science as being the underpinning of the decisions being made.

Ms. DEGETTE. Administrator McCarthy?

Ms. MCCARTHY. Just to add, not subtract, because I agree with everything that's been said. I do think that it is incredibly important for signals for the Agency to send that, when they make decisions, they talk about the public health and environmental implications of those decisions.

I am tired of hearing decisions being made where we solely talk about how much it has reduced manufacturers' costs. That's not the mission of the Agency.

Ms. DEGETTE. Thank you.

I want to thank all of the witnesses, because it's really extraordinary and not very frequent where we have four former Cabinet officials—well, they should be Cabinet officials—Administrators of one agency spanning Ronald Reagan to Barack Obama, and they all agree on what the mission should be for this very important agency to protect public health, and they also agree that the Agency really needs to redouble its effort and redouble its commitment to science.

So this was a really powerful and important hearing. I hope the administration was watching, because all of you were really important voices, and I want to thank you.

The first thing is we have several documents that have been submitted, and without objection the February 13th letter from Mr. Walden and Mr. Shimkus to Mr. Pallone and Mr. Tonko is entered into the record, and also the April 8, 2019, letter and the June 10th letter to me and to Ranking Member Guthrie from the American Thoracic Society is entered into the record. Those are all entered into the record.

[The information appears at the conclusion of the hearing.]

Ms. DEGETTE. And I would remind Members that, pursuant to committee rules, they have 10 business days to submit additional questions for the record to be answered by witnesses.

I hope that all of you can answer them promptly, and not to editorialize, but in a fashion much more prompt than the current EPA is responding to this committee's questions.

And with that, this subcommittee is adjourned.

[Whereupon, at 12:50 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

The New York Times

White House Tried to Stop Climate Science Testimony, Documents Show



By Lisa Friedman

June 8, 2019

Want climate news in your inbox? Sign up here for ***Climate Fwd:****, our email newsletter.*

WASHINGTON — The White House tried to stop a State Department senior intelligence analyst from discussing climate science in congressional testimony this week, internal emails and documents show.

The State Department's Bureau of Intelligence and Research declined to make changes to the proposed testimony and the analyst, Rod Schoonover, an adjunct professor at Georgetown University, was ultimately allowed to speak before the House Permanent Select Committee on Intelligence on Wednesday.

But in a highly unusual move, the White House refused to approve Dr. Schoonover's written testimony for entry into the permanent Congressional Record. The reasoning, according to a June 4 email seen by The New York Times, was that the science did not match the Trump administration's views.

[*Update, July 10: State Dept. Intelligence Analyst Quits to Protest Blocked House Testimony* | *From the Opinion Section, July 30: The White House Blocked My Report on Climate Change and National Security*]

Norman J. Ornstein, a resident scholar at the American Enterprise Institute, a conservative policy group, said that it was common for the White House to vet agency testimony to Congress to ensure it did not contradict administration policy.

But, he said, "I have never heard of basic facts being deleted from or blocked from testimony." Mr. Ornstein said withholding the analyst's written testimony was significant. A verbal presentation could be interpreted as an individual's position, he said, but "the written testimony is a more formal expression of a department."

A White House spokesman said the administration did not comment on internal policy reviews. The National Security Council did not respond to requests for comment, and a spokesman for the State Department referred questions to the White House.

Trump Administration Hardens Its Attack on Climate Science May 27, 2019



With Climate Science on the March, an Isolated Trump Hunkers Down Feb. 28, 2019



E.P.A. Plans to Get Thousands of Pollution Deaths Off the Books by Changing Its Math May 20, 2019



The Washington Post first reported the effort to suppress Dr. Schoonover's testimony.

"The testimony still has serious concerns with internal components and focuses heavily on the science," Daniel Q. Greenwood, deputy assistant to the president in the White House office of legislative affairs, wrote in an email. "Because it doesn't reflect the coordinated IC position, or the administration's position, there is no way this can be cleared ahead of the hearing," he wrote, using government shorthand for the intelligence community.

On almost every page of Dr. Schoonover's testimony, the National Security Council offered comments and criticisms, according to a document that tracks changes. Two people familiar with the document said the notes were from William Happer, a physicist and White House adviser on the council who denies the established scientific consensus on global warming.

"This is not objective testimony at all," one comment read. "It includes lots of climate alarm propaganda that is not science at all. I am embarrassed to have this go out on behalf of the executive hranch of the Federal Government."

Another comment objects to the phrase "tipping point" to describe when the planet reaches a threshold of irreversible climate change. "'Tipping points' is a propaganda slogan for the scientifically illiterate," the comment reads. "They were a favorite of Al Gore's science adviser, James Hansen."

Dr. Schoonover's testimony noted that his analysis drew from peer-reviewed scientific journals and work produced by top United States government scientists. That, too, came under attack from the National Security Council, which said that "a consensus of peer reviewed literature has nothing to do with the truth."

But the heaviest proposed edits, and the basis for ultimately blocking the written testimony, came from the White House Office of Legislative Affairs. That office, according to the document, recommended eliminating five pages of science that appeared under the headings "Scientific Baseline" and "Stresses to Human and Societal Systems."

Those pages laid the scientific foundation for the rest of Dr. Schoonover's testimony, which described the various national security threats linked to climate change, like instability from water shortages in some parts of the world.

The science portion offered factual assertions like, "The Earth's climate is unequivocally undergoing a long-term warming trend as established by decades of scientific measurements from multiple, independent lines of evidence." It also noted that the past five years had been the warmest five on record.

For more news on climate and the environment, follow @NYTClimate on Twitter.

Correction: *June 8, 2019*

An earlier version of this article misspelled the name of a science adviser to former Vice President Al Gore. He is James Hansen, not Hanson.

Lisa Friedman reports on climate and environmental policy in Washington. A former editor at Climatewire, she has covered nine international climate talks.
@LFFriedman

THANK YOU FOR YOUR SUPPORT

As a subscriber, you make it possible for us to tell stories that matter.

Help more readers discover our journalism — give a subscription to The Times as a gift.

Subscribers can purchase gifts at a 50% discount.

Give The Times



Dr. Rod Schoonover
Senior Analyst
Bureau of Intelligence and Research
Department of State

Hearing on
The National Security Implications of Climate Change

Before the
Permanent Select Committee on Intelligence
U.S. House of Representatives

June 5, 2019

Chairman Schiff, Ranking Member Nunes, and distinguished members of the Committee, thank you for inviting me to speak with you today on the national security implications of climate change.

As a U.S. intelligence officer in the Department of State Bureau of Intelligence and Research it is my job to provide clear, objective, and independent analysis to policymakers to advance U.S. national security objectives. As a scientist in the intelligence community (IC), I blend insights derived from peer-reviewed journal articles and other scientific reports with information gathered from daily intelligence reporting to provide science-informed national security analysis. My understanding of this and other issues is deepened by the cadre of talented and dedicated officers in the IC, many with technical expertise, who quietly serve U.S. interests. This Committee is already aware that the IC does not advocate for any particular set of policies, including those that address climate change.

The Bottom Line

Fundamental characteristics of the global climate are moving outside the bounds experienced in modern history and there is uncertainty on how some aspects of the climate will evolve. Given the complex social and political contexts in which a multitude of changes are occurring, however, we can expect new and compounded stresses on people and societies around the world, many with outcomes important for national security.

Climate change will have wide-ranging implications for U.S. national security over the next 20 years through global perturbations, increased risk of political instability, heightened tensions between countries for resources, a growing number of climate-linked humanitarian crises, emergent geostrategic competitive domains, and adverse effects on militaries. Increasingly probable amalgamations of these security concerns are especially worrisome. Climate change alone is unlikely to trigger state failure in the next few decades but it will affect factors that that contribute to conflict, such as access to natural resources. People will increasingly decide to move because of deteriorating conditions, both within nations and into countries that are more prosperous. Perhaps most importantly, the rapidity of concurrent and compounded changes to Earth's systems, from human and natural causes, heightens the risk for unwelcome and possibly severe climate-linked surprises.

Framework for Analysis

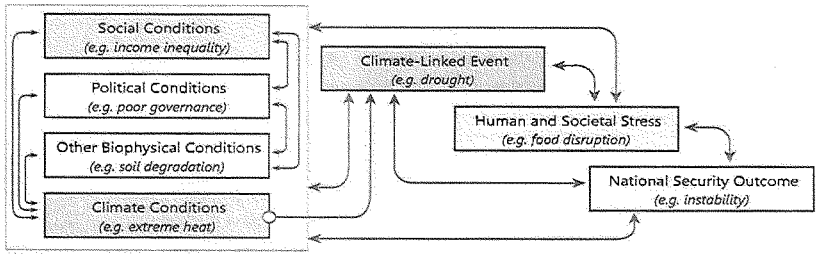
The IC's task with respect to climate change is to inform policymakers of the myriad risks and uncertainties that may lie ahead, rather than trying to predict the future. We have therefore examined a wide range of climate change effects, including those currently believed to have low probability, particularly if the ramifications could be highly impactful. The IC focuses on security considerations outside the United States, so we do not address the direct effects of climate change on the U.S. homeland. We expect, however, that many judgements could nonetheless apply to the United States.

For this analysis, we consider an event a national security concern when it:

- Produces a noticeable, even if temporary, degradation of one of the elements of U.S. national power: geopolitical, military, economic, informational, social cohesion
- Indirectly influences the United States, through a strategically important ally or partner
- Causes adverse effects that indirectly consume U.S. resources

Analyzing the national security implications of climate change generally requires tracing a logic trail from climate stressor to climate-linked event to societal stress to security concern, an endeavor complicated by climate conditions being intertwined in a complex of social, political, and biophysical conditions (Figure 1). Enumerating the large number of other important contributing factors is beyond the scope of this document, but illustrative examples include consumption patterns, demographics, environmental degradation, existing social and political conditions, land-use changes, emerging technologies, governance, and the tendency for populations to concentrate in climate-vulnerable locations. Changing climate conditions, in combination with other stressors, almost certainly will increasingly threaten national security over the next few decades.

Figure 1: Schematic Links Between Climate Change and National Security

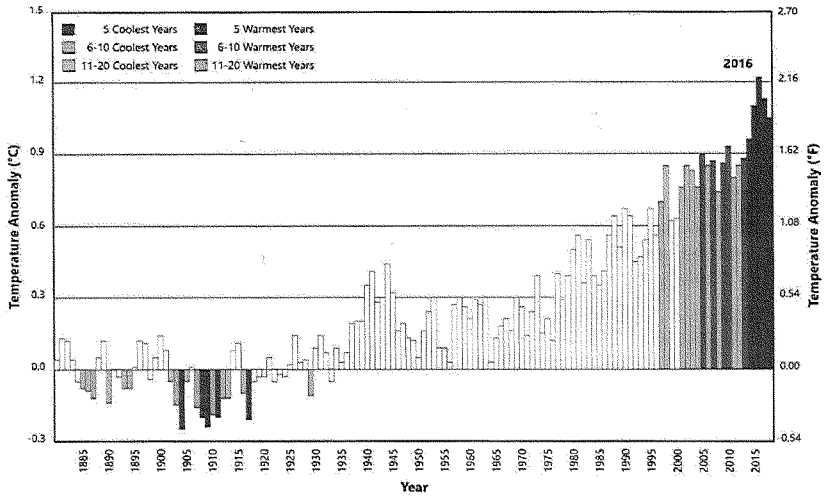


Source: Adapted from *Climate and Social Stress*, National Research Council 2013. Many links involve causal relationships in both directions, and some links are more important than others. Outcomes from human and societal stress are highly dependent on a given population's exposure, vulnerability to harm, and ability to cope, respond, or recover from a climate-linked event.

Scientific Baseline

The IC does not develop climate science; we instead rely on findings from outside sources. We prefer to use U.S. Government sources, such as NASA, NOAA, USGS, and the U.S. Global Change Research Program. In addition, U.S. scientific institutions such as the National Academies of Sciences, Engineering, and Medicine provide valuable consensus reports. We also utilize information and analysis from many other domestic and international sources, particularly the Intergovernmental Panel on Climate Change (IPCC) and peer-reviewed journals.

Figure 2: Global Temperature Anomaly by Year Since 1880



Source: NASA Goddard Institute for Space Studies Surface Temperature Analysis (GISTEMP v3) estimated values for land and ocean surface temperatures averaged globally. Temperature anomaly is the difference between a given year's temperature and a baseline computed by averaging temperature values from a sufficiently long time period, here using 1850-1899 data.

The Earth's climate is unequivocally undergoing a long-term warming trend as established by decades of scientific measurements from multiple, independent lines of evidence (Figure 2). Eighteen of the last 20 years have been the warmest on record and the last five years have been the warmest five, according to NASA's Goddard Institute for Space Studies, a finding echoed by other countries' meteorological agencies. Extreme high-temperature events are increasing across the globe as the distribution of observed temperatures skews towards higher values and the predictability of temperatures is declining. Temperatures are rising faster over landmasses, particularly near the poles, than open oceans, and global records indicated temperatures have been rising at all depths of the ocean, which absorbs over 90% of heat trapped within the Earth's climate. Ocean waters are also acidifying from the absorption of atmospheric carbon dioxide.

Looking ahead, global average surface temperatures will continue to increase over the next several decades, due largely to past emissions of long-lived greenhouse gases such as carbon dioxide. Beyond a few decades, however, additional temperature increases will critically depend on the cumulative atmospheric concentrations of greenhouse gases. Since ocean warming considerably lags that of the atmosphere, ocean temperatures will increase well into the future.

Rising temperatures in turn drive changes in a vast number of Earth system processes, particularly in the atmosphere, ocean, freshwater, soil, ice masses, permafrost, and organisms comprising the biosphere. The Earth's complexity complicates a detailed understanding of how these myriad temperature-dependent processes evolve and interact over time and space, but scientists have elucidated trends for an important set of climate-linked phenomena including and beyond temperature (Figure 3). Over time, ongoing temperature increases will likely expose populations to a greater number of concurrent climate-linked events. There will also be other unexpected—and potentially disruptive—climate-linked events currently uncharacterized by the scientific community.

Figure 3: IPCC-Projected Trends in Selected Climate-Linked Phenomena (2050-2100)

Phenomenon	Change	Confidence
Global mean surface temperature	⇧	HIGH
Global mean sea level	⇧	HIGH
Arctic sea ice cover	⇩	HIGH
Hot days and nights over land (warmth, frequency)	⇧	HIGH
Cold days and nights over land (warmth, frequency)	⇩	HIGH
Extreme high sea level (incidence, magnituide)	⇧	HIGH
Heatwaves and warm spells over land (frequency, duration)	⇧	HIGH
Heavy precipitation events	⇧	HIGH
Droughts (intensity, duration)	⇧	HIGH
Tropical cyclones in North Atlantic and Western North Pacific basins (intensity, frequency)	⇧	MEDIUM
Global mean precipitation	⇧	HIGH
Contrast between wet and dry regions	⇧	HIGH
Snow cover in the Northern Hemisphere	⇩	HIGH
Permafrost integrity	⇩	MEDIUM
Storm tracks (poleward shift)	⇧	HIGH
Wave heights in Arctic and Southern Oceans	⇧	HIGH
Upper ocean temperatures	⇧	HIGH
Ocean acidification	⇧	HIGH
Oceanic oxygen content	⇩	HIGH
Mountain phenomena (slope instability, mass movement, glacial lake outbursts)	⇧	HIGH
Animal and plant species distribution (poleward and upward in altitude)	⇧	HIGH
Timing of ecological spring events (leafing, greening, migration, etc.)	⇧	HIGH
Coral degradation and bleaching	⇧	HIGH

Source: Adapted from Intergovernmental Panel on Climate Change (IPCC), WG II, AR5, 2014. Projections assume that the average global temperature increase will exceed 2°C (3.6°F). The confidence statement reflects the IPCC's qualitative assessment of the robustness of evidence and agreement between different lines of evidence; "high" indicates very high or high confidence while "medium" denotes medium confidence. Phenomena with no clear trend or with significant regional variation are not shown. The IPCC employs the 2050-2100 timeframe to establish general trends; the national security window is usually shorter and on the order of days to a few decades.

Key
⇧ Increasing overall
⇩ Decreasing overall
⇧ More regions increasing than decreasing

Extreme weather and climate events are a major risk for all societies. They are caused by the rare occurrence of extreme values of certain meteorological variables, such as high and low temperatures (heat and cold waves), increased and reduced amounts of precipitation (floods and droughts), and high wind speeds (storms). Such events may occur at different rates, with different intensities, or at different locations compared to historical patterns, any of which may be disruptive. Over the last 10 years, the IC has deepened its appreciation of the significance of extreme weather events to national security. Most significantly, based on the science, we have come to appreciate that such events are a more near-term risk than previously assessed.

For classes of extreme events that increase in frequency of occurrence, we expect that the distribution of future extreme events in geographical location and time will be increasingly important in terms of potential for harm. Multiple extreme events of modest intensity that are clustered, compounded, or sequential may be more damaging or disruptive than single events that are more powerful. We also recognize the potential for analogous climate-linked extreme events in the biosphere, such as a mass die-off of an economically important species or sudden emergence of a destructive pest. Such events are not well characterized in the academic literature but are almost certainly important as an additional, and compounding, stress on societies.

High-impact, low-probability events are important when assessing risk from climate change because of their potential for substantial harm to people, Scientists are particularly interested in understanding climate-linked thresholds, beyond which large nonlinear shifts in subcomponents of the Earth's system occur. Although likely caused by intensive land-use, poor resource management policies, and naturally occuring drought rather than climate change, the 1930's Dust Bowl of the central United States nonetheless illustrates the severe social and economic impacts that can accompany unforeseen shifts in climate conditions. Since research has not sufficiently characterized many details of these climate-linked thresholds, including early warning indicators, crossing them is possible over any future timeframe. Potential future tipping point processes include:

- Very rapid die-offs of many critically important species, such as coral or insects
- Rapid conversion of Amazon and other rainforests to grassland
- Massive release of carbon from methane hydrates or permafrost carbon
- Discontinuous decrease in summertime Arctic sea ice
- Rapid melting in West Antarctic or Greenland ice masses
- Weakening of the regional North Atantic Ocean convection belt
- Increased strength of El Nino-Southern Oscillation
- Weakening of the Atlantic Meridional Overturning Circulation belt
- Changes in the West African Monsoon

Rapid-onset processes –particularly arising from socioeconomic or technological sectors—that offset or slow climate change effects, are also possible.

Stresses to Human and Societal Systems

Climate-linked events are disruptive to humans and societies when they harm people directly or substantially weaken the social, political, economic, environmental, or infrastructural systems that support people. For the next few decades, which represents the era of committed climate change irrespective of future greenhouse gas emissions, we expect that climate change will amplify existing stresses while also creating new ones for human and societal systems. Some stresses will be localized or limited to particular sectors, while others may have worldwide implications, such as disruptions to the global food supply (Figure 4).

Figure 4: Examples of Climate-Linked Stresses to Human and Societal Systems

Direct impacts from extreme events, such as droughts, floods, fires, and storms	Decreased surface water and groundwater resource supply and access	Reduced water quality from droughts or heavy rainfall
Increased species extinction and redistribution, and population reductions	Coastal impacts, such as flooding, submergence, surges, and erosion	Redistribution of catch potential for fish and invertebrates
Loss of marine biodiversity that support humans	Depressed crop yields and increases in yield variability	Risks to food access, utilization, storage, and price stability
Risks to global supply chains, such as food, minerals, and products	Shifts in production zones of food, fiber, and fuel crops	Decreased energy system integrity and reliability
Adverse effects on key economic sectors, such as insurance and tourism	Deterioration or loss of housing or shelter	Declining work productivity, especially from extreme heat
Decreased integrity and reliability of infrastructure	Disruption of ecological food webs	Increased displacement of people and changes in migration patterns
Negative repercussions on human health, including injury, disease, and death	Changing or emerging geographic domains, such as the thawing Arctic	Loss or degradation of resource-dependent livelihoods, such as agriculture and pastoralism
Loss of territory or infrastructure to sea level rise	Change in distribution of disease-carrying organisms	Increases in frequency, range, or toxicity of harmful algae

Though not exhaustive, this chart illustrates the multiplicity of potential stresses that could intensify or emerge from climate change.

Climate change will also produce benefical changes for some populations. For example, glacier melt could lessen water stress for perhaps a billion Asians over the next few decades, and most plants grow better under increased levels of carbon dioxide under optimal conditions. The balance of documented evidence to date suggests that net negative effects will overwhelm the positive benefits from climate change for most of the world, however.

National Security Implications of Climate Change

Climate change will affect U.S. national security interests over the next twenty years through multiple concurrent and compounded pathways. The following sections illustrate some significant national security concerns, but examples provided are illustrative rather than comprehensive.

Global Perturbations

No country will be immune to the effects of climate change over the next 20 years, but some will be able to cope, adapt, or respond more effectively than others. Most populations are likely to encounter multiple stresses across political, social, economic, and human security domains—fragile states in Sub-Saharan Africa, the Middle East, and Central and Southeast Asia are especially vulnerable. Local problems could spillover with global consequences, such as through increased human displacement, natural resource disputes, commodity price volatility, or violence.

Studies of potential economic costs from climate change vary considerably. Most estimates show limited aggregate damage to the global economy over the next 20 years, however economic damage to some nations or regions could be severe. Past and anticipated extreme climate events may discourage investments in regions deemed especially vulnerable, and insurance rates may rise well before actual adverse climate effects are felt. Progress on development, particularly in low-lying coastal areas, may stall or recede. A harsher climate also will stress or harm infrastructure not designed for such conditions, especially in urban settings. The financial burden of adapting and responding to emergent climate hazards and crises while expanding efforts to mitigate greenhouse gas emissions could reduce money available for other investments.

Threats to human health will emerge or intensify from climate change. Some groups of people are especially susceptible to climate-sensitive health hazards such as periods of extreme heat. Examples include young children and the elderly, populations experiencing social marginalization through poverty or migration status, and individuals already suffering adverse health conditions. Water-borne diseases such as diarrhea are highly sensitive to climate conditions. Long-term changes in climate could gradually shift the geographic range, seasonal timing, and transmission intensify of infectious diseases worldwide. Health care infrastructure and delivery systems are also likely to be affected.

Food security will almost certainly decrease in some regions. The precise impact of climate change on agriculture production will differ by region and crop, but damages are likely to be greater for countries located closer to the equator. Elevated overnight temperatures will put particular pressure on agricultural productivity. Fisheries productivity is likely to decrease in some areas, such as East Asia. Livestock will be increasingly vulnerable to periods of extreme heat and drought.

Climate change effects could undermine important international systems on which the United States and its partners are critically dependent, such as trade routes, food and energy supplies, the global economy, and domestic stability abroad. Poorly designed adaptation and mitigation responses to climate change could undermine long-term U.S. economic, energy, and security goals. Ongoing climate-related hazards, and the perception of Western responsibility, may engender hostility towards the United States or other industrialized countries.

Instability

Most, if not all, countries are unable to respond fully to the risks posed by climate-linked hazards under present conditions. With increased pressure from climate change, existing social and political structures will come under greater strain, which could deepen grievances and stoke tensions. Impacts would disproportionately fall on vulnerable populations, such as youth. The consequences likely will be severe enough in some instances to compel international reaction, including from the United States. Countries with weak institutions, low governmental legitimacy, or where the potential for conflict and political strife is already present, will have increased risk of instability. Cross-border displacement to neighboring poor countries may undermine regional stability.

Heightened Tensions over Natural Resources

Water. Decreases in water access, quality, or reliability may increase the risk of conflict between populations who share river basins or aquifers, especially at the subnational level. Although water is typically a source of cooperation between countries, extreme water scarcity or rapidly changing conditions could change this dynamic. Tensions are especially enflamed when an upstream country builds infrastructure, such as a dam, without a water-sharing agreement with downstream countries.

Fisheries. Disputes over fishing rights and access to fisheries have become major points of contention for countries that rely heavily on fishing for food or income. Ocean acidification and warming is likely to redistribute marine fish populations, benefitting some regions at the expense of others, while global fisheries face additional pressures from overexploitation and declining ocean health. Intensifying coral bleaching will harm reef ecosystems crucial for vast species of marine life.

Arable land. Declines in land resources crucial to livelihoods and sustenance are well-known drivers of local conflict. In some regions, climate change effects will worsen already degraded soil quality with concomitant effects on the people who depend acutely on its productivity.

Human Movement

An individual's decision to migrate depends on a variety of social and economic factors, and there is little evidence that climate change effects have been the determining factor in these decisions to date. Nonetheless, people are likely to perceive additional reasons to flee their homes because of

compounded climate change effects, primarily due to the loss of access to critical resources. In addition to movement within national borders—especially to urban areas—many displaced persons will migrate into neighboring countries, sometimes as a staging ground for subsequent onward movement towards countries with greater economic opportunities. Many receiving nations will have neither the resources nor interest to host these migrants. Increasingly inhospitable conditions and losses of territory from sea level rise will likely spur some island nations, particularly in the tropical Pacific, to consider relocating large segments of its population elsewhere. Over the next few decades, the net effects of climate change on patterns of migration and statelessness could be dramatic, perhaps unprecedented.

Humanitarian Crises

According to the World Bank, an estimated two billion people already live in fragile and conflict-affected areas of the world and, by 2030, at least half of the world's poor will live in these settings. These populations are at a disproportionately higher risk to climate-linked hazards. While natural disasters have happened for all of human history, extreme events amplified by climate change may pose newfound challenges, particularly when compounded events occur with greater frequency or severity in the same area. The exposure and resilience of people and assets of those affected are critical factors in how crises unfold. As humanitarian emergencies persist, the international community's capacity—or interest—to respond will be increasingly strained.

New Geostrategic Competitive Domains

The Arctic region is warming twice as fast as the rest of the globe and undergoing major and rapid transformation. Retreating sea ice creates new possibilities for resource extraction, tourism, and Arctic fishing, as well as new shipping routes between the Atlantic and Pacific, although operating in the Arctic will continue to prove difficult. Disputes over natural resource extraction operations or unresolved maritime limits and boundary claims will likely increase as the Arctic opens.

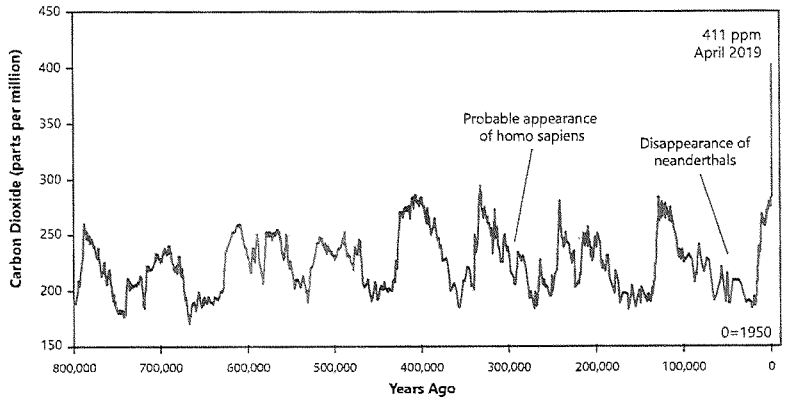
Adverse Effects on Militaries

Increasing sea-level rise, flooding, drought, temperatures, and extreme weather events will threaten military capabilities and facilities on domestic and foreign territory, including military bases and training ranges. Operations and equipment will also need to be able to withstand harsher weather conditions. Sea level rise and increased frequency of some tropical cyclones, and its associated impacts on erosion, will require significant levels of new surveying and mapping operations to ensure naval traversability and access to ports. Personnel may also be increasingly unprepared or trained for especially severe or novel conditions, such as fighting pests or combatting wildfires.

Heightened Risk of Climate-Linked Surprises

While climate models project continuous, long-term increases in temperature and other variables, scientists warn that sudden, dramatic climate shifts are possible, given the complexity of the system and analogs in the climate record. The Earth's climate occasionally has undergone extreme shifts that greatly challenge or overpower many species' ability to adapt, sometimes in as little as a decade or two. A large body of scientific evidence indicates that Earth's systems are being driven by natural and manmade forces at extraordinarily high rates of change across the atmosphere, biosphere, cryosphere, oceans, and soil. For example, the current rate of increase of atmospheric carbon dioxide is the highest in perhaps 66 million years and at levels not seen in at least 800,000 years (Figure 5).

Figure 5: Carbon Dioxide Levels from 800,000 Years Ago to Present



Source: National Oceanic and Atmospheric Administration (NOAA). Paleoclimate data are reconstructed from ice core samples while direct measurements have been collected since 1958 at the Mauna Loa Observatory, Hawaii.

Scientists are working out the precise degree to which the climate responds thermally to such pulses of carbon dioxide, but the resultant rate of temperature change is likely unprecedented in modern human history. Many scientists highlight the growing risk that abrupt impacts from climate change will increase over the next several decades and beyond. The national security implications of such changes could be severe.

Closing

The IC's role is not to predict the future but rather to assess risk and provide strategic warning. From a national security perspective, the disruption imparted by climate change and its associated effects over 20 years depends critically on at least four factors:

- The degree to which known levels of carbon dioxide and other greenhouse gases drive global and especially regional temperature increases: a large or small influence, or something in between
- The degree to which the multiplicity of concurrent or sequential climate-linked hazards interact, amplify, or offset each other
- The degree to which the drivers of climate change, particularly greenhouse gas emissions, will be addressed by people, governments, and industries
- The degree to which people's exposure and vulnerability to known and anticipated climate-linked hazards are reduced

The first two factors are scientific concerns and active areas of academic research; people's choices in the present and future, however, dictate the magnitude of the last two. The large range of uncertainties means that quantifying the appropriate timeframe for action is difficult—complicated by the fact that responses to stresses will often require many years to bear fruit. Absent extensive mitigating factors or events, we see few plausible future scenarios where significant—possibly catastrophic—harm does not arise from the compounded effects of climate change.

The State Department's Bureau of Intelligence and Research produced this document and did not coordinate with the rest of the intelligence community in its production.



Statement for the Record

Dr. Rod Schoonover
Senior Analyst
Bureau of Intelligence and Research
Department of State

Hearing on
The National Security Implications of Climate Change

Before the
Permanent Select Committee on Intelligence
U.S. House of Representatives

June 5, 2019

UNCLASSIFIED

Chairman Schiff, Ranking Member Nunes, and distinguished members of the Committee, thank you for inviting me to speak with you today on the national security implications of climate change.

As a U.S. intelligence officer in the Department of State Bureau of Intelligence and Research it is my job to provide clear, objective, and independent analysis to policymakers to advance U.S. national security objectives. As a scientist in the intelligence community (IC), I blend insights derived from peer-reviewed journal articles and other scientific reports with information gathered from daily intelligence reporting to provide science-informed national security analysis. My understanding of this and other issues is deepened by the cadre of talented and dedicated officers in the IC, many with technical expertise, who quietly serve U.S. interests. This Committee is already aware that the IC does not advocate for any particular set of policies, including those that address climate change.

The Bottom Line

Fundamental characteristics of the global climate are moving outside the bounds experienced in human history and there is uncertainty on how some aspects of the climate will evolve. Given the complex social and political contexts in which a multitude of changes are occurring, however, we can expect new and compounded stresses on people and societies around the world, many with outcomes important for national security.

Climate change will have wide-ranging implications for U.S. national security over the next 20 years through global perturbations, increased risk of political instability, heightened tensions between countries for resources, a growing number of climate-linked humanitarian crises, emergent geostrategic competitive domains, and adverse effects on militaries. Increasingly probable amalgamations of these security concerns are especially worrisome. Climate change alone is unlikely to trigger state failure in the next few decades but it will affect factors that that contribute to conflict, such as access to natural resources. People will increasingly decide to move because of deteriorating conditions, both within nations and into countries that are more prosperous. Perhaps most importantly, the rapidity of concurrent and compounded changes to Earth's systems, from human and natural causes, heightens the risk for unwelcome and possibly severe climate-linked surprises.

Framework for Analysis

The IC's task with respect to climate change is to inform policymakers of the myriad risks and uncertainties that may lie ahead, rather than trying to predict the future. We have therefore examined a wide range of climate change effects, including those currently believed to have low probability, particularly if the ramifications could be highly impactful. The IC focuses on security considerations outside the United States, so we do not address the direct effects of climate change on the U.S. homeland. We expect, however, that many judgements could nonetheless apply to the United States.

Commented [BJME1]: NSC Comment: There could be national security implications of climate change, but you won't find a scientific assessment of them in this testimony. Cooling in northern Europe was one of the factors that drove Germanic tribes into the Roman empire and hastened its collapse. An even more dramatic cooling and drying, the 4.2 kiloyear event coincided with the the demise of the Egyptian Old Kingdom, the Akkadian empire in Mesopotamia, the collapse of the Indus Valley civilization and other disruptions around the world. So indeed, climate change can affect human society, but every historical instance was from cooling, not warming.

Commented [BJME2]: NSC Comment: This is not objective testimony at all. It includes lots of climate-alarm propaganda that is not science at all. I am embarrassed to have this go out on behalf of the Executive Branch of the Federal Government.

Commented [BJME3]: NSC Comment: No, there is nothing exceptional about current climate and it is profoundly incorrect to say that "characteristics of global climate are moving outside the bounds experienced in human history." There was faster and greater Medieval warming around the year 1000 when Norse settled southern Greenland and developed a thriving agricultural society.

Commented [BJME4]: NSC Comment: First sentence reads as if climate change is the primary causal event, but next sentence says climate "change alone is unlikely to trigger state failure..." and will exacerbate existing conditions. Unsure what this bottom line here is.

Commented [BJME5]: NSC Comment: Is this climate conditions, or general "inhospitable" (now "deteriorating") conditions?

Commented [BJME6]: NSC Comment: There is nothing unusually rapid about the very modest warming that has occurred in the past century. The Medieval warming mentioned above was more extreme.

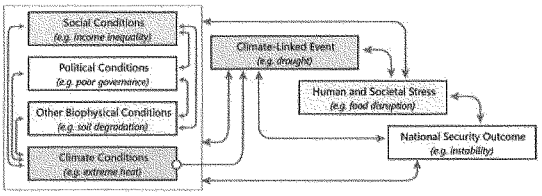
For this analysis, we consider an event a national security concern when it:

- Produces a noticeable, even if temporary, degradation of one of the elements of U.S. national power: geopolitical, military, economic, informational, social cohesion
- Indirectly influences the United States, through a strategically important ally or partner
- Causes adverse effects that indirectly consume U.S. resources

Analyzing the national security implications of climate change generally requires tracing a logic trail from climate stressor to climate-linked event to societal stress to security concern, an endeavor complicated by climate conditions being intertwined in a complex of social, political, and biophysical conditions (Figure 1). Enumerating the large number of other important contributing factors is beyond the scope of this document, but illustrative examples include consumption patterns, demographics, environmental degradation, existing social and political conditions, land-use changes, emerging technologies, governance, and the tendency for populations to concentrate in climate-vulnerable locations. Changing climate conditions, in combination with other stressors, almost certainly will increasingly threaten national security over the next few decades.

Commented [BJME7]: NSC Comment: Is the purpose of this 2013 chart to say that climate change is primary cause of the "National Security Outcome (e.g. instability)", or climate change one of many factors that exacerbate instability?

Figure 1: Schematic Links Between Climate Change and National Security



Source: Adapted from *Climate and Social Stress*, National Research Council 2013. Many links involve causal relationships in both directions, and some links are more important than others. Outcomes from human and societal stress are highly dependent on a given population's exposure, vulnerability to harm, and ability to cope, respond, or recover from a climate-linked event.

Commented [BJME8]: WHLA Comment: Cut sections of the testimony that don't directly address the hearing topic

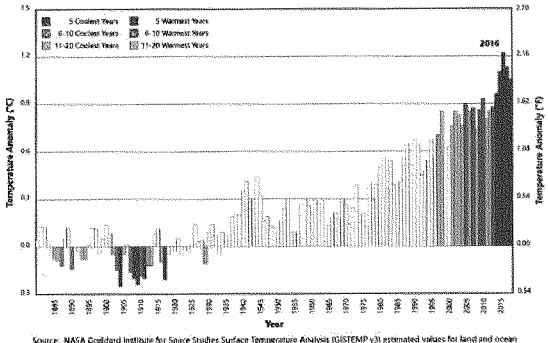
Commented [BJME9]: NSC Comment: For the past 30 years, funding for climate research by the federal government and private foundations has welcomed research findings that support climate alarm. Any research that does not reinforce this narrative has been frowned on, and grants to have not been renewed. So the information mentioned here is heavily biased toward alarm.

Before the collapse of the Soviet Union in 1990 peer-reviewed literature, from the Soviet bloc and from Western sympathizers uniformly touted the great advantages of socialist, planned economies. A consensus of peer reviewed literature has nothing to do with truth.

~~Scientific Baseline~~

~~The IC does not develop climate science; we instead rely on findings from outside sources. Our preferred sources are from U.S. Government technical agencies, such as NASA, NOAA and USGS, and U.S. scientific institutions such as the National Academy of Sciences. We also utilize information and analysis from many other domestic and international sources, particularly peer-reviewed journals.~~

Figure 2: Global Temperature Anomaly by Year Since 1880



Source: NASA Goddard Institute for Space Studies Surface Temperature Analysis (GISTEMP v3) estimated values for land and ocean surface temperatures averaged globally. Temperature anomaly is the difference between a given year's temperature and a computed average of the 1850-1899 data.

The Earth's climate is unequivocally undergoing a long-term warming trend as established by decades of scientific measurements from multiple, independent lines of evidence (Figure 2). Eighteen of the last 20 years have been the warmest on record and the last five years have been the warmest five, according to NASA's Goddard Institute for Space Studies, a finding echoed by other countries' meteorological agencies. Extreme high-temperature events are increasing across the globe as the distribution of observed temperatures skews towards higher values and the predictability of temperatures is declining. Temperatures are rising faster over landmasses, particularly near the poles, than open oceans, and global records indicated temperatures have been rising at all depths of the ocean, which absorbs over 90% of heat trapped within the Earth's climate. Ocean waters are also acidifying from the absorption of atmospheric carbon dioxide.

Looking ahead, global average surface temperatures will continue to increase over the next several decades, due largely to past emissions of long-lived greenhouse gases such as carbon dioxide. Beyond a few decades, however, additional temperature increases will critically depend on the cumulative atmospheric concentrations of greenhouse gases. Since ocean warming considerably lags that of the atmosphere, ocean temperatures will increase well into the future.

Commented [BJME10]: NSC Comment: The surface temperature data of Fig. 2 is very controversial. It has been fiddled with to reduce recorded temperatures of early years and to increase temperatures of recent years in order to give the appearance of alarming warming. Temperature records for rural locations, unaffected by urban heat island bias, show much less warming.

Satellite measurements of the temperature of the lower atmosphere since about 1980 also show much less warming. All models find that the atmosphere should exhibit more warming than the surface, not less.

There has been very modest warming in fits and starts since the end of the Little Ice Ages, about the year 1800. This was interrupted by cooling from about 1940 to 1980, leading to ominous predictions of a new ice age Time, Newsweek and other journals that are just as confidently predicting uninterrupted warming fron [1]

Commented [BJME11]: NSC Comment: This is not true. Extreme high temperature records are not increasing. The hottest temperature recorded with thermometers was 134.1 F (56.7 C) in Death Valley on July 10, 1913. For US temperature records not contaminated by urban heat island effects, record high temperatures were recorded during the dust bowl years of the 1930's.

Commented [BJME12]: NSC Comment: No, some ocean volumes are warming and some are cooling. Much of the North Atlantic has cooled. And ocean warmings or coolings are of order 0.1 C or less.

Commented [BJME13]: NSC Comment: The oceans are strongly basic with an average surface pH of about 8.1. Increased concentrations of CO2 should have slightly reduced the pH to around 8.0. This is a completely trivial change compared to the natural fluctuations of ocean pH with time of day, depth, latitude, etc. where pH can range from 8.3 to 7.5. To call an average change of pH from 8.1 to 8.0 [2]

Commented [BJME14]: NSC Comment: Nobody is sure what will happen to temperatures over the next several decades. Greenhouse gases should cause some warming. But the observed warming has been much less than model predictions, and consistent with 1 C warming, or less, for doubling CO2 concentrations in the atmosphere. This would be an overall benefit [3]

Commented [BJME15]: Previous version noted that "computer models indicate". NSC comment: Which models and is it all, some, or most?

~~Rising temperatures in turn drive changes in a vast number of Earth-system processes, particularly in the atmosphere, ocean, freshwater, soil, ice masses, permafrost, and organisms comprising the biosphere. The Earth's complexity complicates a detailed understanding of how these myriad temperature-dependent processes evolve and interact over time and space, but scientists have elucidated trends for an important set of climate-linked phenomena including and beyond temperature (Figure 3). Over time, ongoing temperature increases will likely expose populations to a greater number of concurrent climate-linked events. There will also be other unexpected—and potentially disruptive—climate-linked events currently uncharacterized by the scientific community.~~

Figure 3: Projected Trends in Selected Climate-Linked Phenomena (2050-2100)

Phenomenon	Change	Confidence
Global mean surface temperature	↑	HIGH
Global mean sea level	↑	HIGH
Arctic sea ice cover	↓	HIGH
Hot days and nights over land (warmth, frequency)	↑	HIGH
Cold days and nights over land (warmth, frequency)	↓	HIGH
Extreme high sea level (incidence, magnitude)	↑	HIGH
Heatwaves and warm spells over land (frequency, duration)	↑	HIGH
Heavy precipitation events	↑	HIGH
Droughts (intensity, duration)	↑	HIGH
Tropical cyclones in North Atlantic and Western North Pacific basins (intensity, frequency)	↑	MEDIUM
Global mean precipitation	↑	HIGH
Contrast between wet and dry regions	↑	HIGH
Snow cover in the Northern Hemisphere	↓	HIGH
Permafrost integrity	↓	MEDIUM
Storm tracks (poleward shift)	↑	HIGH
Wave heights in Arctic and Southern Oceans	↑	HIGH
Upper ocean temperatures	↑	HIGH
Ocean acidification	↑	HIGH
Oceanic oxygen content	↓	HIGH
Mountain phenomena (slope instability, mass movement, glacial lake outbursts)	↑	HIGH
Animal and plant species distribution (poleward and upward in altitude)	↑	HIGH
Timing of ecological spring events (leafing, greening, migration, etc.)	↑	HIGH
Coral degradation and bleaching	↑	HIGH

Source: Adapted from Intergovernmental Panel on Climate Change (IPCC), WG II, AR5, 2014. Projections assume that the average global temperature increase will exceed 2°C (3.6°F). The confidence statement reflects the IPCC's qualitative assessment of the robustness of evidence and agreement between different lines of evidence; "high" indicates very high or high confidence while "medium" denotes medium confidence. Phenomena with no clear trend or with significant regional variation are not shown. The IPCC employs the 2050-2100 timeframe to establish general trends; the national security window is usually shorter and on the order of days to a few decades.

Key
↑ Increasing overall
↓ Decreasing overall
↑ More regions increasing than decreasing

Commented [BJME16]: NSC Comment: Figure 3 means almost nothing, since the computer models on which it is based don't work. They have predicted far more warming than has been observed. They have failed to predicted the pronounced cooling of the Southeast of the United States. One of the most respected climate modelers, Suki Manabe, says: "Don't put your model in a race with nature. Your model will lose this race."

Commented [BJME17]: NSC Comment: There will be or there currently is? Does this also mean the outcome could also be that there are no also no disruptive climate linked events?

Extreme weather and climate events are a major risk for all societies. They are caused by the rare occurrence of extreme values of certain meteorological variables, such as high and low temperatures (heat and cold waves), increased and reduced amounts of precipitation (floods and droughts), and high wind speeds (storms). Such events may occur at different rates, with different intensities, or at different locations compared to historical patterns, any of which may be disruptive. Over the last 10 years, the IC has deepened its appreciation of the significance of extreme weather events to national security. Most significantly, based on the science, we have come to appreciate that such events are a more near-term risk than previously assessed.

For classes of extreme events that increase in frequency of occurrence, we expect that the distribution of future extreme events in geographical location and time will be increasingly important in terms of potential for harm. Multiple extreme events of modest intensity that are clustered, compounded, or sequential may be more damaging or disruptive than single events that are more powerful. We also recognize the potential for analogous climate-linked extreme events in the biosphere, such as a mass die-off of an economically important species or sudden emergence of a destructive pest. Such events are not well characterized in the academic literature but are almost certainly important as an additional, and compounding, stress on societies.

High-impact, low-probability events are important when assessing risk from climate change because of their potential for substantial harm to people. Scientists are particularly interested in understanding climate-linked thresholds, beyond which large nonlinear shifts in subcomponents of the Earth's system occur. Although likely caused by intensive land use, poor resource management policies, and naturally occurring drought rather than climate change, the 1930's Dust Bowl of the central United States nonetheless illustrates the severe social and economic impacts that can accompany unforeseen shifts in climate conditions. Since research has not sufficiently characterized many details of these climate-linked thresholds, including early-warning indicators, crossing them is possible over any future timeframe. Potential future tipping point processes include:

- Very rapid die-offs of many critically important species, such as coral or insects
- Rapid conversion of Amazon and other rainforests to grassland
- Massive release of carbon from methane hydrates or permafrost carbon
- Discontinuous decrease in summertime Arctic sea ice
- Rapid melting in West Antarctic or Greenland ice masses
- Weakening of the regional North Atlantic Ocean convection belt
- Increased strength of El Nino Southern Oscillation
- Weakening of the Atlantic Meridional Overturning Circulation belt
- Changes in the West African Monsoon

Rapid-onset processes—particularly arising from socioeconomic or technological sectors—that offset or slow climate change effects, are also possible.

Commented [BJME18]: NSC Comment: This statement is nonsense. Mass die-offs have nothing to do with the warmings and coolings that we have experienced over the Holocene, the past 12,000 years or so since the last ice age ended. Most mass dieoffs have been due to the introduction of diseases to previously unexposed populations, smallpox to native American populations by Europeans or the extermination of the American chestnut tree by an Asian fungus. Losses are particularly severe in islands where introduced species can overwhelm local species that have never faced competition. This has nothing to do with climate change.

Commented [BJME19]: NSC Comment: "Tipping points" is a propaganda slogan designed to frighten the scientifically illiterate. They were a favorite of Al Gore's science advisor, Jim Hansen. None of the bulleted tipping points are probable, and they often violate very fundamental laws of physics, for example, that substantial amounts of latent heat are needed to melt ice. Both the West African monsoon and the Atlantic meridional overturning are driven by the rotation of the Earth and the predominant solar heating of tropical latitudes. These are not going to change.

~~Stresses to Human and Societal Systems~~

~~Climate-linked events are disruptive to humans and societies when they harm people directly or substantially weaken the social, political, economic, environmental, or infrastructural systems that support people. For the next few decades, which represents the era of committed climate change irrespective of future greenhouse gas emissions, we expect that climate change will amplify existing stresses while also creating new ones for human and societal systems. Some stresses will be localized or limited to particular sectors, while others may have worldwide implications, such as disruptions to the global food supply [Figure 4].~~

Figure 4: Examples of Climate-Linked Stresses to Human and Societal Systems

Direct impacts from extreme events, such as droughts, floods, fires, and storms	Decreased surface water and groundwater resource supply and access	Reduced water quality from droughts or heavy rainfall
Increased species extinction and redistribution, and population reductions	Coastal impacts, such as flooding, submergence, surges, and erosion	Redistribution of catch potential for fish and invertebrates
Loss of marine biodiversity that support humans	Depressed crop yields and increases in yield variability	Risks to food access, utilization, storage, and price stability
Risks to global supply chains, such as food, minerals, and products	Shifts in production zones of food, fiber, and fuel crops	Decreased energy system integrity and reliability
Adverse effects on key economic sectors, such as insurance and tourism	Deterioration or loss of housing or shelter	Declining work productivity, especially from extreme heat
Decreased integrity and reliability of infrastructure	Disruption of ecological food webs	Increased displacement of people and changes in migration patterns
Negative repercussions on human health, including injury, disease, and death	Changing or emerging geographic domains, such as the thawing Arctic	Loss or degradation of resource-dependent livelihoods, such as agriculture and pastoralism
Loss of territory or infrastructure to sea level rise	Change in distribution of disease-carrying organisms	Increases in frequency, range, or toxicity of harmful algae

Though not exhaustive, this chart illustrates the multiplicity of potential stresses that could intensify or emerge from climate change.

~~Climate change will also produce beneficial changes for some populations. For example, glacier melt could lessen water stress for perhaps a billion Asians over the next few decades, and most plants grow better under increased levels of carbon dioxide under optimal conditions. The balance of documented evidence to date suggests that net negative effects will overwhelm the positive benefits from climate change for most of the world, however.~~

Commented [BJME20]: WHLA Comment: Cut sections of the testimony that don't directly address the hearing topic

Commented [BJME21]: NSC Comment: What is the citation/source of this chart?

Wow, climate change must be the first example in human history of "an ill wind that blows no good."

Figure 4 is junk science. More of the main greenhouse gas, carbon dioxide, is substantially increasing food production, forestry productivity, and land vegetation in general. This is apparent not only from the massive increases grain harvests around the world, and the yield per acre, but also from satellite observations of global greening due to the relative modest increases of CO2 that have occurred over the past fifty years.

National Security Implications of Climate Change

Climate change will affect U.S. national security interests over the next twenty years through multiple concurrent and compounded pathways. The following sections illustrate some significant national security concerns, but examples provided are illustrative rather than comprehensive.

Global Perturbations

No country will be immune to the effects of climate change over the next 20 years, but some will be able to cope, adapt, or respond more effectively than others. Most populations are likely to encounter multiple stresses across political, social, economic, and human security domains—fragile states in Sub-Saharan Africa, the Middle East, and Central and Southeast Asia are especially vulnerable. Local problems could spillover with global consequences, such as through increased human displacement, natural resource disputes, commodity price volatility, or violence.

Studies of potential economic costs from climate change vary considerably. Most estimates show limited aggregate damage to the global economy over the next 20 years, however economic damage to some nations or regions could be severe. Past and anticipated extreme climate events may discourage investments in regions deemed especially vulnerable, and insurance rates may rise well before actual adverse climate effects are felt. Progress on development, particularly in low-lying coastal areas, may stall or recede. A harsher climate also will stress or harm infrastructure not designed for such conditions, especially in urban settings. The financial burden of adapting and responding to emergent climate hazards and crises while expanding efforts to mitigate greenhouse gas emissions could reduce money available for other investments.

Threats to human health will emerge or intensify from climate change. Some groups of people are especially susceptible to climate-sensitive health hazards such as periods of extreme heat. Examples include young children and the elderly, populations experiencing social marginalization through poverty or migration status, and individuals already suffering adverse health conditions. Water-borne diseases such as diarrhea are highly sensitive to climate conditions. Long-term changes in climate could gradually shift the geographic range, seasonal timing, and transmission intensity of infectious diseases worldwide. Health care infrastructure and delivery systems are also likely to be affected.

Food security will almost certainly decrease in some regions. The precise impact of climate change on agriculture production will differ by region and crop, but damages are likely to be greater for countries located closer to the equator. Elevated overnight temperatures will put particular pressure on agricultural productivity. Fisheries productivity is likely to decrease in some areas, such as East Asia. Livestock will be increasingly vulnerable to periods of extreme heat and drought.

Commented [BJME22]: NSC Comment: This testimony religiously assumes that any climate change will certainly be bad. But this assumption is not based on science. Economic models that account for the benefits of modest warming (which is all we are likely to get from increased CO2 levels) and account for the massive benefits of more CO2 to agriculture and forestry, show that the "cost of carbon" is actually negative, more CO2 benefits the world until CO2 levels greatly exceed those today.

Commented [BJME23]: NSC Comment: More junk science. The prevalence of infectious diseases has little to do with climate but is an issue of public health control of disease vectors, immunization of the population, etc. During the American Revolutionary War, from 1776 to 1781 Congress appropriated substantial sums to buy quinine for the Continental Army. At that time, in the cool final decades of the Little Ice Age, malaria was a problem in Boston and even further north. Some 5000 people or more died in the yellow fever epidemic of 1793 in Philadelphia. The anti-vaccination cult is already causing much more damage to public health than climate change.

Commented [BJME24]: NSC Comment: This is more nonsense. Observations and theories (in rare agreement) show that any global warming in the tropics will be minimal, and most climate change will take place nearer the poles.

Climate change effects could undermine important international systems on which the United States and its partners are critically dependent, such as trade routes, food and energy supplies, the global economy, and domestic stability abroad. Poorly designed adaptation and mitigation responses to climate change could undermine long-term U.S. economic, energy, and security goals. Ongoing climate-related hazards, and the perception of Western responsibility, may engender hostility towards the United States or other industrialized countries.

Commented [BJME25]: NSC Comment: Yes, there is growing hostility to the "eco-imperialism" of the USA and its affluent allies whose prosperity was built on inexpensive, reliable fossil fuels. The World Bank refuses to finance modern, ecologically friendly, reliable and affordable coal power plants in Africa or other less developed parts of the world, where people would like to enjoy some of the same comforts that we do, instead, they are supposed to rely on expensive and unreliable wind and solar power.

Instability

Most, if not all, countries are unable to respond fully to the risks posed by climate-linked hazards under present conditions. With increased pressure from climate change, existing social and political structures will come under greater strain, which could deepen grievances and stoke tensions. Impacts would disproportionately fall on vulnerable populations, such as youth. The consequences likely will be severe enough in some instances to compel international reaction, including from the United States. Countries with weak institutions, low governmental legitimacy, or where the potential for conflict and political strife is already present, will have increased risk of instability. Cross-border displacement to neighboring poor countries may undermine regional stability.

Heightened Tensions over Natural Resources

Water. Decreases in water access, quality, or reliability may increase the risk of conflict between populations who share river basins or aquifers, especially at the subnational level. Although water is typically a source of cooperation between countries, extreme water scarcity or rapidly changing conditions could change this dynamic. Tensions are especially enflamed when an upstream country builds infrastructure, such as a dam, without a water-sharing agreement with downstream countries.

Fisheries. Disputes over fishing rights and access to fisheries have become major points of contention for countries that rely heavily on fishing for food or income. Ocean acidification and warming is likely to redistribute marine fish populations, benefitting some regions at the expense of others, while global fisheries face additional pressures from overexploitation and declining ocean health. Intensifying coral bleaching will harm reef ecosystems crucial for vast species of marine life.

Commented [BJME26]: NSC Comment: There is no evidence that coral bleaching is intensifying now or will in the future. Coral reefs have bleached and usually recovered throughout their evolutionary history.

Arable land. Declines in land resources crucial to livelihoods and sustenance are well-known drivers of local conflict. In some regions, climate change effects will worsen already degraded soil quality with concomitant effects on the people who depend acutely on its productivity.

Commented [BJME27]: NSC Comment: This is nonsense. People used to talk about the degraded soil of my birthplace, India. Since I left India in 1948, grain production has increased by over a factor of ten, and continues to increase. Some of the many reasons for this good news are the use of chemical fertilizers, better seed varieties, better cropping methods, and increases in atmospheric CO2.

Human Movement

An individual's decision to migrate depends on a variety of social and economic factors, and there is little evidence that climate change effects have been the determining factor in these decisions to date. Nonetheless, people are likely to perceive additional reasons to flee their homes because of

compounded climate change effects, primarily due to the loss of access to critical resources. In addition to movement within national borders—especially to urban areas—many displaced persons will migrate into neighboring countries, sometimes as a staging ground for subsequent onward movement towards countries with greater economic opportunities. Many receiving nations will have neither the resources nor interest to host these migrants. Increasingly inhospitable conditions and losses of territory from sea level rise will likely spur some island nations, particularly in the tropical Pacific, to consider relocating large segments of its population elsewhere. Over the next few decades, the net effects of climate change on patterns of migration and statelessness could be dramatic, perhaps unprecedented.

Humanitarian Crises

According to the World Bank, an estimated two billion people already live in fragile and conflict-affected areas of the world and, by 2030, at least half of the world's poor will live in these settings. These populations are at a disproportionately higher risk to climate-linked hazards. While natural disasters have happened for all of human history, extreme events amplified by climate change may pose newfound challenges, particularly when compounded events occur with greater frequency or severity in the same area. The exposure and resilience of people and assets of those affected are critical factors in how crises unfold. As humanitarian emergencies persist, the international community's capacity—or interest—to respond will be increasingly strained.

New Geostrategic Competitive Domains

The Arctic region is warming twice as fast as the rest of the globe and undergoing major and rapid transformation. Retreating sea ice creates new possibilities for resource extraction, tourism, and Arctic fishing, as well as new shipping routes between the Atlantic and Pacific, although operating in the Arctic will continue to prove difficult. Disputes over natural resource extraction operations or unresolved maritime limits and boundary claims will likely increase as the Arctic opens.

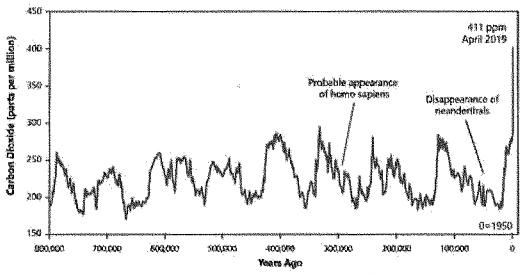
Adverse Effects on Militaries

Increasing sea-level rise, flooding, drought, temperatures, and extreme weather events will threaten military capabilities and facilities on domestic and foreign territory, including military bases and training ranges. Operations and equipment will also need to be able to withstand harsher weather conditions. Sea level rise and increased frequency of some tropical cyclones, and its associated impacts on erosion, will require significant levels of new surveying and mapping operations to ensure naval traversability and access to ports. Personnel may also be increasingly unprepared or trained for especially severe or novel conditions, such as fighting pests or combatting wildfires.

Heightened Risk of Climate-Linked Surprises

While climate models project continuous, long-term increases in temperature and other variables, scientists warn that sudden, dramatic climate shifts are possible, given the complexity of the system and analogs in the climate record. The Earth's climate occasionally has undergone extreme shifts that greatly challenge or overpower many species' ability to adapt, sometimes in as little as a decade or two. A large body of scientific evidence indicates that Earth's systems are being driven by natural and manmade forces at extraordinarily high rates of change across the atmosphere, biosphere, cryosphere, oceans, and soil. For example, the current rate of increase of atmospheric carbon dioxide is the highest in perhaps 66 million years and at levels not seen in at least 800,000 years (Figure 5).

Figure 5: Carbon Dioxide Levels from 800,000 Years Ago to Present



Source: National Oceanic and Atmospheric Administration (NOAA). Paleoclimate data are reconstructed from ice core samples while direct measurements have been collected since 1958 at the Mauna Loa Observatory, Hawaii.

Scientists are working out the precise degree to which the climate responds thermally to such pulses of carbon dioxide, but the resultant rate of temperature change is likely unprecedented in modern human history. Many scientists highlight the growing risk that abrupt impacts from climate change will increase over the next several decades and beyond. The national security implications of such changes could be severe.

Commented [BJME28]: NSC Comment: Figure 5 on its own is very misleading. What it does not show is that during interglacials, like the one we are fortunate to live in, temperatures are very stable. Temperature instabilities are pronounced during glacial periods, not warm periods. The fluctuations of CO2 shown here are the effect of temperature changes, not the cause. When temperature rise, CO2 levels begin to rise a few centuries later. When temperatures fall, CO2 levels fall a few centuries later.

Even if the claim that CO2 levels are higher now than at any time in the past 66 million years is correct, and there is compelling proxy evidence that does not support this, the Earth is some 4500 million years old. Over most of that time CO2 levels have been measured in many thousands of ppm. Plant life evolved at these much higher CO2 levels and plants grow much better when CO2 levels are several thousand ppm, not a puny 400 ppm. Plants die from CO2 starvation at 150 ppm or below, a famine level which was approached multiple times during the glacial maxima of Fig. 5.

Commented [BJME29]: NSC Comment: These are made-up risks of abrupt impacts. No previous interglacial has shown any abrupt changes. Abrupt changes occur when vast ice sheets cover the northern continents.

Closing

The IC's role is not to predict the future but rather to assess risk and provide strategic warning. From a national security perspective, the disruption imparted by climate change and its associated effects over 20 years depends critically on at least four factors:

- The degree to which carbon dioxide and other greenhouse gases drive global temperature increases: a large or small influence, or something in between
- The degree to which the multiplicity of concurrent or sequential climate-linked hazards interact, amplify, or offset each other
- The degree to which the drivers of climate change, particularly greenhouse gas emissions, will be addressed by people, governments, and industries
- The degree to which people's exposure and vulnerability to known and anticipated climate-linked hazards are reduced

The first two factors are scientific concerns and active areas of academic research; people's choices in the present and future, however, dictate the magnitude of the last two. The large range of uncertainties means that quantifying the appropriate timeframe for action is difficult—complicated by the fact that responses to stresses will often require many years to bear fruit. Absent extensive mitigating factors or events, we see few plausible future scenarios where significant—possibly catastrophic—harm does not arise from the compounded effects of climate change.

Commented [BJME30]: NSC Comment: This calibrates the testimony. It is not a science-based assessment but advocacy for the climate-alarm establishment. CO2 levels have been steadily increasing for the past century. At the same time, standards of living and life expectancy have increased, especially in the less developed parts of the world. Agricultural and forestry yields are steadily increasing due to the beneficial effects of more CO2, deaths from extreme weather events are steadily decreasing due to timely warnings of extreme weather, better building and zoning codes.

The State Department's Bureau of Intelligence and Research produced this document and did not coordinate with the rest of the intelligence community in its production.

Commented [BJME31]: OMB LRD Comment: Was there a portticular reason this sentence was added to the testimony?

Page 3: [1] Commented [BJME10] Barringer, Jody M. EOP/OMB 6/3/2019 5:25:00 PM

NSC Comment: The surface temperature data of Fig. 2 is very controversial. It has been fiddled with to reduce recorded temperatures of early years and to increase temperatures of recent years in order to give the appearance of alarming warming. Temperature records for rural locations, unaffected by urban heat island bias, show much less warming.

Satellite measurements of the temperature of the lower atmosphere since about 1980 also show much less warming. All models find that the atmosphere should exhibit more warming than the surface, not less.

There has been very modest warming in fits and starts since the end of the Little Ice Ages, about the year 1800. This was interrupted by cooling from about 1940 to 1980, leading to ominous predictions of a new ice age Time, Newsweek and other journals that are just as confidently predicting uninterrupted warming from now on. A long "pause" in warming began about the year 2000, and the pause may still be in effect.

Page 3: [2] Commented [BJME13] Barringer, Jody M. EOP/OMB 6/3/2019 5:27:00 PM

NSC Comment: The oceans are strongly basic with an average surface pH of about 8.1. Increased concentrations of CO2 should have slightly reduced the pH to around 8.0. This is a completely trivial change compared to the natural fluctuations of ocean pH with time of day, depth, latitude, etc. where pH can range from 8.3 to 7.5. To call an average change of pH from 8.1 to 8.0 "acidification" is propaganda, designed to alarm the chemically illiterate.

Page 3: [3] Commented [BJME14] Barringer, Jody M. EOP/OMB 6/3/2019 5:27:00 PM

NSC Comment: Nobody is sure what will happen to temperatures over the next several decades. Greenhouse gases should cause some warming. But the observed warming has been much less than model predictions, and consistent with 1 C warming, or less, for doubling CO2 concentrations in the atmosphere. This would be an overall benefit to society, for example, by extending growing seasons, curtailing winter mortality.

FRANK PALLONE, JR., NEW JERSEY
CHAIRMAN

GREG WALDEN, OREGON
RANKING MEMBER

ONE HUNDRED SIXTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE
2125 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6115
Majority (202) 225–2927
Minority (202) 225–3641

February 13, 2019

The Honorable Frank Pallone, Jr.
Chairman
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

The Honorable Paul Tonko
Chairman
Subcommittee on Environment
and Climate Change
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Pallone and Chairman Tonko:

We write to follow-up with you on the February 6, 2019 hearing before the Subcommittee on Environment and Climate Change concerning the impacts on climate change. As we made clear during the hearing, there is broad bipartisan agreement that prudent steps should be taken to address current and future climate risks.

What will be crucial going forward is rigorous examination of the costs, effectiveness, and economic impacts of any such policy steps proposed to address these risks. And we hope you will be open to scrutiny of these policies. Last week, some leaders of the Democratic party introduced the so-called Green New Deal, which calls for a 10-year plan to move U.S. power generation to 100 percent zero-emission energy sources. However, the Green New Deal minimizes the realities of current American and global energy systems. It ignores fundamental societal needs for affordable, reliable energy. In fact, the plan dismisses clean energy technologies essential for any future energy system, and ignores practical climate solutions that we should be working together to promote. But even though this proposal is billed as a solution to climate change, it also includes numerous unrelated, prohibitively expensive policy goals such as government-run health care, guaranteed income, and guaranteed employment. We have serious concerns about the potential adverse economic and employment impacts of these types of measures.

It will be important to recognize the ingredients for this nation's continuing success in global technological leadership when addressing future risks in energy, climate, and national security. For this reason, we urge you to avoid entertaining or resurrecting policies that have

been shown to be costly and harmful to consumer and worker interests and focus instead on the bipartisan policies that lay a path of progress towards cleaner energy while ensuring the expansion of economic prosperity and opportunities for American workers. This path focuses on reducing unnecessary regulations and increasing access to abundant, affordable, and secure supply of energy that powers prosperity—the powerful combination of which gives Americans the freedom to innovate and design new technologies and services to make our lives better.

Regulatory certainty and affordable energy inform how we should think about future energy systems. This is why we conducted 11 hearings over the past two years to develop information through our Powering America hearing series, which will help develop policies for a more reliable, clean, responsive—and secure—21st electricity delivery system. It is why, in the 115th Congress, the Energy and Commerce Committee worked to enact laws that will enable rapid licensing of hydropower, create more seamless delivery and export of clean burning natural gas, increase private sector use of carbon capture technologies, and streamline regulatory structures that will help enable advanced nuclear energy.

We were pleased that at the hearing, many members on both sides of the aisle expressed interest in working together to find common sense, bipartisan solutions. We are ready to begin that process. Although we cannot support schemes that risk constraining the supply of new technologies, increase burdensome government, and raise the price of energy that will send jobs overseas and depress economic opportunity, we do support policies that will further the tremendous wealth, security, and environmental benefits created through American energy innovation over the past decade.

We want America's innovators to develop the next technologies that will improve the environment and create jobs here at home. We want a healthy environment for our children, and future generations. We want our constituents and all Americans to have jobs and the opportunity to provide for their families. These are not mutually exclusive principles, and they are embedded in our approach to confronting climate risks. Let us work on them together.

Sincerely,

Greg Walden
Republican Leader

John Shimkus
Republican Leader
Subcommittee on Environment
and Climate Change



(202) 656-6229
environmentalprotectionnetwork.org
info@environmentalprotectionnetwork.org

April 8, 2019

The Honorable Frank Pallone, Jr.
Chairman, Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515

The Honorable Greg Walden
Ranking Member, Committee on Energy and Commerce
United States House of Representatives
Washington, D.C. 20515

Dear Chairman Pallone and Ranking Member Walden,

We are senior leaders, Republican and Democratic political appointees, who managed EPA and helped carry out its congressional mandates. We are united that there has never been a more important time for us to put aside our differences and advocate collectively for public health and the environment. Time is of the essence, and much is as stake.

We recognize that you are experts in oversight and are receiving advice from many sources. As you go about creating an oversight strategy and a path forward, we would like to convey our personal willingness to connect you with resources on substance and sounding boards on priorities. Longer term, we look forward to sharing ideas on an affirmative path forward for EPA.

We also offer to connect you with our former colleagues who now comprise the Environmental Protection Network. EPN includes over 350 EPA alumni from across the country volunteering their time to provide informed analyses of current federal actions on the environment and public health and to assure the agency's capacity to fulfill its mission.

As you move forward, we urge you to:

- Affirm the bipartisan public health and environment mission of the agency and hold the agency responsible for adherence to its mission and legislative mandates;
- Focus on the most significant and pervasive public health and environmental risks, including attention to our most vulnerable populations;
- Support the essential role of rigorous consensus science, economics and engineering and assure their use in EPA decisions and regulations;
- Concentrate on substantive policy, management, and enforcement/compliance issues; and
- Look ahead to the future to establish a foundation for advancing higher performing federal/state/tribal environmental management systems through innovation, collaboration and partnerships.

We are willing and eager to be a resource on any number of pressing issues under your consideration. There are many areas that are ripe for oversight and are consistent with the suggestions mentioned above. We are pleased to support you and provide more information as needed.

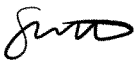
Sincerely,



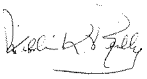
Hon. Carol Browner
EPA Administrator, 1993-2001



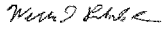
Hon. Lisa Jackson
EPA Administrator, 2009-2013



Hon. Gina McCarthy
EPA Administrator, 2013-2017



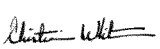
Hon. William Reilly
EPA Administrator, 1989-1993



Hon. William Ruckelshaus
EPA Administrator, 1970-1973 and 1983-1985



Hon. Lee Thomas
EPA Administrator, 1985-1989



Hon. Christine Todd Whitman
EPA Administrator, 2001-2003

American Thoracic Society

American Journal of Respiratory and Critical Care Medicine | American Journal of Respiratory Cell and Molecular Biology | Annals of the American Thoracic Society

JAMES M. BECK, MD, ATSF
President

JUAN C. CELEDÓN, MD, DrPH, ATSF
President-Elect

POLLY E. PARSONS, MD, ATSF
Immediate Past President

LYNN M. SCHNAPP, MD, ATSF
Vice President

GREGORY P. DOWNEY, MD, ATSF
Secretary-Treasurer

KAREN J. COLLISHAW, MPP, CAE
Executive Director

June 10, 2019

The Honorable Diana DeGette
Chair, Oversight and Investigations Subcommittee
House Energy and Commerce Committee
U.S. House of Representatives

The Honorable Brett Guthrie
Ranking Member, Oversight and Investigations Subcommittee
House Energy and Commerce Committee
U.S. House of Representatives

Chair DeGette and Ranking Member Guthrie:

We submit these comments on behalf of the 16,000 members of the American Thoracic Society (ATS) to express our opposition to EPA's efforts to set a threshold level below which health benefits of reducing pollution would no longer be considered in regulatory impact assessments of EPA rules. The ATS is a medical professional association of physicians, scientists and allied health professional dedicated to the prevention, detection, treatment, cure and research of respiratory disease, critical care illness and sleep disordered breathing. Our members are thought leaders in research on the health effects of air pollution. The patients we serve, including children and adults who suffer from chronic lung disease, are directly harmed by the ambient air pollution both above and below current National Ambient Air Quality Standard (NAAQS) levels. It is with our professional expertise and concern for our patient's health that we offer the following comments.

Particulate Matter ($PM_{2.5}$) Exposure Harms the Health of Children and Adults

Ambient $PM_{2.5}$ pollution comes from numerous sources, including direct emissions from power plants, mobile sources, and wildfires. However, most particles in the ambient air are the result of secondary reactions of chemicals such as sulfur dioxide, nitrogen oxides, and volatile organic compounds (VOCs) which can come from many sources including power plants, industrial activities, on-road transport, area and agricultural sources. Once inhaled, these particles can harm the heart and lungs and cause serious health effects. Scientific studies have consistently found that

exposure to $PM_{2.5}$ air pollution is linked to serious adverse health effects, including:

- Prenatal exposure to PM is harmful to the developing fetus and has been linked to low birth weight, preterm birth, and infant mortality[1–3]
- PM exposure during childhood results in slower lung function growth, and higher risk of abnormally low lung function, early life respiratory infection, and asthma[4–8]
- Days with more air pollution increase risk of death among adults, including from heart and lung-related causes, and of hospitalization for heart and lung disease, including heart attacks, and stroke[9–11]
- In adults, greater long-term PM exposure is associated with an accelerated decline in lung function over time, which is an indicator of worse respiratory health[12,13]
- PM from outdoor air pollution and diesel engine exhaust are classified as lung carcinogens by the International Agency for Research on Cancer of the World Health Organization[14,15]

Available recent research indicates a benefit to health from reductions in annual $PM_{2.5}$ down to very low levels.[10,16,17] No threshold has been identified below which no damage to health is observed. While the entire U.S. population is at risk of air pollution health effects (and similarly most may benefit from further reductions in pollution exposure), those who are most harmed by $PM_{2.5}$ pollution include our nation's 74 million infants and children whose lungs are still developing, 35.7 million people with chronic lung disease, 121.5 million people with cardiovascular disease, and more than 46 million aging adults.

$PM_{2.5}$ Exposure is Associated with Mortality Below the Annual National Ambient Air Quality Standards (NAAQS) Level of 12 µg/m^3

There is clear evidence of premature death in association with long-term exposure to $PM_{2.5}$ below the current annual standard of 12 µg/m^3. For example, in a study of 13.1 million older adults living in seven southeastern states there was an increase in mortality risk associated with an increase in long-term $PM_{2.5}$ concentrations; the median pollution exposure of this population was only 10.7 µg/m3.[18] Similar results were reported in a study in the northeastern U.S. where the median pollution exposure was 11.2 µg/m^3.[19] In a prospective cohort study of over 500,000 individuals across the continental U.S., an increase in total mortality and cardiovascular mortality associated with long-term $PM_{2.5}$ exposure was observed with a study follow-up mean between 10.4 and 12.2 µg/m^3.[16] A recent study of older Americans (32 million Medicare recipients) found that long-term exposure to $PM_{2.5}$ within the NAAQS standard was associated with mortality, and the slope of the dose-response relationship was *steepest* in the $PM_{2.5}$ exposure range of 8 to 12 µg/m^3, below the current standard of 12 µg/m^3 (see Figure 1).[10] Studies on the impact of long-term $PM_{2.5}$ exposure on mortality in Canada have demonstrated similar results as studies in the US down to average concentrations of 6.3 µg/m^3.[20]

Studies that have specifically assessed concentration-response relationships for long-term $PM_{2.5}$ exposure and mortality do not support the application of threshold near the current standard of 12 $\mu g/m^3$, but rather instead support the long-held assumption of a linear, non-threshold relationship (see Figure 1 as an example). Another example is a study of 268,050 deaths that occurred in the Northeastern U.S., which excluded deaths occurring in areas with annual $PM_{2.5}$ above 10 $\mu g/m^3$, and found a linear relationship between $PM_{2.5}$ and increased mortality risk between 6 and 10 $\mu g/m^3$.[21]

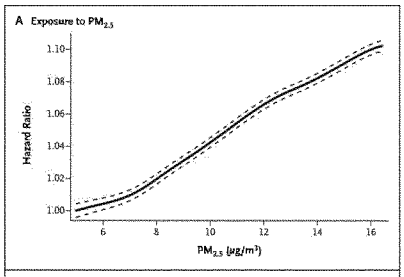


Figure 1: Long-term $PM_{2.5}$ exposure and mortality in the U.S. Medicare population.[10]

If any changes were to be made to the long-held assumption in US policy for a linear, non-threshold relationship between $PM_{2.5}$ and mortality, there is good evidence from the US and Canada that the concentration-response curve may actually he steeper below the current standard. [22,23] In other words, **the health benefits of lowering $PM_{2.5}$, on a per $\mu g/m^3$ basis, may actnally be greater at lower levels compared to higher levels of $PM_{2.5}$.**[24]

Inappropriate Use of a Health Effect Threshold

Tbe ATS has consistently provided comments expressing concern over EPA's inclusion of a threshold as part of sensitivity analyses in regulatory impact assessments over the last two years. We are now even more troubled that EPA is moving forward with a decision to use a threshold based on the NAAQS for estimating health effects, and economic costs, of air pollution as part of its primary analysis to fulfill its obligations under Executive Order 12866 to demonstrate the net economic benefits of all economically significant rules. These thresholds erroneously assume that exposure to fine particulate matter ($PM_{2.5}$) below the current EPA standard has no adverse effects on human health. In no prior administration has the EPA applied an arbitrary threshold in this manner. Such a threshold is not consistent with research findings on the health effects of pollution, which have demonstrated dose-response relationships that continue well below NAAQS levels. Applying a threshold that is not based on medical evidence would have the result of dramatically underestimating the economic value of health benefits from lowering pollution.

The EPA has long emphasized that NAAQS need not correspond to the level at which there is zero health risk, but rather has been free to set standards that "protect public health with a reasonable margin of safety." It is well-established, and long-acknowledged by EPA that NAAQS is not set at a level where the health risk of pollution exposure is zero. In fact, growing evidence indicates that lowering $PM_{2.5}$ levels well below the current NAAQS may provide even greater benefits to health, as we discuss below. The proposal to not count the value of respiratory, cardiovascular and mortality benefits of lowering pollution levels below a threshold of the NAAQS standard will harm public health by undervaluing any EPA regulatory action that lowers pollution.

Under the current administration, the EPA has recently created cost benefit estimates for the Affordable Clean Energy Proposed Rule that assumed a threshold effect. The use of a threshold had the result of drastically undervaluing the health benefits of lowering $PM_{2.5}$ pollution from power plants. This methodology was made without a science or health review. Indeed, the weight of the science to date supports exactly the opposite conclusion –no such threshold exists. While the magnitude of health impacts expected from policy actions may be debated, it is wrong to exclude any health benefits of lowering pollution below an artificial threshold when the evidence shows no such threshold exists. **We strongly urge the EPA to abandon the use of such a threshold, because it contradicts the science and ignores the documented health benefits of reduced emissions.**

Conclusion

It is alarming that the EPA, an agency with a track record of conducting rigorous analyses to develop cost-effective regulation to protect human health and the environment, has developed this proposal to artificially limit the value of health benefits in regulatory impact analyses of the Affordable Clean Energy and other rules that affect air quality and human health. The consequences of such a policy on human health are extensive, because everyone breathes the outdoor air. The ATS strongly opposes this proposed action in the interest of Americans, including millions of children and elderly who struggle with respiratory impairments and look to the nation's leadership to ensure the air they breathe is clean. On behalf of the members of the ATS and the patients we serve, we urge the Administration to abandon this misguided approach to policy evaluation and instead adhere to sound scientific and economic principles when making regulatory actions that affect the health of Americans.

Sincerely,

[redacted]

Mary B. Rice, MD
Chair, ATS Environmental Health Policy Committee

[redacted]

Kevin Cromar, PhD
Vice Chair, ATS Environmental Health Policy Committee

cc: Rep. Frank Pallone
Rep. Greg Walden

References

1. Padula AM, Mortimer KM, Tager IB, et al. Traffic-related air pollution and risk of preterm birth in the San Joaquin Valley of California. *Ann Epidemiol.* 2014;24(12):888-895e4. doi:10.1016/j.annepidem.2014.10.004.
2. Son J-Y, Lee HJ, Koutrakis P, Bell ML. Pregnancy and Lifetime Exposure to Fine Particulate Matter and Infant Mortality in Massachusetts, 2001-2007. *Am J Epidemiol.* 2017;186(11):1268-1276. doi:10.1093/aje/kwx015.
3. Pereira G, Evans KA, Rich DQ, Bracken MB, Bell ML. Fine Particulates, Preterm Birth, and Membrane Rupture in Rochester, NY. *Epidemiology.* 2016;27(1):66-73. doi:10.1097/EDE.0000000000000366.
4. Gauderman WJ, Urman R, Avol E, et al. Association of Improved Air Quality with Lung Development in Children. *N Engl J Med.* 2015;372(10):905-913. doi:10.1056/NEJMoa1414123.
5. US EPA. U.S. EPA. Integrated Science Assessment (ISA) for Particulate Matter. 2009;EPA/600(R-08/139F).
6. Darrow LA, Klein M, Flanders WD, Mulholland JA, Tolbert PE, Strickland MJ. Air Pollution and Acute Respiratory Infections Among Children 0-4 Years of Age: An 18-Year Time-Series Study. *Am J Epidemiol.* October 2014. doi:10.1093/aje/kwu234.
7. Khreis H, Kelly C, Tate J, Parslow R, Lucas K, Nieuwenhuijsen M. Exposure to traffic-related air pollution and risk of development of childhood asthma: A systematic review and meta-analysis. *Environ Int.* 2017;100:1-31. doi:10.1016/j.envint.2016.11.012.
8. Garcia E, Berhane K, Islam T, et al. Association of changes in air quality with incident asthma in children in California, 1993-2014. *J Am Med Assoc.* 2019.
9. Peng RD, Bell ML, Geyh AS, et al. Emergency admissions for cardiovascular and respiratory diseases and the chemical composition of fine particle air pollution. *Environ Health Perspect.* 2009;117(6):957-963. doi:10.1289/ehp.0800185.
10. Di Q, Wang Y, Zanobetti A, et al. Air Pollution and Mortality in the Medicare Population. *N Engl J Med.* 2017;376(26):2513-2522. doi:10.1056/NEJMoa1702747.

11. Lepeule J, Laden F, Dockery D, Schwartz J. Chronic exposure to fine particles and mortality: an extended follow-up of the Harvard Six Cities study from 1974 to 2009. *Environ Health Perspect.* 2012;120(7):965-970. doi:10.1289/ehp.1104660.

12. Rice MB, Ljungman PL, Wilker EH, et al. Long-term exposure to traffic emissions and fine particulate matter and lung function decline in the Framingham Heart Study. *Am J Respir Crit Care Med.* 2015;191(6). doi:10.1164/rccm.201410-1875OC.

13. Lepeule J, Litonjua AA, Coull B, et al. Long-term Effects of Traffic Particles on Lung Function Decline in the Elderly. *Am J Respir Crit Care Med.* 2014;190(5):542-548. doi:10.1164/rccm.201402-0350OC.

14. Hamra GB, Laden F, Cohen AJ, Raaschou-Nielsen O, Brauer M, Loomis D. Lung Cancer and Exposure to Nitrogen Dioxide and Traffic: A Systematic Review and Meta-Analysis. *Environ Health Perspect.* 2015;123(11):1107-1112. doi:10.1289/ehp.1408882.

15. Benbrahim-Tallaa L, Baan RA, Grosse Y, et al. Carcinogenicity of diesel-engine and gasoline-engine exhausts and some nitroarenes. *Lancet Oncol.* 2012;13(7):663-664.

16. Thurston GD, Ahn J, Cromar KR, et al. Ambient Particulate Matter Air Pollution Exposure and Mortality in the NIH-AARP Diet and Health Cohort. *Environ Health Perspect.* 2016;124(4):484-490. doi:10.1289/ehp.1509676.

17. Di Q, Dai L, Wang Y, et al. Association of Short-term Exposure to Air Pollution With Mortality in Older Adults. *JAMA.* 2017;318(24):2446. doi:10.1001/jama.2017.17923.

18. Wang Y, Shi L, Lee M, et al. Long-term Exposure to PM2.5 and Mortality Among Older Adults in the Southeastern US. *Epidemiology.* 2017;28(2):207-214. doi:10.1097/EDE.0000000000000614.

19. Wang Y, Kloog I, Coull BA, Kosheleva A, Zanobetti A, Schwartz JD. Estimating Causal Effects of Long-Term PM $_{2.5}$ Exposure on Mortality in New Jersey. *Environ Health Perspect.* 2016;124(8):1182-1188. doi:10.1289/ehp.1409671.

20. Pinault L, Tjepkema M, Crouse DL, et al. Risk estimates of mortality attributed to low concentrations of ambient fine particulate matter in the Canadian community health survey cohort. *Environ Health.* 2016;15(1):18. doi:10.1186/s12940-016-0111-6.

21. Shi L, Zanobetti A, Kloog I, et al. Low-Concentration PM2.5 and Mortality: Estimating Acute and Chronic Effects in a Population-Based Study. *Environ Health Perspect*. 2016;124(1):46-52. doi:10.1289/ehp.1409111.

22. Schwartz J, Coull B, Laden F, Ryan L. The effect of dose and timing of dose on the association between airborne particles and survival. *Environ Health Perspect*. 2008;116(1):64-69. doi:10.1289/ehp.9955.

23. Crouse DL, Peters PA, Hystad P, et al. Ambient PM2.5, O_3, and NO_2 Exposures and Associations with Mortality over 16 Years of Follow-Up in the Canadian Census Health and Environment Cohort (CanCHEC). *Environ Health Perspect*. 2015;123(11):1180-1186. doi:10.1289/ehp.1409276.

24. Pope CA, Burnett RT, Krewski D, et al. Cardiovascular mortality and exposure to airborne fine particulate matter and cigarette smoke: shape of the exposure-response relationship. *Circulation*. 2009;120(11):941-948. doi:10.1161/CIRCULATIONAHA.109.857888.

Committee on Energy and Commerce
Subcommittee on Oversight and Investigations

Hearing on
"Critical Mission: Former Administrators Address the Direction of the EPA"

June 11, 2019

The Honorable William K. Reilly

The Honorable Michael C. Burgess, M.D.

1. In recent years, the Environmental Protection Agency (EPA) has garnered significant mistrust in public opinion. For instance, when EPA officials state that companies and communities must be "crucified" to make an example of them or when the EPA avoids accountability for their own mistakes, such as when the agency released 3 million gallons of waste from the Gold King Mine into the Animas River watershed. These are just two examples of how the EPA has eroded the trust of the American public, especially those in rural communities.

    a. As EPA Administrator, how did you work to garner public trust in your institution?

    b. Why should the public trust the EPA when no one is held accountable?

    c. How should the EPA work to rebuild trust amongst all communities in the United States?

REPLY FROM WILLIAM REILLY

a. I was fortunate to know my predecessors, especially Russell Train and William Ruckelshaus, and to consult them before taking office. Each put a premium on communicating to the public, to Congress, to sectors and interests with business before EPA, to press, and others. I sought to replicate their model.

One of my first actions was to sign and release the so-called transparency memo Ruckelshaus authored when he returned to EPA in 1983. It called for conducting the agency's affairs transparently and setting a high standard for all that we did. My schedule of meetings was available daily.

I also was quite clear in meeting with staff and others that I fully respected and understood the close relationship between our country's economic health and the health of the public and the environment. I was pleased to note that most of the senior career staff I worked closely with also understood this relationship.

I did my best to encourage creative initiatives that would advance environmental progress. We started voluntary programs such as Green Lights, which evolved into Energy Star, 33/50 urging facilities with toxic emissions to reduce those emissions tracked by the Toxic Release Inventory, Design for the Environment to encourage substitution of less harmful chemicals for more troubling ones. I also challenged our media and regional offices to develop place-based initiatives, modeled to some extent after the National Estuary Program, recognizing that people treasure local resources and if EPA could contribute to their improvement, their productivity, and the like, the agency would be a welcome partner.

Some early events – for example, Alar on apples, the controversial Two Forks dam in Colorado, the Exxon Valdez oil spill, drafting the new clean air law President H.W. Bush had promised in the campaign – demanded a public presence and I took that role on. I also traveled the country, visiting all EPA's regional offices and other communities, making a point of meeting with local media, state and local officials as available, and speaking at events.

We also tried something called regulatory negotiation, which brought all parties together to work out a reasonable approach to the issue at hand. It worked well regarding re-formulating gasoline as called for in the 1990 Clean Air Act but encountered difficulties as an approach over time.

During my time at EPA, we also fashioned a program of Total Quality Management that encouraged our regulators to treat regulated parties as clients, as cooperators in improving the environment. Respect for those most affected and inconvenienced by EPA rules and regulations is critical to winning the country's trust in EPA."

Within the Agency, my office regularly monitored pending developments including regulations, decisions, and other initiatives, and we required communications plans for all major announcements, the last one a press conference with HHS Secretary Louis Sullivan that declared second hand tobacco smoke a known human carcinogen, which one senior staff member after my tenure at EPA, commented was the single most important decision I made affecting public health.

I continue to believe that the combination of substantive decisions and initiatives in pursuit of continuing environmental progress with serious attention to how we communicated those decisions was the foundation for building public trust.

b. I can't speak to decisions or accountability of those leading EPA after my tenure. The American public deserves to have government officials who step up and accept responsibility for decisions they make, for oversights, errors of commission or omission.

With respect to the comment about being "crucified," this was an ill-considered and wholly inappropriate comment by the EPA Regional Administrator in Texas, I believe, characterizing his mode of getting polluting companies to take EPA seriously. As I understand, the official was promptly terminated and that speaks to accountability.

Enforcement of laws and rules is an essential part of the Agency's responsibilities to ensure regulated sectors comply with the rules, that there is a level playing field, that those who do adhere to the rules are not harmed by less scrupulous competitors. Aside from blatant and willful violations, the regulated communities deserve to be treated with a measure of respect if they reform their ways.

As to the Gold King Mine fiasco, I am mindful that even the best laid plans can go awry. In complete information, unanticipated events or consequences, errors in judgment, insufficient resources to tackle the panoply of problems and challenges, and the like can undermine even the best intentions by honorable individuals.

I do not have the details of what happened at the mine. If I were in charge, I would have immediately sought a detailed explanation of what happened, what went wrong and why, what was learned from the experience that should guide future activities.

There are tens of thousands of abandoned mines in the country and the resources rather meager for cleaning them up or securing them against leakages. Problems like the Gold King Mine are bound to occur again, notwithstanding the best efforts of EPA, states and localities, the private sector. There are few if any spheres in life totally within our control.

Ultimately, the EPA Administrator serves at the pleasure of the President, who can make a change at EPA if the Administrator is not meeting standards.

c. In my view, regular communications between EPA and affected communities and interests is essential. The Administrator and top staff need to be out and about, meeting representatives from those sectors, listening, explaining, engaging them in the enterprise.

As a country, we have made substantial progress in cleaning up what were egregious pollution problems. Many sectors, businesses, states and localities and tribes, NGOs, many others contributed significantly to this record of achievement. We need to recognize the progress and the reasons for it even as we prepare to tackle challenges like climate change and resiliency, toxic algae blooms, water scarcity, and other problems that will require approaches different from the approaches and methods we have relied on.

To be open and straightforward about these new challenges is essential to building trust among the American public.

Committee on Energy and Commerce
Subcommittee on Oversight and Investigations

Hearing on
"Critical Mission: Former Administrators Address the Direction of the EPA"

June 11, 2019

The Honorable Lee M. Thomas

The Honorable Michael C. Burgess, M.D.

1. Under this administration, the Environmental Protection Agency (EPA) has changed its top-down, business as usual approach to one that includes all stakeholders and seeks compliance of environmental law rather than heavy handed regulation and punitive action.

    a. What is the most cost-effective approach to obtaining compliance with EPA's laws and regulations for taxpayers and consumers?

Answer : Cost effective compliance begins with well structured regulations based on sound risk/benefit analysis. It should also include input from the regulated community as well as the public. I found some regulations could be developed through a negotiated approach with key stakeholders participating. The draft regulation then went through a comment process before finalization. To insure compliance with a final regulation a communication plan should be developed by EPA working with states and trade associations to insure the regulated community understands the regulations and the consequences of non compliance.

    b. Is compliance with the law only possible if punitive action is taken against states and private industries?

Answer: As noted in my answer above, I believe compliance is primarily a result of education. This is accomplished during and after a regulation is being developed and implemented .If regulations are well structured ,consistent with the laws that govern them and the states and the regulated community are educated, compliance should be a consequence. Punitive action should be the exception and Congress clearly expects EPA to use the authority it has incorporated in the environmental laws when non-compliance occurs.

    c. Who pays the cost of the mistakes of the EPA?

Answer: If EPA issues regulations that are insufficient to control pollutants, the cost is borne by the public. This may be consumers or employees or the public generally. If EPA issues regulations that are more stringent than required by the law the costs would be borne by individuals or industry or taxpayers. In either case regulations issued by EPA are typically challenged in court if they are viewed as inconsistent with the law and Congressional intent.

○